Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Baffinland Iron Mines Corporation (BIMC)	Connor Devereaux
Licence No. / Expiry	**Representative's Title**
2AM-MRY1325	Environmental Superintendent
Land / Other Authorizations	
8BC-MRY1416, 2BEMRY1421	N2014X0012, N2014Q0016, N2014C0013
Date of Inspection	**Inspector**
May 16-18 2018	Jonathan Mesher

Activities Inspected

☐ Municipality ☐ Drilling ☒ Mining ☒ Construction ☐ Reclamation ☒ Fuel Storage
☒ Roads/Hauling ☐ Other: BIMC Main Camp ☒ Other: Miline Camp Area

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	A		Water Management Structures	A		Storage	10	a
Flow Measure. Device	A		Culverts / Bridges	C	1,2b	Spills		
Source:	A		Drainage	A		Spill Plan		
Water Use:	A		Erosion / Sediment					
Recirculation (y /n)			Mitigation Measures	A		**Administrative**		
			Reclamation Activities			Records		
			Materials Storage	U	4a, 6c	Reports		
Waste Disposal			Signage	A		Plans		
Waste Water						Notifications		
Solid Waste			**Monitoring**			**Other**		
Hazardous Waste			Sample Collection / Analysis					

**The number in the comments field will correspond with specific comments provided below.*

Samples taken by Inspector:	Location(s): Camp Lake Jetty – Inspectors identified melt water entering camp lake due to freshet, samples were taken at 14:01 to test for TSS, TPH, and Oil & Grease.
☒ Yes ☐ No	

SECTION 1 ☒ **Comments** ☐ **Non-Compliance with Act or Licence** ☐ **Action Required**

Inspectors Statement

On May 16-18, 2018, 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 related infrastructure, and the Milne Port area**.**

Weather Conditions on Site

The site remained partly snow covered at the time of the inspection; however, due to unusually warm weather freshet had just begun causing significant snowmelt to enter watercourses.

Summary of Report

At the time of inspection, the Licensee was undertaking activities related to the operation of an open-pit iron ore mine at the Milne Port (Milne Inlet), Mine site (Mary River), Tote Road. Construction activities on site include; construction of the new BIMC 800 man camp at Mary River site, maintenance along the tote road and construction of an emergency waste water management system at the waste rock stock pile.

Prior to inspection BIMC held a freshet presentation with regulating parties pertaining to their plan to address freshet issues on site. All water seeping from the Waste Rock Stockpile (WRS) and into the emergency ditches was frozen and relocated back to the WRS for control.

Inspection

1. **Ore Crushing Area and associated water management structures**
   a. In the previous inspection report it was noted that the containment ditches surrounding ore stockpile pad were not complete, at the time of this inspections the containment ditches around this facility appeared to be complete. *See figure 1*
   b. It was noted that some debris form what appears to be from the ore stockpile in the ditches (*see figure 2*) and an outer berm wall was either eroded or is incomplete (*see figure 3*). This berm wall must be repaired as soon as possible to ensure that contact water does not leach into the environment.

2. **Waste Rock Stockpile and associated water management structures**
   a. Emergency ditch is cleared and appears to be in good condition; all ice from the emergency ditch has been removed and relocated to the waste rock stockpile (*see figure 4*). However a road was built over top of a diversion ditch on the North East side of the WRSP leading to the waste rock sedimentation pond for containment, this blocks the flow of water to the WRSP sedimentation pond.

      I. Ditch on the North East side of the WRSP must be marked and cleared annually ensuring proper water management.

   b. Contrary to the comment (4), in the Action required section of the November 2017 inspection report which stated; "To remove all debris from all diversion ditches prior to freshet 2018, so that surface water flows as intended to the sedimentation ponds". The Licensee has not completed this work, which leads the inspector to believe that an unauthorized deposit of waste may occur.

      II. The access road must be remediated to ensure PAG contact water does not enter the environment and proper diversion of water to the sedimentation pond.

   c. At the time of the inspection the licensee was constructing a water treatment system at the waste rock stockpile sedimentation pond, the construction of this emergency water treatment facility appears to be on schedule and should be ready to deal with the potential Acrid Rock Deainage.
3. **Polishing Waste Stabilization Ponds**
   a. No issues noted; the ponds were still frozen during time of inspection.

4. **Hazardous Waste Berms**
   a. It was noted that two containers with hazardous waste have been left open and 4 drums of hazardous waste left outside of the facility.

