



Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

ECCC File: 6100 000 011 /004
NIRB File: 2AM-MRY1325

September 6, 2018

Via email: licensing@nirb.ca

Ida Porter
Licencing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Ms. Porter

**RE: 2AM-MRY1325 –Baffinland Iron Mines Corporation – Mary River Project –
Type A Water Licence - Modification No.8 Request**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board regarding the above-mentioned Type A Water Licence Modification No.8 request. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act* (CEPA), the pollution prevention provisions and the Metal and Diamond Mining Effluent Regulations of the *Fisheries Act*.

ECCC did not provide comments in the original request for comments, but has reviewed the additional information provided to address other parties concerns by Baffinland Iron Mines Corporation and provides the following two comments to the Nunavut Water Board for their consideration.

1. Geochemical Instability

Source:

Technical Memorandum: Design Criteria for 2018 to 2019 Waste Rock Management Pile, Mary River Project – Section 2.1.3 2018-2019 Waste Rock Facility Expansion

Issue:

ECCC notes the concerns concerning end dumping of waste rock and advancement of thick lifts that can lead to significant particle segregation because, as noted by the technical memo, accumulation of segregated coarse material at the toes of slopes is known to exacerbate airflow within the Waste Rock Facility (WRF). In addition, it is noted that the rate of acid generation is controlled by the flux of oxygen to the reactive surfaces

on PAG rock, therefore the accumulation of coarse rock particles at the toes of dumped perimeter slopes would contribute to the overall geochemical instability of the WRF. ECCC notes that 25m buffer zone is not a great distance, even though Potentially Acid Generating (PAG) rock will be placed over non-PAG rock.

Given these concerns, it is not readily clear if there is a mitigation plan proposed by the Proponent in order to avoid or alleviate/address concerns with geochemical instability.

Recommendation

ECCC recommends that the Proponent develop mitigation measures that will address the concerns with geochemical instability stated in section 2.1.3 of the technical memo.

2. Seepage Source and Mitigation Measures

Source:

Technical Memorandum: Design Criteria for 2018 to 2019 Waste Rock Management Pile, Mary River Project – Section 2.2 Existing WRF Pond

Issue:

Seepage has been observed from the outer berm of the WRF and has been documented by the Proponent. However, the exact source of the seepage has not yet been identified. Furthermore, ECCC was unable to find an indication or a plan to identify the source of the seepage and proposed mitigation in order to manage it.

Recommendation:

ECCC recommends that the Proponent clarify how they intend to identify the source of the seepage and any proposed mitigation measures.

Should you require further information, please do not hesitate to contact Gabriel Bernard-Lacaille at (867) 669-4746 or Gabriel.Bernard-Lacaille@Canada.ca

Sincerely,

[original signed by]

Gabriel Bernard-Lacaille
A/ Senior Environmental Assessment Coordinator

cc: ECCC Review Team