

July 4, 2014

Resource Management Officer  
Nunavut Field Operations  
Aboriginal Affairs and Northern Development Canada  
P.O. Box 219  
Box 100  
Iqaluit, NU X0A 0H0  
Justin.Hack@aandc-aadnc.gc.ca  
Robert.Savard@aandc-aadnc.gc.ca

**Re: Follow-up to April and June 2014 Inspections**  
**Mary River Project - Water Licence No. 2AM-MRY1325**

Two compliance inspections were recently conducted by Aboriginal Affairs and Northern Development Canada (AANDC) Water Resource officers at Baffinland Iron Mines Corporation (Baffinland) Mary River Project under the above referenced water licence. The first inspection was conducted on April 15 to 16, 2014 by Mr. Justin Hack. The second inspection was conducted by Mr. Robert Savard and Mr. Justin Hack on June 17-19, 2014. The June inspection was focused on determining compliance with the April 2014 water licence inspection as well as to observe any seasonal infrastructure changes to the sites during freshet.

Letters detailing the results of the compliance inspections were received by Baffinland on May 15 and June 23, 2014, for the April and June inspections, respectively. The June compliance inspection letter reported on status of conditions identified during the April inspection. During the closeout meeting for the June inspection, it was agreed that a single letter response was all that was required as a response to both inspections. This letter, herein, provides Baffinland's response to observations, concerns, and other requests noted in the AANDC inspection reports. The AANDC letters indicate that many of the areas and facilities inspected by AANDC were acceptable with no concerns. Baffinland's responses, below, are focussed on the AANDC identified areas of concern.

**1. Mary River Mine Site**

**a. Open Burn Site (for approved clean combustibles)**

**AANDC Concern:** Recognizing that work has been done to educate employees, there is still room for improvement to secure the site from non-authorized burning, as non-combustibles were found in the combustion chamber.

**Baffinland Response:** We agree that open burn areas are challenging to manage, however, progress has been made and education is ongoing. We do note that some of the non-combustibles that were observed during the June inspection were primarily lengths of steel strapping used to hold the wood pallets together and we question whether it is necessary to remove the strapping since harmful emissions are not released, and the ash together with the strapping ends up in the landfill, in any event. We would like to continue to discuss this point.

**b. Hazardous Waste Sorting Station near the Incinerator Site**

**AANDC Concern:** A lined berm is required for the storage of hazardous waste that will accommodate excess waste.

**Baffinland Response:** It is agreed that a bermed liner would be erected to protect and secure the hazardous waste to prevent accidental discharge of waste to water from batteries and other hazardous waste sorted at this site. Permanent engineered bermed liners will be constructed at the Mary River Mine Site by end of September 2014. In the meantime, a field constructed liner will be installed in this area by the end of July 2014.

c. Waste Ash in Barrels near Incinerator Site

AANDC Concern: It was noted that 'ash' barrels at this location have the potential to discharge waste to water.

Baffinland Response: We note that the historical inventory of ash drums are being managed and addressed in an ongoing manner. Details and schedule for this planned work going forward are provided in Section 4a (Plans) of this letter.

d. Bladder Farm (Bulk Fuel Storage Facility)

AANDC Concern: Fuel was noted to be spilled within secondary containment on the South West side of the berm beside the fuelling station - continue to monitor to prevent discharge of fuel to water.

Baffinland Response: An action plan was developed to address the release of fuel into the engineered lined containment. The plan was provided to AANDC and QIA shortly after the release was reported on June 30. At the present time, the fuel has been skimmed off and most of the oily contact water treated by means of portable oily water treatment plant. The perimeter of the berm continues to be monitored for release of fuel; to date, no signs of fuel release to the receiving environment have been observed. Furthermore, the removal of fuel and most of the water has largely reduced the risk of such an event occurring.

e. Barreled-fuel Containment Berm

AANDC Concern: Storage of barrels is getting close to the mouth of the berm. Barrels are required to be within the berm to prevent spills and collision with equipment. Please move barrels and containers farther into the berm and continue to monitor.

Baffinland Response: At the time of the inspection in June, the barrelled berms contained water from snow melt, making access and organization in the berms difficult. The treatment and discharge of water from the berms is currently underway which will allow for better access and organization in the berms. In August and September, new lined berms are to be constructed which should help to relieve the current barrelled storage challenges. The berms continue to be monitored for geotechnical stability and potential leakage. If any issue is identified the Inspector will be contacted immediately.

f. Hazardous Waste Containment Berms

AANDC Concern: Storage of materials is getting close to the mouth of the berm. Barrels are required to be within the berm to prevent spills and collision with equipment. Please move barrels and containers farther into the berm and continue to monitor.

