

APPENDIX E.7
INSPECTION REPORTS AND FOLLOW-UP REPORTS

APPENDIX E.7.1

AANDC INSPECTION REPORTS AND BAFFINLAND RESPONSES



INDUSTRIAL WATER LICENCE INSPECTION REPORT

Date: April 15-16, 2014	Licensee Rep. (Name/Title): Tyler Myers, Environmental Superintendent
Licensee: Baffinland Iron Mines Corporation	Licence No.: 2AM-MRY1325

A compliance inspection was conducted on April 15-16, 2014 by Justin Hack, a Water Resource Officer of Aboriginal Affairs and Northern Development Canada (AANDC) for the Baffinland Iron Mines Corporation (BIMC) Mary River and Milne Inlet iron ore project, Water Licence No: 2AM:MRY1325.

WATER SUPPLY

Source(s): Lake KM32 (Milne Camp), Camp Lake (Mary River Camp)	Quantity used: N/I
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Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Intake Facilities: U	Storage Structure: NI	Treatment Systems: NI	Chemical Storage: NI
Flow Meas. Device: NI	Conveyance Lines: NI	Pumping Stations: NI	Screen : NI

Comments:

- Currently, potable water is sourced from two lakes for use at the Baffinland project. At the Mary River site, water is pumped from Camp Lake and piped directly to the Mary River camp; whereas, at the Milne Inlet site, water is pumped directly from Km 32 Lake for use at Milne Inlet using a Water Truck. The truck backs onto the ice and withdraws water on an as needed basis.
- At the Km 32 Lake facility, two pieces of equipment, a Terex Light Plant and a seacan were located next to the shoreline for use during the winter to provide light and the storage of equipment (see **Figure 1**). This equipment is within 31m of the high water mark and must be moved back as required in Part D-10 of the Licence.

WASTE DISPOSAL

SEWAGE: Sewage Treatment System: Membrane Biological Reactor Waste Water Treatment Plant

- | | |
|---|--|
| <input type="checkbox"/> Natural Water Body | <input type="checkbox"/> Wetlands Treatment |
| <input checked="" type="checkbox"/> Continuous Discharge (land or water) | <input type="checkbox"/> Seasonal Discharge |
| <input checked="" type="checkbox"/> Incineration | <input type="checkbox"/> Pit-privy/outhouse |

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Dams, Dykes: NI	Dyke Inspection: NI	Seepages: NI
Freeboard: NI	Erosion: NI	Decant Structure: NI
Discharge Quality: NI	Discharge Meas. Device: NI	Effluent Discharge Rate: NI
Spills: NI	O&M Plan: NI	

Comments: Sewage Discharge and the sewage disposal facilities were not inspected.

SOLID WASTE:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Landfill | <input type="checkbox"/> Burn & Landfill |
| <input checked="" type="checkbox"/> Open Burn | <input checked="" type="checkbox"/> Incinerate |
| <input checked="" type="checkbox"/> Backhaul | <input type="checkbox"/> Other: _____ |

Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Waste Management Area: U	Waste Segregation Practices: U	Incinerator Efficiency: NI
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Signage: A	Records: NI	
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Comments:

Incinerator:

- Two incinerators were in operation, one at the Mary River site and one at the Milne Inlet Site.
 - At the Mary River site, waste is segregated in empty barrel drums with labelling in English and Inuktitut. In the near future, an indoor waste management facility will be built as outlined in the 2014 Work Plan.
 - At Milne Inlet, the indoor waste management facility has already been constructed; it was not inspected during this inspection.
- At the time of inspection, there were a number of open drums of ash not stored in a proper facility. These ash drums were located around the project. As per the *Waste Management Plan for Construction, Operation and Closure, 2012*, ash is to be stored in closed drums at the inert landfill (if found to be non-hazardous). If the ash is hazardous, it must be stored at an approved hazardous material storage facility. All ash is to be properly stored on site by July 1, 2014.

Landfill:

- The landfill facility, located at the Mary River site, is used for the disposal of inert, non combustible waste only (plastics, cement, sand, used construction materials, scrap metal, pipes, glass, etc).
- At the time of inspection, waste was recently capped with a layer of cover meant to reduce the risk of wind-blown debris and as outlined in the Waste Management Plan.
- Non-hazardous waste, including ashes from the incineration process and other unburned residue, is also approved to be deposited at the site. At the time of inspection, a number of ash barrels were waiting to be capped with appropriate cover material.
- Fencing around the facility was in disrepair. Mr. Myers explained that the fencing breaks annually due to the harsh winter and will need to be replaced with proper snow fencing that is less sensitive to winters (see **Figure 2**). Since this important windblown debris control measure is not functioning, Baffinland should monitor any windblown debris leaving the site, collect it and return it to the landfill.
- Contaminated snow containing hazardous waste was observed at the landfill. The landfill is not an appropriate location for hazardous waste and needs to be placed at an appropriate facility.

Open Burn Facility:

- The open burning facility, located at the Mary River site, consists of a vented sea can, where clean wood and cardboard are the only approved materials to be burned according to the Waste Management Plan.
- The open burn facility contained elements not authorized under the Waste Management Plan including the remnants of an air filter, likely from a piece of heavy equipment, and a significant amount of metal strapping (see **Figure 3**).
- Outside the facility, there was a significant amount of ash on the tundra (see **Figure 4**). It is not clear how so much ash accumulated here, but material should not be burned on windy days to avoid ash from accumulating on the tundra. As per the *Open Burning of Untreated Wood, Cardboard and Paper Products Procedure, 2014*, all ash is to be disposed of at an approved facility. The Licensee must clean up the spilled ash and secure it at an approved facility.
- Domestic waste was identified outside the facility and is not approved to be burned. Baffinland should ensure the facility is secured to only authorized personnel.
- It appeared that during the previous burn, there was a significant amount of snow within the facility. As outlined in their Open Burning Procedure, Baffinland is to ensure a hot burn in order to create an efficient burn. Snow within the facility must be monitored and managed before a burn.

