



Water Resources Division  
Nunavut Regional Office  
P.O. Box 100  
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November 14, 2014

Phyllis Beaulieu  
Licensing Administrator  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0A 1J0

Your file - Votre référence  
2AM-MRY1325  
Our file - Notre référence  
CIDM# 868482

**Re: 2AM-MRY1325 – Mary River Project – Baffinland Iron Mines Corporation –  
Amendment Application – Technical Review**

Dear Phyllis Beaulieu:

Thank you for your 29 September 2014 invitation for written representations on the above-referenced application to amend the Type A water licence 2AM-MRY1325.

Aboriginal Affairs and Northern Development Canada (AANDC) retained SNC-Lavalin Inc. to conduct a technical review of the Baffinland Iron Mines Corporation (Baffinland or BIMC) Type A water licence amendment application (the application). Technical review findings are identified in the attached memorandum.

Review findings for the Interim Closure and Reclamation Plan, submitted under a separate cover on 15 September 2014, are relevant to our review of the amendment application and is attached in Appendix 1. In their 29 August 2014 letter, the Nunavut Water Board (NWB) requested comments on proposed updates to terms and conditions in the current water licence in addition to the completeness review. A review of the water licence was conducted during the technical review and comments on proposed updates to the water licence can be found in Appendix 2.

In their 29 September 2014 letter, the NWB invited interested parties to indicate their preference on the form of the Technical Meeting and Pre-Hearing Conference (TM-PHC). While a TM-PHC in writing would be preferred, another form may be more appropriate if any public concern regarding this application is identified. AANDC will participate in the TM-PHC regardless of the form decided.

AANDC appreciates the opportunity to participate in this review. If there are any questions or concerns, please contact me at (867) 975-4738 or by e-mail at [Jean.Allen@aandc-aadnc.gc.ca](mailto:Jean.Allen@aandc-aadnc.gc.ca).

Sincerely,

Jean Allen  
Water Management Specialist

Enclosures (3)

cc. Karen Costello, Director, Resource Management, AANDC  
James Neary, Project Manager, Mary River Team, AANDC  
Erik Allain, Manager, Field Operations, AANDC

## **Technical Review Memorandum**

**Date:** November 14, 2014

**To:** Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

**From:** Jean Allen – Water Management Specialist, AANDC

**Subject:** **Technical Review of Baffinland Iron Mine Corporation's  
Application to Amend Type A Water Licence 2AM-MRY1325**

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### **1.0 Background**

AANDC Water Resources Division has conducted a thorough technical assessment of the Baffinland's amendment application of their Type A Water Licence 2AM-MRY1325 submitted on 16 July 2014 including supporting documentation to ensure that proposed project activities will not adversely affect surface and groundwater quality and quantity. The review and advice has been provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*. The review included an evaluation of:

- The existing water licence (2AM-MRY1325) terms and conditions as well as supporting documentation including the 2013 Annual Report;
- Updated management plans (submitted with the 2013 Annual Report); and
- Reports (inspection reports, monitoring reports, etc.) and other relevant studies.

The intent of Baffinland's requested amendment is to consolidate under one licence all requirements for the construction and operation of the Mary River Project. Baffinland's amendment addresses the following changes at Milne Port, the Tote Road and the Mine Site as follows:

#### ***Milne Port***

- Increase water demand (proposed under amendment to Type B Licence 8BE-MRY1314) during construction and operation;
- Increased size of the sewage treatment plant (proposed under amendment to Type B Licence 8BE-MRY1314);
- Construction and operation of additional off-spec capacity in the form of a Polishing Waste Stabilization Pond (PWSP), similar in design to the existing PWSP constructed in 2013;
- Relocation of the treated sewage effluent discharge location (NEW);
- Increased fuel storage to include marine diesel (NEW - addition of two 100,000 L tanks as authorized by the amended Project Certificate No. 005);

- Construction of the ore stockpile pad and associated drainage ponds (NEW - authorized by the amended Project Certificate No. 005); and,
- Construction and operation of an ore dock and ore loading system, additional ancillary buildings and maintenance facilities required for the shipment of ore which will result in changes in drainage patterns on the Milne Port site. Revisions to site drainage have been reflected in the approved Surface water and Aquatic Ecosystems Management Plan submitted to the NWB on March 31, 2014.

