

September 9, 2022

Cory Barker  
Technical Advisor III  
Nunavut Impact Review Board

Guillaume Daoust  
Technical Advisor II  
Nunavut Impact Review Board

**Re: Follow up to NIRB June 2022 Site Visit Report**

Baffinland Iron Mines Corporation (Baffinland) is pleased to provide the Nunavut Impact Review Board with responses to NIRB's recommendations and direction from their Site Visit on June 13-16, 2022.

The attached Table 1 provides Baffinland's responses to the recommendations of the NIRB Site Visit.

Should you have any additional concerns or questions regarding the attached responses, the 2021 Annual Report to the NIRB submitted by Baffinland March 31 2022 and subsequent reviewer comments, or Baffinland's environmental monitoring and operational management implemented throughout 2022 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,

A handwritten signature in black ink, appearing to read "Swenson".

Todd Swenson  
Environmental Superintendent

Cc: Megan Lord-Hoyle, Timothy Sewell, Lou Kammermans, Connor Devereaux, Kendra Button  
(Baffinland)

*Attachments*

*Attachment 1 – NIRB June 2022 Site Visit Report NIRB File No. 08MN053*

*Attachment 2 – Baffinland Responses to NIRB Recommendations*

*Attachment 3 – Baffinland Follow-Up Photos*

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## **Attachment 1**

NIRB June 2022 Site Visit Report NIRB File No. 08MN053

## **Attachment 2**

Baffinland Responses to NIRB Findings and Recommendations

**Table 1 – Baffinland Responses to NIRB Finding and Recommendations - June 2022 Site Visit**

#	Project Location	Description of Concern or Finding	Recommended Action	Response
1	Milne Inlet and Ore Stockpile	NIRB staff observed dust accumulation along the sea ice near the ore stockpiles and as noted in section 4.1.2.2 of NIRB 2022 June Site Visit Report. There appears to be continued release of dust while the stockpile is being built using the conveyor.	NIRB staff encourage Baffinland to continue exploring mitigation options to reduce dust produced from this source.	<p>Baffinland has made dustfall mitigation and monitoring a priority since operations began. Despite the extensive monitoring programs in place and the numerous mitigations that have been implemented, Baffinland understands that the management of dust will always be a matter of continuous improvement. To this end, in late 2021, Baffinland initiated an independent audit of dust sources across the Project and helped form a Dust Audit Committee composed of representatives from each of the five North Baffin communities. Baffinland expects the draft Report to be released in September 2022, which will include a list of recommendations developed between the independent auditor and the Dust Audit Committee (Baffinland, 2022, p. 42). In July of 2022, Baffinland met with Natural Resources Canada (NRCan) to discuss collaboration opportunities, which will focus on further developing the existing remote sensing program to ensure the monitoring program provides the most accurate measurement of dustfall extent and magnitude possible. Baffinland will continue to seek out opportunities for improvement with regards to dust management and mitigation. However, Baffinland would like to highlight various efforts that have been made over recent years to improve dustfall monitoring.</p> <p>“Since the Production Increase Proposal was approved in 2018, Baffinland has implemented the following additional mitigation and monitoring measures, which include: the application of DustBlokr to project roadways including the Tote Road (this is a glycol based product approved by the Government of Nunavut and has also been trialed in several Nunavut communities); the application of DusTreat to Milne Port stockpiles, a product that forms a crust around the stockpiled ore, effectively covering and containing potential fugitive dust; the development of a new remote sensing monitoring program to characterize the extent and concentration of dustfall, utilizing satellite imagery Snow Darkening Index values; and the expansion of the existing passive dust monitoring program, including the installation of several collectors below</p>

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				<p>standard heights to address community and Terrestrial Environmental Working Group (TEWG) requests.</p> <p>The above is in addition to the ongoing implementation of existing dust mitigation measures, which include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• the installation of hoods and shrouds on crusher plant equipment (stackers and conveyors) to minimize fugitive dust generation during crushing operations as well as rubber bellows to control the fall of the ore and reduce the distance the ore freefalls to the pad;</li> <li>• the application of EK-35, a known dust suppressant is applied once annually following freshet to the airstrip to reduce dust generation from the airstrip;</li> <li>• the application of dust suppressants (calcium chloride, water) to the pads, laydown and parking areas at the Mine Site and Milne Port, as well as along the Tote Road; and</li> <li>• the resurfacing and recontouring some sections of the Mine Haul Road with competent aggregate that reduces exposure to weathering and vehicle wear and tear.</li> </ul> <p>Further, mitigations at Milne Port are numerous and include:</p> <ul style="list-style-type: none"> <li>• redesigning the ore pads to position fines in the centre and lump ore around the margins;</li> <li>• proper positioning of the conveyors to minimize ore drop distances when stockpiling;</li> <li>• installation of rubber bellows at the end of each stacker to minimize dispersion of dust generated as the material drops;</li> <li>• installation of chutes on the shiploader to prevent windblown dust during loading operations;</li> <li>• installation of shrouding at the discharge end of the ore stackers to reduce the effect of windblown fugitive dust during stacking activities;</li> </ul>

