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November 8, 2018

Megan Lord-Hoyle  
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2275, Upper Middle Road East  
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Sent via email: [megan.lord-hoyle@baffinland.com](mailto:megan.lord-hoyle@baffinland.com)

**Re: The Nunavut Impact Review Board's 2017-2018 Annual Monitoring Report for the Mary River Project and Board's Recommendations**

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Dear Megan Lord-Hoyle:

The Nunavut Impact Review Board (NIRB or Board) is hereby releasing its *2017-2018 Annual Monitoring Report for Baffinland Iron Mines Corp.'s Mary River Project* (Monitoring Report) which includes the NIRB's Assessment of Baffinland's Compliance Status with the Mary River Project Certificate No. 005 (Appendix I), 2018 Winter and Summer Site Visits Report (Appendix II), Baffinland's Follow-up to 2017 Board Recommendation (Appendix III), as well as the Community Consultation Reports for Pond Inlet and Igloolik (Appendix IV). The enclosed Monitoring Report is based on the NIRB's monitoring activities as set out within the Mary River Project Certificate No. 005 and pursuant to Sections 12.7.1 and 12.7.2 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*. This report provides the findings that resulted from monitoring of this Project that took place from October 2017 through September 2018.

By way of a motion carried during its regular meeting held in October 2018, the Board has issued the following recommendations to assist Baffinland in achieving compliance with the Mary River Project Certificate and to ensure the NIRB has all information necessary to adequately discharge its mandate with respect to the provisions within section 12.7 of the *Nunavut Agreement* as such pertain to the Mary River Project.

## ***1. Recommendations based on the NIRB's Review of the 2017 Annual Report***

### ***Climate Change Strategy***

Baffinland is required pursuant to Condition 3 of the Project Certificate to provide interested parties with evidence of continued initiatives undertaken to reduce greenhouse gas (GHG) emissions from the Project area. Within its 2017 Annual Monitoring Report to the NIRB, Baffinland reported that it calculated the annual GHG emissions from the Project site; however, the NIRB notes that the Proponent did not include any information or documents substantiating how it has implemented site-specific initiatives to reduce GHG emissions. Further, the NIRB's 2017 Board Recommendation #2, the Board requested that Baffinland provide updates within the 2017 Annual Report regarding its climate change strategy noting any specific activities it has undertaken to reduce GHG emissions from the Project sites. The NIRB reminds the Proponent that the reporting requirement for site-specific initiatives for GHG reduction has not diminished in importance and continues to be a requirement for the Early Revenue Phase of the Mary River Project.

**Recommendation 1:** The Board requires that Baffinland report on its development and implementation of a climate change strategy for the Early Revenue Phase of the Mary River Project, and discuss any additional efforts made to comply with Project Certificate Term and Condition 3 of the Project Certificate to date. Recognizing that significant deferral or delay in implementing a climate change strategy and greenhouse gas (GHG) emissions reduction measures for the Project could result in a finding of non-compliance, Baffinland is encouraged to describe any ongoing activities or planned initiatives outside of a formal strategy or plan designed to reduce greenhouse gas emissions from the Project.

It is requested that Baffinland provide its report to the Nunavut Impact Review Board within 90 days.

### ***Dust Management***

In reviewing Baffinland's 2017 Annual Monitoring Report to the NIRB, the Qikiqtani Inuit Association (QIA) specifically noted that the annual terrestrial dustfall exceeded the predicted threshold levels at all but one of the monitoring sites at Milne Port and within 30 metres (m) and 1000 m on either side of the Tote Road. Further, the QIA noted that modelling predictions in the 2013 Final Environmental Impact Statement (FEIS) Addendum for the Early Revenue Phase (ERP) of the Mary River Project underestimated dustfall levels. Although Baffinland clarified that these exceedances occurred despite dust suppression efforts using applications of water and calcium carbonate, the QIA noted that the amount of dust entering the aquatic receiving environments directly as dustfall and in runoff from surrounding areas is unknown, and that there is no information available regarding how the potential for increased dustfall levels and applications of calcium carbonate dust suppressants influence aquatic sedimentation rates and affect aquatic biota along the Tote Road and in Philips Creek. Further, the QIA also commented that Baffinland's 2017 annual reporting did not provide information on the quantity of dust entering the aquatic environment or its effects.

