



ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪᓴᓪ ᓅᓂᓕᓂᓪᓴᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File: 2AM-MRY1325

October 2, 2018

Christopher Murray
Environmental & Regulatory Compliance Manager
Baffinland Iron Mines Corporation
Suite 300 – 2275 Upper Middle Road East
Oakville, Ontario, Canada L6H 0C3

Email: christopher.murray@baffinland.com

RE: Licence No. 2AM-MRY1325 Type “A”; Mary River Project, Baffinland Iron Mines Corporation; 2017 Annual Report Review

Dear Mr. Murray:

The Nunavut Water Board (NWB) has completed a technical review of the 2017 Annual Report (the Report) for Type “A” Water Licence 2AM-MRY1325 (the Licence). The Report was received on March 31, 2018 from Baffinland Iron Mines Corporation (BIMC or the Licensee), submitted as a requirement under Part B of the Licence.

Copies of all documents received during Report review can be accessed through the NWB’s Public Registry and FTP site using the following link:

[ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/1%20GENERAL%20\(B\)/2%20ANNUAL%20RPT/](ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/1%20GENERAL%20(B)/2%20ANNUAL%20RPT/)

On April 19, 2018, the NWB distributed the Report for public review. Submissions were received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and Environment and Climate Change Canada (ECCC) on September 14, 2018, and the Qikiqtani Inuit Association (QIA) on June 12, 2018. The table below provides a brief summary of issues that NWB and the intervenors found outstanding during the Report review period. The table provides deadlines for BIMC to respond to the respective recommendations and concerns. For the intervenors’ discussion of these items, please refer to the comment submissions referenced above.

No.	Recommendation / Concern	Deadline to Respond by and Notes
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)		
1	Report whether MS-MRY-9 and MS-MRY-10 will be relocated or classified as permanently inactive. Justify in the latter case.	November 1, 2018
2	Reminder: implementation of the reclamation work plan is	March 31, 2018 (2018 annual

	scheduled for 2018 and should be included in the 2018 annual report.	report)
3	Provide the results of BIMC's soil volume review. Indicate the location of new contaminated snow storage and proposed measures to treat or discard landfarm soil.	March 31, 2018 (2018 annual report)
4	Provide an updated Surface Water and Aquatic Ecosystems Management Plan that includes water protection measures for chloride.	March 31, 2018 (2018 annual report)
5a	Update the waste rock characterization programs and waste rock management plan by including soluble iron sulphate minerals in waste rock as a source of acid drainage.	March 31, 2018 (2018 annual report)
5b	Undertake a comprehensive investigation of the acid-rock drainage and metal leaching and update the waste rock characterization programs and waste rock management plan accordingly.	March 31, 2018 (2018 annual report)
6	Update the estimate of the tonnage of potentially acid generating waste rock from Deposit 1 by considering soluble iron sulphate minerals in the PAG/non-PAG classification.	March 31, 2018 (2018 annual report) and subsequent annual reports
7a	Acknowledge the metal leaching issue associated with ARD formation from the mine site waste rock facility in an updated waste rock management plan; and	March 31, 2018 (2018 annual report)
7b	Design and implement appropriate mitigation measures.	March 31, 2018 (2018 annual report)
8	Clarify reasons and implications of omitting some analytical data on water quality.	November 1, 2018. Subsequent annual reports This echoes ECCC's recommendation number 1a
9	Present tables and figures together with associated content.	Subsequent annual reports
10	Highlight non-compliance results in a manner that is easily readable.	Subsequent annual reports
11	Add a row or a note at the bottom of the tables indicating total annual volumes in cubic metres.	Subsequent annual reports
12	Replace Indigenous and Northern Affairs Canada (INAC) with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	Subsequent annual reports
13	Relocate the data required by Licence Schedule B, Item 1b(xiii) from section f of the Concordance Table into section b.	Subsequent annual reports
14	Update CIRNAC contact information in the Emergency Response Plan.	March 31, 2018 (2018 annual report)
15	Correct the use of Mine Rescue Team (MRT) with Emergency Rescue Team (ERT) in the Emergency Response Plan.	March 31, 2018 (2018 annual report)
16	Follow only approved methods for discharge.	March 31, 2018 (2018 annual report)
17	Reorganize Appendices F and G of the Mobile Oily Water Separator Manual.	March 31, 2018 (2018 annual report)
18	Incorporate the Snow Management Plan into the Surface Water and Aquatic Ecosystems Management Plan.	March 31, 2018 (2018 annual report)

