August 23, 2021

Assol Kubeisinova
Technical Advisor, NWB
P.O. Box 119
Gjoa Haven, NU X0B 1J0

RE: Submission of 2021 Geotechnical Inspection Report No. 1 (June 2021)

Under Part D, Item 18 of Baffinland Iron Mines Corporation's (Baffinland) Type "A" Water Licence 2AM-MRY1325 Amendment No. 1 (Water Licence), Baffinland is required to conduct biannual geotechnical inspections of specified Mary River Project (the 'Project") infrastructure. Part D, Item 18, of the Water Licence states that:

> "The Licensee shall conduct inspections of the earthworks and geological and hydrological regimes of the Project biannually during the summer or as otherwise approved by the Board [Nunavut Water Board] in writing. The inspection shall be conducted by a Geotechnical Engineer and the inspection report shall be submitted to the Board within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to respond to the Engineer's recommendations."

The first geotechnical inspection for 2021 was conducted by Laszlo Bodi, M.Sc., P.Eng., Principal Civil/Geotechnical Engineer with Wood Environment and Infrastructure Solutions. The focus of the inspection was on the Water Licence related infrastructure located at the Mary River Mine Site and Milne Port, as well as select water crossings along the Milne Inlet Tote Road. The first geotechnical inspection for 2021 was conducted between June 18 and 24, 2021.

During the inspection, the following structures and facilities were inspected:

Mary River Mine Site

a) Berms of Polishing/Wastewater Stabilization Ponds (3)
b) Berms of hazardous waste disposal cells - (HWB-1 to HWB-7)
c) MS-06, MS-07 and MS-08 surface water collection/settling ponds and adjacent ditches
d) Berms of the generator fuel bladder cell (located adjacent to the generators)
e) Fuel storage farms (3) – Aerodrome jet-fuel storage, MS-03 and MS-03B diesel fuel farms
f) Solid-waste disposal site (non-hazardous landfill facility)
g) Camp Lake silt sedimentation check dams and berms
h) Rock fill slope (riprap) at the water (effluent) discharge area
i) Deposit 1 pit walls
j) QMR2 and D1Q1 rock quarries, and KM106 ore storage area

Milne Inlet Port Site

a) Berms of hazardous waste disposal cells - (HWB-1 through to HWB-4)
b) Berms of the MP-01A pond
c) MP-03 fuel tank farm
d) Berms of the MP-04 landfarm and MP-04A contaminated snow disposal pond
e) Berms of the Pond #3, MP-05, and MP-06 Settling Ponds and drainage ditches
f) Q01 rock quarry
g) Surface water collection ditches (P-SWD-3, -5, -6, -7, W3/W14, 380M pad and PSC ditches)
h) Tote Road culverts (conveying surface water from the Q01 rock quarry area)

Milne Inlet Tote Road

a) Bridges (4)
b) Culverts (15)

The attached report (Attachment 1) presents the findings and recommendations of the June 2021 inspection for the aforementioned structures. The following subsections of this letter summarize Baffinland's plan for implementing the recommendations identified in the report.

Due to the Covid-19 pandemic, Baffinland continues to focus on recommendations from the bi-annual geotechnical investigations and implement the required actions as resources allow.

Recommendations for the Mary River Mine Site Infrastructure

Hazardous Waste-Cell Berms (HWB-1 to HWB-7)

It is recommended that foot and truck traffic on the slopes and crest of the berms be limited, with controlled/ramped access points (preferably one (1) for each berm) provided for trucks and skid-steers to dispose/remove materials in the cells.

Baffinland Action: Baffinland will provide controlled/ramped access points for trucks and skid steers and discourage foot and vehicle traffic on the slopes and crests of the berms (Completion in Q3 2021). Baffinland continues to educate personnel on access to berms.

Hazardous Waste-Cell Berms – HWB-1

It may be advisable to remove the old liner from this cell and replace it with a new one and take advantage of the renewed storage capacity in the future.

Baffinland Action: Baffinland will remove the old liner from this cell and replace it with a new one should use of this HWB be required in the future, prior to storing material in the cell.

Hazardous Waste-Cell Berms – HWB-5

Should material be stored in this cell again it may become necessary to regrade the granular fill within the cell to prevent potential liner damage in the future.

Baffinland Action: Should material be stored in this cell again, Baffinland will regrade the granular fill within the cell to prevent potential liner damage, prior to storing material in the cell.

MS-08 – Surface Water Collection Pond Adjacent to the Waste Rock Facility

A few boulders have rolled into the west ditch from the adjacent waste rock pile and these boulders should be removed from the ditch.

Baffinland Action: Baffinland will remove the boulders from the ditch (Completion in Q3 2021).

Berms of the Generator Fuel Bladders

A large area of the adjacent road was flooded by melting snow at the time of the June inspection. Trucks bypassing the ponding water continuously encroach into the toe of the berm and this encroachment requires re-establishment to the original berm configuration using compacted granular fill, to prevent potential for local berm instability (i.e., regressive erosion/sloughing). To prevent further deterioration of the pond's berm, the drainage of the melting snow in the area must be rectified. The surface water should be redirected away from the berms by excavating properly designed and constructed drainage ditches in the area.

