

December 20, 2013

Jaswir Dhillon, Technical Advisor  
Nunavut Impact Review Board  
P.O. Box 1360  
Cambridge Bay, NU, X0B 0C0

**Re: Baffinland Response to the Nunavut Impact Review Board's 2012 - 2013 Annual Monitoring Report for the Mary River Project and Board Recommendations**

Dear Jaswir Dhillon,

Thank you for the 2012-2013 monitoring report for the Mary River Project. I have provided responses to the recommendations in the Table below. In cases where files are too large for transmission by email, I ask that Baffinland be given the opportunity to provide these files to the Nunavut Impact Review Board (NIRB) in January 2014, where full electronic and or hard copies can be provided by mail. Baffinland has noted with rationale where recommendations cannot be met at this time. I would welcome the opportunity to speak with you regarding any follow up or next steps to help further address recommendations from the board. There are two attachments for this transmission which are referenced in the table below and are being transmitted as separate documents.

Project Condition #	Term or Condition	NIRB Recommendation	Baffinland Response
10	The Proponent shall update its Dust Management and Monitoring Plan to address and/or include the following additional items: a) Outline the specific plans for monitoring dust along the first few kilometres of the rail corridor leaving the Mary River mine site. b) Identify the specific adaptive management measures to be considered should monitoring indicate that dust deposition from trains transporting along the rail route is greater than initially predicted.	Recommendation 1 - The Board requests that Baffinland provide the following outstanding submissions <b>within 30 days' receipt of these recommendations:</b> Dust Management and Monitoring Plan	The construction of the railway has been deferred. Baffinland has submitted an application for the Early Revenue Phase (ERP). An update to the Air Quality and Noise Abatement Management Plan was included in this application to address monitoring of dust fall along the Tote Road. The outcome of the road haulage of ore under the ERP will inform the Company on mitigation measures that may be required for the future railway operation. Baffinland is not in a position to be able to provide an update as requested by the board given that detailed design of the railway is not proceeding at this time. There will be several years to develop an update to the plan specific to the railway when this aspect of the Project is revisited.
22	The Proponent shall develop a detailed Sediment and Erosion Management Plan to prevent and/or mitigate sediment loading into surface water within the Project area.	Recommendation 1 - Sediment Erosion and Management Plan	Detailed sedimentation and erosion control mitigation measures are an integral part of the Surface Water and Aquatic Ecosystems Management Plan (SWAEMP). This Plan was updated and submitted to the NWB after the issuance of the Type A
26	The Proponent shall develop	Recommendation 1-	

	and implement a comprehensive erosion management plan to prevent or minimize the effects of destabilization and erosion that may occur due to the Project's construction and operation.	Sediment Erosion and Management Plan	Water Licence No. 2AM-MRY1325 in September 2013. The SWAEMP addresses all phases of the Project (construction, operation and closure). Due to file size, this document will be transmitted to the NIRB on a memory stick in the mail.
43	Prior to the start of construction, the Proponent must submit a Site Drainage and Silt Control Plan to the appropriate regulatory authorities for approval.	Recommendation 1 - Sediment Erosion and Management Plan	In addition to the SWAEMP, sediment and erosion control is also addressed in the specific applications to DFO for upgrading the water crossings along the Tote Road. Due to file size, these documents can be transmitted to the NIRB on a memory stick in the mail.
23	The Proponent shall develop and implement a Groundwater Monitoring and Management Plan to monitor, prevent and mitigate the potential effects of the Project on groundwater within the Project area.	Recommendation 1 - Groundwater Monitoring and Management Plan	Refer to section 10.2.2 of the Surface Water and Aquatic Ecosystems Management Plan updated for the Type A Water Licence and submitted to the NWB in September 2013. Due to file size, this document will be transmitted to the NIRB on a memory stick in the mail.
25	The Proponent shall undertake the additional geotechnical investigations to identify sensitive landforms, modify engineering design for Project infrastructure, develop and implement preventative and/or mitigation and monitoring measures to minimize the impacts of the Project's activities and infrastructure on sensitive landforms.	Recommendation 2 - The Board requests that Baffinland provide outstanding information on additional geotechnical investigations that were to be undertaken prior to the commencement of construction activities <b>within 30 days' receipt of these recommendations.</b>	Geotechnical investigations are an integral part of detail design. With respect to the Tote Road upgrades, design drawings for the Tote Road have been provided to the NIRB in the Addendum to FEIS in June of 2013. Please refer to Appendix 3C of that document. Sensitive Landforms were an important consideration in the design of Tote Road upgrades. With regards to the construction of infrastructure in 2013, construction report/reports are in development, and these reports will address geotechnical considerations and engineering design for the protection of sensitive landforms. These reports are comprehensive and will have file sizes great than what can be sent via email. For this reason, reports relevant to this request will be transmitted to the NIRB on a memory stick when they are available. Baffinland will advise on the delivery of such reports in the near future, but had planned on including these reports as part of our Annual Report submitted to the NIRB on March 31st of each year. Issued for Construction Drawings have been transmitted to the NWB as part of Type A Water Licence requirements.
39	The Proponent shall develop a progressive revegetation program for disturbed areas that are no longer required for operations, such program to	Recommendation 3 - The Board requests that Baffinland submit the outstanding details of its progressive revegetation	This is a topic of discussion with the Terrestrial Environment Working Group (TEWG). This condition will continue to be revisited in future years to understand what the