      III. Waste material must be moved into containment

5. **Camp Lake Jetty**
   a. The inspector noted potential high levels of TSS originating from melt water entering camp lake. Aggregate dams have been built to screen sediment prior to entering lake. Samples were taken at this location to test for TSS, TPH and Oil & Grease.

6. **Land Fill**
   a. Land fill appears to be properly covered.
   b. Inspector noted that the fence is in poor condition.
   c. The inspector noted that hazardous material was dumped into the land fill. Hazardous waste found in this facility consisted of paint cans, oil filters, and aerosol cans. *See figure 5*.

      IV. It is BIMC's obligation to ensure that all BIMC employees understand that this is a non-hazardous landfill.
      V. Hazardous material must be removed from the land fill and stored an approved lined facility.

7. **Effluent Outfall**
   a. No concerns noted regarding this deposit of waste.

8. **Ore Stockpile Pad and associated water management structures**
   a. Ore bulk sample remains appear to be removed as requested by the inspector in a previous inspection.
   b. Liners of the East and West sedimentation pond appear to be in good condition.
   c. The culvert on the North East side of the stockpile pad has not been cleared and is allowing water to pool inside of the unlined diversion ditches.
   d. East and west Sedimentation Pond appears to be in good condition. *see figure 6 & 7.*

9. **Helicopter Pad Southeast of Ore Stockpile Pad**
   a. Surface of helicopter pad is topped with Ore, the ore topping the helicopter pad is to be removed or the licensee is provide evidence that this material is approved by the Nunavut Water Board as

construction material. *See Figure 8*

10. New Camp Pad (Milne Port)

a. Ditches surrounding new camp pad are unidentifiable due to snow cover

VI. Ensure that all water management structures are cleared to allow these structures to operate as intended. *See figure 9*

VII. North of batch plant contaminated soil placed in drums however the drums are not sealed or in containment. *See figure 10 & 11*

11. Fuel Module at Milne

a. Fuel module does not appear to be properly contained, this facility is lined but, the berms creating the containment area appear to have eroded away or the facility has become full of sediment causing capacity issues. Water from within the facility area appears to be capable of flowing outside of containment area. *See figure 12*
b. The inspector is requesting for a copy of the as built drawings for this facility.
c. A grab sample was taken at this location. Waiting for test results for TPH

12. Contaminated Snow dump

a. No issues or concerns with this facility, appears to be operating as intended.

SECTION 2	☐ Comments	☐ Non-Compliance with Act or Licence	☒ Action Required

PART B GENERAL CONDITIONS

ITEM 11
The Licensee shall post signs in the appropriate areas to inform the public of the location of infrastructure and/or facilities designed to contain, withhold, divert or retain Water and/or Waste. All signs must be in English, Inkutitut and French.

1. Ditch on the North East side of the WRSP must be marked and cleared annually ensuring proper water management

PART E CONDITIONS APPLYING TO WATER USE AND MANAGEMENT

ITEM 19
The Licensee shall undertake appropriate corrective measures to mitigate impacts on Surface drainage resulting from the Licensee's operations.

2. The access road must be remediated to ensure PAG contact water does not enter the environment and proper diversion of water to the sedimentation pond.

PART F CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

ITEM 5
The Board has approved with the issuance of the licence, the Plan entitled "Baffinland Iron Mines Corporation Mary River Project Hazardous Materials and Hazardous Waste Management Plan", dated April 22, 2013.

3. Waste material must be moved into containment

PART F CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

ITEM 4
The Licensee shall provide a revised Waste Management Plan, as required under Part B, Item 15(f), that takes into consideration for this and future revisions under this Licence, the following:

a. A Quality Assurance and Quality Control Plan for open burning procedures under

this Licence;

b. Provide a section and information on the proposed land disposal of dredging waste for the purposes of construction at Milne Port Site and Steensby Port Site, with information on location, amount of materials, method of disposal and any Mitigation measures required for the protection of water.

4. It is BIMC's obligation to ensure that all BIMC employees understand that this is a non-hazardous landfill.

PART F CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

ITEM5
The Board has approved with the issuance of the licence, the Plan entitled "Baffinland Iron Mines Corporation Mary River Project Hazardous Materials and Hazardous Waste Management Plan", dated April 22, 2013.

5. Hazardous material must be removed from the land fill and deposited into the approved lined facility.

PART D CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

ITEM 24
The Licensee shall construct and operate all infrastructure and Facilities designed to contain, withhold, divert or retain Water and/or Waste in accordance with all applicable legislations and industry standards.