### ***Tote Road***

- The current Type 'A' Water Licence already authorizes Baffinland to proceed with the full development of the Tote Road. However, during the NIRB review process of Baffinland's application for an amendment to the Project Certificate No. 005, the Company committed to undertake best efforts to minimize dust generation from the road haulage and shipping operation of ore via Milne Port. This commitment necessitates an authorization from the Nunavut Water Board for additional withdrawal of water at several locations along the Tote Road for effective dust suppression associated with road haulage of ore from various sources along Tote Road (NEW).

### ***Mine Site***

- The current Type 'A' Water Licence already provides the authorization necessary for Baffinland to proceed with the full development of the Mine Site. However, by proceeding with a phased development approach for the Mary River Project, the life span of some of the temporary facilities (transitional construction camp, buildings, and fuel storage) will be longer than originally intended. Baffinland wishes to recognize the longer use of these facilities in the amended Type A Water Licence.
- Land discharge of treated sewage effluent as was submitted to the NWB in the March 31, 2014, version of the approved "Fresh Water Supply, Sewage and Wastewater Management Plan".

On 27 October 2014 AANDC Water Resources Division submitted to the NWB an initial technical assessment of the application for the Mary River Project. This initial assessment considered the completeness of the information presented in the application and identified information requests for the Board's consideration. Baffinland subsequently provided to the NWB responses to agency comments on 3 October 2014.

Preliminary comments pertaining to the Interim Closure and Reclamation Plan for the Mary River Project and associated security estimate (Attachment 4 of the Application) were forwarded under separate cover on 15 September 2014 (see Appendix 1). Baffinland provided a response to the NWB on 3 October 2014.

## 2.0 Outstanding Issues

Based on the licence application review and exchange of correspondence, a few issues remain outstanding. These are summarized below with reference to specific locations in the application documentation, a description of the issue and its relevance and recommendations for additional clarification or modifications to the terms and conditions of the existing Water Licence.

The outstanding issues relate to the need for the proponent to clarify how the Milne Port ore stockpile runoff ponds were sized and where the pond effluent discharge limits will be monitored, and the need to update the final and marginal security cost estimates.

AANDC is also seeking clarification from the NWB on how the accelerated pit filling concept can be assessed within the current or future licence review process. The procedural approach to introducing the accelerated pit filling concept to the licence review process needs to be determined to ensure this aspect of mine development is adequately evaluated from an environmental impact perspective in advance of mine closure.

### 2.1 Monitoring of Milne Port Ore Stockpile Runoff Ponds

#### **Reference:**

Attachment 1, Drawing H349000-2000-00-015-0017 Milne Port Early Revenue Phase Site Layout;

Attachment 1, Drawing H349000-2345-10-035-0001 Milne Port Ore Stockpile Sedimentation Ponds;

Attachment 1, Drawing H349000-2100-10-015-0001 Milne Port – Site Preparation Site Layout Drainage Plan;

Fresh Water Supply, Sewage, and Wastewater Management Plan BAF-PH1-830-P16-0010 (January 31, 2014), Section 5.3 (Treated Wastewater Generation and Discharge/Outfall Locations), Table 5.7 (Effluent Discharge Quality Limits for Ore Stockpiles and Pits), page 18;

Aquatic Effects Monitoring Plan (AEMP) BAF-PH1-830-P16-0039 (June 27, 2014), Section 3.4.1 (Surveillance Network Program Overview), Table 3.2 (Established SNP Monitoring Stations Associated with ERP) and Table 3.3 (Future SNP Stations Associated with ERP), pages 26 and 30.

#### **Issue:**

In Baffinland's response to AANDC's IR No. 3.2 additional information on the operation of the Milne Port ore stockpile runoff ponds was provided. Baffinland clarified that *"The AEMP states that that Runoff from the stockpile area at Milne Port will be collected in a pond that will discharge to the marine waters of Milne Inlet. Environment Canada has advised Baffinland that the mine effluent discharge to Milne Inlet will not be subject to the MMR, though the Fisheries Act still apply, including Section 36(3) regarding the prohibition of discharges of a deleterious substance in waters frequented by fish."*

*Effluent discharge quality limits for ore stockpiles and pits will be in compliance with the Freshwater Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010) Table 5.7.”* However, as AANDC identified in IR No. 3.2, no Surveillance Network Program (SNP) monitoring station to characterize ore stockpile runoff quality has been proposed at Milne Port (as is the case for ore stockpiles at the Mine Site and Steensby Port) in either of the recently updated Fresh Water Supply, Sewage, and Wastewater Management Plan or the Aquatic Effects Monitoring Plan.