**Recommendation 2:** The Board requires that Baffinland revise the dustfall modelling predictions presented within the 2013 Final Environmental Impact Statement (FEIS) Addendum for the Early Revenue Phase (ERP) of the Mary River Project with data collected from site-wide monitoring programs to date and reassess the potential impacts of dust on the aquatic receiving environment to inform ongoing dust management efforts onsite. Further, the Proponent is directed to implement long-term monitoring programs for

dustfall and specifically assess potential sediment deposition, impacts on water quality, impacts to biota at fish-bearing streams and lakes along the Tote Road (including at Phillips Creek), and in the marine environment downstream of the creek outlet.

It is requested that Baffinland report back on its implementation of these items within the Proponent's 2018 Annual Report to the Nunavut Impact Review Board.

**Recommendation 3:** The Board requests that Baffinland revise the dust isopleth model using existing dustfall collection data and make revisions to the existing Dust Management and Roads Management Plan to include "specific adaptive management measures" to be implemented should monitoring observations confirm that dust deposition from the Project is greater than initially predicted.

It is requested that Baffinland highlight revisions to the dust isopleth model within the Proponent's 2018 Annual Report to the Nunavut Impact Review Board.

#### Noise and Vibration Monitoring

Condition 14 of the Project Certificate requires Baffinland to conduct noise and vibration monitoring at Project accommodations during all phases of the Project, particularly during the summer and winter seasons. In Baffinland's 2017 Annual Monitoring Report to the NIRB, the Proponent stated that in June 2017, one (1) room at the Mine Site and two (2) rooms at the Milne Port site were tested for noise and vibration levels. Baffinland further reported that due to equipment malfunction and availability issues that could not be resolved before the end of 2017 it was unable to conduct the scheduled winter noise and vibration monitoring during the 2017 period. The NIRB's 2017 Board Recommendation #5 had specifically requested that Baffinland improve its noise and vibration monitoring program across Project sites; however, during the current reporting year the NIRB noted that the recommended changes to the noise and vibration monitoring program has yet to be fully implemented and is still data deficient. The NIRB also questions the validity of Baffinland's conclusion regarding the seasonal variation of noise/vibration levels between the two (2) sites as indicated in the 2017 Annual Report due to the relatively low sample size (Mine site=1; Milne Port=2) and lack of consideration for seasonal changes in noise/vibration levels across the project sites.

**Recommendation 4:** The Board requires that Baffinland develop an action plan to comply with Project Certificate Term and Condition 14 by improving noise and vibration monitoring at site through improved seasonal sampling and increased sample sizes and frequency of monitoring of noise and vibration levels, particularly at the Mine site and Milne Port accommodation facilities. The action plan must highlight measures designed to ensure that noise and vibration levels continue to be monitored across the Project and the safety of workers maintained in the event of additional equipment malfunctions in future. Baffinland must also provide an analysis of any observed seasonal variation in noise and vibration levels (summer vs. winter) and a discussion of the implication of such variations (if any) on workers' health and safety onsite.

It is requested that this action plan be provided within 30 days' receipt of the Board's recommendations.

#### Groundwater Monitoring

Project Certificate Term and Condition 23 requires that Baffinland develop and implement a Groundwater Monitoring and Management Plan to monitor, prevent, and/or mitigate the potential

effects of the Project on groundwater within the Project area. In the 2017 Annual Monitoring Report, Baffinland indicated that a pilot groundwater monitoring program was implemented, and specifically involved the establishment of shallow groundwater wells up-gradient of the landfill facility. Baffinland further clarified that groundwater was detected and sampled at three (3) monitoring wells down-gradient and one (1) monitoring well located up-gradient of the landfill facility. While the 2017 Annual Monitoring Report noted all the efforts made by the Proponent to implement a groundwater monitoring program near the vicinity of the landfill, the NIRB requests that the Proponent continue to develop a site-wide groundwater monitoring program, and implement a Groundwater Monitoring and Management Plan to monitor, prevent, and/or mitigate the potential effects of the Project on groundwater within the Project area.