FUEL and HAZARDOUS MATERIALS MANAGEMENT

HAZARDOUS MATERIALS:

- ☒ Fuel
- ☒ Drill additives/Salts
- ☐ Other: _____

- ☒ Lubricants
- ☒ Hazardous Waste
- ☐



Indicate: **A** - Acceptable **U** - Unacceptable **NA** - Not Applicable **NI** - Not Inspected

Berms & Liners: NI	Water within Berms: U	Evidence of Leaks: U
Drainage Pipes: NI	Pipeline Condition: NI	Condition of Tanks: A
Pump Station: A	Spills: U	Contingency Plan: A

Comments:

Hazardous Materials Management:

- Hazardous waste berm (Mary River) N71° 19' 33".42, W79° 22' 15".41.
 - It was noted that hazardous materials were situated outside the bermed area.
 - As per the *Materials and Hazardous Waste Management Plan, 2013*, all hazardous waste are to be in lined and bermed facilities.
- Hazardous waste berm (Milne Inlet) N71° 19' 53".01, W80° 53' 48".81.
 - It was noted that some hazardous materials were situated outside the bermed area and a spill was noted coming from one of the Megabags located outside the berm (see **Photo 5**).
 - As per the *Materials and Hazardous Waste Management Plan, 2013*, all hazardous waste are to be in lined and bermed facilities.
- Fuel Storage and Transfer Area
 - The fuel storage and transfer areas were inspected at the Mary River and Milne Inlet project areas.
 - Spill kits, personal protective equipment, and drip trays were noted at both sites as measures to prevent and minimize petroleum products from spilling into the environment.
- Spills
 - Overall, significant improvements could be made to the mitigation of small spills on site. Numerous small spills on land were noted during the inspection due to leaking equipment on site, specifically:
 - 930K Cat – Tag#: LDR013. N71° 18' 51.562", W79° 17' 10.529"
 - 950H Cat – Tag#: LDR017. N71° 52' 42.671", W80° 54' 3.925"
 - Western Star W6900XD – Tag#: OHT003. N71° 52' 42.371", W80° 54' 2.808"

On-Ice Operations

- The proponent has been given authorization to use David Lake as a temporary airstrip while modifications to the Mary River airstip are completed.
- The section of the airstrip where the aircraft are refueled was inspected thoroughly and only a small amount of drips from refueling were noted. Other than that, considering the heavy amounts of refueling that occur on the lake, this section of David Lake was in good condition.
- Unfortunately, at the time of inspection the Lake was being used as a lay-down area for heavy machinery (see **Figure 6**), temporary office structures, and frost fighters. After inspecting these areas, not only was numerous machines stored on ice, there was evidence of hydrocarbon leaking. Specific equipment that showed evidence of leaking on ice were noted, including:
 - Workstar Snowplow – Tag#: HTP016. N71° 21' 56.861", W79° 36' 39.838".
 - 950H Cat – Tag#: LDR018. N71° 21' 56.152", W79° 36' 27.911".
 - 247B3 Cat – Tag#: SKD001. N71° 21' 56.152", W79° 36' 27.911".
- As per Part D Item 21, the Licensee shall not store materials on the surface of frozen lakes, including immediate banks, except what is for immediate use.
- As such, the inspector requests that all equipment be removed from the ice immediately, except for that which is required for immediate use. All areas that were affected by hydrocarbons be scraped up and disposed of in a proper waste management facility. Photo evidence is to be submitted by June 1, 2014.

General Comments:

- At the time of Inspection, the Proponent was in the construction phase of development and is undertaking some major activities at the site.
- This includes finalizing the construction of buildings, airport runways, and the widening of the Tote Road; and includes related activities like quarrying, bridge building, and rock crushing.
- The inspector understands that all personnel on the site are very busy during this construction phase; however, compliance with the Water Licence must remain a priority.



Non-Compliance of Act or Licence:

- Failure to comply with Part D Item 21, the Licensee shall not store materials on the surface of frozen lakes including the immediate banks except what is for immediate use. Specifically:
 - Storage of equipment and materials on the bank of Km 32 Lake.
 - Storage of heavy machinery and frost fighters of David Lake.
- Failure to comply with Part F Item 8, whereas the Licensee shall direct ash to an appropriate facility for disposal. Specifically, ash located at:
 - Lay-Down 07. N71°19'39.515", W79°21'50.117"
 - N 71°53'01.223", W80°53'47.825"
- Failure to comply Part B Item 16, whereas every plan to be carried out pursuant to the terms and conditions of this Licence shall become part of the Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board becomes part of the Licence. Specifically, there was issues implementing the following sections:
 - *Open Burning of Untreated Wood, Cardboard and Paper Products Procedure, 2014*
 - Section 5.2.9, Disposal of Open Burn Ash
 - Section 5.2.2, Acceptable Clean Wood Waste
 - Section 5.2.6, Burning Guidelines
 - *Waste Management Plan for Construction, Operation and Closure, 2013*
 - Section 4.5.3, Ash Disposal
 - Section 4.6 Inert Landfill
 - *Hazardous Materials and Hazardous Waste Management Plan, 2013*
 - Section 5.4.1 Hazardous Waste Containers
 - Section 5.4.2 Hazardous Waste Storage Areas

Action Required:

- Move the Terex Light Plant and the seacan to within an approved distance of the high water mark at Km 32 Lake by June 1, 2014.
- All equipment shall be removed from the ice immediately to within an approved distance of the high water mark, except for that which is required for immediate use. All areas that were affected by hydrocarbons be scraped up and disposed of in a proper waste management facility. Photo evidence is to be submitted by June 1, 2014.
- Remove inappropriately dumped materials from the Landfill before by June 1, 2014.
- Due to the number of issues related to hazardous waste and materials management on site, the inspector requests Baffinland to review their spill management practices and demonstrate that measures are being taken to reduce the amount of spills on site.
- Replace the snow fencing with new fencing that is less sensitive to winters by June 15, 2014. Baffinland shall monitor any windblown debris leaving the landfill facility and return any debris that blew away back to the facility.
- Properly secure all ash on site by July 1, 2014.
- The inspector requests that the Licensee re-evaluate the effectiveness of Quality Assurance and Quality Control plan for the Open Burning Facility, and provide this to the inspector by July 1, 2014.

