September 27, 2019

Solomon Amuno
Technical Advisor II
Nunavut Impact Review Board

RE: Follow up to NIRB 2019 Summer and Winter Site Visits, Findings and Recommendations

Baffinland Iron Mines Corporation (Baffinland) is pleased to provide the Nunavut Impact Review Board with a description of follow-up actions undertaken by Baffinland following recommendations made by the NIRB during the Winter and Summer Site Visits for 2019.

Attachment 1 provides Baffinland's responses to the findings and recommendations of the NIRB Site Visit including details, where applicable, on progress made to date. Additional updates to the August 26, 2019 submission to NIRB have been identified where relevant, and specific responses to recommendations raised by NIRB during the Winter 2019 visit have also been included.

Should you have any additional concerns or questions regarding this submission, the 2018 Annual Report to the NIRB submitted by Baffinland March 31 2019 and subsequent reviewer comments, or Baffinland's environmental monitoring and operational management implemented throughout 2019 to ensure adherence to the terms and conditions of Project Certificate No. 005 for the Mary River Project, please do not hesitate to contact the undersigned at your convenience.

Regards,

Lou Kamermans
Director, Sustainable Development
Baffinland Iron Mines

Cc: Megan Lord-Hoyle, Shawn Stevens, Connor Devereaux, Emma Malcolm (Baffinland)

Attachments:
Attachment 1 – Baffinland Responses to NIRB 2019 Site Visit Findings and Recommendations
Attachment 2 – Baffinland Follow-Up Photos
Attachment 3 – Figure 1 – Interim Landfill Enclosure Plan

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Attachment 1

Baffinland Responses to NIRB 2019 Site Visit Findings and Recommendations

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Table 1 – Baffinland Responses to NIRB Finding and Recommendations - Winter and Summer 2019 Site Visit

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
1	Summer	Mine Site / Milne Port / Tote Road / Mine Haul Road	Dust deposition on Project Roads and dust generation at site.	Update on mitigations implemented to minimize dust deposition. Provide update on dust stop trial. Continued application of dust suppressant.	Baffinland is committed to controlling dust sources on the Project. This has included continual development of new dust suppression alternatives at Milne Port, including ore pad redesign to position fines in the centre and lump ore around the margins, installation of downwind fencing and proper positioning of the conveyors to minimize distances when stock piling. Additional shrouds were also installed at the Mine Site crusher in 2019 and is actively considering and/or implementing new methods for reducing dust generation through reengineering of equipment designs to minimize dust generation. Calcium Chloride and water has also been applied on road surfaces throughout the history of the project to mitigate dust emissions. After discussions with Stakeholders and regulators in 2018, the Project actioned an implementation plan for testing new dust suppression products with increased durability and longevity for site infrastructure. Dust Stop, produced by Cypher Environmental and an approved product for dust suppression under Nunavut's Environmental Guideline for Dust Suppression on unpaved Roads was elected for trial and road application. Dust Stop is environmentally friendly, and is expected to have a longer lasting durability for both traffic and rainfall impact, as it promotes a hard, competent water repellant surface when properly applied. A micro trial of Dust Stop was performed in August 2019 from km 103.5 - km 97 on the Mine Site and Tote Road to determine efficacy of the product on site. Improved dust suppression was observed throughout the application zones and the product also showed signs of water shedding during rain events supporting improved road sealant and application lifespan. Photos taken during the August 2019 micro-trial have been provided in Attachment 2.	Results of the micro-trial indicate that Dust Stop is a successful and feasible alternative for dust management along Project roads. Subsequent to this, Baffinland has an available 720 totes (1000 L) of Dust Stop on site, which will be applied in spring of 2020 with fresh gravel. Results show that it will remain in place for most of the summer season, assuming routine maintenance after initial application. An additional order will be made for resupply on the 2020 sealift pending ongoing review of effectiveness.