**Recommendation 5:** The Board requests that Baffinland implement a consistent site-wide groundwater monitoring program which addresses other key project facilities beyond the landfill, likely to affect groundwater resources. Baffinland must develop a Groundwater Monitoring and Management Plan to monitor, prevent, and/or mitigate the potential effects of different Project facilities on groundwater resources within the Project area, as noted in its Surface Water and Aquatic Ecosystem Management Plan approved by the Nunavut Water Board (NWB).

It is requested that Baffinland provide an update on its compliance with Project Certificate Term and Condition 23 in the 2018 Annual Report to the Nunavut Impact Review Board.

#### Permafrost Degradation

Baffinland is required pursuant to Project Certificate Term and Conditions 28 to monitor the effects of the Project on the permafrost around the mine development area and implement effective preventative measures to ensure that the integrity of the permafrost is maintained throughout the Project Development Area. In addressing this condition, Baffinland indicated within its 2017 Annual Report to the NIRB that the biannual geotechnical inspections it completed at the Mine Site and Milne Port revealed that the Mary River Polishing/Waste Stabilization Ponds (PWSPs) 1, 2, and 3 have experienced minor overall settlements of the structures and that this minor settlement was restricted to the berms. Additional inspections by Crown-Indigenous Relations and Northern Affairs Canada and Environment and Climate Change Canada staff further identified concerns with respect to seepages flowing from the Waste Rock Sedimentation Pond at the Mine site. Previous site visit by the NIRB noted terrain instability issues around the waste water effluent outflow area at the Mine site area. Evidence of site actions and improvements were noted in these locations during the NIRB site visits, and the Proponent has further indicated that it has retained a third-party consultant to remediate specific permafrost degradation areas during 2017. Despite this effort, the NIRB notes that some historic and localized permafrost degradation areas along the Tote Road and Mine Haul Road have yet to fully benefit from preventative and mitigation measures where they are related to direct project activities.

**Recommendation 6:** The Board requires that Baffinland take appropriate steps to address all historic and localized permafrost degradation issues along the Tote Road and Mine Haul Road, including identified terrain instability adjacent to the waste water effluent outflow area.

It is requested that Baffinland provide an update on its compliance within the 2018 Annual Report to the Nunavut Impact Review Board.

### Freshwater Aquatic Environment - Setbacks

Term and Condition 42 of the Project Certificate requires that the Proponent adhere to setbacks to mitigate impacts of runoff into freshwater aquatic habitats. Within the 2017 Annual Monitoring Report, Baffinland noted that during inspections in 2017, there were instances of construction development within 30 metres of a waterbody. Specifically, the Board notes that in 2017 an incident occurred in Milne Inlet, when a construction pad was built over top of a non-fish bearing stream during winter months, an activity that resulted in a directive from Crown-Indigenous Relations and Northern Affairs Canada for the Proponent to stop work. Although Baffinland noted that it has developed a new ditching system to convey the stream around the pad and subsequently received the appropriate approvals from the Nunavut Water Board, the NIRB reminds the proponent that strict adherence to the requirement to maintain a 30-metre naturally-vegetated buffer between the mining operation and adjacent water bodies continues to be a requirement for the approved project.

**Recommendation 7:** The Board requests that Baffinland provide an update on its protocol for educating all contractors and workers on site of the requirement to adhere to a 30 metre (m) buffer zone or setback distance from local waterbodies, including any enhancements made in reaction to recent violations of this requirement. Baffinland is further directed to highlight any instances of development within 30 m of a water body within future reporting to the NIRB, with a discussion of associated follow-up.

It is requested that this update be included within the 2018 Annual Report to the Nunavut Impact Review Board.

