

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

| | |
|---|--|
| Licensee | Licensee Representative |
| Baffinland Iron Mines | Connor Devereaux |
| Licence No. / Expiry | Representative's Title |
| 2AM-MRY | Environmental superintendent |
| Land / Other Authorizations | Land / Other Authorizations |
| | -- |
| Date of Inspection | Inspector |
| September 16-17, 2021 | Jonathan MESHER |
| Activities Inspected | |
| <input type="checkbox"/> Camp | <input type="checkbox"/> Drilling |
| <input checked="" type="checkbox"/> Roads/Hauling | <input checked="" type="checkbox"/> Mining |
| | <input type="checkbox"/> Construction |
| | <input type="checkbox"/> Other: |
| | <input type="checkbox"/> Reclamation |
| | <input 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 | NA | | Water Management Structures | NA | | Storage | NA | |
| Flow Measure. Device | NA | | Culverts / Bridges | NA | | Spills | NA | |
| Source: | NA | | Drainage | NA | | Spill Plan | NI | |
| Water Use: | NA | | Erosion / Sediment | NA | | | | |
| Recirculation (y /n) | NA | | Mitigation Measures | A | | Administrative | | |
| | | | Reclamation Activities | NA | | Records | NI | |
| | | | Materials Storage | NA | | Reports | NI | |
| Waste Disposal | | | Signage | | | Plans | NI | |
| Waste Water | NA | | | | | Notifications | A | |
| Solid Waste | NA | | Monitoring | | | Other | | |
| Hazardous Waste | NA | | Sample Collection / Analysis | A | | Follow-up from previous inspection | NI | |
| | | | | | | | | |
| *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

☒ Comments

☐ Non-Compliance with Act or Licence

☐ Action Required

Background

On September 16-17, 2021 I Jonathan Mesher Resource Management Officer of CIRNAC conducted a Water licence inspection at the Mary River Project, Tote Road and Milne port site.

Inspection

A) Tote Road;

1-60 Crown Land- multiple spills of unknown substance(potentially motor oil) on the ground near the parking area. See photo 3 for the spills.

1-154A/ Spill 21247- there was visible erosion on the road near the culvert, upstream of the culvert and down stream of the culvert. See photos 4 &5 for erosion.

1-115/ spill 21247- no concerns near the culvert.

1-112/spill 21247- potentially non-engineered ditches upstream of the culvert could be causing increased TSS. See Photo # 1 for the mentioned ditches.

1-093/spill 21247- potentially non-engineered ditches upstream of the culvert could be causing increased TSS. See photo 6 for the potentially non-engineered ditches. See photo 7 for the potentially, non-engineered ditches.

1-24/spill 21247- significant erosion on both sides of culvert. See photos 8-9 for the erosion.

1-001/spill 21247- damaged culvert and erosion on down stream side of culvert. See photo 10 for the photos of the

naged culvert.

B) Milne Inlet

- 1)MP-05- The inspector noted rips on the liner at the inflow after the culvert, the pond appeared to be appropriately pumped down. See photo 11 for pictures of the rips.
- 2)MP-06- There was erosion noted on the East inflow of the pond, the pond appeared appropriately pumped down. See photo 12 for the erosion noted.
- 3)Pond 3- Pond 3 is unable to passively drain into MP-06 and the ditch connecting the two ponds is leaking. The surface water on the South West side of the ore pad is unable to drain into Pond 3. See photo 13 for a picture of the hoses used to pump the water from pond 3 into mp-06 and the area leaking.
- 4)Snow dumps- The snow dumps appear to be contaminated with litter scooped up during the winter season. see photos 14 and 15 for waste in the snow dumps.
- 5) HWB 03 and 04- the is no defined berm where waste is being stored it appears if a spill did occur the waste would flow outside of this facility. See photo 16 for a picture of this facility.
- 6)western globe fuel module- there is no visible berm, this pumping station does not appear to be properly contained, if a spill was or occur or if rain was to pool and become contaminated it appears to be able to flow outside of containment. See photo 17 for the lack of defined berms.

C) Mine site

- 1) The inspector noted erosion North of the camp lake intake, is appears surface water from the runway and surrounding area has no water management structure to manage it. This surface water has previously caused erosion near the camp lake tributary and now is eroding the sandy hills north of the water intake. See photo 18 and 19 for pictures of this erosion.
- 2) Aircraft Fuel berm- The inspector noted erosion on the outside of this berm. See photo 20 for the erosion noted.
- 3) Landfill- While inspecting the landfill the following items were noted; food waste, fuel filters two generators, break fluid and a automotive fuel tank. See photo 21 for a photo of some of the items mentioned.
- 4) Mine site snow dump- the mine site snow dump also has significant waste. See photo 22 for the waste in the snow dump
- 5) Waste Rock Stockpile pond- this waste rock stockpile and the surrounding area was snow covered at the time of the inspection making it difficult to identify any concerns, no concerns were noted.
- 6) MS-07/spill 21268- This facility is currently dealing with a seepage issue potentially due to gradient of the ditch and the type of fill used. See Photo 23 for the ditch with the unresolved seepage.
- 7) Crusher Pad and pond- The Crusher pad is currently dealing with a unresolved seepage as well, the ditch that is designed to divert surface water to the containment pond is not operational due to a leak. The licensee currently has a sump installed and is pumping water from the sump into the containment pond. See photo 24 for a photo of the sump and berms installed to keep the surface water out o the ditches.
- 8) Km 104 laydown- during the inspection the inspector noted the following concerns at the 104 laydown;
 - Lubricants and hazardous material outside of containment, in damaged containment and staining which smelled strongly of fuel. See photo 25 for the area with staining and hazardous material outside of containment.
 - Open containers with dirty absorbent rags nearing capacity, see photo 26 and 27 for the containers.
 - Heavy equipment actively leaking on the ground with no drip tray, see photos 28 and 29 for photos of fluid under heavy equipment at laydown 104.

