



November 21, 2014

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

Dear Ms. Beaulieu:

**Re: Baffinland Iron Mines Corporation (Baffinland) - Submission of 2014 Annual Geotechnical Inspection, Water Licence Type 'A' No. 2AM-MRY1325**

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## **1. INTRODUCTION**

Under Part D, Item 19, of Baffinland Iron Mines Corporation (BIMC) Type "A" Water Licence 2AM-MRY1325, there is a requirement to conduct geotechnical inspections of specified Mary River Project (the 'Project') infrastructure. Part D, Item 19, of the Type 'A' Licence states that:

"The Licensee shall conduct inspections of the earthwork, geological regime, and the hydrological regime of the Project Biannually during the summer or as otherwise approved by the Board in writing. The inspection shall be conducted by a Geotechnical Engineer and the inspection report shall be submitted to the Board within sixty (60) days of the inspection, with a covering letter from the Licensee outlining an implementation plan to respond to the Engineer's recommendations."

During 2014, the geotechnical field inspection was conducted by Barry Martin of Barry H. Martin Consulting Engineer and Architect (BMCE) of Timmins, Ontario. The focus of the inspection was on Water Licence related infrastructure located at the main camp sites, known as the Mary River Mine Site and Milne Port Site Camps. Mr. Barry Martin has been conducting annual geotechnical inspections for the Project since 2008. This year he was on the Project Site for two inspections: one conducted during July and August (July 31 to August 4), and the second conducted during September (September 25 to 30). The results of the two inspections were combined into a single report and submitted to Baffinland on October 28. During 2014, the following site facilities were inspected:

### **Mary River Mine Site**

- Bulk Fuel Storage Containment
- Generator Fuel Storage Facility Containment
- Polishing/Waste Stabilization Pond No. 1
- Polishing/Waste Stabilization Ponds No. 2 and No. 3 (Constructed as a 2 cell structure)
- Helicopter Fuel Cell Containment
- Barrel Fuel Containment (Constructed as a 2 cell structure)
- Hazardous Waste Storage
- Enviro-Tank Storage (Constructed contiguous with hazardous waste storage and stove oil storage)
- Stove Oil Storage
- Jet Fuel Tank and Pump Containment
- Solid Waste Disposal Site
- Waste Oil Storage Containment
- Minesite Steel Fuel Tank Farm Containment
- Quarry

**Milne Port Site**

- Bulk Fuel Containment Facility
- Existing Polishing/Waste Stabilization Pond
- Barrel Fuel Storage (Constructed as a 2 cell structure)
- Hazardous Waste Storage (Constructed as a 2 cell structure)
- Oil and Antifreeze Containment
- Jet "A" Pump Containment
- Fuel Tank Farm
- New Sewage Effluent Pond
- Land farm
- Contaminated Snow Containment
- Sediment Ponds East and West
- Quarry

Attached, herewith, is BMCE's 2014 geotechnical report which presents the 2014 findings and recommendations for the aforementioned structures. Sections 2.0 and 3.0 of this letter summarize Baffinland's plan for implementing recommendations. In some cases, corrective actions were taken while BMCE was on site.

The recommendations as presented in the geotechnical report for infrastructure and the implementation plan for each are presented in Sections 2.0 and 3.0, below. Where this is no mention of particular infrastructure, there were no recommendations by BMCE for same.

**2. MARY RIVER MINE CAMP RECOMMENDATIONS**

- **Bladder Farm Bulk Fuel Storage Facility Containment**

There was a minor concern at the load out end of the facility. Water was observed pooling above the gravel in this area confirming the integrity of the liner but reducing the capacity of the structure for spill containment. BMCE recommended that the water be removed on a regular basis and pumped to the storage containment for treatment at a future date.

Baffinland Action: During the course of the summer, the load out facility was pumped out as needed and the water discharged to the adjacent containment facility where it was treated and discharged to the environment. We note that the Bladder Farm and ancillary load out and dispensing facilities are in the process of being decommissioned and will no longer be in service effective December 1, 2014.

- **Generator Fuel Storage Facility Containment**

A small quantity of water was observed ponding above the bottom of the containment gravel cover. BMCE recommended that this water be removed regularly by creating a sump in the gravel and pumping out the water to below the gravel surface. BMCE also recommend that Baffinland continue to control the fuel in the bladder at a height of 30".

Baffinland Action: Baffinland subsequently removed this water, however, a minor volume of water remained after freeze-up. The maximum volume of fuel permitted to be stored in the bladder in this facility is kept consistently below 30 in. height. A sign is posted near the transfer area to this effect.

On November 18, all remaining fuel was removed from the facility and the generators adjacent to the Weatherhaven Camp were shut down. The camp is now powered from the main generators located adjacent to the Mine Site Camp and new Steel Bulk Fuel Tank Facility.

- **Polishing/Waste Stabilization Pond No. 1**

Some minor tears to the liner were noted at the top of the dyke likely originating from past activity. These tears are well above the effluent storage level. There have been minor settlements, but these settlements have had little effect on the integrity of the structure. It was recommended that an elevation monitoring program on the top of the berm be discontinued in subsequent years.

Baffinland Action: There is no urgency to patch the minor tears near the top of the liner as they pose no risk to the integrity of the facility. The elevation monitoring program will be discontinued.

- **Polishing/Waste Stabilization Pond Nos. 2 and 3**

Similarly to Pond No. 1, it was recommended that the elevation monitoring program on the top of the berms is no longer necessary.

Baffinland Action: The elevation monitoring program will be discontinued.

### **3. MILNE PORT CAMP RECOMMENDATIONS**

- **Hazardous Waste Storage**

A containment cell temporary cell was constructed earlier in 2014 using a one piece liner and wood timber curb for the short term storage of excess hazardous waste. It was recommended that the use of this cell be discontinued when storage capacity is available elsewhere.

Baffinland Action: The berm will be emptied of waste once there is capacity elsewhere to do so, in the meantime, care will be taken to avoid ripping the exposed liner.

- **Landfarm**

During the September inspection, the cover had not yet been fully installed on a small section of the liner on the dyke remains exposed.

Baffinland Action: The geotextile liner will be covered prior to March 30, 2015.



We trust that this submittal satisfies the requirements the geotechnical requirements as outlined in our Water Licence. Should you have any questions, please do not hesitate to contact Jim Millard, Environmental Manager, at 647-253-0596 or 902-403-1337 or by e-mail at [jim.millard@baffinland.com](mailto:jim.millard@baffinland.com).

Best Regards,

A handwritten signature in black ink, appearing to read "J. Millard", written over a horizontal line.

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

Attach: Annual Geotechnical Investigation, Mary River Project – 2014 Inspections, prepared by Barry Martin Consulting Engineer and Architect for Baffinland, dated October 28, 2014.

cc. Stephen Bathory, (QIA)  
Robert Savard, Justin Hack, Erik Allain (AANDC)  
Erik Madsen, Michael Anderson (Baffinland)