### Restriction to Fish Passage

Baffinland is required pursuant to Project Certificate Term and Condition 47 to ensure that all Project infrastructure in watercourses are designed and constructed in such a manner that they do not unduly prevent and/or limit the movement of water in fish bearing streams and rivers. Baffinland further observed issues with fish passage and/or habitat at twelve (12) crossings, with three (3) of them showing some form of physical obstruction to fish that was subsequently removed during, or shortly after, completion of the July survey. Baffinland specifically reported that perching or hanging culverts were noted at five (5) crossings and in one case, BG-50, prevented passage of fish. Baffinland further identified four (4) crossing with apparent passage issues as evidenced by damaged culverts that were blocking, or had the potential to block, fish passage. The NIRB notes that the migration of fish species (both upstream and downstream) can be restricted by perched or hanging culvert and may prevent all life stages and all species from passing through the culvert during flows, which may further reduce habitat connectivity by blocking fish access to important spawning and rearing areas such as the mainstream, tributaries, ponds, and lakes.

**Recommendation 8:** The Board requires that Baffinland ensure connectivity for fish species is maintained for watercourses and tributaries intersecting with project roads, trails, or other infrastructure. Baffinland must ensure that all existing culverts, particularly those located in fish bearing streams, are properly maintained to enable fish passage. It is further requested that Baffinland provide a summary of its engagement with Fisheries and Oceans Canada to update its fish habitat monitoring program to address issues related to culvert perching and fish passage problems along the Tote Road.

It is requested that the Proponent provide this updated information within the 2018 Annual Report to the Nunavut Impact Review Board.

### Ballast water discharge impact predictions

Within its 2017 Annual Monitoring Report to the NIRB, Baffinland indicated that it was “partially compliant” with Term and Condition 86 of the Project Certificate which requires that the Proponent use more detailed bathymetry collected from Steensby Inlet and Milne Inlet to model the anticipated ballast water discharges from ore carriers and utilize results of this modeling to update ballast water discharge impact predictions. Baffinland further noted that ballast water dispersion modelling was undertaken in 2014 prior to the start of commercial shipping of iron ore at Milne Port and that the modelling results were used to inform the location of sampling sites for Baffinland’s Aquatic Invasive Species monitoring program which has been undertaken annually between 2014 and 2017. Baffinland stated in its annual report to the NIRB that supplementary oceanographic data collected post-modelling (2014 to present) was not yet used to update or further validate the original dispersion model.

**Recommendation 9:** The Board requests that Baffinland utilize all the oceanographic and bathymetric data collected between 2014 and 2017 to develop an updated ballast water dispersion model for the current Project operations, independent of the assessment of the Phase 2 proposal.

It is requested that Baffinland provide this updated information within the 2018 Annual Report to the Nunavut Impact Review Board.

**Recommendation 10:** The Board requests that Baffinland actively monitor ballast water discharged from Project vessels to determine the efficacy of exchange and treatment methods and use resulting data to update the invasive species risk analysis and inform adaptive management measures designed to prevent invasive species introductions.

It is requested that Baffinland provide an update on efforts undertaken to meet this recommendation within the 2018 Annual Report to the Nunavut Impact Review Board.

### Shoreline Effects and Sediment Redistribution

Term and Condition 83(a) of the Project Certificate requires that the Proponent identify potential for and conduct monitoring to identify effects of sediment redistribution associated with construction and operation of the Milne Port. Within the 2017 Annual Monitoring Report to the NIRB, Baffinland indicated that the sampling in 2017 suggested there was a significant increase in the percentage of fine sediment at far-field sampling stations (500 metre (m), 1,000 m, and 1,500 m) along the West Transect from 2014 to 2017 and further noted that this change was associated with alluvial depositions from Philips Creek.

**Recommendation 11:** The Board requires that Baffinland conduct sediment sampling in 2018 and subsequent years to further evaluate temporal trends and monitor annual sediment transport via Phillips Creek into Milne Inlet, as well as to learn how alluvial transport may be affecting sediment deposition and composition near the head of Milne Inlet.

It is requested that Baffinland provide an update on its compliance within the 2018 Annual Report to the Nunavut Impact Review Board.