| Section 2 | <input type="checkbox"/> Comments | <input type="checkbox"/> Non-Compliance with Act or Licence | <input checked="" type="checkbox"/> Action Required |
|--|-----------------------------------|---|---|
| The licensee is to provide a plan to with the following concerns by November 25, 2021. | | | |
| 1) The licensee is to install the appropriate erosion control measures to prevent continued erosion identified in comments A1-A7, C1 and C2. The following items in Part C of the license 2AM-MRY1325 require the licensee to prevent erosion and maintain erosion control measures; | | | |
| 7 . The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion. | | | |

8. The Licensee shall implement sediment and erosion control measures prior to and maintain such measures during the undertaking to prevent entry of sediment into Water.
- 2) The licensee is to ensure the following waste/water management structures are operating as intended and consistent with the design in the plans approved by the Nunavut Water Board ; Ore stockpile ditches and gradient, Crusher pad ditches, MP-07 ditches, Western Globe Fuel Module, HWB 03, HWB 04.
- 3) The licensee is to remove all waste from the snow dumps and provide a monitoring schedule to ensure the snow dumps are not contaminating the surrounding water bodies.
- 4) The licensee is to remediate all spills noted in this report.


| | |
|------------------|--|
| Inspector's Name | |
| Jonathan MESHER | |
| Signature | |
| Date | |
| October 18, 2020 | |

Water Resource Officer, Nunavut Region
Crown Indigenous Relations and Northern Affairs Canada – CIRNAC
Jonathan.mesher@canada.ca
Office #: 867-975-4296
Fax: 867 979-6445


| Date | Camera | Inspector | Authorization |
|------|-----------------|-----------|---------------|
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |


Photo Log


Photo 1





Description: damaged drip tray at km 97

| Date | Camera | Inspector | Authorization |
|---|-----------------|-----------|---------------|
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 2 | | | |
|  | | | |
| Description: damaged drip tray at km 97 | | | |

| Date | Camera | Inspector | Authorization |
|--|-----------------|-----------|---------------|
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 3 | | | |
|  | | | |
| Description: km 60 spill. | | | |

| Date | Camera | Inspector | Authorization |
|---|-----------------|-----------|---------------|
| | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 4 | | | |
|  | | | |
| Description: Cv-154 erosion upstream | | | |

| Date | Camera | Inspector | Authorization |
|--|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 5 | | | |
|  | | | |
| Description: Cv-154 erosion down stream. | | | |

| Date | Camera | Inspector | Authorization |
|---|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 6 | | | |
|  | | | |
| Description: Cv-112, potential cause of TSS. | | | |

| Date | Camera | Inspector | Authorization |
|--|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 7 | | | |
|  | | | |
| Description: Cv-093, potential cause of TSS. | | | |

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 8



Description: BG-24, erosion on down stream side of culvert/ damaged culvert.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 9



Description: BG-24, erosion on down stream side of culvert/ damaged culvert.



| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log

Photo 10



Description: Cv-001 damaged culvert.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |


Photo Log

Photo 11



Description: damaged liner at MP-05

| Date | Camera | Inspector | Authorization |
|---|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 12 | | | |
|  | | | |
| Description: erosion on the East inflow of MP-06 | | | |

| Date | Camera | Inspector | Authorization |
|--|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |
| Photo Log | | | |
| Photo 13 | | | |
|  | | | |
| Description: hoses required for pumping and leaking area of the ditch. | | | |

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 14



Description: current snow dump containing waste.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 15



Description: previous snow dump still containing plastic, metal and wood waste

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 16



Description: standing outside the HWB’s looking in, you can clearly see there is no defined berm.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 17



Description: lack of defined berms at fuel module.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 18



Description: Erosion near water intake, standing on runway perimeter road looking towards camp lake.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 19



Description: Erosion near water intake, standing near intake looing at the hillside.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 20



Description: Erosion on outside of aircraft fuel berm.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 21



Description: Erosion near water intake, standing on runway perimeter road looking towards camp lake.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 22



Description: Mine site snow dump.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 23



Description: MS-07 ditch with ongoing seepage issue.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log

Photo 24



Description: Berm and sump installed.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log

Photo 25



Description: hazardous material outside of containment, in damaged containment and staining in the area.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log

Photo 26



Description: dirty spill rags and unknown waste in open container outside of containment

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log

Photo 27



Description: dirty spill rags and unknown waste in open container outside of containment

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 28



Description: fluid leaking from heavy equipment.

| Date | Camera | Inspector | Authorization |
|----------------------|-----------------|-----------|---------------|
| September,16-17 2021 | | | |
| | Sony Cyber-shot | J.Mesher | 2AM-MRY |

Photo Log
Photo 29



Description: fluid leaking from heavy equipment.