JUSTIN HACK

Inspector's Name

[Signature]

Inspector's Signature

MAY 15, 2014

Date

CC:

Jim Millard, Environmental Manager, BIMC

Erik Allain, Manager of Field Operations, AANDC

Phyllis Beaulieu, Manager of Licensing, Nunavut Water Board



Photo Appendix

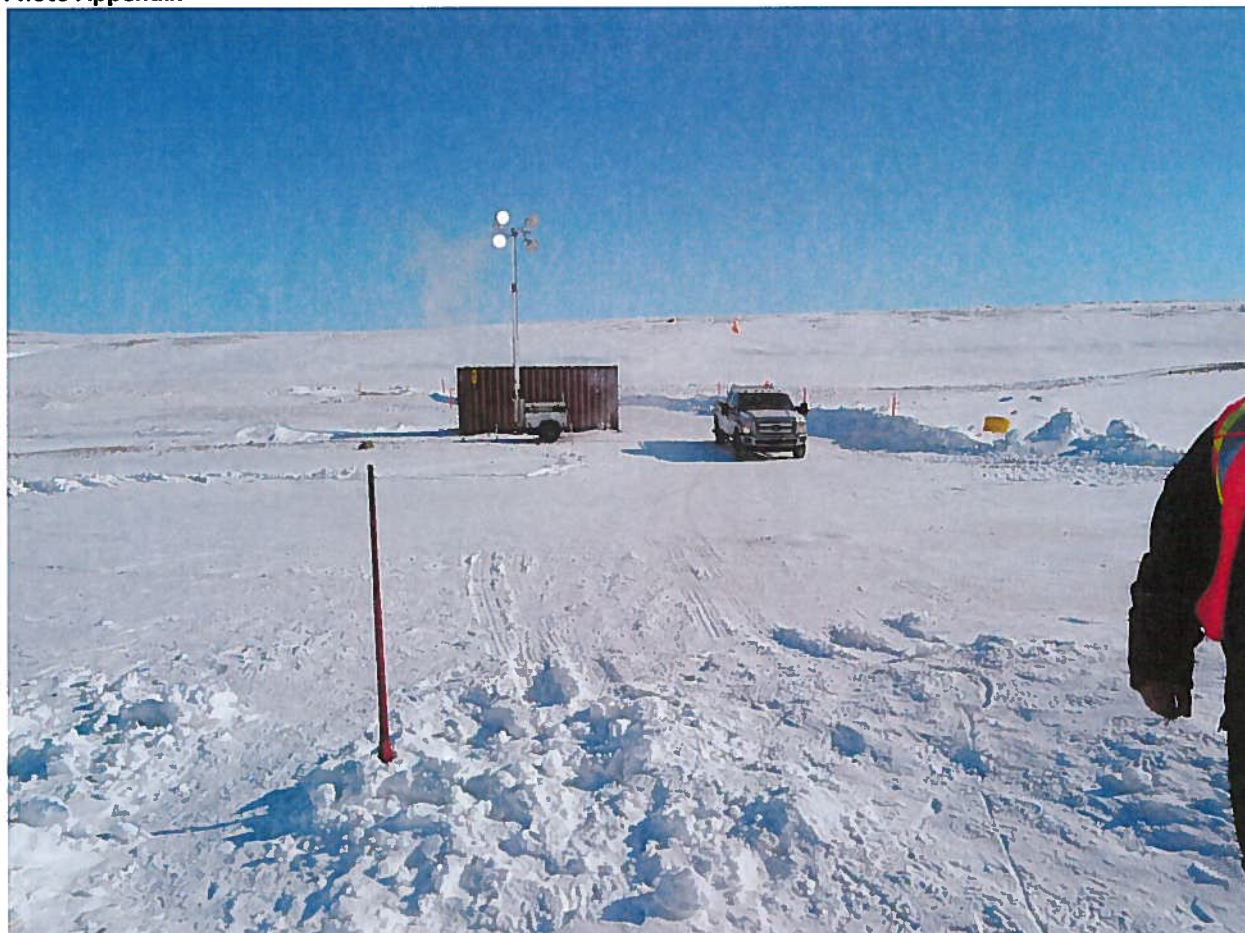


Figure 1: Terex Light Plant and seacan located on shoreline.



Figure 2: Blown down snow fencing and ash barrels at the inert materials landfill.



Figure 3: Inside view of Open Burn Facility. Note the unapproved waste located in the facility (snow, metal strapping, and air filter).



Figure 4: Outside view of Open Burn Facility. Note the ash on the tundra and unapproved waste.



Figure 5: Improperly stored hazardous waste located outside an approved hazardous waste storage facility.



Figure 6: Storage of equipment on David Lake.



July 07, 2014

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Environmental Manager,
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2275 Upper Middle Road East,
Suite 300,
Oakville, Ontario, L6H- 0C3

Water Licence: 2AM-MRY1325

RE: Plans required Submitted in Follow-up to April and June 2104 Inspections

Background

The properties of Baffinland Iron Mines Corporation (BIMC) at Milne Camp and Mary River Camp were inspected June 17-19, 2014. Two major concerns were noted during the inspection with respect to waste ash storage at Milne Camp and Mary River Camp and the surface drainage (yard swale) to Camp Lake near MS-MRY-1(Mary River Camp).

At the end of the inspection the Water Resource Officers and BIMC discussed options and two plans were requested to be submitted to address these concerns. The plan required for the waste ash in barrels was requested to be submitted on or before July 04, 2014 and the plan to for the surface drainage (yard swale) was requested to be submitted on or before July 21, 2014.

Comments

AANDC Field Operations acknowledges that BIMC has met the requirements of submitting both plans by the required dates and will continue to work with and monitor BIMC to ensure these plan are executed within the time lines as outlined in the Follow-up to April and June 2014 Inspections response submitted on July 04, 2014 by BIMC. All activities will be conducted according to the requirements of Water Licence 2AM-MRY1325 and supporting documentation.

Robert Savard
Water Resource Officer,
AANDC, Iqaluit, NU.

cc. Nunavut Water Board
Trevor Myers, Environmental Superintendent, Baffinland
Erik Allain, Manger Field Operations, AANDC
Justin Hack, Water Resource Officer

July 4, 2014

Resource Management Officer
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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 IIA 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 1, 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.
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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.

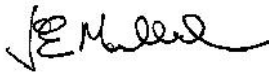
- b. Surface drainage (yard swale) to Camp Lake near MS-MRY-1(Mary River Camp). This is AANDC 1h, above.