As identified in IR No. 3.2, there is no ore stockpile runoff monitoring station listed in Tables 3.2 and 3.3 of the AEMP (in Section 3.4.1 Surveillance Network Program Overview) which summarize the ERP monitoring locations. If monitoring of the Milne Port ore stockpile runoff is intended to be carried out at the new “MP-01 Future” water quality monitoring station identified on the site plan figure (Drawing H349000-2100-10-015-0001, Application Attachment 1, Part 5), Baffinland needs to clarify how compliance with the ore stockpile runoff discharge limits will be established independent of compliance with Wastewater Treatment Plant (WWTP) discharge limits at this same location.

**Rationale:**

Baffinland has identified the discharge limits which will apply to the Milne Port ore stockpile runoff. It is not clear at what monitoring location compliance with these limits will be established. If monitoring of the ore stockpile runoff is proposed in the new outfall ditch (new MP-01) prior to its discharge to the marine environment, Baffinland needs to address how one monitoring location will be used to measure compliance with two different sets of discharge limits, one for ore stockpile runoff, the other for WWTP releases.

**Recommendation:**

AANDC requests that the amended Type A Water Licence clearly identify where compliance with the proposed discharge limits for the Milne Port ore stockpile runoff will be established (i.e., where a monitoring station will be established for the Surveillance Network Program to isolate treated ore stockpile runoff quality). This new monitoring station should also be included in updated versions of the Fresh Water Supply, Sewage, and Wastewater Management Plan and the Aquatic Effects Monitoring Plan.

## **2.2 Design of Milne Port Ore Stockpile Runoff Ponds**

**Reference:**

Attachment 1 (Part 6), Design Criteria – Civil, Document H349000-1000-10-122-0001, Rev. 1 August 28, 2013, Section 7.4.2, page 16.

**Issue:**

In Baffinland’s civil design criteria for sedimentation ponds (including ore stockpile runoff ponds at Milne Port) the general design criteria for the project sedimentation ponds are given as follows:

- *“Ponds shall be sized based on 1 in 10 year, 24 hour design storm volumes.*
- *Runoff coefficient to estimate runoff shall be 0.9 for all drainage areas **except the Milne Port Ore Stockpile footprint, for which the runoff coefficient shall be 0.0** as per BIM's instructions”. (emphasis added)*

AANDC understands that a runoff coefficient of 0.0 yields no runoff therefore how the Milne Port ore stockpile runoff ponds were actually sized is not known.

When addressing overall site drainage at the Milne Port site, AANDC can appreciate that assuming a runoff coefficient of zero for the ore stockpile area may be appropriate since runoff from this bermed area is effectively isolated from overall site drainage and captured for later release. However it is not clear how a runoff coefficient of 0.0 was applied in the design (sizing) of the Milne Port ore stockpile runoff sedimentation ponds.

**Rationale:**

It is important to establish how the Milne Port ore stockpile runoff sedimentation ponds were designed to confirm they are adequately sized for their intended purpose and to minimize impact on the receiving environment.

**Recommendation:**

AANDC requests additional clarification from Baffinland on how the run-off coefficient design criterion of 0.0 was applied in the design of the Milne Port ore stockpile runoff sedimentation ponds and what method is proposed to discharge the stockpile runoff from the ponds to the receiving waters.

## 2.3 Interim Closure and Reclamation Plan and Security Estimate

**Reference:**

Attachment 4, Interim Closure and Reclamation Plan for the Mary River Project and associated estimated security deposit.

**Issue:**

Preliminary comments pertaining to the Interim Mine Closure and Reclamation Plan (MCRP) for the Mary River Project and associated security estimate (Attachment 4) were forwarded under separate cover on 15 September 2014. This correspondence is reproduced in Appendix 1.

One deficiency of the Interim MCRP (27 June 2014) is that the financial cost of final closure and reclamation measures as provided in Section 12.1 (page 68) and Appendix B, Table B-13 (page 105) is identical to that provided in the FEIS Preliminary MCRP (February 2012). This means that the provided final closure estimate of \$518,711,208 does not include the ERP. The final closure cost estimate for Milne Inlet of \$7,311,986 (Appendix B, Tables B-13 and B-16) does not include reclamation/closure of more laydown areas, additional camp facilities, the ore stockpile and runoff ponds, the ore

dock or the ore handling facilities associated with the ERP. With the ERP infrastructure in place, the Milne Inlet Port final closure cost estimate is expected to be higher.