	incorporate measures for the use of test plots, reseeding and replanting of native plants as necessary. It is further recommended that this program be directly associated with the management plans for erosion control established for the Project.	program to the NIRB <b>within 30 days' receipt of these recommendations.</b>	Government of Nunavut may have in mind given that this practice has not been used in an Arctic environment. Baffinland is not in a position to provide the NIRB with this plan at this stage given that construction of the Project only commenced in 2013 and no areas exist that are no longer required for operations. Operations of the approved Project has not commenced, making this condition a requirement for future years when the availability of land no longer used for operations becomes available for study. Baffinland also notes that a significant portion of land in Baffinland's study area is naturally devoid of vegetation, making progressive re-vegetation in many locations an ecologically undesirable or impossible task.
116	Prior to construction, the Proponent shall develop additional mitigation measures to minimize the effects of blasting on marine fish and fish habitat, marine water quality and wildlife that includes, but is not limited to compliance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky, 1998) as modified by Fisheries and Oceans Canada for use in the North.	Recommendation 4 - The Board requests that Baffinland submit the information on mitigation measures to minimize the effects of blasting on marine fish and fish habitat as well as thresholds for the use of specific mitigation measures to prevent or limit disturbance to marine wildlife and that this information is provided <b>within 30 days' receipt of these recommendations.</b>	Mitigation measures to minimize the effects of blasting have been incorporated in the numerous Quarry Management Plans submitted to the NWB in accordance with Part D, Item 7 of the recently issued Type A Licence No. 2AM-MRY1325. The NWB has reviewed these management plans (D1Q1, D1Q2, Q19, Q11 and Q7). At this time, there is no need to blast in or near marine water. As stated during the FEIS review, when and if the need for blasting in the marine waters arises, Baffinland will consult with DFO and adopt DFO guidelines for blasting in marine waters, however, at this stage; Baffinland is unable to provide further details to the NIRB given the status of the Approved Project.
118	The Proponent shall incorporate into the appropriate mitigation plan prior to construction, thresholds for the use of specific mitigation measures meant to prevent or limit marine wildlife disturbance, such as bubble curtains for blasting, and nitrate removal.	Recommendation 4 - The Board requests that Baffinland submit the information on mitigation measures to minimize the effects of blasting on marine fish and fish habitat as well as thresholds for the use of specific mitigation measures to prevent or limit disturbance to marine wildlife and that this information is provided <b>within 30 days' receipt of these recommendations.</b>	Baffinland notes, as previously described during technical meetings and final hearings, that the technology of nitrate removal in the context described is not known to exist.
139	Prior to commencing construction, the Proponent is requested to undertake and provide the results of a detailed labour market analysis which provides quantitative predictions of the number of employees that may reasonably need to be sourced	Recommendation 5 - The Board requests that Baffinland submit the results of the detailed labour market analysis as required by Condition 139 to the NIRB <b>within 30 days' receipt of these recommendations.</b>	Please see Attachment 1 and Attachment 2.