### Traffic Log and Shipping Information

Pursuant to Term and Condition 105 of the Project Certificate, Baffinland is required to ensure that measures to reduce the potential for interaction with marine mammals, particularly in Hudson Strait and Milne Inlet, are identified and implemented prior to commencement of shipping operations. The NIRB Project Certificate specifically indicates that such measures could include

reduced shipping speeds where ship-marine mammal interactions are most likely, including changes in the frequency and timing of shipping as well as identification of alternate shipping routes. Within the 2017 Annual Monitoring Report to the NIRB, Baffinland indicated that some vessels exceeded the speed of 10 knots when transiting in the Project area and that it is committed to ensuring that in 2018 cargo and fuel vessels will be provided with instructions on how to approach Milne Inlet with speeds between 7-10 knots.

**Recommendation 12:** The Board requests that Baffinland update the Bruce Head Shore-based Monitoring Program to study the response of narwhals to vessels at varying speeds in Milne Inlet. The Board further requires that Baffinland report on steps taken to ensure that captains and crews of all Project vessels are provided with advance instruction to approach Milne Inlet with speeds limited to 7-10 knots.

It is requested that Baffinland provide an update on its compliance within the 2018 Annual Report to the Nunavut Impact Review Board.

#### Shipboard Observer Program

Baffinland reported to the NIRB that the ship-based surveillance monitoring was discontinued in 2016 due to safety concerns arising from the on-boarding of the observers, and the general lack of success of observers on ships to observe marine mammals during ship voyages. The NIRB notes that Baffinland's 2017 Annual Report provided no updates on any alternative programs it was considering for monitoring vessel interactions with marine mammals and seabirds during the year; however, Baffinland indicated that a shipboard observer program committee was formed in 2017 with the goal to identify feasible alternatives. Recognizing that an alternative has not yet been identified which has resulted in restrictions to implementation of monitoring for impacts of shipping to marine mammals, while Baffinland continues to seek approvals for increased marine shipping from Milne Inlet, the Board is aware of the potential for increased public concern over unidentified impacts to marine mammals; therefore, the Board encourages Baffinland to prioritize achieving compliance to this recommendation.

**Recommendation 13:** The Board requires that Baffinland provide a detailed update regarding the alternative strategy being used to prevent, limit, and monitor for vessel interactions with marine mammals and seabirds. Baffinland must demonstrate that Project vessels are implementing early warning indicators that will ensure rapid identification of negative impacts to marine wildlife along Project shipping routes. This update must include a discussion of comments and concerns provided through the Marine Environmental Working Group when designing and implementing the alternative monitoring strategy, including the selected indicators.

It is requested that this update be provided to the Nunavut Impact Review Board within 60 days.

#### Marine Environment-Ship Noise

Baffinland is required pursuant to Project Certificate Terms and Conditions 110 and 111 to develop a monitoring protocol to prevent impacts to marine mammals from Project shipping activities and expected to work with the Marine Environment Working Group (MEWG) to determine appropriate early warning indicator(s) that will ensure rapid identification of negative impacts along the southern and northern shipping routes. In addressing these Terms and Conditions, Baffinland indicated in its 2017 Annual Report to the NIRB that no threshold have been developed

for determining if negative impacts due to of vessel noise are occurring. The NIRB is aware that the Proponent is currently investigating options to conduct acoustic/visual monitoring program (vessel-based pilot study) near Bruce Head to further evaluate the response of narwhals to shipping.

**Recommendation 14:** The Board requires that Baffinland provide a detailed update regarding the alternative strategy being used to prevent, limit and monitor for vessel interactions with marine mammals and seabirds. Baffinland must demonstrate that Project vessels are implementing early warning indicators that will ensure rapid identification of negative impacts to marine wildlife along Project shipping routes. This update must include a discussion of comments and concerns provided through the Marine Environmental Working Group when designing and implementing the alternative monitoring strategy, including the selected indicators.

It is requested that this update be provided to the Nunavut Impact Review Board within 60 days

#### Survey and Monitoring of Arctic Char

Project Certificate Term and Condition 48(a) requires Baffinland to provide plans to conduct additional surveys for the presence of arctic char in freshwater bodies and implement ongoing monitoring of arctic char health in areas affected by the Project. While Baffinland noted that char monitoring activities was described in marine areas at the Port and freshwater near the mine, the QIA specifically noted that the extent of char monitoring in fresh water along the Tote Road in 2017 remain unclear.

