

Environmental Protection Operations Directorate
Prairie & Northern Region
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Yellowknife, NT X1A 2P7

ECCC File: 6100 000 115/002
NWB File: 2AM-BRP1831



March 14, 2024

via email at: licensing@nwb-oen.ca

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

RE: 2AM-BRP1831 – B2Gold – Back River Project – Llama and Umwelt Lake Dewatering Plan, Version #1.0

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned dewatering plan.

ECCC provides expert information and knowledge to project assessments on subjects within the department's mandate, including climate change, air quality, water quality, biodiversity, environmental preparedness and emergencies. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. We provide advice to decision-makers regarding a proponent's characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

1. Stages of Dewatering

Reference(s)

- Section 2.0: Dewatering Volumes, B2Gold, Back River Project, Llama and Umwelt Lake Dewatering Plan, Version #1.0, February 2024



Comment

Section 2.0 of the Dewatering Plan states, "When raw water no longer meets TSS [*Total Suspended Solids*] discharge criteria, Stage 2 of dewatering (dewatering of compliant treated water) may be initiated and would entail treatment of the water for TSS prior to discharge to Goose Lake. Alternately, Stage 3 of dewatering may be initiated, with storage of non-compliant water in either Llama or Umwelt Lakes or in the Primary Water Pond or another management structure."

The intent of the dewatering program is to remove water from Llama and Umwelt Lakes to allow for development of the Saline Water Pond and Llama Pit; however, Stage 3 includes the potential for storage in Llama and Umwelt Lakes. It is unclear why water would continue to be stored at these locations when the intention is to develop these areas. In addition, no details are provided on how the Proponent will decide to transition from Stage 2 (treatment) to Stage 3 (water management).

ECCC Recommendation(s)

ECCC recommends that the Proponent:

1. Clarify the water management at Stage 3 of dewatering, including the potential to store water in Umwelt and Llama Lakes, and
2. Discuss triggers that will guide the decision making to transition from Stage 2 to Stage 3.

2. Contradictory Wording

Reference(s)

- Section 4.0: Pumping Methods and Pipeline, Intake, and Outflow Structure Design, B2Gold, Back River Project, Llama and Umwelt Lake Dewatering Plan, Version #1.0, February 2024

Comment

Section 4.0 of the Dewatering Plan states, "During Stage 1 and 2 of discharge, compliant water (whether raw or treated, respectively) from Llama and Umwelt lakes and tributary ponds will be discharged to Goose Lake. This water will not require treatment to meet discharge criteria."

ECCC notes that as per Section 2.0 of the plan, Stage 2 of dewatering does include treatment, and therefore the final sentence of this statement is contradictory.

ECCC Recommendation(s)

ECCC recommends that the Proponent remove or clarify the statement "this water will not require treatment to meet discharge criteria" when referring to Stage 2 of dewatering.

3. Order of Dewatering

Reference(s)

- Section 4.0: Pumping Methods and Pipeline, Intake, and Outflow Structure Design, B2Gold, Back River Project, Llama and Umwelt Lake Dewatering Plan, Version #1.0, February 2024

Comment

Section 4.0 of the Dewatering Plan states, "Water from Llama Lake and the tributary ponds will likely be discharged to Goose Lake via Umwelt Lake, which is the natural downstream waterbody from Llama Lake and upstream waterbody from Goose Lake."

This statement provides the first mention of the potential order of dewatering, and that Llama may be dewatered via Umwelt Lake. Given that this has not been described further, it is unclear whether the lakes are to be dewatered simultaneously, or staggered. Additional details on the schedule of planned dewatering should be provided.

ECCC Recommendation(s)

ECCC recommends that the Proponent provide additional details on the schedule for dewatering including order that lakes will be dewatered, flow paths, and timing.

4. Monitoring Locations

Reference(s)

- Section 6.1: Schedule and Locations, B2Gold, Back River Project, Llama and Umwelt Lake Dewatering Plan, Version #1.0, February 2024

Comment

Several monitoring locations are discussed in Section 6.1 of the Dewatering Plan, including, Llama Lake, Umwelt Lake, and dewatering discharge at point of release. The Dewatering Plan also refers to potential samples from the shore of Llama and Umwelt Lakes, as well as water quality in Goose Lake as part of the Aquatic Effects Monitoring Program (AEMP). ECCC notes that these sample locations are not depicted on the figures provided.

ECCC Recommendation(s)

ECCC recommends that the Proponent provide a figure that clearly outlines the monitoring locations associated with the dewatering program.

5. Water Quality Action Levels

Reference(s)

- Section 6.1: Water Quality Action Levels, B2Gold, Back River Project, Llama and Umwelt Lake Dewatering Plan, Version #1.0, February 2024

Comment

The water quality action levels provided in Section 6.2 apply only to discharge water quality, and include feedback based on measured TSS concentrations in the discharge water. However, there are no action levels proposed related to the receiving environment to monitor for potential erosion/scouring impacts due to increased volumes and flows.

ECCC Recommendation(s)

ECCC recommends that the Proponent provide updates to the Dewatering Plan, discussing planned TSS/turbidity monitoring in the receiving environment (Goose Lake), to monitor and respond to any water quality impacts related to the dewatering.

If you need more information, please contact Stephinie Mallon at Stephinie.Mallon@ec.gc.ca.

Sincerely,

[original signed by]

Stephinie Mallon
Acting Senior Environmental Assessment Officer

cc: Eva Walker, Acting Head, Environmental Assessment North (NT and NU)