6. Ensure that all water management structures are cleared to allow these structures to operate as intended. *See figure 9*

PART F CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

ITEM 5
The Board has approved with the issuance of the licence, the Plan entitled "Baffinland Iron Mines Corporation Mary River Project Hazardous Materials and Hazardous Waste Management Plan", dated April 22, 2013.

7. North of batch plant contaminated soil placed in drums however the drums are not sealed or in containment. *See figure 10 & 11*

Inspector's Name	
Jonathan Mesher	
Signature	
Date	
6/18/2018	

Figure 1: Ditch surrounding Ore Stockpile

Figure 2: Debris from what appears to be from the Ore Stockpile in the ditch near the "E-house"

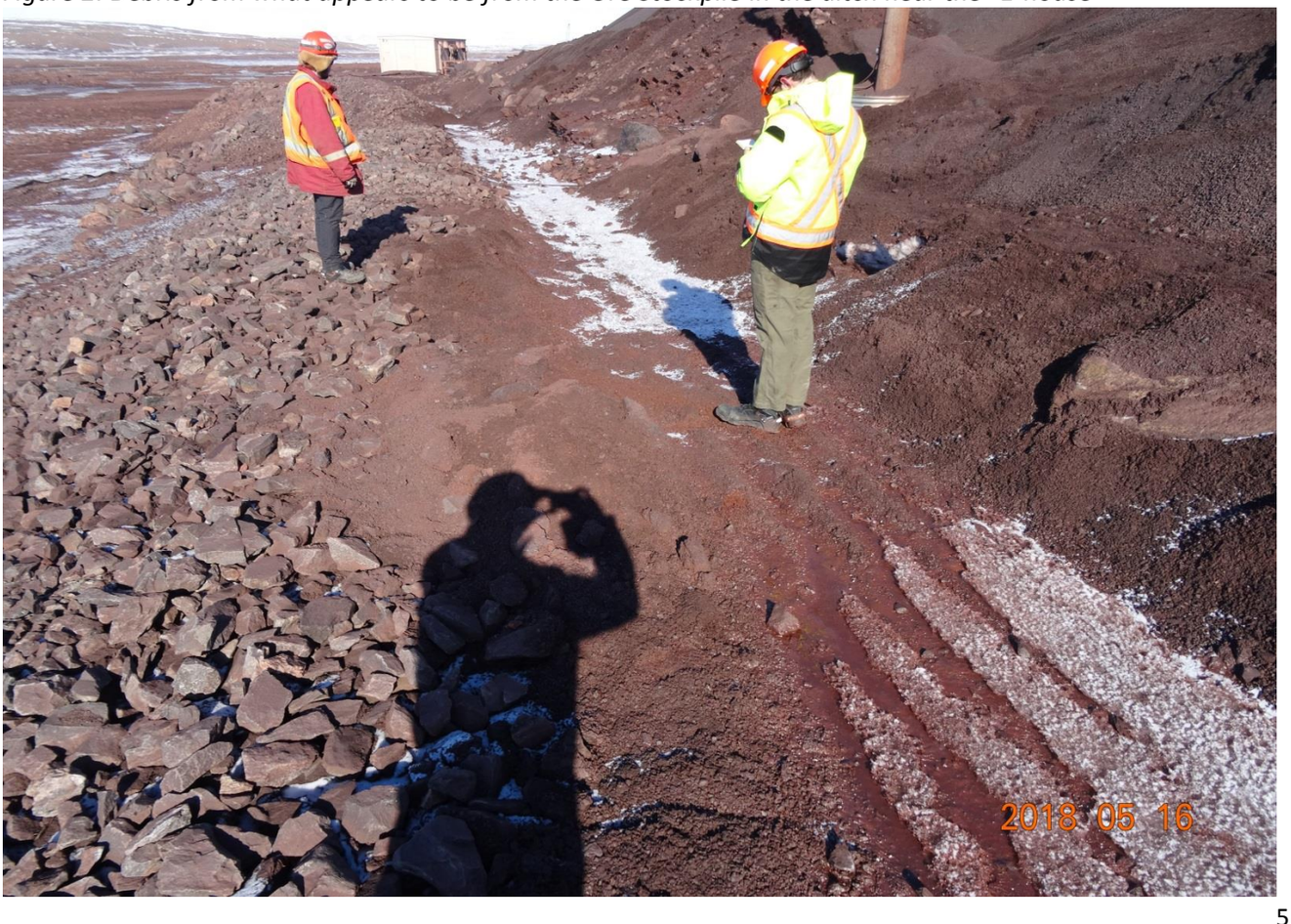

Figure 3: erosion or incompletion of ditch wall seen in the center of the photograph location near the "Ehouse"