**Recommendation 15:** The Board requires Baffinland to report on electrofishing efforts undertaken and catches at stream crossings along the Tote Road, including a discussion of survey outcomes and monitoring of arctic char presence, condition, and health.

It is requested that this information be incorporated in the 2018 Annual Monitoring Report to the Nunavut Impact Review Board.

#### Marine Environment – Vessel Fouling Monitoring

Pursuant to Project Certificate Term and Condition 91, Baffinland is required to develop a detailed monitoring plan for Steensby Inlet and Milne Inlet for vessel fouling and includes sampling areas on ships where antifouling treatment is not applied such as the areas where non-native species are most likely to occur. Within its annual reporting to the NIRB, Baffinland indicated that in discussion with the Marine Environmental Working Group it was considering an alternative monitoring tool for hull biofouling, which would involve use of an underwater video mounted on a remotely operated underwater vehicle. Baffinland further reported that no fouling monitoring has taken place on vessel hulls in 2017, and that no trends in fouling in the marine environment of Milne Inlet have been reported based on the 2014 and 2015 data.

**Recommendation 16:** The Board directs Baffinland to develop an action plan to address required monitoring of fouling on the hulls of project vessels, as required by Project Certificate Term and Condition 91. Baffinland must further coordinate with the Marine Environment Working Group to implement a suitable alternative monitoring tool for hull biofouling, such as underwater video captured with a remotely operated vehicle.



Baffinland must provide results on annual basis for completed surveys for detection of fouling on vessel hulls moored at Milne Port.

It is requested that an action plan to address required monitoring of fouling on the hulls of project vessels be provided to the Nunavut Impact Review Board within 60 days and that updates be incorporated into the 2018 Annual Monitoring Report to the Nunavut Impact Review Board.

## ***2. Recommendation from Authorizing Agencies' Comments on 2017 Annual Report***

### **Qikiqtani Inuit Association (QIA)**

#### ***Shipping Route Deviations***

The Qikiqtani Inuit Association (QIA) indicated that Baffinland's 2017 Annual Monitoring Report noted that some vessels deviated at least 15 kilometres (km) northward into Navy Board Inlet and others southward about 15 km into Eclipse Sound and further requested that the Proponent clarify the types of vessels that deviated from the shipping route and provide a revised map with vessel types. Further, the QIA also requested that the Proponent clarify what constituted a significant course of deviation in the waters west of Baffin Bay, and why these deviations occurred.

**Recommendation 17:** The Board directs Baffinland to clarify the types of vessels that deviated from the approved shipping route and provide a revised map with vessel types shown, and with a detailed discussion of why these deviations occurred.

It is requested that this update be included within the 2018 Annual Report to the Nunavut Impact Review Board.

### **Government of Nunavut (GN)**

#### ***Caribou Survey***

The Government of Nunavut (GN) noted it had concerns regarding the method employed by the Proponent in conducting the caribou height of land surveys and the amount of time employed for survey effort and the results of the surveys, which showed that no caribou was detected around the project site during the surveys in 2017. The NIRB notes that the result of this current survey was consistent with the results from the past four (4) years confirming no observation of caribou around the Mary River Project. Further, the GN also questioned the validity of the current study design and the level of survey efforts adopted by the Proponent noting that the survey method employed does not offer the power to distinguish whether the caribou observation was influenced by the general low population density or caused by avoidance behavior/deflection of caribou from the Project infrastructure. The GN indicated that the study design relied on behavioral observations to indicate how caribou might be interacting with Project infrastructure and that the study approach will only be effective in instances of high caribou population density, which is not the case in the North Baffin region, particularly around the Project area. The NIRB expects the Proponent to continue working closely with the GN and the Terrestrial Environment Working Group in developing and/or modifying mitigation and monitoring programs for caribou and other terrestrial wildlife species around the Project site.

