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Kugluktuk

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Kingaok

Bay Chimo
Umingmaktok

Cambridge Bay
Ikaluktutiak

Gjoa Haven
Okhoktok

Taloyoak

Kugaaruk

2018-02-09

Karén Kharatyan
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nunavut
X0B 1J0

Sent by E-mail: karen.kharatyan@nwb-oen.ca

Re: Sabina Gold & Silver Corp. – Back River Project Submission for Type B Water License; KIA comments on Sabina's responses to review

Dear Karén Kharatyan, the KIA has reviewed Sabina's comments on our recommendations on the Type B Water license application. Our response on Sabina's comments are as follows:

Final Responses to Sabina's Response to Comments

Type B Water Licence Back River Project

Response 1

Reference: KIA-NWB-1 Service Road Cross Section

Group: Geotechnical (BGC)

Comment: The only answer we are not satisfied with is the first one (KIA-NWB-1): My concerns are based on the following reasons:

1. It is unclear what is meant by "on-site" conditions, the thaw sensitivity of the foundation? In addition, how is that evaluated during the construction?

2. The design assumption for the initial exploration activities are different (shorter) from those used for operations, which are those referred to for the Type A Water Licence. It is understood that those were the basis for the design, i.e. Type B did not create independent design parameters.

3. The long-term impact on the natural ground will not manifest itself immediately and may not show on the road, which is constantly maintained anyway. In addition, we are not aware of a comprehensive permafrost degradation-monitoring program along the infrastructure that would allow concluding that there is no permafrost degradation or deepening of the thaw penetration under any of the embankments.

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4. Finally, Doris North is more than 2° further north than Goose and as such, temperatures are colder, requiring a thinner fill.

Response 2

Reference:

Group: Terrestrial (Zoetica)

Comment: We appreciate the responses and additional information provide by Sabina. We are satisfied with the completeness of the application with respect to terrestrial issues.

Response 3

Reference: KIA-NWB-11 and KIA-NWB-14 Road pad thickness and permafrost

Group: Hydrogeology (Palmer)

Comment: Same level of concern - moderate - (and for very similar reasons), on the minimum pad thickness for the road as those raised by BGC (comment KIA-NWB-01).

Response 4

Reference: KIA-NWB-34 Dust control

Group: Hydrogeology (Palmer)

Comment: Covering ROQ during truck transport seems such an easy, inexpensive and effective method to minimize dust generation along the road, and as such is highly recommended.

Response 5

Reference: KIA-NWB-50 Water quality monitoring

Group: Hydrogeology (Palmer)

Comment: The EMPP plans referred to in the response do not provide clarification on the approach to monitoring and the interpretation of the expression 'as required'. A set frequency (e.g. quarterly) of runoff water monitoring would allow the identification of leaks from fuel tanks well before these become visually apparent.

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Response 6

Reference: KIA-NWB-51

Group: Hydrogeology (Palmer)

Comment: As per the previous comment, The EPPM plans referred to in the response do not provide clarification on the approach to monitoring and the interpretation of the expression 'as required'. Irrespective of external audits, a frequency for regular water quality monitoring in the ephemeral streams during the open water season should be set. The application document should include the commitment to a set monitoring frequency and provide a rationale for how different frequencies could be set for different streams, depending on the aquatic habitat and fish population supported by each stream.

Response 7

Reference: KIA-NWB-71

Group: Fisheries (Palmer)

Comment: The only answer we are not satisfied with is KIA-NWB-71: Our concerns are based on the following reasons:

1. While bathymetry has been conducted on the MLA Ponds (S1 and S2) and max depth, volume, surface area, predicted under ice volume and 10% under ice volume presented, it is unclear what the actual loss in depth resulting from draw down will be in these ponds. Maximum loss in depth resulting from draw down should be assessed in consideration of wet and dry years.

2. The proponent states that MLA Pond S1 and S2 are assumed fish bearing. However, it is not clear whether habitat assessments in these ponds have been conducted. If spawning habitat is present in these ponds, these details are required to understand the potential for spawning habitat loss due to scouring from ice collapse above winter draws from these ponds, or resulting from a significant change in depth of the lake.

3. Please clarify whether habitat loss in these ponds will be assessed and calculations of loss provided, or whether a self-assessment will be conducted prior to draw down.

Response 8

Reference: KIA-NWB-62 and KIA-NWB-65

Group: Water Quality (Hutchinson)

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Comment: We accept Sabina's rationale regarding the removal of phenol from the discharge criteria and confirm that this is consistent with discharge criteria at the Meadowbank Mine.

We are still concerned that Sabina has not committed to adding un-ionized ammonia or nitrate to discharge criteria for ponded water in the Quarry as part of the Quarry Management Plan. Sabina's response still indicates that the primary discharge criteria that will be applied to potentially ponded water in the quarry is associated with suspended sediments. This does not alleviate the concern that potentially elevated concentrations of ammonia and nitrate, key components of the blasting agent used on site, may be discharged to the receiving environment. We once again request that Sabina include discharge criteria for un-ionized ammonia and nitrate as outlined in KIA-NWB-65.

Response 9

Reference: KIA-NWB-63

Group: Water Quality (Hutchinson)

Comment: We appreciate that there are existing requirements for reporting spills as Sabina has outlined in their response. Sabina has not however, addressed our concern regarding a definition as to what conditions must be met for sampling to be required following a spill as outlined in this IR. We therefore once again request Sabina define the conditions that must be met for sampling to be required following a spill.

Response 10

Reference: KIA-NWB-66

Group: Water Quality (Hutchinson)

Comment: We appreciate only approved dust suppressants will be applied to the roads. However, we still express concern that the constituents of any chemical dust suppressant may not be accounted for in the monitoring requirements for sites BRP-18 and BRP-19. We once again request that Sabina commit to updating the parameter suite for BRP-18 and BRP-19 should a chemical dust suppressant be applied.

Response 11

Reference: KIA-NWB-67

Group: Water Quality (Hutchinson)

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Comment: We appreciate Sabina concurs with our suggestion to use meteorological conditions to inform annual sample collection during freshet. We therefore request that the Environmental Management and Protection Plan be amended to indicate explicitly that freshet will be will be confirmed by on site air temperature as well as flow measurements.

We also still assert the need for sampling during lower flow periods following freshet to ensure environmental monitoring adequately characterizes water quality outside the freshet period. We note our initial request for "monthly sampling during construction while visible flow is present at the station" accounts for the ephemeral nature of the streams around the project area.

Therefore, we request Sabina update the Environmental Management and Protection Plan as requested in our initial request.

Response 12

Reference: KIA-NWB-68

Group: Water Quality (Hutchinson)

Comment: We appreciate Sabina will apply best practices to the operation of the proposed Winter Ice Roads and has previous operational experience. We still assert that the success of these best practices and application of previous experience should be confirmed through monitoring at freshet as per our initial request.

Yours Truly

John Roesch, P.Eng.

Senior Hope Bay Project Officer
Department of Lands and Environment
Kitikmeot Inuit Association