BIMC acknowledges in the Interim MCRP (Section 1- Executive Summary, page 11, last paragraph) that the final closure estimate provided is the same as the earlier estimate based on the original FEIS project description. BIMC contends that an updated determination of closure and reclamation security is captured on an annual basis during the Annual Security Review (ASR) process. To this end BIMC have provided the “2014 Marginal Reclamation and Closure Security Estimate” (2014 MRCSE) in Attachment 4 of their licence amendment application. AANDC note however that this marginal security estimate (broken into “approved” and “ERP” components) is the same as originally submitted during the ASR late last year and has not been updated to reflect the comments posted at that time and the outcomes of negotiations earlier this year. Specifically, AANDC prepared a submission on 18 December 2013 to the NWB concerning the Water Licence #2AM-MRY1325 and the Annual Security Review under Part C and Schedule C of the Type ‘A’ Water Licence. The submission outlined the agreed-upon increases in security for the “approved” project at that time based on changes to assumptions related to explosives liability and Jet-A fuel tank reclamation. These increases which were subsequently recognized by the NWB in their letter of 23 January 2014 are not reflected in Attachment 4 of the licence amendment package.

In AANDC’s original review of BIMC’s 2014 Work Plan and marginal closure estimate for ERP activities (prior to their approval), AANDC was of the opinion that the amount of \$279,000 (Table 4-1 of the 2014 MRCSE as reproduced in Attachment 4 of the licence amendment application) was inadequate to ensure reclamation of the ERP activities proposed for 2014-15. BIMC’s estimate did not account for costs to reclaim the ore stockpile runoff ponds at Milne Port and that the decommissioning and disposal of the ore handling and ship loading facilities did not appear to be addressed in the 2014 MRCSE. Our assessment did acknowledge some ERP costs (e.g., re-grading and contouring of Milne Port Ore Stockpile Pad, removal of 2 mooring buoys) had been assigned to the “approved” project at that time. As the 2014 MRCSE has not been modified in the licence amendment application to reflect agreed-upon changes and to address our original concerns related to ERP security estimation, this aspect of the application needs to be updated.

**Rationale:**

The security estimate must reflect the true cost of project closure to ensure the project can be closed and the site reclaimed with minimal impact to the environment.

**Recommendation:**

AANDC recommends that the deficiencies in the final and marginal security cost estimates be addressed as part of the 2015-16 Annual Security Review.



## **Appendix 1**

AANDC Review of Interim Mine Closure and Reclamation Plan



Water Resources  
Nunavut Regional Office  
P.O. Box 100  
Iqaluit, NU, X0A 0H0

September 15, 2014

Phyllis Beaulieu  
Licensing Administrator  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0A 1J0

Your file - Votre référence  
2AM-MRY1325  
Our file - Notre référence  
CIDM# 850852

**Re: 2AM-MRY1325 – Mary River Project – Baffinland Iron Mines Corporation –  
Qikiqtani Region – Interim Mine Closure and Reclamation Plan**

Dear Phyllis Beaulieu:

Aboriginal Affairs and Northern Development Canada (AANDC) Water Resources Division retained SNC-Lavalin Inc. to review Baffinland Iron Mines Corporation's Interim Mine Closure and Reclamation Plan required under their Type 'A' water licence 2AM-MRY1325 for the Mary River Project and our review memo (see enclosed) is based on comments by SNC-Lavalin Inc..

The following advice has been provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*. In conducting our review, AANDC Water Resources referred to the documents on the NWB's FTP-site under 2AM-MRY1325.

Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4738 or by e-mail at [Jean.Allen@aadnc.gc.ca](mailto:Jean.Allen@aadnc.gc.ca)

Sincerely,

Jean Allen  
Water Management Specialist

Enclosure

cc. Murray Ball, Manager of Water Resources, AANDC  
Erik Allain, Manager of Field Operations, AANDC

## **Technical Review Memorandum**

To: Phyllis Beaulieu – Manager of Licensing, Nunavut Water Board

From: Jean Allen – Water Management Specialist, AANDC

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**Re: 2AM-MRY1325 – Mary River Project – Baffinland Iron Mines Corporation – Qikiqtani Region – Interim Mine Closure and Reclamation Plan**

