



Water Resources Division
Resource Management Directorate
Nunavut Regional Office
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Your file - Votre référence

Our file - Notre référence
GCDocs# 96627549

July 28, 2021

Richard Dwyer
Manager of Licensing
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 Review of the
Emergency Discharge Pond Berm Design Report and Drawings for Sabina Gold
& Silver Water Licence 2AM-BRP1831**

Dear Mr. Dwyer,

Thank you for the June 28, 2021 invitation to review the Emergency Discharge Pond Berm Design Report and Drawings submitted by Sabina Gold & Silver for water licence 2AM-BRP1831

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

If there are any questions or concerns, please contact me at (306) 501-4047 or Andrew.Keim@canada.ca.

Sincerely,

Andrew Keim,
Water Resources, Nunavut Regional Office
Crown-Indigenous Relations and Northern Affairs Canada
Andrew.Keim@Canada.ca / Tel : (306) 501-4047



Technical Review Memorandum

Date: July 28, 2021

To: Richard Dwyer, Manager of Licensing, Nunavut Water Board

From: Andrew Keim, Water Resources, CIRNAC

Subject: Crown-Indigenous Relations and Northern Affairs Canada Review of the
Emergency Discharge Pond Berm Design Report and Drawings for
Sabina Gold & Silver water licence 2AM-BRP1831

Region: ☐ Kitikmeot ☒ Kivalliq ☐ Qikiqtani

A. BACKGROUND

On June 28, 2021 Sabina Gold & Silver Corp. (Sabina) submitted, for the consideration of parties, documents related to design basis and considerations, engineering design and drawings related to the proposed Goose Plant site Emergency Discharge Pond berm planned for the Back River Project.

The Back River Project (BRP) includes four open pits and four underground mines, an airstrip and mill at the Goose property, a marine laydown area on Bathurst Inlet, and a 160 km long winter road. The most recent amendment under review by the Nunavut Water Board requests authorization for increased water use, increased depth at the Umwelt underground mine, the extension and expansion of airstrips and the addition of a new tailings facility.

In accordance with Sabina's Type A Water Licence (No. 2AM-BRP1831), Sabina has submitted to the Nunavut Water Board (the Board) for review, at least sixty (60) days prior to Construction, the proposed final design and Construction drawings accompanied with a detailed report for the Emergency Discharge Pond (Part D, Item 2c)

CIRNAC provides the following comments and recommendations pertaining to the application package.

Documents reviewed as part of this submission can be found in Table 1 of Section B. Detailed technical review comments can be found in Section C.



B. DOCUMENTS REVIEWED

The following table (Table 1) provides a summary of the documents reviewed and referenced under the submission.

Table 1: Documents Reviewed and Referenced

Document Title	Author, File No., Rev., Date
210625 2AM-BRP1831 Emergency Discharge Pond Design Report-IMLE	Sabina Gold and Silver Corp., #SBR6SDE-00-C-RPT-0002, June 23, 2021
2AM-BRP1831 Water License	Nunavut Water Board, 2018

C. RESULTS OF REVIEW

1. Water License Requirements Part D (2)

Comment:

CIRNAC has carefully reviewed the report from Sabina Gold and Silver Corp. (the proponent), submitted in compliance with the provisions of the type A Water License, entitled “Emergency Discharge Pond Design Report”. This report was provided to the Nunavut Water Board in compliance with Part D item 2. The License specifically requires information on the Design and Rational be provided in accordance with Item 2 (a).

Within the report, the Scope of Work in Section 1 and the Design Information in Section 3 detail the construction criteria, methods, analysis and specifications to be used in the construction of the proposed lined emergency discharge pond with a capacity of up to 4,000 M³.

It is unclear from the information provided in the Report in section 3.2 what criteria were used to calculate the necessary capacity of the Emergency Discharge Pond. Details on plans to account for existing environmental conditions like precipitation, freshette, or other accumulations that may be contained within the lined facility prior to an emergency discharge were not included in the body of the report.

Recommendation:

(R-01) CIRNAC recommends that the proponent provide further information specifically;



- Details and calculations on the total volumes held within the plant that may at any one time be constituent to an emergency discharge and provide surety that the capacity of the pond is 110% more than the total volume that could be discharged at any one time.
- Further, CIRNAC seeks clarity on how precipitation events and/or other volumes of water that may accumulate within the Emergency Discharge Pond will be treated/ transferred to maintain the required 110% capacity within the pond

(R-01.1) CIRNAC also recommends that the site water management plan be updated to include the new pond once constructed to ensure continuity and consistency with how water is managed within the footprint of the mine site.

2. Quarry Rock at the Goose Property

Comment:

CIRNAC has reviewed the enclosed materials under the heading of Quarry Rock at Goose Property on Page 3-2 of the Emergency Discharge Pond Design Report submitted to the Nunavut Water Board for review. CIRAC recognizes and appreciates the work the proponent has undertaken to characterize the sources for all rock and the processes put in place to ensure that all of the material to be used for construction purposes from any quarry source will be Non-potentially acid generating (NPAG).

CIRNAC's comments relate to the submission of operations and management plans and notifications related to the operations and management of all quarries used for construction of any components of the mine.

Part A : Scope, of the Water License for this project details the activities, works and undertakings that are authorized in accordance with the terms and conditions of the Licence. One of those specific provisions is the quarrying of materials from specific locations.

Additionally, Under Part D: Conditions Applying to Construction and Operation, the licensee is required to implement among other plans the Borrow Pits and Quarry Management Plan as approved by the Board. There is an approved plan registered currently with the Nunavut Water Board. Note that once a plan has been approved it becomes a part or component of the issued license and modifications or changes to these plans require the approval of the Nunavut Water Board.

Recommendation:



(R-02) CIRNAC recommends that the Licensee , in addition to providing the KIA and NIRB site-specific quarry operation and management plans at least 30 days prior to the use of borrow or quarry sites, include in this distribution list the Nunavut Water Board as these plans may be subject to review or simply annexed to the existing plans on file.

3. Quarry Monitoring

Comment:

CIRNAC has reviewed the submission and in reviewing the section on Monitoring of the quantities of NPAG rocks being generated by a site the proponent provided the following;

“Quantities of the NPAG quarry rock produced during quarry operations, and the amounts placed in each of the infrastructure components will be recorded on a daily basis and a monthly summary will be provided in the Annual Report. Quantities of PAG excavated and deposited in the WRSAs will also be recorded¹”

Recommendation:

(R-03) CIRNAC recommends that Sabina Gold and Silver Corp provide clarity on how these volumes will be recorded and subsequently calculate and provide details on what testing is done on an ongoing basis to substantiate their operational plans.

4. Construction Material Specifications

Comment: CIRNAC reviewed the provided information and there appears to be a typographical in the location reference in the sampling. Section 4.2 references samples collected from the Marine Laydown area however the quarried materials to be used in construction of the Emergency Discharge Pond are expected to come from the Runway Quarry.

Recommendation:

(R-04) CIRNAC recommends that the Licensee provided the corrected paragraph to the Nunavut Water Board as an addendum to be added to the submitted document.

¹ Emergency Discharge Pond Berm Design Report and Drawings Sabina Document #SBR6SDE-00-C-RPT-0002, Page 3-3 of 16.