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



July 07, 2014

Jim Millard,
Environmental Manager,
Baffinland Iron Mines Corporation,
2275 Upper Middle Road East,
Suite 300,
Oakville, Ontario, L6H- 0C3

Water Licence: 2AM-MRY1325

RE: Plans required Submitted in Follow-up to April and June 2104 Inspections

Background

The properties of Baffinland Iron Mines Corporation (BIMC) at Milne Camp and Mary River Camp were inspected June 17-19, 2014. Two major concerns were noted during the inspection with respect to waste ash storage at Milne Camp and Mary River Camp and the surface drainage (yard swale) to Camp Lake near MS-MRY-1(Mary River Camp).

At the end of the inspection the Water Resource Officers and BIMC discussed options and two plans were requested to be submitted to address these concerns. The plan required for the waste ash in barrels was requested to be submitted on or before July 04, 2014 and the plan to for the surface drainage (yard swale) was requested to be submitted on or before July 21, 2014.

Comments

AANDC Field Operations acknowledges that BIMC has met the requirements of submitting both plans by the required dates and will continue to work with and monitor BIMC to ensure these plan are executed within the time lines as outlined in the Follow-up to April and June 2014 Inspections response submitted on July 04, 2014 by BIMC. All activities will be conducted according to the requirements of Water Licence 2AM-MRY1325 and supporting documentation.

Robert Savard
Water Resource Officer,
AANDC, Iqaluit, NU.

cc. Nunavut Water Board
Trevor Myers, Environmental Superintendent, Baffinland
Erik Allain, Manger Field Operations, AANDC
Justin Hack, Water Resource Officer



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee		Licensee Representative	
Baffinland Iron Mines Corporation		Trevor Myers	
Licence No. / Expiry		Representative's Title	
2AM-MRY1325		Environmental Superintendant	
Land / Other Authorizations		Land / Other Authorizations	
Q13C301 /2BB-MRY1114		N2006C0036	
Date of Inspection		Inspector	
14/07/2014		Robert SAVARD /Atuat SHOULDICE	
Activities Inspected			
<input checked="" type="checkbox"/> Camp <input type="checkbox"/> Drilling <input type="checkbox"/> Mining <input type="checkbox"/> Construction <input type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Fuel Storage			
<input type="checkbox"/> Roads/Hauling <input type="checkbox"/> Other: Water Discharge <input type="checkbox"/> Other:			

Conditions:		A - Acceptable		C - Concern		U - Unacceptable		NA – Not Applicable		NI – Not Inspected	
Water Use		Condition	Comment	Site Conditions		Condition	Comment	Haz/Mat Management		Condition	Comment
Intake/Screen	NI			Water Management Structures	A			Storage	A		
Flow Measure. Device	NI			Culverts / Bridges	NA			Spills	NI		
Source:	NI			Drainage	A			Spill Plan	NI		
Water Use:	NA			Erosion / Sediment	A						
Recirculation (y /n)	NA			Mitigation Measures	NA			Administrative			
				Reclamation Activities	NA			Records	A		
				Materials Storage	A			Reports	A		
Waste Disposal				Signage	A			Plans	A		
Waste Water	NA							Notifications	A		
Solid Waste	NA			Monitoring				Other			
Hazardous Waste	A			Sample Collection / Analysis	NA						
*The number in the comments field will correspond with specific comments provided below.											
Samples taken by Inspector:				Location(s):							
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											

SECTION 1	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<u>Background</u> <p>At the time of the inspection, Baffinland Iron Mines Corporation (BIMC) was not conducting any activities at Mid-Rail Camp or Steensby Camp and both camps were dormant. Activities are still occurring at the Mary River Site, Milne Port Site and the Tote Road but were not inspected on July 14, 2014 inspection.</p> <u>Inspectors Statement</u> <p>On July 14, 2014 a water licence and land use inspection was conducted at BIMC at both the Mid-Rail and Steensby site using a helicopter. The inspections were focused on determining site and infrastructure stability that may have been affected by the winter weather conditions and freshet and to ensure relevant conditions of permits and licences were being met.</p>			



SECTION 2

☒ Comments

☐ Non-Compliance with Act or Licence

☐ Action Required

Mid-Rail Site

Observations

- 1. Fuel Storage
 - a. No concerns. Continue to inspect and monitor fuel storage to prevent spills and leaks
- 2. Site Drainage
 - a. No concerns.

Concerns

- 1. No concerns noted at Mid-Rail Camp. Continue to monitor berms and containment areas for fuel storage. Continued to monitor and progressively manage camp non-hazardous waste material to prevent material from blowing into the tundra.

Steensby Site

Observations

- 1. Fuel Storage
 - a. No concerns. Continue to inspect and monitor fuel storage to prevent spills and leaks
- 2. Vehicle storage
 - a. No concerns. Continue to inspect and monitor vehicle storage to prevent spills and leaks
- 3. Waste material in over packed drums
 - a. No concerns. Continue to inspect and monitor material storage to prevent spills and leaks
- 4. Site Drainage
 - a. No Concerns.
- 5. Equipment/Material Storage
 - a. No concerns. Continue to inspect and monitor material and equipment storage to prevent spills and leaks.

Concerns

- 2. No concerns noted at Steensby Camp. Continue to monitor berms and containment areas for fuel storage. Continued to monitor and progressively manage camp non-hazardous waste material to prevent material from blowing into the tundra. Plans for the site include future sealift back haul for waste material stored at site.

SECTION 3

☒ Comments

☐ Non-Compliance with Act or Licence

☐ Action Required

Plans Required

No Plans Required

Inspector's Name

Atuat Shouldice

Signature

Date

July 25, 2014

Inspector's Name

Robert Savard

Signature

Date

July 25, 2014

Office Use Only: Follow-up report to be issued by Inspector

☐ Yes ☒ No



Photo Appendix



Photo 1: Mid-Rail Site.