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
2	Winter	Milne Port	Dust Dispersion from ore stockpiles into Milne Inlet	Update on mitigations implemented to minimize dust dispersion from ore stockpiles into Milne Inlet. Describe environmental effects monitoring in Milne Inlet to measure potential effects of dust deposition.	Baffinland is committed to controlling dust sources on the Project. This has included continual development of new dust suppression alternatives at Milne Port, including redesigning the ore stockpile pad fines and lump stockpile layout to inherently reduce dust transport by relocating lump ore containment piles that would act as competent walls for potential dust transport. Baffinland also installed shrouding at the discharge end of the ore stackers to reduce the effect of windblown dust and repositions the conveyors to minimize distances when stock piling.	The Marine Environmental Effects Monitoring Program was designed to monitor for potential changes to water quality due to site drainage discharge (including iron ore stockpile run-off or dust deposition) to the marine environment at Milne Port. Between 2014-2018 no significant changes to sediment composition as a result of Project activities have been identified through effects monitoring.
3	Winter and Summer	Mine Site / Landfill	Landfill fence does not completely surround active landfill areas. More cover material required on top of current layer and west side.	Develop detailed action plan for landfill fence construction that surrounds entire action landfill area.	Baffinland is committed to managing the Mine Site Landfill as per the approved Waste Management Plan. After discussions with NIRB, a fence was installed on the west side of Cell 1 to address concerns of potential wind-blown debris sourcing from the landfill to the Tundra from prevailing winds. Baffinland erected a litter capture fence in the fall of 2018 installing approximately 275 metres of fence on the downwind side of the landfill. The fence also repurposed over 800 used tires as part of Baffinland's used tire disposal and recycling initiative. The fence currently captures windblown debris from the landfill effectively. An additional 405 metres of Landfill litter fence was ordered by Baffinland for delivery on the 2019 sealift. The fence will be erected to further mitigate the potential for wind-blown debris impacting the tundra that the prevailing winds fence was not already capturing. Figure 1 (Attachment 3) shows the plan to enclose the current working space of the landfill by the end of Q4 2019.	Contractors procured for work are scheduled to arrive on site in October to complete the enclosure of Cell 1 and 2. Images depicting preparatory work completed at landfill in advance of fence installation have been included in Attachment 2.

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
4	Summer	Steensby	General maintenance and clean-up of site.	General site clean-up required.	In 2016 Baffinland performed a major sealift operation at Steensby that removed hazardous substances, heavy equipment and camp modules. Following NIRB's Site Visit in August, Baffinland performed a general cleanup of windblown debris and potential hazards to the Tundra and completed critical repairs to weatherhaven tents to minimize future dispersion of materials in the general area (see photo in Attachment 2). Baffinland will continue to run its annual end of year clean-up of the Site and may consider backhauling the weatherhaven tents, if feasible, in 2020.	No further update required.
5	Winter and Summer	Mine Site / Waste Management Building	Waste Management building. Excess garbage present, fluids on the ground and oil dispensing system needs shelving or frame.	Overall clean up and organization of waste management building	As part of Baffinland's approved Waste Management Plan, waste management buildings are used to store, segregate and sort all kinds of waste on the Project Site. The structures are concrete floor secondary containment buildings with built in sump systems which water is processed from. When waste is actively processed and sorted in these buildings it can appear visually unappealing however this is the intent and function of the buildings and is consistent with Baffinland's Waste Management Plan. Weekly waste retention structure inspections are performed to consistently identify improper waste sorting practices and resultant corrective actions. It was noted during the NIRB visit in August 2019 that fluids were present on the concrete floor sourcing from the lube and oil station. All fluids impacting the floor have been cleaned up and tertiary containment has been installed under all totes and sources of leaks.	No further update required.
6	Winter	Waste Management Building	Storage of Frost Fighters near fluid totes.	Proximity of frost fighters in Waste Management Building near fluid totes.	Frost fighters are operated inside the waste management buildings to protect from the elements. The exhaust from each unit is directed outside via stove piping. The fluid tote has been relocated as shown in Attachment 2.	No further update required.

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
7	Summer	Tote Road – KM 29-32	Tote Road km 29-32 - noticed some issues with slope stability issues	Remediate area and add erosion protection measures.	Baffinland has developed several protocols to address concerns regarding erosion, permafrost degradation and sedimentation at the Project. Regular inspections of the Tote Road are conducted by the Road Maintenance and Environment Department to ensure areas of potential concern (ex. general water accumulation) are identified, and corrective actions initiated. Visual monitoring is conducted, and if any concerns are identified in an area this will trigger additional monitoring and installation of erosion and sediment control measures. In general, the following measures are implemented to address reoccurring water ponding on site: • Baffinland will work to remove ponding water from beside the Tote Road in noted areas, by regrading or contouring the road banks. • Regular inspections of borrow locations will be completed during this work through the Tote Road Monitoring Program. • Any additional unstable slopes identified will be re-graded to eliminate depressions and re-establish natural drainage patterns. • Cut and fill areas will be stabilized by constructing gentle slopes less prone to erosion. • Areas of unexpected settlement will be filled to re-establish the natural contours and eliminate ponding of water. • Borrow activities will occur only at approved locations and will be concentrated to limit the area of disturbance. Areas of concern identified by QIA along the Tote Road (KM 89.8, 49.9, 49, 29.4, 21.9, and 7.2) will be further inspected by the Road Maintenance and Environment Department, and ranked based on risk/likelihood of adverse environmental impacts. Re- contouring/grading of areas will be prioritized in 2019 based on the highest to lowest risk areas of potential concern.	Baffinland retained TetraTech Canada Inc. (TetraTech) in summer 2019 to assess the stability and permafrost conditions of the Tote Road and the historical borrow sources adjacent to the road. The work follows up on inspections completed by EBA Engineering Consultants (EBA) in 2009 and TetraTech in 2014, and will provide reference for any changes in conditions since the prior inspections. TetraTech staff were on Site at the Mary River Project from September 5th to 9th, 2019 to complete the field inspection. The TetraTech report is forthcoming in fall 2019, and will be included with Baffinland's annual reports to the NIRB and NWB/QIA. The report will outline priority areas for restoration and remediation where ground ice thaw is affecting the borrow source and/or roadway, with an emphasis on maintaining the safe operation of the roadway and protecting ground ice from future thaw.