### **A. Project Description**

Baffinland Iron Mines Corporation (BIMC or Baffinland) holds a total of three water licences: a Type 'A' water licence 2AM-MRY1325 (Type 'A' licence or 2AM-MRY1325) for the approved Mary River Project; a Type 'B' water licence 2BE-MRY1421 for the Mary River Exploration Project and a Type 'B' water licence 8BC-MRY14-16 for the Mary River Preparation Project (for construction related to the Early Revenue Phase). On June 27, 2014, BIMC submitted an Interim Mine Closure and Reclamation Plan (MCRP) as required under Part J, Item 2 of 2AM-MRY1325. The Nunavut Water Board (the Board or NWB) requested interested parties to review the plan and make representations by September 15, 2014.

In response to NWB's request, a preliminary review of the recently submitted BIMC's Interim MCRP for the Mary River Project (dated 27 June 2014) was undertaken. The review focused on whether this revised plan addresses all components of the mine development project as delineated in:

- i. Project Certificate No. 005 (as amended 28 May 2014) including Early Revenue Phase (ERP) activities and infrastructure, and
- ii. BIMC's application for amendment to Type 'A' water licence 2AM-MRY1325 to reflect ERP changes and consolidate their recently issued Type 'B' water licence 8BC-MRY1416 into one licence.

Comparisons have been made to the earlier version of the Interim Abandonment and Reclamation Plan (ARP) (7 June 2013) submitted as part of the Final Environmental Impact Statement (FEIS) Addendum Volume 10, Appendix 10G (and referenced in BIMC's submission for the Annual Security Review in October 2013 and the renewal and amendment application for water licence 8BC-MRY1314 in May 2014) and to the Preliminary MCRP (February 2012) approved under the Type 'A' licence. Comments on closure costing and annual security review estimates are also provided.

As listed in the Type 'A' licence amendment application, the scope of the requested amendment comprises facilities and activities associated with the following infrastructure:

**Milne Port**

- a. Increase water demand as proposed under the Amendment to Type B Licence 8BC-MRY1314;
- b. Increase fuel storage to include marine diesel as approved under Amendment 1 of the Project Certificate No. 005 (ERP);
- c. Increase size of sewage treatment plant and PWSP pond as proposed under Amendment to the Type B Licence 8BC-MRY1314;
- d. Additional service buildings and desalination plant (no land discharges of waste water or waste);
- e. Construction and operation of outfall for discharge to ocean of treated sewage effluent and desalination plant brine; and
- f. Ore stockpile with associated runoff sedimentation ponds as approved under Amended Project Certificate No. 005.

**Tote Road**

- a. Water withdrawal from lakes and streams along Tote Road for use as dust suppression on the Tote Road.

**Mine Site**

- a. Discharge of treated sewage effluent to land during winter months; and
- b. Originally intended life span increased for some of the temporary facilities (transitional construction camp, buildings and fuel storage).

**B. Results of Review**

A review of the Interim MCRP (27 June 2014) indicates that the facilities and activities associated with the amendment application have been incorporated into the revised plan. For example, Table 3-1 (page 22) of the Interim MCRP identifies the following project components associated with the ERP:

- (Additional) Milne Port site development, road grading , laydown, drainage;
- Milne Port marine diesel fuel tank farm and fuel dispensing facilities;
- Milne Port ore stockpile;
- Milne Port ore handling facilities and associated surface runoff ponds;
- Milne Port ore dock;
- Milne Port freight dock;
- Milne Port relocated air strip;
- Tote Road water withdrawal for dust control; and
- Mine Site transitional ore stockpile and runoff control.

The FEIS Preliminary MCRP (February 2012) did not include the ERP road haul option. The ERP components identified above are covered in Sections 6 and 7 of the Interim MCRP (27 June 2014) which deal with temporary and long-term temporary mine closure, respectively, without being specific to location. In Section 8, Final Mine Closure and Reclamation Measures, these same project components are again addressed

(including the removal of buildings and infrastructure, removal of machinery, equipment and storage tanks) on a generic basis.

One deficiency of the Interim MCRP (27 June 2014) is that the financial cost of final closure and reclamation measures as provided in Section 12.1 (page 68) and Appendix B, Table B-13 (page 105) is identical to that provided in the FEIS Preliminary MCRP (February 2012). This means that the estimate provided for final closure cost (\$518,711,208) does not include the ERP. The final closure cost estimate for Milne Inlet of \$7,311,986 (Appendix B, Tables B-13 and B-16) does not include reclamation/closure of more laydown areas, additional camp facilities, the ore stockpile and runoff ponds, the ore dock or the ore handling facilities associated with the ERP. With the ERP infrastructure in place, the Milne Inlet Port final closure cost estimate should be higher.