Baffinland Action: Baffinland will re-establish the berm to the original configuration using compacted granular fill to prevent potential for local berm instability (Completion in Q3 2021). Properly designed and constructed drainage ditches will be constructed in the area to prevent further deterioration of the pond's berm prior to freshet 2022 (Completion Q3 2022).

MS-03 Diesel Fuel Tank Farm

There are a few wood/timber pieces visible within the facility that should be removed during regular maintenance.

Baffinland Action: Wood/timber observed within the MS-03 pond will be removed during regular maintenance activities (Completion Q3 2021).

Solid Waste Disposal Area

A large quantity of surface water was ponding along a section of this new fence during the June inspection, and some of that water flows out of the facility uninterrupted. To prevent the migration of suspended solids into the surrounding area, it is suggested that erosion and sediment controls be implemented and regrading of this area to prevent pooling water.

Baffinland Action: Baffinland will investigate the ponding of water at the solid waste disposal area and determine suitable mitigations measures including regrading of this area to prevent pooling water. (Completion Q3 2022).

QMR2 Rock Quarry

Ponding water continues to cover a section of the main level of the quarry, with potential to cause slope stability and traffic safety issues in the area.

Baffinland Action: Baffinland commits to continuing to improve surface water drainage in the quarry including implementation of water management strategies as needed and installation of erosion control protection measures at strategic locations. Surface water was diverted throughout the 2021 open water season and will continue to be a focus after rain events. (Completion Q2 2022).

KM 106 Ore Storage (former D1Q2 quarry area)

The "diversion" berms are constructed from granular fill that may not function well in diverting all surface runoff to the adjacent MS-07 pond. Consideration shall be given to add a fine-grained core into the granular berms at the critical locations where seepage through the berms was noted.

Baffinland Action: Baffinland is currently investigating the construction of the km106 Ore Storage diversion berm to determine appropriate corrective actions to ensure the berm functions as per design criteria (Completion Q3 2021). Temporary diversion swales and a sump were installed to capture contact water and convey to the Km 106 ore stockpile collection pond.

Recommendations for Milne Port Infrastructure

MP-01A Pond

Some settled soil sediment and a wooden pallet were visible in one (1) corner of the pond, which should be removed from the cell. The removal of these materials should be carried out carefully, so as not to damage the geosynthetic liner.

Baffinland Action: Baffinland will remove the wooden pallet from the pond using a method that does not damage the geosynthetic liner (Completion Q3 2021).

Pond #3 Settling Pond

Cracks near the berm that form from repeated freezing and thawing should be filled with the same material that was used for the construction of the berms, to minimize ice-wedge development near the toe of the berms. The fill should be placed over the cracked areas within approximately 3 m of the downstream toe of the berms.

Baffinland Action: To minimize potential ice-wedge development near the toe of the berm, Baffinland will fill the cracks that have formed within approximately 3 m of the downstream toe of the berm with construction grade material prior to freshet 2022 (Completion Q2 2022).

MP-05 Settling Pond

Recent minor liner damage was noted on the west slope of the intake channel. It appears that these damages are returning problems on the slopes of the intake channel, most likely caused by snow clearing

equipment during winters. Consideration should be given to place protective berms adjacent to the slope's crest near the channel to prevent such damages.

Baffinland Action: Baffinland will place protective berms adjacent to the slope's crest near the channel to prevent recurring minor liner damage suspected to be caused by snow clearing operations (Completion Q3 2021).

Surface Water Drainage Ditch - P-SWD-3

Sloughing of the sides of the P-SWD-3 ditch, adjacent to the LP2 laydown area, has occurred at several locations along the ditch. It is suggested that the existing condition of the P-SWD-3 drainage ditch and adjacent topography be re-evaluated in detail, and that the ditch be redesigned and reconstructed to drain the large amount surface water to the correct direction.

Baffinland Action: Baffinland commits to further assessing the sloughing and existing drainage of the P-SWD-3 drainage ditch and adjacent topography to ensure remedial actions implemented address this issue. All water is currently actively pumped downstream of this area to proper discharge location. (Completion Q2 2022).

Surface Water Drainage Ditch - P-SWD-5

Sections of the P-SWD-5 ditch were noted with missing riprap. These sections should be repaired, and the slopes of the ditch regraded to facilitate uninterrupted flow in the ditch.

Baffinland Action: Baffinland commits to repairing and re-grading the slopes at the identified sections of the P-SWD-5 ditch prior to freshet 2022 (Completion Q2 2022).

Surface Water Drainage Ditch - P-SWD-6

The invert of the ditch is located at higher elevation than seasonal ponding water adjacent to the northern end of the ditch and it is suggested that a pump be installed and the ponding water be pumped into the ditch as needed.

