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November 7, 2017

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RE: 2AM-MRY1325 Mine Site Crusher Pad Sedimentation Pond Expansion Modification Request

Mr. Dwyer,

In response to the Nunavut Water Board's (NWB) request, this letter provides the Qikiqtani Inuit Association's (QIA) comments on the above referenced Baffinland Iron Mines Corporation (Baffinland) modification request pursuant to Water Licence 2AM-MRY1325¹ (Licence).

To access Inuit Owned Lands, Baffinland signed QIA's Commercial Lease No. Q13C301² (Lease) for the Mary River mine in 2013. QIA's comments attached to this letter are focused on items as they relate to the Lease and QIA's role as the Designated Inuit Organization for the Qikiqtani region and its duties to administer Inuit Owned Lands.

QIA would like to thank the NWB for considering these comments.

Sincerely,

SWB

Stephen Williamson Bathory Director, Major Projects

¹ Nunavut Water Board (2015) Water Licence No.: 2AM-MRY1325 Amendment no. 1. July 31, 2015.

² QIA and Baffinland (2013) Commercial Lease No.: Q13C301. September 6, 2013.



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ID	Lease Condition	Licence Condition	Topic	Comment	Proposed Resolution
1	Article 8.1, item a)	Part G, item 3 c)	Environmental Impacts	Baffinland foresees minimal impacts to the receiving environment due to the frozen ground conditions and minimal snow melt/runoff during the construction period.	QIA requests information to support the assumptions into the potential impacts to the receiving environment. Specifically, stated that they foresee minimal impacts to the receiving environment due to the frozen ground conditions. QIA notes that the frozen ground assumption was used when designing the Waste Rock Sedimentation Pond which has been the subject of a spill³ where the lack of depth of permafrost identified in the Construction Summary Report⁴ has not been ruled out as the cause of the spill. QIA requests further information to substantiate that frozen ground exist at the construction location and will be maintained during operations. At a minimum the geotechnical data for the construction area and the thermal design of the facility is requested.
2	Article 6.1, item c)	Part G, item 3 e)	Planning	Baffinland has provided a start date for construction but not a schedule for construction.	QIA interprets that a start date does not satisfy Part G, item 3 e) of the Licence. It is requested that Baffinland provides a construction schedule that includes construction considerations, timing, and sequencing and a schedule of milestones.
3	Article 6.1 item c), and Article 8.1, item a)	Part D, item 1, 2, and 23	Engineered Designs	Baffinland has provided a design brief, not a final design as required.	QIA interprets the current design brief to not fulfill the requirements of Part D, item 2 of the Licence requiring Baffinland to provide final design and for construction drawings stamped and signed by an engineer. The current design brief does not provide sufficient information, preventing QIA from completing an analysis of design and performance adequacy. As per Part D, item 23 of the Licence, which requires Baffinland to operate facilities that withhold water to be in accordance with all applicable legislation and industry standards QIA requests a final design. As such, QIA recommends the use of the Canadian Dam

 $^{^{\}rm 3}$ INAC (2017) 170509 Inspector's Direction 2AM-MRY1325. September 5, 2017.

⁴ Hatch (2017) Construction Summary Report: Mine Site Waste Rock Sedimentation Pond and Drainage Ditch. January 24, 2017.



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∆³∧⊲³≺³ Arctic Bay						The following list are the outstanding items that should be the final design report:
P~∿L∆¹ Cape Dorset						a. A final design report that is signed and stamped by an engineer that includes all required analysis and for-construction documentation, including complete specifications, and drawings. The design brief as
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⊲⊳∠∆೧% Grise Fiord						b. Relevant background information, including the data from geotechnical investigations, the results of programs to characterize soil, rock, groundwater, ground ice, and ground temperature conditions to the depth expected to be affected by the proposed
∖σና৮⁵ Hall Beach						facilities, beneath the footprint of all containment and runoff control structures, as deemed adequate by the Professional Engineer responsible for the design. This is required to ensure design assumptions such as the use of frozen ground to ensure the facility
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⁵ Canadian Dam Association (2013) Dam Safety Guidelines 2007 (2013 Edition).

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⁶ Canadian Dam Association (2007). Canadian Dam Association Technical Bulletins.



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					acid rock drainage occurring which will give rise to potential environmental impacts. d. Design drawings and specifications of Engineered Structures, stamped by a Professional Engineer to ensure the facility is constructed as designed. The specifications included in the design brief are deficient on standard construction items typically provided in for-construction documentation. e. Stability analyses to reduce the risk of failure of the structure. No stability analysis is provided in the design brief to substantiate design will perform to acceptable level of standard. f. Construction considerations, including timing, sequencing, and a schedule to ensure the appropriate steps and considerations are considered and can be analyzed post construction. g. Operations and maintenance requirements as the facility is anticipated to be required to operate in a specific way to avoid failure. h. Detailed instrumentation and monitoring plans, including but not limited to sampling locations, parameters measured, and frequencies of sampling to be carried out to ensure the facility is operated in a specific way to avoid failure. i. A Construction Quality Control Plan stamped by a Professional Engineer, a component of which includes a plan for a Professional Engineer to supervise and field check construction activities to ensure the design is achieved and maintained.
4	Article 9.2, item b)	Part C, item 1.	Security	Baffinland did not provide an estimate for changes to security based on this modification request.	that is in accordance with the applicable regulations. It is required of Baffinland to provide an evaluation for security associated with this work and receive approval by QIA before work on this modification may be