BIMC acknowledges that the final closure estimate provided in the Interim MCRP (Section 1- Executive Summary, page 11) is the same as the earlier estimate based on the original FEIS project description. BIMC contends that an updated determination of closure and reclamation security is captured on an annual basis during the ASR process. To this end BIMC have provided the “2014 Marginal Reclamation and Closure Security Estimate” (2014 MRCSE) in Attachment 4 of their amendment application. AANDC note however that this marginal security estimate (broken into “approved” and “ERP” components) is the same as originally submitted during the ASR late last year and has not been updated to reflect the comments posted at that time and the outcomes of negotiations earlier this year. Specifically, AANDC prepared a submission on 18 December 2013 to the NWB concerning the water licence 2AM-MRY1325 and the Annual Security Review under Part C and Schedule C of the Type ‘A’ water licence. The submission outlined the agreed-upon increases in security for the “approved” project at that time based on changes to assumptions related to explosives liability and Jet-A fuel tank reclamation. These increases are not reflected in Attachment 4 of the licence amendment package.

In our original review of BIMC’s 2014 Work Plan and marginal closure estimate for ERP activities (prior to their approval), AANDC was of the opinion that the amount of \$279,000 (Table 4-1 of the 2014 MRCSE as reproduced in Attachment 4 of the amendment application) was inadequate to ensure reclamation of the ERP activities proposed for 2014-15. BIMC’s estimate did not account for costs to reclaim the Ore Stockpile Settling Ponds at Milne Port and the decommissioning and disposal of the ore handling and ship loading facilities did not appear to be addressed in the 2014 MRCSE. Our assessment did acknowledge some ERP costs (e.g., re-grading and contouring of Milne Port Ore Stockpile Pad, removal of 2 mooring buoys) had been assigned to the “approved” project at that time. As the 2014 MRCSE has not been modified in the amendment application to reflect agreed-upon changes and to address our original concerns related to ERP security estimation, this aspect of the application needs to be updated.

It is expected that written approval from the NWB will be sought prior to commencement of mining operations in accordance with Part J, Item 2 of 2AM-MRY1325. AANDC will

continue to review the Interim MCRP as part of the amendment application and expect that further revisions will be required as a result of the amendment application and ASR processes.

## **Appendix 2**

Comments on Proposed Updates to Water Licence 2AM-MRY1325

## Appendix 2: Comments on Proposed Updates to Terms and Conditions (T&C) of Water Licence 2AM-MRY1325

T&C	Existing T&C	Suggested update to T&C	Comment
Licence Term	The existing licence expires on June 10, 2025.		In the amendment application, BIMC requested a 25 licence term. AANDC recommends that the licence term remain unchanged, as the rationale for the 12 year licence term in the NWB Reasons for Decision remain valid.
Part B, Item 10	The Licensee shall notify the NWB of any changes in development plans or conditions associated with the project, including the intent to begin the Operations Phase, at least sixty (60) days prior to any such change.		The licence should distinguish between the two phases of Operations: the ERP Phase (3.5 Mt/a) vs. the Full Operations Phase (18 + 3.5 Mt/a). Additionally, it is unclear whether a change in development or condition would include the creation of a mine pit. AANDC recommends that notification be required prior to the creation of a mine pit and that any change in development (particularly the creation of a mine pit and commencement of full (rail haul) operations) is prohibited until all the required information is submitted to the NWB for review and approval.
Part C, Item 2	Where the Licensee files evidence, in writing with the Board and with notice to the Minister and the Qikiqtani Inuit Association that the Licensee has furnished and maintained security with the Qikiqtani Inuit Association in an amount that the Qikiqtani Inuit Association confirms is sufficient to secure the mine closure and reclamation costs (including cumulative and legacy liabilities) estimated for the upcoming year to be required for the portion of the Project located on Inuit-owned lands, the Board may reduce the amount of	Where the Licensee files evidence, in writing with the Board and with notice to the Minister and the Qikiqtani Inuit Association that the Licensee has furnished and maintained security with the <b>landowner</b> in an amount that the <b>landowner</b> confirms is sufficient to secure the mine closure and reclamation costs (including cumulative and legacy liabilities) estimated for the upcoming year to be required for the portion of the Project located on Inuit-owned lands <b>and/or Crown land</b> , the Board may reduce the amount of	It should be noted that AANDC Land Administration Division may require financial security under Crown land leases. The proposed updates would be inclusive of both landowners. AANDC notes that the total financial security amount may be reduced in accordance with Schedule C, Items 7 and 9.