**Recommendation 18:** The Board requires Baffinland to report on its engagement with the Terrestrial Environment Working Group (TEWG) and efforts to address feedback received with the objective of developing improvements for caribou surveys and monitoring programs for the Project. Baffinland must specifically address feedback received from the Government of Nunavut regarding areas that are considered inadequate in the current Wildlife Management Plan and the Terrestrial Environmental Monitoring Program for the Project.

It is requested that this update be included within the 2018 Annual Report to the Nunavut Impact Review Board.

### ***3. Recommendations Based on NIRB's 2018 Site Visits***

Below is a summary of the issues noted during the 2018 site visits, and suggested recommendations to address them:

#### **Used Tires**

During the 2018 site visits, it was noted that used tires are a significant waste stream across the Project sites, particularly around the Mine site and Milne Port, and as noted in the 2016 and 2017 site visits. During the August 2018 site visit, NIRB staff noted that several of the used tire piles are now removed and stored in seacans for shipping and disposal offsite. In general, the state of tire disposal has significantly improved during the site visits in 2018.

**Recommendation 19:** The Board requires Baffinland to provide continued reporting regarding how it has implemented measures within its Tire Management Plan for re-treading, reuse, or offsite disposal of tires generated from the site. Baffinland must implement an organized method of storing and relocating tire piles across the Project consistently moving forward.

It is requested that an update regarding this recommendation be provided within the next 30 days to the Nunavut Impact Review Board.

#### **Waste Landfill**

During both the April and August 2018 NIRB site visits, it was noted that all of the protective mesh around the landfill area were completely removed from the supporting poles similar to previous site visit observations in 2014, 2015, 2016, and 2017, and the newly installed wooden fence around the facility was observed to be insufficient to contain the landfill footprint, thereby increasing the risk of wind-blown debris from the facility. The NIRB further notes that the condition of the fencing around the landfill during the 2018 site visits have not significantly improved compared to previous years. Further, the NIRB's 2017 Board Recommendation #31 requested that Baffinland continue to evaluate its need for an upgraded litter fence around the active areas of the landfill in the light of changing environmental conditions at site.

**Recommendation 20:** The Board directs Baffinland to improve the quality of fencing around the perimeter of landfill sites to reflect industry best practices for these operations. Landfill litter fences must be of sufficient quality and height and encircle the entire landfill area to ensure that waste materials are not dispersed offsite. Baffinland must include evidence of this issue being satisfactorily addressed within its annual reporting in future.

It is requested that an update regarding implementation of this direction be provided within the next 30 days to the Nunavut Impact Review Board, and with updates included within the Annual Reports to the Nunavut Impact Review Board moving forward.

*Dust Suppression Measures and Crusher Area*

During the April 2018 site visit, NIRB staff observed dust emissions, including visible dust plumes generated from the crusher plant, which continues to be an ongoing issue at the crusher facility. Specific parts of the crusher and screening plant were also noted to lack appropriate sealing or dust containment system, resulting in the release and dispersion of fugitive dust to the surrounding environment as was observed during previous site visits. Proper engineering designs and controls is required to address the increased dust emissions from the crusher plant.

**Recommendation 21:** The Board requires Baffinland to improve the effectiveness of its management of ore dust exposure to workers, particularly for crusher operations. Baffinland must report on improvements made and provide evidence to support that dust levels are kept within acceptable levels to ensure the safety of workers on site.

It is requested that this update be included within the 2018 Annual Report to the Nunavut Impact Review Board.

The Board respectfully requests that for items requiring follow-up action by Baffinland that a response be provided within the timeline as requested for each of the recommendations.

Should you have any questions or require further clarification regarding the Board's recommendations or the NIRB's monitoring program for the Mary River project, please contact the undersigned directly at (867) 983-4603 or [samuno@nirb.ca](mailto:samuno@nirb.ca)

Sincerely,



Solomon Amuno, PhD  
Mary River Project Monitoring Officer  
Nunavut Impact Review Board

cc: William Napier & Lou Kamermans, Baffinland Iron Mines Corp.  
Mary River Distribution List

Enclosure (1): The Nunavut Impact Review Board's 2017 – 2018 Annual Monitoring Report for Baffinland Iron Mines Corp.'s Mary River Project