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MEMORANDUM

TO: Richard Dwyer, Nunavut Water Board
FROM: Merle Keefe, B2Gold Nunavut
SUBJECT: Response to Comments on B2Gold Nunavut's Schedule I Revision Request
DATE: June 27, 2023

Dear Richard,

Thank you for the opportunity to respond to comments received on our application to make changes to Schedule I of Water Licence 2AM-BRP1831 (the Licence). Comments were received from the Kitikmeot Inuit Association (KIA) and Environment and Climate Change Canada (ECCC). Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) also responded to the Nunavut Water Board (NWB) indicating that they had no comments or recommendations related to B2Gold's request to change Schedule I of the Licence at this time.

B2Gold thanks all parties for their review of our submission. B2Gold's responses to the KIA's and CIRNAC's comments are provided below.

Sincerely,

Merle Keefe

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Comment KIA-1: KIA thinks the requested change to Schedule I of the Type A Water License 2AM-BEP1831 is relatively minor change. B2Gold's proposed change from "prior to discharge" to "monthly" is acceptable. However, with respect to BRP-17 (discharges to land), KIA cautions against shifting the point of compliance from the end of pipe to the location where flows enter the aquatic receiving environment. The permitted concentrations of phosphorus, biological oxygen demand (BOD) and fecal coliforms benefit from some degree of attenuation along the flow path as the discharge migrates towards the nearest watercourse or waterbody. KIA therefore recommends that the Nunavut Water Board maintain the point of compliance at the end of pipe to reduce the impact to the aquatic environment. This is also consistent with the intent of the Mary River licence which allows for some degree of attenuation both for discharges at the Mine Site which flow through a creek to the larger river system (the receiving environment), and at the Port Site where discharges again flow through a surficial flow path prior to reaching the ocean.

B2Gold Response to KIA-1: B2Gold Nunavut appreciates the KIA's agreement that the requested change to Schedule I is relatively minor and their conclusion that the change in sampling frequency is acceptable. In regards to the change in sampling location, B2Gold wants to reassure the KIA that we would continue to sample the discharge prior to entry into the freshwater receiving environment, the sampling location would just be moved downslope to allow direct characterization of the water that will enter the natural freshwater systems to reflect the benefit of land attenuation which is anticipated to reduce phosphorous, Biological Oxygen Demand, and Fecal Coliforms (as noted by the KIA), as well as any total suspended solids (TSS).

In discussion with the KIA on the week of June 19, B2Gold Nunavut is proposing this ability to sample downslope of land attenuation particularly during plant start-up, while the biological component of the membrane system is developed and calibrated which is expected to take up to 4 months. Upon completion of the 4 month timeline, B2Gold Nunavut will revert to sampling at end of pipe as stated in the current license.

Comment ECCC-1: In the modification request, the Proponent is requesting a change to the location of monitoring associated with discharge from the sewage treatment plant and a change in frequency. Section 2 of the submission provides an updated description of Surveillance Network Program (SNP) station BRP-17 as follows:

Goose Property Sewage Treatment Plant (discharge point for treated sewage into freshwater ~~onto land~~ into freshwater)

ECCC notes that, as proposed, the description of the monitoring location is not clear. The wording includes reference to the sewage treatment plant and the "discharge point", when it is the intention to monitor prior to entering Goose Lake.

ECCC recommends that the Proponent update the description for SNP station BRP-17 to accurately describe the intent and location of monitoring.

B2Gold Response to ECCC-1: To clarify the sampling location and better align with the description of BRP-42 (MLA Greywater sampling) in Schedule I of the Licence, B2Gold proposes that the Licence description of BRP-17 in Schedule I be revised to:

"Goose Property Sewage Treatment Plant (representative drainage immediately prior to point of entry to the freshwater environment)".



Comment ECCC-2: The Proponent is proposing changes to both the location and monitoring frequency associated with BRP-17. The location is proposed to change from the point of discharge to land, to a point prior to entry into Goose Lake and the frequency is proposed to change from “prior to discharge” to “monthly.” Overall, the Proponent notes that this change is “manifestly insignificant” and does not require any changes to the Water Management Plan.

ECCC notes that the change in frequency and location have potential implications on overall water management. Quality is no longer proposed to be confirmed prior to discharge, and samples are to be taken in closer proximity to water bodies rather than upland. Given this change in approach, there is the potential that quality of discharge may not be confirmed prior to it entering receiving waters. It is unclear whether the existing approved Water Management Plan has identified sufficient contingency options in the event that discharge is found to exceed Effluent Quality Criteria (EQC) associated with sewage discharge once sampling has been conducted in proximity to Goose Lake.

ECCC recommends the Proponent identify measures in the existing Water Management Plan that would be implemented in the event that effluent quality at the new monitoring point was found to not meet EQC. If sufficient contingency measures are not identified in the existing Water Management Plan, ECCC recommends that the Proponent update the Water Management Plan.

B2Gold Response to ECCC-2: B2Gold’s Water Management Plan does include mitigation and management measures to be implemented in the event that sampling at BRP-17 indicates effluent quality does not meet discharge criteria. Specifically, Section 7.4.3.1 of the Water Management Plan states that *“Off-specification treated sewage during upset conditions will be discharged to the closest collection pond. Any discharges of sewage effluent from the collection pond will need to meet the applicable discharge criteria. In-pond treatment by coagulation can be applied if required as a contingency.”*