	security required to be held under Part C, Item 1...	security required to be held under Part C, Item 1...	
Part D, Item 13	The Licensee shall use fill material for construction from approved sources that been demonstrated by appropriate geochemical analyses to not produce Acid Rock Drainage and to be Metal Leaching properties.	The Licensee shall use fill material for construction from approved sources that <b>has</b> been demonstrated by appropriate geochemical analyses to not produce Acid Rock Drainage and to be <b>non</b> -Metal Leaching.	AANDC proposes a change to what is considered to be a typo in the licence.
Part E, Items 3 and 4	Water use limits for Domestic and Industrial Purposes during the Construction Phase and Operations Phase, respectively.		Part E, Items 3 and 4 establish water use limits during Construction and Operation Phases, respectively. A new term and condition indicating source-specific water use limits during ERP are recommended.
Part E, Item 5; Schedule A	The Licensee may recycle water and use reclaimed water from the various Treatment Facilities, surface water management ponds and embankment dams and approved discharge locations under the licence if such waters meet appropriate discharge criteria for those facilities.	The Licensee may recycle water and use reclaimed water from the various Treatment Facilities, surface water management ponds and embankment dams and approved discharge locations under the licence if such waters meet appropriate discharge criteria for those facilities <b>and is of appropriate quality for the intended recycled use.</b>	A definition for “Recycled Water” and/or “Reclaimed Water” is recommended in the amended water licence.
Part E, Item 9	The Licensee shall notify the Inspector and the Board at least ten (10) days in advance of using water from any sources not identified in the Application as required approval as per Part E, Item 8.		As written, this term and condition is unclear. Notification and approval should be provided in advance of using water from any sources not identified in the Application (exception being for emergency purposes). Item 8 (referenced in this term and condition) requires approval to use streams as a water source but Item 9 includes any water source and thus should not be limited to only streams.
Part F, Item 3	The Licensee shall provide a revised Waste Rock Management Plan that takes into consideration for this and		AANDC notes that there is no timeline associated with the requirement to provide the information or linkages to any

	<p>future revisions under this Licence, the following:</p> <ul style="list-style-type: none"> <li>a. Updates to the on-going Waste Rock Characterization Program (including the further refinement of acid rock drainage and metal leaching aspects of the foot wall and hanging wall;</li> <li>b. Any additional details on the segregation of potentially acid generating waste rock;</li> <li>c. Update to the geochemical modeling;</li> <li>d. Update on pit water quality predictions;</li> <li>e. Results of ongoing humidity cell kinetic testwork;</li> <li>f. The incorporation of on-site test pile program results with respect to ARD/ML and impacts to modeling results; and</li> <li>g. Waste Rock Storage Facilities with consideration for climate change.</li> </ul>		project development stage.
<p>Part F, Item 21, Table 6;</p> <p>Part F, Item 23, Table 8;</p> <p>Part F, Item 24, Table 9</p>	Effluent discharge quality limits for oil water treatment facilities, bulk fuel storage facilities, and landfarm facilities.		AANDC notes that the effluent discharge quality limits for lead is more stringent in Table 8 (1ug/L) in Part F, Item 23 for the bulk fuel storage facilities and Table 9 (0.001 mg/L) in Part F, Item 24 for the landfarm facilities than in Table 6 (0.2 mg/L) for oily water treatment facilities.
Part F, Item 26	All discharge from the Ponds associated with the Run of Mine Ore Stockpile, Ore Stockpile, West and East Sediment Ponds...shall not exceed the Effluent quality limits of Part F, Item 25.	All discharge from the Ponds associated with the Run of Mine Ore Stockpile, Ore Stockpile, West and East Sediment Ponds, <b>Milne Port Ore Stockpile Ponds</b> ...shall not exceed the Effluent quality limits of Part F, Item 25.	It is unclear whether this term and condition will apply to the ore stockpile ponds at Milne Port.
Part I, Items 7	The Licence requires the Licensee to provide GPS co-ordinates of all locations		To ensure consistency, it is recommended that the Licence either