Baffinland Response: At the time of the inspection in June, the barrelled berms contained water from snow melt, making access and organization in the berms difficult. Three initiatives are currently underway to relieve current waste berm challenges. These include: the treatment and discharge of contact water within the berms, the planned construction of new lined berms to better handle the volume generated, and the packaging and manifesting of waste which is planned for September 2014. The berms continue to be monitored for geotechnical stability and potential leakage. If any issue is identified the Inspector will be contacted immediately.

g. Polishing Waste and Stabilization Ponds (PWSP)

AANDC Concern: PWSP No. 1 has minor rips and a tears in it. Continue to monitor and repair as required to maintain integrity of containment. Slumping was observed on the North East side of PWSP No. 3. Continue to monitor and repair as required when water levels on road allow for equipment to access the site.

Baffinland Response: The minor rips observed at PWSP no. 1 will be repaired later this summer. It is noted, however, that these rips occur during normal wear and tear and are routinely repaired on an annual basis. Baffinland not start any repair to the facility liner until the first geotechnical inspection of the facility is completed in late late July. The slumping appears to be minor, possibly caused by an improperly placed discharge hose. The repair will be made and we will defer to the geotechnical engineer conducting the bi-annual inspections.

h. Surface drainage (yard swale) to Camp Lake near MS-MRY-1 a.

AANDC Concern: During the inspection it was noted that water was traveling through a swale in the maintenance yard and down to Camp Lake near MS-MRY-1. At the time of inspection several measures were in place to minimize and control sediment discharge from surface water into Camp Lake. These measures included oil and grease booms, silt fencing, rock weirs and two sediment booms in Camp Lake at the point of discharge. It was agreed that measures in place were effective and any further measures would only increase sedimentation. The increased water drainage to this area was postulated to be caused from infrastructure work done on the adjacent runway which may have altered the drainage for the site. Mr. Myers explained that historical surface water discharges were not this high through this area.

Baffinland Response: Potential options are being identified to address surface water flows through this area. See Section 4, Plans.

i. Camp Infrastructure at Mary River Site and Overall Site

AANDC Comment: It was recognized that efforts were already underway to clean up loose garbage and construction material left buried in snow during the winter. Continue to monitor and clean up loose garbage and construction material.

Baffinland Response: This clean-up effort continue.

## **2. Tote Road –Mary River Site to Milne Camp**

There were no concerns with the Tote Road at this time.

## **3. Milne Port Camp**

a. Maintenance yard / Equipment Storage

AANDC Comment: There were no concerns. It was noted during inspection that drip trays under vehicles were used diligently. Continue to use drip trays as required to prevent discharges into water.

Baffinland Response: Spill trays will continue to be used across the site in accordance with the Spill Tray Use Standard that has been developed and issued.

b. Hazardous Waste Containment Berm

**AANDC Concern:** The storage of barrels is getting close to the mouth of the berm. Barrels are required to be within the berm to prevent spills and collision with equipment. Please move barrels and containers farther into the berm and continue to monitor.

Baffinland Response: See response 1e, above.

c. Drilling/Road Salt Cache near Quarry Q1, Horizon Camp Infrastructure, and Overall Site

**AANDC Comment:** It was recognized that efforts were already underway to clean up loose garbage and construction material left buried in snow during the winter. Continue to monitor and clean up loose garbage and construction material.

Baffinland Response: The clean-up effort continue.

d. Waste Ash Storage Area Near Hazardous Waste Berm A.

See Baffinland response 1c, above.

#### 4. Plans Required By the Inspectors

Based on the inspection, two priority areas of concern were identified. These concerns included: the waste ash in barrels at the Mary River Mine Site and Milne Port; and the surface drainage (yard swale) to Camp Lake near MS-MRY-1(Mary River Camp). The inspectors requested that Baffinland provide details of their action plans to address those concerns. In the opinion of Baffinland, the concerns identified by the inspectors represent low level longer term risks and are not an immediate risk to the receiving environment. The details of the action plans are provided below.

a. Waste ash in barrels (Mary River and Milne Site). This is AANDC 1c, above.

