July 26, 2024

Attn: Mohammad Ali Shaikh
Technical Advisor
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Re: B2Gold Nunavut's Comment Response for KIA Follow-up

Dear Ali,

B2Gold Back River Corp. (B2Gold Nunavut) has enclosed a comment response for KIA's follow-up submission received on July 17, 2024. Should you have any questions regarding the above, please contact the undersigned at kbenoit@b2gold.com.

Sincerely,

Kristina Benoit
Manager, Environmental Permitting
B2Gold Nunavut

Enclosure: Comment Response for KIA Follow-up

cc: Karén Kharatyan, Director Technical Services, NWB
Richard Dwyer, Manager of Licensing, NWB
Merle Keefe, Manager Environment, B2Gold Nunavut

KIA Follow-up Comment (Submitted July 17, 2024)
Summary The KIA is satisfied with B2Gold Nunavut's responses to KIA-NWB-01, KIA-NWB-03, KIA-NWB-04, and KIA-NWB-05. However, B2Gold Nunavut's response to KIA-NWB-02 is insufficient. KIA's recommendation was *"Identify the fish bearing stream crossing. Change the type of culvert for the fish bearing streams to open bottom."* Their response states *"An embedded, oblong culvert crossing design (twin culvert installation) was installed at the Rascal Stream crossing location in 2023. Work was completed under an approval (Letter of Advice, dated July 15, 2022) from DFO."* This is at odds with DFO-NWB-04 where the recommendation was *"DFO recommends the proponent to use open bottom box culverts or provide rationale of why open bottom culverts were not used."* B2Gold Nunavut's response to DFO was *"Rascal Stream West Construction Summary Report is pending finalization. B2Gold Nunavut will submit when available."*
Recommendation Given that the Rascal Stream West Crossing Construction Summary Report was provided and reviewed, and the arched or oblong culverts were installed, B2Gold Nunavut should have provided an explanation for the design choice. If it is due to arched or oblong closed bottom culverts being structurally stronger than open bottom box culverts, B2Gold Nunavut should say so and provide rational that they are adequate for fish passage. Given that the KIA has not reviewed the Letter of Advice, dated July 15, 2022 from the DFO to B2Gold Nunavut, the KIA recommends that B2Gold Nunavut provide both KIA and DFO the rational for the arched or oblong closed bottom culverts. If it is because they are structurally stronger than open bottom box culverts, B2Gold Nunavut should clearly say so and provide rational or evidence that they will adequately provide for fish passage at the Rascal Stream Crossing.
B2Gold Nunavut Response The twin closed bottom arch culvert design was selected at Rascal Stream for the following reasons: • Greater certainty that the closed bottom design would have a higher bearing capacity, be structurally stronger, and be more durable than an open bottom design for haul road traffic. • A common construction challenge for open bottom culverts is that foundations must be constructed to be impermeable to prevent loss of fines and seepage through foundation elements, summarized in the BC (2013) report on "Fish Passage Activity Engineering Standards" (https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/land-based-investment/fish-passage/fishpassageactivityengstdsfinalapril2-2013.pdf). To avoid a loss of fines and seepage, a closed bottom culvert was selected.

Throughout the selection and design process, maintaining stream conditions at the crossing location, including those for fish passage, was a key design criterion. The analysis included assessments of fish passage for the design, resulting in a design that included embedment of the twin arch-culverts, placement of suitable substrate within the culverts to reflect existing stream bed substrate, a v-notched shaped channel to provide increased flow depths during low-flow conditions and boulder clusters to provide velocity shelters. This design was assessed to be effective for maintaining stream conditions at the crossing location, including those for fish passage.

B2Gold Nunavut respectfully notes that the Engineering Design Report for this crossing was provided to the Nunavut Water Board (NWB) in December 2021, in accordance with Part D, Item 2, of the Type A Water Licence. The design report included design details and was provided at least 60 days in advance of construction. The design report was circulated by the NWB to regulators for review, including to the KIA and DFO, and was ultimately accepted in February 2022, by the NWB following that review process. Similarly, design details were provided within DFO's Request for Review Process which was submitted in advance of construction and receipt of the Letter of Advice.