Photo 2: Fuel storage at Mid-Rail Site



Photo 3: Steensby Site



Photo 4: Fuel storage at Steensby Site



Photo 1: Historic Ash Inventory in Lined Secondary Containment



Photo 2: Historic Ash Inventory in Lined Secondary Containment



Photo 3: Hazardous Waste Sorting Area near the Incinerator in Lined Secondary Containment



Photo 4: Hazardous Waste Sorting Area near the Incinerator in Lined Secondary Containment



Photo 5: Hazardous Waste Containment Berm after Housekeeping



Photo 6: Hazardous Waste Containment Berm after Housekeeping



August 5, 2014

Baffinland Iron Mines Corporation
2275 Upper Middle Road East
Oakville, ON
Canada L6H 0C3

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

Dear Mr Millard:

AANDC recognizes that Baffinland has met the required work to be completed by August 1, 2014 as part of the Historic Ash Disposal Management Plan submitted on July 4, 2014. Specifically, Baffinland was to conduct a sorting exercise of the ash at the Milne Port and construct temporary field design berms at the Mine Site and Milne Port to hold this material. On-site verification will be conducted at the next scheduled inspection.

Please continue to update an AANDC inspector as future deliverables become due as detailed in your Plans.

Sincerely,

Justin Hack
Water Resource Officer
Aboriginal Affairs and Northern Development Canada

cc. Erik Allain, AANDC
Robert Savard, AANDC
Phyllis Beaulieu, Nunavut Water Board



WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Baffinland Iron Mines Corporation	Jim MILLARD/Allan KNIGHT
Licence No. / Expiry	Representative's Title
2AM-MRY1325	Environmental Manager
Land / Other Authorizations	Land / Other Authorizations
2BC-MRY1416	
Date of Inspection	Inspector
August 21-25, 2014	Robert SAVARD /Justin HACK
Activities Inspected	
<input checked="" type="checkbox"/> Camp <input checked="" type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Drilling <input type="checkbox"/> Other: <input type="checkbox"/> Mining <input checked="" type="checkbox"/> Construction <input type="checkbox"/> Other: <input type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Fuel Storage

Conditions:	A - Acceptable	C - Concern	U - Unacceptable	NA – Not Applicable	NI – Not Inspected			
Water Use	Condition	Comment	Site Conditions	Condition	Comment	Haz/Mat Management	Condition	Comment
Intake/Screen	NI		Water Management Structures	A		Storage	A	
Flow Measure. Device	NI		Culverts / Bridges	C		Spills	A	
Source:	A		Drainage	A		Spill Plan	A	
Water Use:	A		Erosion / Sediment	C				
Recirculation (y /n)	NA		Mitigation Measures	A		Administrative		
			Reclamation Activities	A		Records	A	
			Materials Storage	C		Reports	A	
Waste Disposal			Signage	A		Plans	A	
Waste Water	A					Notifications	A	
Solid Waste	C		Monitoring			Other		
Hazardous Waste	C		Sample Collection / Analysis	A				
<i>*The number in the comments field will correspond with specific comments provided below.</i>								
Samples taken by Inspector:			Location(s): Camp Lake (Yard Swale), MS-C-E, MP-Q1-02					
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								

SECTION 1	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<u>Background</u> <p>At the time of the inspection, Baffinland Iron Mines Corporation (BIMC) was in the construction phase of its operations. Major activities on site included quarrying, building construction, Tote road upgrades, upgrades to mine road leading to deposit 1, ore storage lay-down construction, and ore dock construction. Active mining for ore has not yet begun.</p> <u>Inspectors Statement</u> <p>On August 21-26 2014, a water licence inspection was conducted at the Mary River Project, Qikiqtani Region, Nunavut. Sites inspected included the Mary River Mine Site, the Tote Road, and the Milne Port area.</p> <p>Inspectors were given a brief summary of activities occurring on site and a work completed to date to meet requirement of the previous inspection report from June 17-19 2014.</p> <p>Grab samples were taken on site to test for water quality at a yard swale running into Camp Lake, at monitoring location MS-C-E, and at quarry monitoring location MP-Q1-02.</p>			
SECTION 2	<input checked="" type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input type="checkbox"/> Action Required
<u>Mary River Site</u> Observations: <u>Sites of No Concern:</u> <div><div>1. Bladder Farm Decommissioning<ul style="list-style-type: none">Decommissioning work to continue into 2015 season. On site, one JET-A bladder, one P-50 bladder, and one bladder with hydrocarbon contaminated water remain within engineered secondary containment. No concerns noted.</div><div>2. Polishing and Stabilization Ponds 1,2 and 3<ul style="list-style-type: none">No concerns with site. Sites must be monitored and maintained according to Geotechnical Inspection reports.</div><div>3. Explosive Magazines enroute to Deposit 1<ul style="list-style-type: none">No concerns noted.</div><div>4. Drill sump at top of Deposit One</div></div>			



- Berms appeared to be stable and maintained. No concerns were noted.
- 5. Sewage Treatment Facility and Discharge Location (MS-MRY-01)
 - Records at the sewage treatment facility were checked to ensure effluent was meeting discharge criteria. Spills kits were noted on site. No concerns were noted.
- 6. Explosive Emulsion Plant
 - A general site inspection around the perimeter of the building was conducted.
 - Licensee proposed new water quality monitoring stations which were satisfactory to the Inspector. No concerns noted.
- 7. Water Treatment Facility
 - Records of water usage were available to the Inspector.
- 8. Waste Ash in barrels near incinerator
 - Barrels were in secondary containment. Progress was noted on meeting milestones of plan.
- 9. Inert Landfill
 - The landfill was being properly used for the disposal of inert, non-combustible waste only, including ash from the incinerator process.
 - The fence around the perimeter of the landfill was erected to control windblown debris.
 - Continue to monitor and maintain fence panelling as required.
- 10. Water Quality Monitoring Stations
 - All water quality monitoring stations were checked to ensure they were marked correctly.

