



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
et Affaires du Nord Canada

Water Resources Division
Resource Management Directorate
Nunavut Regional Office
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Iqaluit, NU, X0A 0H0

Your file - Votre référence
2AM-MRY1325
Our file - Notre référence
CIDM#1224498

August 3, 2018

Ms. Ida Porter
Licence Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
E-mail: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada's comments on
Baffinland Iron Mines Corporation's Modification Request No. 9 - Milne Port
Ore Stockpile Water Management Upgrades (Water Licence 2AM-MRY1325 –
Amendment No. 1)**

Dear Ms. Porter,

Thank you for your July 17, 2018 invitation for technical review comments on the above referenced modification request.

The Water Resources Division of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the request and the results of our review are provided in the enclosed memorandum for the Nunavut Water Board's consideration. Comments have been provided pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

CIRNAC appreciates the opportunity to participate in this review. If there are any questions or concerns, please contact either me at bridget.campbell@canada.ca or (867) 975-4282 or Wajid Daouda at wajid.daouda@canada.ca or (867) 975-4657.

Sincerely,

Bridget Campbell, Water Resource Coordinator

Technical Review Memorandum

To: Ida Porter, Licence Administrator, Nunavut Water Board

From: Bridget Campbell, Water Resource Coordinator, Water Resources Division, CIRNAC
Sarah Forté, Water Management Specialist, Water Resources Division, CIRNAC
Wajid Daouda, Senior Engineer, Resource Management Directorate, Nunavut Region, CIRNAC

Date: August 3, 2018

Re: Modification Request No. 9 - Milne Port Ore Stockpile Water Management Upgrades (Water Licence 2AM-MRY1325 – Amendment No. 1)

Applicant: Baffinland Iron Mines Corporation
Project: Mary River Iron Mine Project
Region: Qikiqtani

A. BACKGROUND

On July 16, 2018 Baffinland Iron Mines Corporation (Baffinland) submitted the above-noted modification request to the Nunavut Water Board (Board) on Water Licence 2AM-MRY1325 – Amendment No.1 for additional activities related to its 2018 Work Plan Item No. 4. The request is for two work items which are necessary for the expansion of the ore stockpile pad at Milne Port. The first item is the addition of two new lined compartments to the existing water management ponds No. 1 and No. 2 (referred to as ponds No.1a and 2a). The second item is an increase in the capacity of Pond No. 2 by raising the downstream embankment and existing emergency spillway level at the ore stockpile pad at Milne Port.

Baffinland conducted a self-assessment of the proposed modification, in accordance with the *Process for Seeking Approval for Modifications to Previously-Approved Projects* (NIRB 2018), the significance criteria presented in *Section 90 of the Nunavut Project Planning and Assessment Act (NuPPAA)*, and *Section 12.8.2 of the Nunavut Agreement and Section 112 of the NuPPAA*, and concluded that the proposed activities were assessed previously, that their effects were not significant, and that a reconsideration of the terms and conditions of the Project Certificate No. 005 was not required.

The details of the proposed modification activities and engineering designs are presented in Attachment 2: Civil Design Report (by Hatch).

B. RESULTS OF REVIEW

The Water Resources Division of Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) Nunavut Regional Office reviewed the documents associated with Baffinland's Modification Request No. 9 and would like to provide the following comments and recommendations for the Board's consideration.

1. Pond 1a design

Reference:

- Baffinland Iron Mines Corporation Mary River Expansion Project Port Stockyard Settling Ponds, Civil Design Report, Hatch, July 13, 2018
- Baffinland Iron Mines Corporation Mary River Project Construction Summary Report: Milne Port Stockpile Settling Ponds, Hatch, December 2014

Comment:

During construction of the existing Pond 2, high moisture content soils were encountered. The high density polyethylene liner could not be appropriately installed on saturated soils. To accommodate for this issue, the pond bottom elevation was raised 1.4 m above the intended design depth. The size of the pond was reduced by approximately $\frac{3}{4}$, resulting in a constructed pond capacity that is approximately $\frac{1}{4}$ of the original intended capacity.

In Section 6.1 – Construction and Operating Considerations of the Civil Design Report (Hatch, 2018) provided, CIRNAC notes that in the event ground water is encountered, Baffinland's engineer must be informed and the design will be adjusted accordingly. Any difficulties due to the high groundwater table are intended to be addressed by constructing the invert levels of the proposed ponds to the same depths as those of the existing ponds.

Since the groundwater table is typically a subdued expression of topography, if the terrain at the expansion pond locations was similar to that of the existing ponds, the proposed mitigation measure would be adequate, which is the case for Pond 2a.

However, it appears Pond 1 was principally constructed on the side of a hill and the proposed Pond 1a will have to be partly cut into the same hill. Encountering the water table during the construction of Pond 1a is a possibility given the need to excavate several meters into the hillside.

CIRNAC's concern here is that if Pond 1a cannot be constructed as designed, the pond's capacity will be undersized for the area drained, which can increase the likelihood of non-compliant discharge.

Recommendation:

CIRNAC recommends Baffinland to field check the construction through a qualified Engineer in order to ensure that the project specifications and quality control measures are followed. Also, CIRNAC recommends that Baffinland either confirm with site testing if building Pond 1a in the location proposed is feasible or propose other mitigation measures should groundwater be encountered before the intended pond depth.

2. Proximity of settling ponds to marine environment

Reference:

- Modification Request No. 9 – Milne Port Ore Stockpile Water Management Upgrades, Mary River Project, Water Licence 2AM-MRY1325 – Amendment No.1. Baffinland Iron Mines Corporation, July 16, 2018
- Attachment 2: Civil Design Report. Hatch, 2018
- Arctic Waters Pollution Prevention Act (R.S., 1985, c. A-12)

Comment:

The perimeters of the proposed settling pond compartments are less than thirty one metres (31m) from the marine environment. Although salt water bodies are outside of the jurisdiction of the Water Board and outside of the scope of the current Type A water licence, Baffinland should be aware that CIRNAC Water Resource Officers have the authority to report on, and to enforce, the *Arctic Waters Pollution Prevention Act*.