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
8	Winter and Summer	Mine Site	Effluent line erosion present.	Need to add armour/rip rap to slope that has stability issues	It was noted during the 2018 NIRB visits that erosion of a tundra bank nearby to the Mine Site Waste Water Treatment Plant effluent outfall location was occurring. This erosion has been evaluated by geotechnical inspectors on a bi-annual basis since its identification. Results of these inspections have determined that the erosion is not a concern for stability of the outfall laydown pad. It is also noted that this erosion is naturally occurring and has not been impacted or influenced by effluent as it segregated from the outfalls. Baffinland has however, committed to remediating the natural erosion occurring with armour and rip rap stone so that further slope erosion does not occur by the end of September.	Identified area has been remediated with armour rock and rip rap to ensure slope stability and will continue to be part of the bi-annual geotechnical inspections. Images showing the results of remediating the natural erosion with armour and rip rap stone have been included in Attachment 2.

#	Site Inspection	Project Location	Description of Concern or Finding	Recommended Action	Response	Update from August 26, 2019 Submission to NIRB
9	Winter and Summer	Milne Port / Landfarm	Remaining buried plastic in Landfarm.	Need to remove plastics in landfarm as more is tilled to surface.	NIRB has noted that light plastics continue to present in the Milne Port Landfarm a lined engineered containment facility. The plastics in the Landfarm are actively cleaned up and removed on an annual ongoing basis. Active tilling to remediate contaminated soils in the Landfarm regularly unearths plastic to the surface which are then subsequently cleaned up and removed. Remediated soil from the containment facility will not be removed with any liner. Baffinland will continue to remove plastics from the Landfarm on an annual basis and maintains that the plastics do not impact functional efficacy of the containment facility.	The Milne Port Landfarm facility was designed in accordance with Environment Canada's Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils to ensure both the protection of the environment and the health and safety of all personnel. The layout of the landfarm consists of a lined, containment area for stockpiling and remediating contaminated soils. During the recent inspection, NIRB had noted that light plastics continue to be present in the Milne Port Landfarm. The plastics in the Landfarm are actively cleaned up and removed on an ongoing basis to ensure overall effectiveness of landfarming is not impacted. Active tilling to remediate contaminated soils in the Landfarm unearths plastic to the surface which are then subsequently cleaned up and removed. Since August 2019, Baffinland has conducted additional plastics removal at the facility. Baffinland will continue to remove plastics from the Landfarm on an annual basis and maintains that the plastics do not impact functional efficacy of the containment facility. Additional pictures depicting further clean-up efforts in mid-September 2019 have been included in Attachment 2.

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Attachment 2

Baffinland Follow-Up Photos

PHOTO 1 – Dust Suppression Application along Project Roads

PHOTO 2 – Dust Suppression Application along Project Roads

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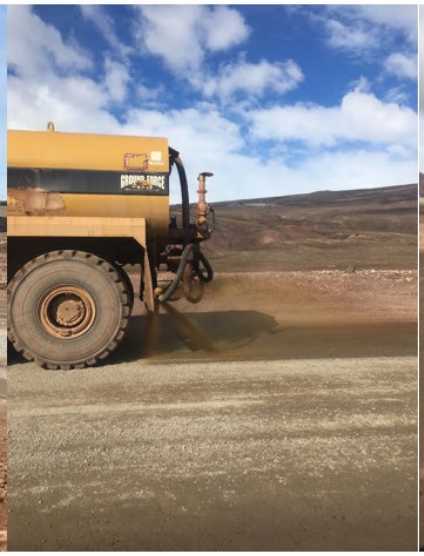
Long range visual-TREATED- Minimal dust off OHT (24 hours after treatment)