Sites of Concern

1. Culvert Crossing on road to Explosive Magazines
 - The two culvert crossings adjacent to the explosive magazine require progressive sedimentation and erosion control measures to minimize sediment entering into watercourse.
 - Temporary and permanent erosion and sediment control measures can include, but are not limited to, slope stability and/or armouring of banks.
 - The actions are to be conducted in the dry if the licensee anticipates preventative measures may increase sediment loading.
2. Road to Deposit One from Camp
 - During construction of the road, it was noted sediment and erosion control measures were needed in areas leading to the deposit to prevent sediment from entering water.
 - Temporary and permanent erosion and sediment control measures can include, but are not limited to, slope stability and/or armouring of banks.
 - The actions are to be conducted in the dry if the licensee anticipates preventative measures may increase sediment loading.
3. Quarry Site (QMR2)
 - Quarry site was not inspected due to blasting preparation.
 - At the entrance of road entering into QMR2, mud was overtopping the berm walls at both sides directly above the culvert contributing to the sedimentation of the stream.
 - At the close out meeting, it was agreed by Baffinland that preventative measures would be taken.
4. Surface drainage (yard swale) to Camp Lake near MS-MRY-1.
 - Hydrocarbon sheen was noted on the surface of the yard swale during inspection.
 - Hydrocarbon absorbent pads were deployed to mitigate hydrocarbon contamination in water. Grab samples were taken in the swale to test water quality.
 - A silt curtain is currently installed at the last point of control to mitigate total suspended solids from entering Camp Lake.
 - Please continue to monitor and replace booms as required until freeze-up to prevent hydrocarbons from entering Camp Lake.
5. Open Burn Site (for approved clean combustibles)
 - Please see *Section 3 – Plans*.

Tote Road

Observations

The tote road is currently being upgraded to allow B-train trucks to haul iron ore to Milne Port. Part of these upgrades include widening the tote road, increasing culvert size, replacing culverts, extending culverts, cut and fill, and re-grading.

No Concerns

1. Four Single Span Bridges along Tote Road
 - No concerns were noted with armouring techniques implemented.
2. Water Intake Location at km 32.
 - No concerns were noted.



Concerns

1. Culverts

- It was noted that sediment erosion measures were needed to prevent sediment from entering water at culverts locations at km 97, 63, 38.
- Temporary and permanent erosion and sediment control measures can include, but are not limited to, slope stability and/or armouring of banks.
- The actions are to be conducted in the dry if the licensee anticipates preventative measures may increase sediment loading.
- Apply progressive reclamation procedures when removing any culverts.

2. Silt Fences

- Many silt fences along the road appeared to be unmaintained and collapsed in areas.
- Maintain where still required and remove where no longer required.

Milne Port Site

Observations

No Concerns

1. Water Quality Monitoring Stations

- Water quality monitoring stations were checked to ensure they were marked correctly.

2. New water withdrawal location.

- Baffinland has notified and verified the exact location (17W 503297/7975614) with the Inspector of a temporary water withdrawal location. The water is to be used in a boiler system. No concerns noted.

3. Sewage Treatment Facility

- Records, water licence, and spills kits were present as required. No concerns noted.

Concerns

1. Hazardous Waste Management

- A pallet containing tubs of 5 gallon oil was on the edge of the berm. After bringing this to Baffinland's attention, the pallet was moved into proper containment.
- Storage of fuel drums were also out of containment on the lip of a berm. Barrels are required to be within the berm to prevent spills and collision with equipment.
- A used secondary containment liner was noted as stored outside the Arctic Construction building. Baffinland has informed the Inspectors that this liner will be stored and backhauled on a sea lift in late 2014 or it will be stored at the contaminated soil facility until it can be processed in 2015.

2. Rotating Biological Contactor (RBC) Facility

- Outside the RBC facility there were five 5 gallon buckets. One of the buckets without a lid had been overtopping with unknown brown liquid. After bringing this to Baffinland's attention, all five buckets had been moved into proper containment.

3. Waste Management

- Waste diversion and separation needs to be improved to meet goals and objectives of the waste management plan.

4. Open Burn Site (for approved clean combustibles)

- Please see *Section 3 – Plans*.

6. Drilling/Road Salt (Calcium Chloride)

- Since the previous inspection, the salt has been moved to the bottom of the Quarry Q1 to make room for the ore lay-down area. Please ensure proper interim storage of salt and waste materials.
- Please see *Section 3-Plans*.

7. Overall Site

- Please continue to work on and keep site clean and free of construction debris. It is recommended that an overall site cleanup occur annually.

8. Quarry (Q1)

- Culvert at Q1 (MP-Q1-01) needs to be maintained to have sediment removed.

9. Polishing Waste and Stabilization Pond (MP-01a)

- There was evidence of dried algae noted on the lip of the berm beside the 'I.T.' Sea Can. Continue to monitor freeboard and manage adequately.



SECTION 3



Comments



Non-Compliance with Act or Licence



Action Required

Plans Required

Open Burn Site

Background

This is the third time seeing unapproved non-combustibles in the burn box at both the Mary River and Milne Inlet facilities. There was also debris from the burn box on the surrounding ground. See **Photo 2**.

Plan

During a discussion with Mr. Jim Millard, Baffinland Environmental Manager and site services representatives, it was agreed that Baffinland would temporarily cease all open burning at both locations. It was also agreed that Baffinland would clean all ash and material from both open burn boxes and clean all debris in the area around the open burn area.

Furthermore, it was agreed that a plan would be created and submitted to Water Inspectors Hack and Savard by **September 12, 2014** or prior to continuing open burning whichever date would be sooner. This plan would outline a process to ensure compliance with the waste management plan and would include site security, improved waste segregation procedures, education to staff and contractors, self compliance audits, and an adaptive management strategy to ensure compliance on an ongoing basis.

Drilling/Road Salt (Calcium Chloride) Storage at Milne Inlet Camp

Background

Drilling/Road Salt (Calcium Chloride) is stored near the quarry site at Milne Inlet site. This product is used primarily for drilling or dust suppression and is currently stored on pallets, in Quatrex bags on pallets and also on the ground in piles of debris which include wood, earth and broken bags (see **Photo 1**). Bags and debris associated with this storage were noted to be blowing around the site.

Plan

It was agreed at the close-out meeting that an action plan would be developed to address the storage of this product. This plan would outline segregate of the useable salt from the debris piles in order to continue to store and potentially use the salt for purposes related to the project. It was further agreed that the plan would be submitted to Water Inspectors Hack and Savard prior to **September 12, 2014**.

This plan would include activities with milestones to meet the overall objective of having the salt storage area sorted and managed in a way to prevent excess material being distributed around the site, and to be congruent with the waste management plan. This plan would have a completion date on or before September 30, 2015.

Inspector's Name

Justin Hack

Signature

Date

August 29, 2014

Inspector's Name

Robert Savard

Signature

Date

August 29, 2014



Photo Appendix



Photo 1: Salt bags contained with piles of debris.



Photo 2: Open burn facility at Milne showing debris outside facility and unapproved contents inside.