and 8	where water is used and wastes are deposited but no datum source is required.		specify the datum (i.e. NAD83) to be used or require the Licensee to specify the datum when submitting GPS-coordinates.
Part I, Item 22; Schedule B	The Licensee shall establish additional Monitoring Stations, as may be required, to effectively and adequately monitor surface runoff from the Mary River Project site(s) or discharge from Site Drainage and Surface Water Management System water associated with the Mary River Project. Within thirty (30) days of establishment of additional Monitoring Stations, the Licensee shall inform the Board and the Inspector.		Part I, Item 22 requires notification to the Board and Inspectors prior to establishment of additional monitoring stations. However, there is no requirement to provide such information in reports or updated plans. AANDC recommends that any additional monitoring stations be included in monthly and annual reports.
Part J, Item 3	The Licensee shall, on an annual basis, provide an annual work plan and updated estimate of anticipated mine closure and reclamation costs for the upcoming year <del>shall</del> in accordance with the requirements of Schedule J.		Part J, Item 3 requires the Licensee to provide a Work Plan but approval of the plan by the Board is not required. Considering that the financial security for the Mary River Project is based on the annual work plans, approval by the Board should be required under this Part so that it is enforceable.
Part J, Item 13	The Licensee shall notify the Board in writing, at least sixty (60) days prior to entering into a Care and Maintenance Phase.	The Licensee shall notify the Board in writing, at least sixty (60) days prior to entering into a Care and Maintenance Phase. <b>This notice shall include revised management plans, an updated reclamation cost estimate, and a schedule for anticipated activities.</b>	Part J, Item 13 requires 60 day notification prior to entering into Care and Maintenance but it does not indicate what the notification should include.
Part J, Item 14	Within thirty (30) days of the Licensee providing the Board with notification of the Licensee's intention to enter into Care and Maintenance, the Licensee shall provide the Board with a Care and Maintenance Plan that details the		Part J, Item 14 requires the Licensee to submit a Care and Maintenance Plan. AANDC requests that interested parties are provided an opportunity to comment on the Care and Maintenance Plan prior to approval. It is also recommended that

	Licensee's plans for maintaining compliance with the Terms and Conditions of the Licence.		the Care and Maintenance Plan be consistent with the <i>Mine Site Reclamation Guidelines for the Northwest Territories</i> (INAC, 2007) as may be amended from time to time.
Schedule A	<b><u>"Operations Phase"</u></b> means the set of activities associated with mining, crushing, screening and transportation of the ore generated by the Mary River Project excluding the construction and decommissioning phases;		The definition for "Operation Phase" is too broad as it includes both ERP and Full Operations. AANDC recommends a separate definition for the ERP Operations Phase (3.5 Mt/a) and a modified definition that is appropriate for the Full Operations Phase (21 Mt/a).
Schedule A	<b><u>"Care and Maintenance"</u></b> in respect of a mine, means the status of the facility when the Licensee ceases production or commercial operation temporarily for an undefined period of time;	<b><u>"Care and Maintenance"</u></b> is a term to describe the status of a mine when it undergoes a temporary closure, with the intent to resume mining activities in the future. Temporary closures can last for a period of weeks, or for several years, based on economical, environmental, political, or social factors. Temporary closure activities must maintain all operating facilities necessary to protect humans, wildlife, and the environment.	AANDC recommends that the definition for "Care and Maintenance" be updated to be consistent with the Mine Site Reclamation Guidelines for the Northwest Territories (INAC, 2007).
Schedule C	<b>Timing, Evidence and Process for the ASR</b>		The existing ASR process does not allow time for parties to review the Licensee's ASR submission prior to filing with the Board information that supports an increase, maintenance, or reduction to the total financial security and as a result, AANDC has requested for two consecutive years, that the Board modify the ASR process. AANDC recommends that this section (Items 1-5) in Schedule C be reviewed and modified by the Board to allow interested parties to review the work plan and cost estimate prior to

			submitting comments and recommendations. A written submission, followed by a response by the Licensee is recommended prior to the ASR teleconference to increase the effectiveness and efficiency of the ASR.
Schedule I	<b>Conditions Applying to General and Aquatics Effects Monitoring</b>		AANDC notes that the monitoring program will need to be adjusted to include new monitoring sites associated with ERP activities.