Background: Starting in 2006, barrels full of incinerator ash and other assorted waste were stockpiled on the east side of the airstrip at the Mine Site and at a designated location at Milne Port. In the August of 2012, EBA Engineering Consultants Ltd. (EBA) was contracted to conduct a sampling program and assessment of the stockpiled barrels of waste. See Appendix E.5 – Incinerator Ash Drum Sampling Report of Baffinland's 2012 Annual NWB Report for the complete sampling program report (EBA, 2013). Following EBA's recommendations, barrels of ash were segregated into the following categories:

Category	Category Description	Status
1	Barrels fit for landfill disposal.  - Barrels that were sampled during the 2012 sampling program and tested below the hazardous waste limits - Barrels with known contents and did not contain either hazardous or food waste items.	Barrels were disposed at the Mine Site landfill.
2	Barrels with unknown contents.	Contents of each barrel will be confirmed in the summer/fall of 2014.
3	Barrels of ash generated since the 2012 sampling program.	Barrels will be sampled in the summer/fall of 2014.
4	Barrels that contained food waste items.	Barrels will be re-incinerated. This will be ongoing.

5	Barrels that contained hazardous materials or contained ash that tested above the hazardous waste limits.	Barrels will be backhauled to a licensed facility for proper disposal during the 2014 sealift.
---	---	--

Following EBAs' guidance, we segregated the waste into the above five categories at the Mary River Mine Site early in 2014. The barrels that met Category 1 criteria, were disposed of in the Mine Site Landfill. The barrels that are currently stockpiled adjacent to the airstrip segregated into Categories 2 to 5. The barrels that are stored at Milne have not yet been segregated into these categories.

Historical Ash Disposal/Management Plan: The following actions with schedule are proposed to deal with the remaining historical ash on the site.

- 1) Place all historical ash drums that are potentially hazardous into lined contained berms to eliminate all risk of waste impacting the receiving environment.  
Schedule: The current construction schedule for the completion of the lined hazardous waste berms calls for the lined berms to be completed at the Milne Port site and the Mary River Mine Site by September 1, 2014, and October 1, 2014, respectively. In the meantime, temporary field designed berms can be constructed for the storage of all ash drums on site. These temporary berms will be constructed by August 1.
- 2) Perform the same sorting exercise at the Milne Port site as was completed at the Mary River Mine Site. The ash will be sorted in accordance with the five established categories.  
Schedule: Completion by August 1, 2014.
- 3) The ash currently stored in Milne Port that is Category 1 will be transported and disposed in the Mary River Mine Site Landfill.  
Schedule: Completion by end of 2014.
- 4) Complete a sampling program on the Category 2 and 3 ash at both sites to determine whether the ash is hazardous and needs to be shipped south, or whether it can be disposed of in the landfill (non-hazardous).  
Schedule: Completion by September 30.
- 5) Package and manifest all of the Category 5 ash for sealift backhaul. Ship to Southern Canada.  
Schedule: Completion by September 30.
- 6) Reprocess Category 4 ash barrels by re-incineration.  
Schedule: Ongoing.

In the meantime, physical barriers will be utilized to mitigate any risk of accidental disruption of the historical ash barrels and a monitoring program will be conducted to ensure there is no visual evidence of waste or contaminated water impacting adjacent land or downstream waters. A soil sampling program will be conducted on soils underlying the current ash drum storage areas to ensure there is no impact due to metals and other potential contaminants above applicable Nunavut/CCME guideline criteria. Both monitoring programs will include records available to Inspectors upon request for review and a final summary of findings of the monitoring programs and a notification of the completion of the Disposal Plan for the Waste Ash in Barrels will be submitted to AANDC Water Inspectors on or before January 31, 2015.

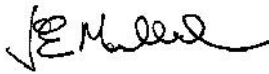
- b. Surface drainage (yard swale) to Camp Lake near MS-MRY-1(Mary River Camp). This is AANDC 1h, above.

Baffinland will obtain the support of a specialist to develop options for water management in this area and we will review the favoured option with the Inspector prior to any modifications to the drainage of the area. Any modification of the drainage to this area should take place in the fall or spring period where there is little flow.

Schedule: A short technical memo will be provided that looks at conceptual options for the undertaking improvements to the drainage of the area will be submitted to the Inspector for information and comment by September 1. Any works will be undertaken during low flow periods in the early fall 2014 or late spring 2015.

Should you require further information or clarification on the above noted spill, please feel free to contact Allan Knight or Trevor Myers at (647) 253-0596 ext. 6010 or the undersigned at (902) 403-1337.

Sincerely,



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

cc. Michael Anderson, Allan Knight, Trevor Myers, Nicolas Kuzyk, Lea Willemse, Erik Madsen, Oliver Curran, Baffinland.  
Erik Allain, AANDC  
Manager of Licencing, NWB