Long range Visual- UNTREATED- Visual dust off OHT at KM100 dip northbound

PHOTO 3 and 4 – Long Range Visual of Treatment Area Post-Trial

Fresh gravel laid out

Pressurized application of DSMB



Product applied – full coverage

PHOTO 5, 6 and 7 – Photos Taken During August 2019 Dust Stop Trial

PHOTO 8 – Dust Stop Tote

PHOTO 9 – Existing Fencing at Landfill

PHOTO 10 – Steensby Camp Post- August Site Clean Up

PHOTO 11 – Waste Management Building Post-August Clean Up and Installation of Tertiary Containment Under Totes

PHOTO 12 – Ongoing Clean-Up of Plastics at Milne Port Land Farm

PHOTO 13 – Mine Port Land Farm: Post 2nd Mid-September 2019 Clean-Up

PHOTO 14 – Remediation at Sewage Outfall Area

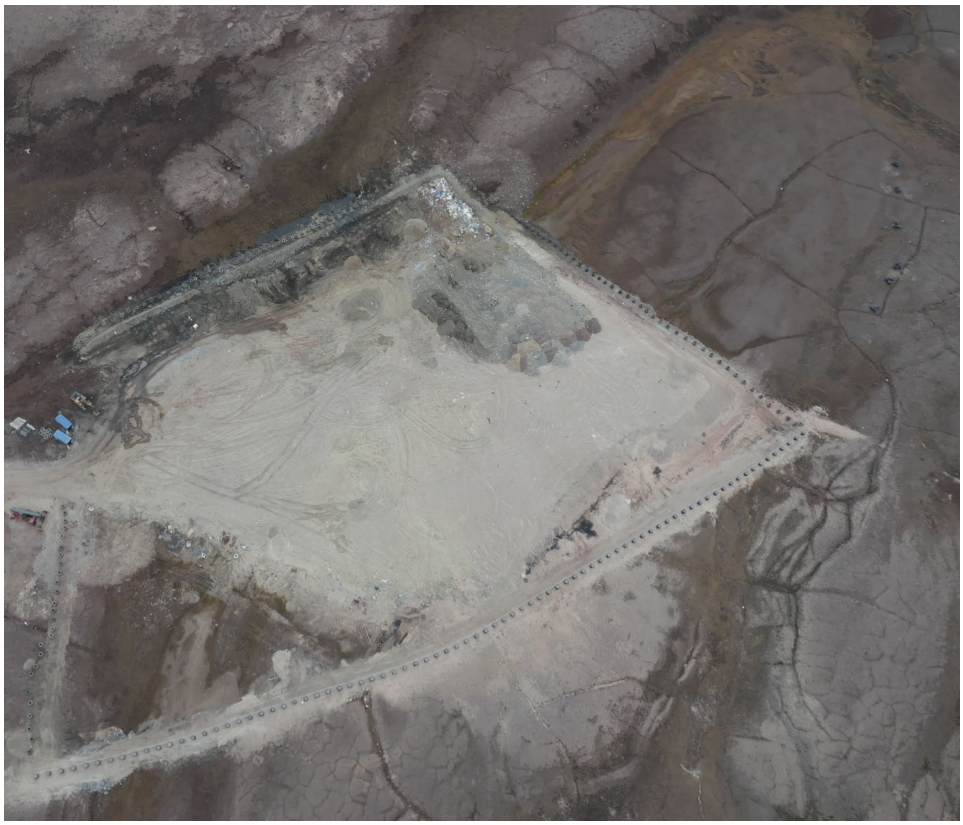


PHOTO 15 and 16 – Prepatory Work for Cell 1 and 2 Enclosure at the Landfill

PHOTO 17 – Frost Fighter in Waste Management Building

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Attachment 3

Figure 1 – Interim Landfill Enclosure Plan

LEGEND

- Existing Fence
- Planned Permanent Fence
- Semi-Permanent Fence
- 2012 FEIS/ Type A Water License Landfill and Landform Limit
- Current Limit of Landfill

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Interim Landfill Enclosure Plan

Projection: NAD 1983 UTM ZONE 17N.
Source: © Her Majesty the Queen in rights of Canada Department of Natural Resources (2009). All rights reserved.

0 10 20 40 60 80 Meters

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SAVED: C:\Users\katie.mcguire\Documents\4 - Maps\Environment\Landfill Development\BIM_Fig 1 Landfill 8.5x11.mxd; 26-Aug-19