Water Resources Division
Resource Management Directorate
Nunavut Regional Office
918 Sivumugiaq Street
Iqaluit, NU, X0A 3H0

Your file - Votre référence
2AM-BRP1831
Our file - Notre référence
GCdocs#142004026

December 3, 2025

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's Review of B2Gold Back River Corp.'s Design Report for the Umwelt Saline Water Pond Dam

Dear Richard,

Thank you for the opportunity to review B2Gold Back River Corp.'s Design Report for the Umwelt Saline Water Pond Dam, for Type A Water Licence No. 2AM-BRP1831.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the report and supporting documents 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* and provides the following Technical Review Memorandum for the Board's consideration.

Please contact me or Andrew Keim by email at john.macinnis@rcaanc-cirnac.gc.ca or andrew.keim@rcaanc-cirnac.gc.ca if there are any questions or concerns.

Sincerely,

John MacInnis
Senior Environmental Assessment Specialist

Technical Review Memorandum

Date: December 3, 2025

To: Richard Dwyer, Manager of Licensing, Nunavut Water Board

From: John MacInnis, Senior Environmental Assessment Specialist, Crown-Indigenous Relations and Northern Affairs Canada

Subject: Crown-Indigenous Relations and Northern Affairs Canada's Review of B2Gold Back River Corp.'s Design Report for the Umwelt Saline Water Pond Dam

Region: ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

A. BACKGROUND

On November 14, 2025, the Nunavut Water Board invited interested parties to comment on B2Gold Back River Corp.'s (the Licensee) Design Report for the Umwelt Saline Water Pond Dam, for Type A Water Licence No. 2AM-BRP1831.

The Licensee intends to construct the Umwelt Saline Water Pond (SWP) Dam, which will be used to store saline water sourced from the Llama, Umwelt, and Goose Main underground mines. A preliminary design for the Umwelt SWP Dam (Phase 1) was completed in 2022, featuring an embankment crest elevation of 303.0 meters above sea level (masl), and a containment capacity of approximately 1.1 cubic megameters (Mm^3). However, an updated water balance indicated that the final pond containment volume required a larger capacity of 3.4 Mm^3. Consequently, the final crest elevation of the Phase 1 dam was increased to 306.0 masl. Phase 1 will be completed before receiving saline water inflows that are expected to be encountered in the lower elevations of Umwelt and Llama underground developments. Based on current mining projections, the first occurrence of saline water may be encountered by Q3 2026. The final detailed design is ongoing for Phase 2 and 3 and will be documented in a separate design overview, with construction notices that are planned to be submitted later in 2026.

CIRNAC provides the following comments and recommendations. A summary of subjects and recommendations is shown in Table 1.

Table 1: Summary of Recommendations.

Recommendation Number	Subject
R-01	Sedimentation and Erosion Controls
R-02	Geochemical Properties of Materials

B. DOCUMENTS REVIEWED AND REFERENCED

Table 2 lists the documents reviewed under the submission.

Table 2: Documents reviewed and referenced.

Document Title	Author, File No., Rev., Date
Umwelt Saline Water Pond Dam – Design Overview and Notice of Construction	SRK Consulting, October 2025
Back River Project Waste Rock Management Plan	Sabina Gold & Silver Corp., April 2022
Back River Project Borrow Pits and Quarry Management Plan	Sabina Gold & Silver Corp., November 2020
Back River Property Geotechnical Design Parameters	SRK Consulting, November 2015
Nunavut Water Board Water Licence No: 2AM-BRP1831 (Amendment No. 1)	Nunavut Water Board, August 2021

C. RESULTS OF REVIEW

1. Sedimentation and Erosion Controls

Comment:
Section 6.2.14 in the Technical Construction Specifications describes measures for sediment and runoff control, but the information provided is presented at a high-level, and lacks site-specific measures that will be used to minimize sedimentation and erosion during construction. The provision of technical specifications for sedimentation and erosion controls during construction is necessary to support a fulsome understanding of potential impacts and satisfy the requirements of Part D, Item 3(e) of 2AM-BRP1831.

Recommendation:
(R-01) CIRNAC recommends that the Licensee provide technical specifications for sedimentation and erosion controls to comply with the reporting requirements outlined in Part D, Item 3(e) of 2AM-BRP1831.

2. Geochemical Properties of Materials

Comment:
The Licensee described that the geochemical analysis of waste rock and fill will be done to demonstrate that their acid rock drainage and metal leaching (ARD/ML) characteristics are acceptable for use in the SWP dam construction. However, Part D, Item 3(c) notes that the Design Report shall include the geochemical analysis of waste rock and fill, demonstrating the ARD/ML characteristics. This information was not provided in the Design Report.

CIRNAC observes that there appears to be some uncertainty on the criteria used by the Licensee to classify non-potentially acid-generating (NPAG) and potentially acid-generating (PAG) materials. The Design Report does not include total sulfur (total S) as a criteria for PAG materials, which is described in the Waste Rock Management Plan. Furthermore, it is unclear how the Licensee intends to manage materials that have neutralization potential to acid generation potential (NP/AP) values equal to 3.

Material	Design Report	Waste Rock Management Plan
NPAG	NP/AP > 3 or total S < 0.15%	NP/AP > 3 or total S < 0.15%
PAG	NP/AP < 3	NP/AP < 3 and total S > 0.15%

A consistent and transparent application of criteria for PAG materials supports an improved understanding of material management and potential environmental impacts associated with construction.

Recommendation:
(R-02) CIRNAC recommends that the Licensee provide the results of its geochemical analysis of construction materials, to comply with Part D, Item 3(c), and clarify the criteria that is applied to the management of PAG materials.