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				<ul style="list-style-type: none"> <li>installation of downwind fencing; and removal of dust impacted snow at strategic locations at the Project (Baffinland, 2022, p. 42).”</li> </ul> <p>References: Baffinland Iron Mines Ltd. August 18<sup>th</sup>, 2022. Response to Comments on the Production Increase Proposal Renewal - Mary River Iron Ore Mine NIRB File Number 08MN053.</p>
2	Tote Road, Ore Haul Road to Deposit No. 1, Site-wide.	Monitoring Officers observed ongoing water management challenges along the Tote Road, Ore Haul Road to Deposit No. 1, and more generally across site. Typically, the site visit is completed during winter months or during late summer and this site visit was completed during the freshet, leading to wet site conditions and NIRB staff observed that the Tote Road can become very muddy and unstable (Photos 10, 11, 32, & 33) and the road was closed. Monitoring Officers observed during the drive along the Tote Road and throughout site, that water pooled both on and adjacent to the road creating wash outs.	Provide the Board with follow-up photos to show the improved road conditions labelled with estimated number of hours since the closure to demonstrate the effects this has on operations and the amount of time it takes to return the road to safe conditions. Once received, NIRB will post this update on its Public Registry. Monitoring Officers also observed there was more water pooling in general areas around site and discussed active management strategies and pumping of this water to sedimentation ponds nearby and encourages Baffinland to continue working to reduce the amount of pooling water specifically around equipment and facilities.	<p>Following the rain event observed during the site visit on June 14<sup>th</sup>, the Tote Road was closed to Ore Haul Trucks for 25 hours from the afternoon of June 14<sup>th</sup> to June 15<sup>th</sup>, and the Mine Haul Road was closed to Mine Haul Trucks for 30 hours from the afternoon of June 14<sup>th</sup> to June 15<sup>th</sup> evening. Photos of typical operating conditions are attached, as NIRB staff would have observed on their recent August site visit.</p> <p>Road closures to heavy truck traffic are a control Baffinland implements when road conditions are soft and wet, to eliminate equipment-caused mobilization of any soft sediment on the road surface. The combination of spring thaw creating excess moisture in the road surface and rain events requires road closures during freshet season annually to ensure the material on the road remains on the road, and isn't mobilized by heavy trucks driving through it. This is also a requirement to ensure the safety of all drivers and long term condition of the road.</p> <p>Culverts are steamed along the tote road every year in anticipation for freshet. Changing weather conditions that are typical during freshet often lead to freezing conditions again after the initial melt, causing culverts to re-freeze. Baffinland regularly inspects and monitors culverts for re-freezing along the tote road to enable timely steaming and maintenance work. An example of this occurred during the NIRB site visit at crossing CV-059, which had re-frozen on June 13<sup>th</sup> and road maintenance was working on re-steaming it. The crossing had returned to normal conditions with flowing water within a day.</p>

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				<p>Baffinland implements re-grading strategies as required, although depending on the time of year and weather conditions, ground conditions may not allow for complete re-grading if the surface is too frozen. This can occur during freshet when the snow first melts but the ground hasn't melted yet, creating pooling in low lying depressions in laydowns. These depressions of pooling water are low risk as they are localized and do not flow off the laydown into the tundra. Baffinland still maintains control of the pooling water via active pumping to an appropriate surface water management pond, where settling and water quality monitoring can occur. Baffinland will continue to ensure laydowns are re-graded, particularly around equipment and facilities, to improve our prevention of pooling water.</p>

**Attachment 3**

Baffinland Follow-Up Photos





**Figure 1: Photo of Mine Haul Road on July 8<sup>th</sup> - 30 Hours of Road Closure from June 14<sup>th</sup>-15<sup>th</sup>, 2022**



**Figure 2: Photo of Tote Road KM54 Open on June 16<sup>th</sup>, after 25 Hours of Road Closure from June 14<sup>th</sup>-15<sup>th</sup>, 2022**



**Figure 3: Photo of Tote Road KM32 Re-Open on June 16<sup>th</sup>, after 25 Hours of Road Closure from June 14<sup>th</sup>-15<sup>th</sup>, 2022**



**Figure 4: Photo of Tote Road – KM17 Bridge – June 27<sup>th</sup>, 2022**



**Figure 5: Photo of Tote Road – KM17 Bridge – August 14<sup>th</sup>, 2022**