September 8, 2014

Resource Management Officer
Nunavut Field Operations
Aboriginal Affairs and Northern Development Canada
PO Box 219
Box 100
Iqaluit, NU X0A 0H0
Robert.Savard@aanncd.aandc.gc.ca

Re: Surface Water Drainage to Camp Lake – Preliminary Plan
Mary River Project – Water License No. 2AM-MRY1325

During the compliance inspection which was conducted on June 17-19, 2014 by Aboriginal Affairs and Northern Development Canada (AANDC) Water Resource officers, some concerns were identified pertaining to the sediment loading of surface drainage into Camp Lake near MS-MRY-1a. In the response letter from Baffinland dated July 4th, 2014, Baffinland committed to providing a technical memo to the inspector which outlined conceptual options for improvements to the drainage by September 1st, 2014. This date was subsequently extended to September 8, 2014 by the inspector on August 29th, 2014 as certain details of the of the conceptual plan were still not available due to present conditions on site. The following outlines the progress made thus far pertaining to options being examined as well as the proposed milestones moving forward.

1.) Construction of Settling Ponds

At present, one of the options being looked at is the creation of successive settling ponds within the drainage in order to decrease the flow velocity and in turn allow for the suspended sediments to settle out in the ponds. One of the constraints to this approach is that the gradient of the drainage is quite steep and in turn create concerns pertaining to the stability of the embankment. Also, at present we are not able to conduct any preliminary geotechnical ground testing due to flows in the channel and the risk of sedimentation into the lake as a result of the testing. A potential location for the ponds has been identified at the toe of the slope adjacent to the shore of the lake as the gradient would likely be suitable to ensure pond and embankment stability (Figure 1). Once frozen conditions are present, preliminary ground testing will be conducted to ascertain soil type as well as permafrost/ground ice conditions and a final design will be developed and submitted to the inspector on or before October 31st, 2014 with construction being completed on or before May 15th, 2015 should this option prove viable.

2.) Use of Flocculants

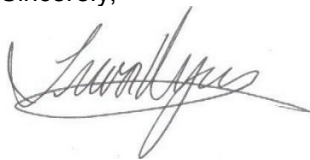
Another option being examined is the use of flocculants to aid in increasing the rate of sediment precipitation from the water once it reaches the settling ponds. This will likely be achieved through the placement of flocculant blocks into the channel upstream from the settling ponds, however the exact details are not currently available as there is some investigation required into the sediment loading of the runoff in order to ascertain an effective approach to this type of treatment. Further details on the use of flocculants will be provided in the final design plan to be submitted to the inspector on or before October 31st, 2014.

3.) Upstream Drainage Diversions

As was noted in the in the inspector's report from the June 17-19 inspection, the increased water drainage to the area was postulated to be caused from infrastructure work done adjacent to and on the runway. As a result of the runway upgrades, ponding of water has now been identified proximal to the toe of the runway alignment to support this theory. There is already a plan in place and a design produced to redirect the drainage southward and around the Weatherhaven camp to prevent the aforementioned ponding. This will in turn reduce the amount of melt runoff that will flow through the yard of the camp and down the drainage near Camp Lake. Furthermore, the increased silt load in the runoff is a result of the increased traffic passing through the yard and which must drive through the swale through which the runoff flows. Plans are in place to look at the various options for moving the location of the swale to an area that will not be driven through and to recontour the present location of the swale such that vehicle traffic is not required to drive through the runoff and in turn reduce the sediment loading of the runoff. Further details on the drainage diversions will be provided in the final design plan to be submitted to the inspector on or before October 31st, 2014.

Should you require further information on the above, please feel free to contact the undersigned at (647) 253-0596 Ext. 6010 or Jim Millard at (902) 403-1337.

Sincerely,

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

Trevor Myers, B.A.(Hon.), M.Sc.
Environmental Superintendent

cc. Jim Millard, Allan Knight, Oliver Curran, Erik Madsen, Baffinland.
Justin Hack, AANDC



Figure 1 – Potential Location of Settling Ponds



September 09, 2014

Trevor Myers,
Environmental Supervisor
Baffinland Iron Mines
2275 Upper Middle Road East, Suite 300
Oakville ON L6H 0C3

Dear Mr. Myers:

This letter is in reply to the 'Technical Memo for Surface Water Drainage to Camp Lake.'

AANDC Water Inspections recognizes that the submission of a work plan titled 'Technical Memo for Surface Water Drainage to Camp Lake' was submitted on September 08th, 2014 and that an extension was given by AANDC to Baffinland to complete this preliminary report from the original submission date of September 01, 2014.

Furthermore AANDC recognizes that additional work and geotechnical investigation is required to submit a final plan which will be submitted to AANDC Water Inspections on or before October 31, 2014. This final report will include details of the plan along with milestones of activities which will be conducted 'in the dry' and be completed no later than May 15, 2015.

Sincerely,

Robert Savard
Water Resources Officer
Aboriginal Affairs and Northern Development Canada

cc. Erik Allain, Manager, Field Operations, AANDC Iqaluit.
Justin Hack, Water Resource Officer, AANDC Iqaluit.
Phyllis Beaulieu, Nunavut Water Board



September 12, 2014

Resource Management Officer
Nunavut Field Operations
Aboriginal Affairs and Northern Development Canada
PO Box 219
Box 100
Iqaluit, NU X0A 0H0
Robert.Savard@aannc-aanncd.cg.ca

Re: Calcium Chloride Storage – Milne Port
Mary River Project – Water License No. 2AM-MRY1325

In response to Milne Port Concerns: Item 6 (AANDC - Water License Inspection Form, August 29, 2014) the following plan has been developed to address the storage of Calcium Chloride moved and stored near the quarry site at Milne Inlet site to accommodate the ore lay-down area. The following plan outlines segregation of the useable salt from the debris piles in order to continue to store and potentially use the salt for purposes related to the project.

Identified Concern:

Calcium Chloride is currently being stored south of the quarry location. This product is used primarily for drilling or dust suppression and is currently stored on pallets, in urea bags on pallets and also on the ground in piles of debris which include wood, earth and broken bags. During the inspection (August 21-25) bags and debris associated with this storage were noted to be blowing around the site.

