Crown-Indigenous Relations and Northern Affairs Canada | Relations Couronne-Autochtones et Affaires du Nord Canada

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

Your file - Votre référence
2AM-BRP1831
Our file - Notre référence
CIDM# 1291383

December 8, 2020

Mr. 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 Reply to Sabina Gold and Silver (Sabina) Response to the Information Request on Water Licence 2AM-BRP1831 Amendment Application for the Back River modification Project.

Dear Mr. Dwyer,

Thank you for your December 1, 2020 email invitation to confirm whether or not Sabina's response addresses parties' comments, and whether parties are confident the application is ready to proceed to full technical review.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) has reviewed the response from Sabina 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 some additional comments to some of the information request response below.

1. Response on CIRNA-WLA-IR-01: Groundwater Inflow Parameters Information

CIRNAC appreciates the response from Sabina for recommendation 1. The Llama Pit is planned to be mined for a period of five years. On completion it will be fully dewatered. At that time tailings will begin to be deposited in the Llama Pit. The deposition will continue for a period of seven years. The deposition of tailings in the Llama Pit will influence the rate of pit filling in two ways:

1. The deposition of fine grained tailings in the pit will act to "blind up" the secondary porosity of the rock mass. This effectively reduces the inflow rate by inhibiting the groundwater flow pathways.
2. The deposition of tailings and water will reduce the available water capacity of the Llama Pit.

A linear interpolation of groundwater flux with respect to differential head may well be reasonable if tailings were not to be deposited in the Llama Pit. However, since tailings will be placed in the pit some effect on the rate of pit filling will likely occur. Additionally, the rate of pit filling impacts the change in pit lake surface area which in turn impacts potential evaporative losses. It not clear how Sabina has included the above into their open pit water balance.

2. Response on CIRNA-WLA-IR-06: Design Criteria for Event Ponds

The first part of the response is acceptable, however CIRNAC will like to locate the referenced documents to confirm the "previously reported additional details" with reference to "INAC-TRC-3 WTM in June 2018, and WFINAC-02 in July 2018.

3. Response on CIRNA-WLA-IR-07: Design Criteria for Diversion Berms And Culverts

The Sabina response is acceptable, however CIRNAC will like to locate the referenced the "previously reported additional details" which reference "WT-INAC-TRC-4 in April 2018". CIRNAC suggests that it would helpful if these previously reported additional details could be included in the SRK 2020 (updated) Water Balance Report.

4. Response on CIRNA-WLA-IR-08: Water And Load Balance Model 2020 Update

The response provides part of the information requested – a table that identifies changes in the model inputs between the 2015 and 2020 models. CIRNAC will look forward to further discussion on how the outputs changed.

5. Response on CIRNA-WLA-IR-11: Hydrodynamic model scope

Sabina has confirmed that this is work to come, and the only water body worth modelling in this way is the future pit lake. CIRNAC recommends that the modelled results be provided for review when they become available.

6. Response on CIRNA-WLA-IR-12: Saline Water Pond Permafrost

Sabina has noted a relevant report, "Back River Project: Saline Water Pond Containment Dams Thermal Modeling" (Sabina 2017, Appendix F-I, Appendix C)." This provides sufficient information for technical review and confirms that this potential issue has been considered.

7. CIRNA-WLA-IR-13: Water and Load Balance

Attachment IR-A contains the requested information and indicates that there will be some elevated metals concentrations.

The response provided by Sabina is satisfactory, and CIRNAC confirms that the application is ready for a full technical review. If there are any questions or concerns, please contact me at (867) 975-4550 or godwin.okonkwo@canada.ca

Sincerely,

Godwin Okonkwo
Manager, Water Resources

Canada