	from southern Canada and from foreign markets, identifying where applicable, the country of origin for the foreign labour.		
8	The Proponent shall demonstrate through monitoring of air quality at the mine site and at the Steensby Inlet Port site that SO <sub>2</sub> and NO <sub>2</sub> emissions remain within predicted levels and, where applicable, within limits established by all applicable guidelines and regulations. In cases where exceedances are manifested, the Proponent shall provide an explanation for the exceedance, a description of planned mitigation, and shall conduct additional monitoring to evaluate the effectiveness of mitigative measures.	Recommendation 6 - The Board requires that Baffinland set up air quality monitoring stations and conduct analyses of air quality to ensure that the mitigation measures are in place and are achieving their objectives. The Board requests that Baffinland provide photographs and a description of the monitoring stations and locations where each monitoring station has been installed, as well as a description of the protocols and procedures for air quality sampling and analysis. The Board requests that this information is provided <b>within 60 days' receipt of these recommendations.</b>	Baffinland is committed to monitoring SO <sub>2</sub> and NO <sub>x</sub> at the Mine Site and at Steensby Port when these sites become further developed as described for the approved Project. At this time, both the Mine Site and Milne Port are being constructed and both sites have not reached a level of completion, under the approved Project, that enables Baffinland to set up a defensible monitoring Program. Baffinland will be in a much better position to provide plans for this air quality monitoring program in 2014. We recognise Environment Canada's specific points raised concerning emissions from ships at the Port sites, and as such, for the ERP Baffinland has committed to monitoring of SO <sub>2</sub> and NO <sub>x</sub> at Milne Port for a period of at least 3 years once shipments of ore commenced as part of the ERP (Commitment # 1 from November 2013 technical meetings).
68	The Proponent shall ensure flashing red, red strobe or white strobe lights and guy-wire deterrents are used on communications towers established for the Project. Consideration should also be given to reducing lighting when possible in areas where it may serve as an attractant to birds or other wildlife.	Recommendation 7 - The Board requests that Baffinland install lights and/or guy-wire deterrents on communication towers within 60 days' receipt of the Board's recommendations and that it provide follow up photos which detail how and where such deterrents have been installed to the NIRB <b>within 90 days' receipt of these recommendations.</b>	Since the issuance of Project Certificate No. 005, it has become apparent, through discussions with agencies in the TEWG, that flashing lights on guy wires may in fact attract birds and have the opposite effect of protecting migrating birds (literature suggests that placing flashing lights on communication towers should only be done for safety reasons). Secondly, it is also apparent, as discussed during technical meetings and final hearings, that migrating birds in Baffinland's study area, migrate during a period of time when darkness is not present, making the use of flashing lights a questionable mitigation technique. Lastly, Baffinland notes that communication towers for the approved Project have not been constructed, making this request an impossible task. Baffinland will update the NIRB in its annual report as to any progress or construction related to this topic.
173	The Proponent shall employ full containment booms during all ship-to-shore and other marine-based fuel transfer events.	Recommendation 8 - The Board requests that Baffinland provide a detailed description of methods	Baffinland understands that the NIRB is evaluating the rational document submitted to the NIRB on November 14 <sup>th</sup> as part of the submission prior to

		<p>employed to protect the marine environment during marine fuel transfer events, describe its previous and current compliance to Condition 173, and discuss the use of full containment booms employed at other mine sites and/or during major marine re-fuelling activities in Nunavut (i.e. community fuel re-supply). The Board requests that Baffinland provide this information regarding compliance with Condition 173 <b>within 60 days' receipt of these recommendations.</b></p>	<p>the Technical meetings. Baffinland has clearly stated that full containment booms during ship to shore transfer are not a requirement of regulations and through an extensive dialog with experts, it is strongly cautioned that such a practice, if technically possible to execute, would likely enhance the likelihood of a spill and drastically reduce one's ability to respond. Baffinland awaits a determination from NIRB based on our submission.</p>
N/A		<p>Recommendation 9 - Although there are no specific terms and conditions regarding the regular operation and maintenance of fuel storage facilities, the Board requests that Baffinland employ best practices in the operation and maintenance of fuel storage facilities in order to limit and mitigate potential impacts to the surrounding environment. Fuel storage facilities should be maintained so as to limit the amount of contact water that is produced. The Board requests that Baffinland provide a plan of action to reduce the volume of contact water in fuel storage facilities as well as provide a report on any instances of fuel leakage at site and instances of malfunction at the facilities which are either ongoing or which have been addressed.</p> <p>The Board requests that Baffinland submit its plan of action and report to the NIRB <b>within 60 days' receipt of these recommendations.</b></p>	<p>Detailed design drawings for the fuel tank farms have been submitted and reviewed by the NWB. The management of contact water accumulating in the secondary containment is addressed in by the Surface Water, Aquatic Ecosystems Management Plan (Section 6.6 in the SWAEMP to be transmitted to the NIRB) and is regulated by the NWB. Furthermore, any leaks or spills have to be reported to the NWB and the GN as a condition of the Type A Licence. Baffinland provides information of spills to the NIRB in its annual report. By way of sending the SWAEMP to the NIRB and reporting spills in the annual report, Baffinland suggests that this should address this request which goes above and beyond requirements of Project Certificate No. 005.</p>

Please let me know if you have any questions regarding this transmission. I look forward to working with you and the NIRB in the New Year.

Sincerely,

A handwritten signature in black ink, appearing to read 'O. Curran', with a stylized flourish at the end.

Oliver Curran  
Director, Sustainable Development

Cc: Amanda Hanson (NIRB)