Proposed Action Plan:

Baffinland will segregate salt bags and debris that have the potential to become windblown to prevent them from becoming displaced around site. This plan is short term and is to be completed on or before October 15, 2014. Also, Baffinland will provide an additional (and more thorough) clean-up of the identified area next spring. The additional clean-up shall consist of further waste segregation of the area in accordance with Baffinland's Waste Management Plan by means of sorting through all remaining debris piles/partial salt bags and proper disposal of collected materials. As well, to further prevent excess material from being distributed around the site, the compromised salt packages shall be identified and contained. This will be completed on or before July 1, 2015,

Should you require further information on the above, please feel free to contact the undersigned or Trevor Myers at (647) 253-0596 Ext. 6010 or Jim Millard at (902) 403-1337.

Sincerely,

A handwritten signature in black ink, appearing to read "Allan Knight".

Allan Knight, B.Sc.
Environmental Coordinator

cc. Jim Millard, Trevor Myers, Oliver Curran, Erik Madsen, Jeff Bush, Lyle Hermmerling, Baffinland.
Justin Hack, AANDC
Stephen Williamson Bathory, IA



September 12, 2014

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

Re: Open Burn Sites – Milne Port and Mary River
Mary River Project – Water License No. 2AM-MRY1325

In response to the Milne Port and Mary River Concerns: Items 5 and 4 respectively (AANDC - Water License Inspection Form, August 29, 2014) the following plan has been developed to address the operational issues that have been noted by the inspector for these locations. The following plan outlines the strategies that Baffinland will adopt so that the open burn areas will comply with Baffinland's Waste Management Plan on an ongoing basis.

Identified Concern:

During the inspection of August 21-25, unapproved non-combustibles were observed inside the burn boxes at both Mary River and Milne Inlet. These conditions were also observed during previous inspections this year. As well, debris from the burn box was identified on the ground surrounding and adjacent to the burn boxes.

Proposed Action Plan:

Baffinland will take the following steps to ensure that future operation of the open burn facilities remain compliant. They are as follows:

Site Security

Baffinland will install locking gates to restrict the access to these areas to authorized personnel only, in much the same manner as the landfill at Mary River. This will in turn reduce the possibility of unauthorized deposition of unacceptable wastes to the locations, which could inadvertently be introduced into the burn. The gates restricting access will be installed on or before October 31st, 2014.

Education and Adaptive Management Strategy

Site Services will designate operators for this activity. The operators will be trained on the specific requirements necessary to maintain compliance. This training will consist of reviewing both the waste sorting guidelines as well as the SOP for open burning and records will be kept of the persons who have received the training. Also, clear signage will be posted at the burn locations outlining both acceptable and unacceptable waste types for the open burn facilities as well as the Baffinland's SOP for Open Burning. All signage and the SOP will be posted in both English and Inuktitut. Furthermore, Baffinland's Environmental Department will issue an Environmental Bulletin to be circulated to all departments and contractors to be reviewed in the toolbox meeting pertaining to waste management and the waste sorting guidelines. The bulletin will also address the specific criteria for wastes destined for the open burn facilities. Moving forward, no open burns will be conducted by Site Services personnel prior to receiving the aforementioned training. Also, all signage will be posted and the environmental bulletin will be issued on or before October 15, 2014.



Compliance Monitoring

Weekly inspections of the burn areas will be conducted by environmental personnel to ensure that all wastes being deposited in the area are in compliance with the SOP and that the area is kept tidy as well as to ensure that the ash from the burn cans is being emptied on a regular basis. If observations indicate that improper procedure has been followed, then the inspector will be informed and the open burn permit provided by the Environmental Department will be revoked and the Inspector contacted.

During the start-up phase of the continuance of the open burning practice, it is recommended that Site Services personnel contact the Environment Department to let them know a burn is to proceed. Environment personnel can then monitor the charged open burn box prior to ignition. Once there is evidence the open burn process is proceeding as required, these pre-burning inspections can be reduced and eventually eliminated.

Improved Waste Segregation Procedures and Housekeeping

Effective immediately, secondary waste segregation will occur during the loading process of the burn cans. Any waste found in the area that does not meet the required criteria for open burning will be removed from the open burn area by Site Services personnel and will be properly segregated and disposed of in the appropriate locations in accordance with Baffinland's Waste Sorting Guidelines. Ash will be removed from the open burn boxes on a weekly basis when burning is occurring. The ash will be allowed to cool prior to placement in the dump.

Should you require further information on the above, please feel free to contact the undersigned or Trevor Myers at (647) 253-0596 Ext. 6010 or Jim Millard at (902) 403-1337.

Sincerely,

A handwritten signature in black ink, appearing to read "Allan Knight".

Allan Knight, B.Sc.
Environmental Coordinator

cc. Jim Millard, Trevor Myers, Oliver Curran, Erik Madsen, Jeff Bush, Lyle Hermmerling, Baffinland.
Justin Hack, AANDC
Stephen Williamson Bathory, □IA



September 22, 2014

Allan Knight,
Environmental Coordinator,
Baffinland Iron Mines Corporation,
2275 Upper Middle Road East,
Suite 300,
Oakville, Ontario, L6H- 0C3

Water Licence: 2AM-MRY1325

RE: Plans required to be submitted in Inspection Report August 29, 2014

Background

During the inspection of Baffinland Iron Mines Corporation properties at Milne Camp and Mary River Camp between August 21-26, 2014 two major concerns were noted with respect to the open burn sites at Milne Camp and Mary River Camp and the calcium chloride storage at Milne Port.

During the time of inspection two plans were required to be submitted to address these concerns. These plans were required to address the open burn sites and the calcium chloride storage and include dates for completion. Both of these plans were required on or before September 12, 2014

AANDC Field Operations acknowledges that Baffinland has met the requirements of submitting both plans by the required date and that Baffinland will execute both of the plans as outlined to meet deliverable dates while following procedures listed in both plans within the requirements of Water Licence 2AM-MRY1325 and supporting documentation.

Robert Savard
Water Resource Officer,
AANDC, Iqaluit, NU.

cc. Jim Mallard, Environmental Manager, Baffinland
Trevor Myers, Environmental Superintendant, Baffinland
Erik Allain, Manger Field Operations, AANDC
Justin Hack, Water Resource Officer, AANDC
Nunavut Water Board