Baffinland Action: Baffinland commits to actively pumping seasonal ponding water from the identified area into the drainage ditch as needed.

Surface Water Drainage Ditch - 380M

Minor sloughing of the riprap in the 380M ditch was visible that should be repaired.

Baffinland Action: Baffinland will repair the minor sloughing of the riprap in the 380M ditch (Completion Q3 2021).

Surface Water Drainage Ditch – PSC

The PSC drainage ditch is still under construction, however, a localized slope failure at the west end of the ditch should be repaired, regraded and the riprap rock fill cover reinstated.

Baffinland Action: Baffinland will repair and regrade the identified area in the ditch and reinstate the riprap rock cover prior to completion of the construction of the PSC drainage ditch.

Tote Road between Mary River and Milne Inlet - Bridges and Culverts

Culvert - CV-038

The inlet of this culvert is too short, and the riprap is missing from around the pipe.

Baffinland Action: Baffinland commits to placing crushed rock riprap around the CV-38 culvert inlet and monitoring the culvert and adjacent road embankment for signs of erosion (Completion Q2 2022).

Culvert - CV-030 A&B

One (1) of the culverts is blocked with silt. It is suggested that the blocked pipe be replaced, and both ends of the pipes be protected from siltation by placing riprap around them.

Baffinland Action: Baffinland commits to assessing the blocked culvert to determine if replacement is required (Q2 2022). Baffinland commits to placing riprap at both ends of the culvert prior to freshet 2022 to prevent further siltation for occurring (Completion Q2 2022).

Culvert - CV-076

The inlet of this culvert is too short which has resulted in too steep slope of the road embankment and its erosion around the pipe.

Baffinland Action: Baffinland commits to correcting the steep slope of the road embankment and erosion identified around the culvert at this location and to assessing the culvert to determine if an extension is required at the inlet (Completion Q2 2022).

Culvert - CV-083

The outlet of this culvert appears to be somewhat short causing erosion of the road embankment around the culvert. The pipe should be extended by about 1.5 m and the regraded slope of the road embankment around the pipe shall be covered by the placement of crushed rock riprap.

Baffinland Action: Baffinland commits to extending the culvert and placing crushed riprap fill adjacent to the outlet (Completion Q2 2022).

Culvert - CV-102

A hole on the top of the pipe has no impact on the flow of water at this stage; however, the condition of this pipe should be monitored during regular maintenance.

Baffinland Action: Baffinland will monitor the condition of this culvert during regular maintenance.

Culvert - CV-107

Water is seeping through the road embankment at this location and undercutting the culvert. Consideration should be given to replacing this culvert with a longer and somewhat larger pipe a few meters south of the current location.to prevent erosion and instability of the road.

Baffinland Action: Baffinland commits to further inspecting this culvert to determine if replacement with a longer, larger diameter pipe several meters south of the current location is required (Q2 2022).

Culvert - CV-110A

Some erosion on the road embankment's slope is visible adjacent to the culvert, which shall be repaired by placing and compacting soil fill into the embankment first, followed by the placement of crushed rock riprap.

Baffinland Action: Baffinland commits to repairing the erosion on the road embankment's slope adjacent to the culvert by placing and compacting soil fill into the embankment and to placing crushed rock riprap around the culvert to improve erosion protection (Completion in Q2 2022).

Culvert - CV-114D

Both ends of the two (2) culverts are damaged and too short for the embankment slopes, particularly at the outlet ends (Figures 103 and 104).

Baffinland Action: Baffinland commits to further inspecting this culvert to determine if replacement with longer, larger diameters pipes is required (Q2 2022). If the pipes are replaced, the road embankment will also be widened at the outlet end and riprap placed around the culverts to stabilize the embankment slopes and improve erosion protection. This work will be completed in alignment with the current approved Civil Design Criteria for the Project.

Culvert - CV-202

Some erosion is visible immediately adjacent to the inlet of this culvert and the invert of the outlet is located below the floor of the flow channel resulting in flow blockage immediately downstream of the outlet.

Baffinland Action: Baffinland commits to fill the erosion adjacent to the inlet with compacted soil and cover the affected area with crushed rock, and to regrade the rock fill immediately downstream of the outlet to improve water flow (Completion in Q2 2022).

We trust that this submission meets the requirements for geotechnical inspections as outlined in the Water Licence. Should you have any questions, please do not hesitate to contact the undersigned.

Regards,

Connor Devereaux
Environmental Superintendent

Attachments:
Attachment 1: 2021 Geotechnical Inspection Report No. 1

Cc: Karén Kharatyan (NWB)
Chris Spencer, Hugh Karpik (QIA)
Andrew Keim, Jonathan Mesher, Justin Hack (CIRNAC)
Tim Sewell, Shawn Stevens, Megan Lorde-Hoyle, Lou Kamermans, Christopher Murray, Sylvain Proulx, Francois Gaudreau, Martin Beausejour, Kendra Button, Allison Parker (Baffinland)