19	Update the document control section of the Snow Management Plan.	March 31, 2018 (2018 annual report)
Environment and Climate Change Canada (ECCC)		
1a	Ensure effluent is fully characterized.	Subsequent annual reports (testing as per Licence Schedule I, Table 12, Group 7).
1b	Describe the proposed water treatment system, including the parameters and its target effluent quality.	November 1, 2018
1c	Develop appropriate mitigation measures to prevent ARD based on the results from the investigation of the cause of the drop in pH.	December 31, 2018 (as per the commitment in the Report)
1d	Conduct inspections of any construction incorporating the waste rock to identify any detectable ARD onset.	As per Licence Part D, Items 12, 18, and 23; Part F, Item 3, Schedule B, Item g(xi); and Schedule D.
2a	The Sheardown Lake sedimentation monitoring study to continue on an ongoing basis.	Subsequent annual reports
2b	Management and mitigation of dust at the mine site and Milne Inlet facility be an ongoing priority for Baffinland	Subsequent annual reports
3	Use consistent units for nitrogen parameters	Subsequent annual reports
4	Identify how quarry water that is unsuitable for discharge will be managed. This should include potential storage locations and treatment options.	November 1, 2018
5	Identify sites, which will be monitored beyond the mine site landfill.	March 31, 2018 (2018 annual report)
Qikiqtani Inuit Association (QIA)		
1	Confirm Christopher Murray is the correct Baffinland representative to discuss the Annual Report.	NWB considers this matter to be between BIMC and QIA only.
2	Discuss why the mutually agreed upon Tables and Requirements from the Lease Operations Guide were not used in completing the Annual Report submission.	NWB considers this matter to be between BIMC and QIA only.
3	Update the Waste Tipped Lease Operations Guide to include survey methods.	NWB considers this matter to be between BIMC and QIA only.
4	Provide the scope and, when available, the outcomes of the Geochemical Evaluation Program mentioned in the Interim Waste Rock Management Plan	March 31, 2018 (2018 annual report)
5	Provide the timelines for updating the Waste Rock Management Plan from interim status.	March 31, 2018 (2018 annual report)
6	Provide when the Life of Mine Rock Management Plan will be updated to reflect the Interim Waste Rock Management Plan.	March 31, 2018 (2018 annual report)
7	Upload all updated management plans to IGLU.	NWB considers this matter to be between BIMC and QIA only.
8	Baffinland's acknowledgement of receipt of this letter.	NWB considers this matter to be between BIMC and QIA only.
Nunavut Water Board (NWB)		
1a	Water use for dust suppression from the following water	November 1, 2018 – mitigation

	sources was in exceedance: BG50, CV217, CV233, and Camp Lake. Outline mitigation measures to ensure water use is within allowable values and update relevant management plans.	measures March 31, 2018 (2018 annual report) – management plan(s) updates
1b	Water source CV099 can be used only during low-flow years. Was 2017 a low-flow year? If so, please provide data to support the claim.	November 1, 2018
2	Report Section 5.2 states that 3 instances of “exceedances of applicable water quality criteria occurred during discharges from Project containment areas in 2017 while using the OWTS”. Outline the causes for the exceedances and mitigation measures. Update relevant management plans.	November 1, 2018 – causes and mitigation March 31, 2018 (2018 annual report) - management plan(s) updates
3	A number of monitoring stations were named as inactive or decommissioned. Echoing CIRNAC No. 1, please justify the decisions to NWB. Please refrain from designating any station inactive or decommissioned without NWB’s approval.	November 1, 2018
4	Add “Yes/No Visible Sheen” option to the measurement of oil and grease in a sample, in line with the Licence requirements.	Subsequent annual reports
5	Seepage from the waste rock facility was discovered only on August 23, 2017, by CIRNAC and ECCC during a site inspection. There was a significant time lapse between the measurement of a low-pH and determining that there was seepage and only upon the intervention of government agencies. Update the relevant management plans by including a requirement for unplanned inspections by an Engineer in case of encountering abnormal conditions.	March 31, 2018 (2018 annual report)
6	Close off several outstanding items listed for follow-up in the Geotechnical Inspection Reports.	November 1, 2018
7	Provide searchable documents.	Subsequent annual reports
8	Appendix E5, section 4.4 designates the water treatment system operator to follow the manual but lists the manual as “under development”. Develop the manual and update relevant management plans.	March 31, 2018 (2018 annual report)
9	There were numerous TSS exceedance events throughout the year. Outline the causes for the exceedances and mitigation measures. Update relevant management plans.	November 1, 2018 – causes and mitigation March 31, 2018 (2018 annual report) - management plan(s) updates

If you have any questions, please contact the undersigned at assol.kubeisinova@nwb-oen.ca or (867) 360 6338.

Regards,

Assol Kubeisinova
Nunavut Water Board,
Technical Advisor

Copy: Distribution list - Mary River
Attachments: CIRNAC, ECCC, QIA