Figure 4: ice relocated to the Waste Rock Stockpile

Figure 5: Hazardous Material found in the Landfill aerosol can, paint cans, used oil filter

Figure 6: East Sedimentation pond

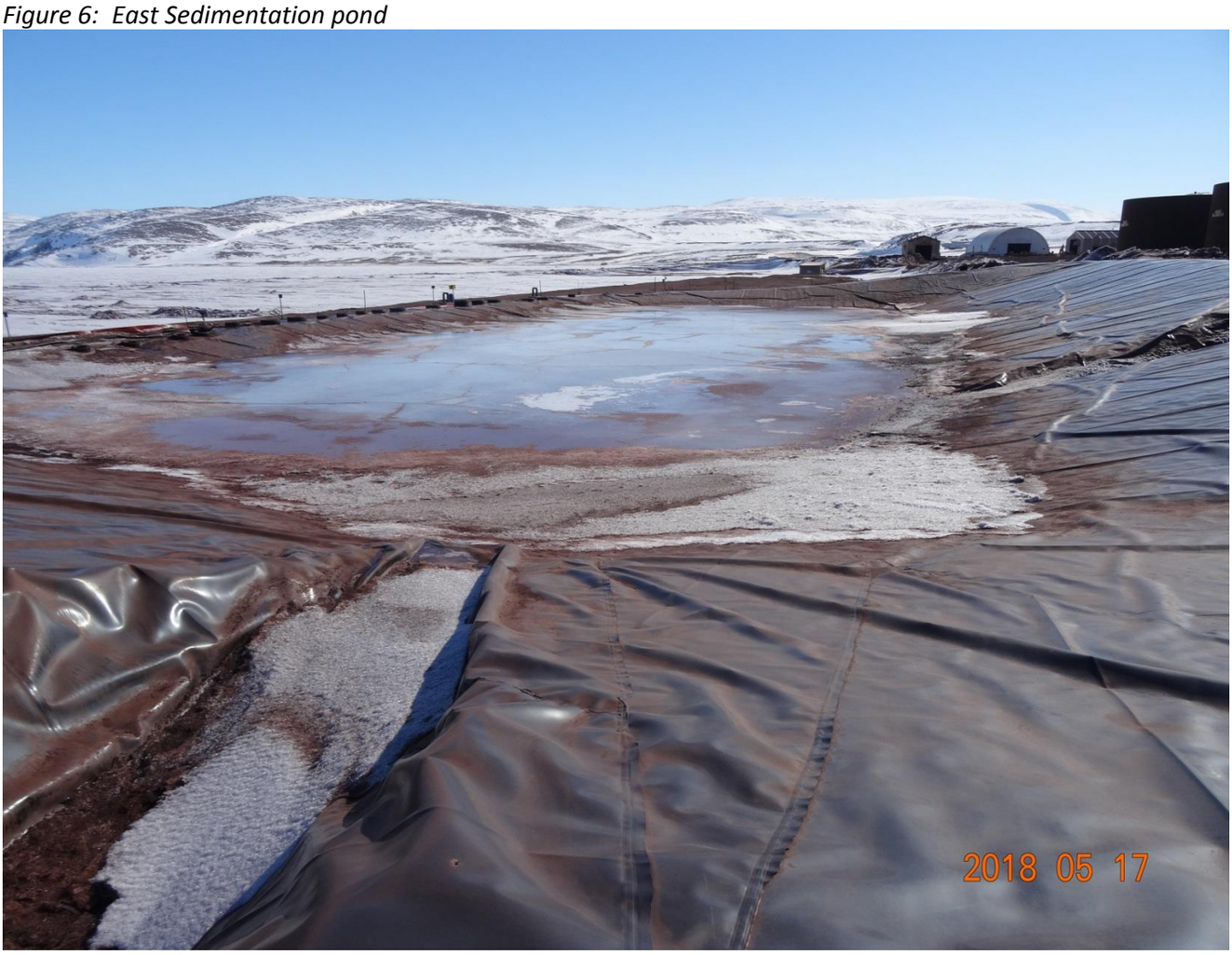

Figure 7: West Sedimentation pond

Figure 8: helicopter pad topped with Ore

Figure 9: Ditch surrounding new camp pad Milne port

Figure 10: contaminated soil near batch plant

Figure 11: contaminated soil in unsealed containers near batch plant

Figure 12: contact water exiting fuel station module