



BACK RIVER PROJECT

2023 Annual Report for

Water Licence 2BE-GEO2025

Prepared by
RainCoast Environmental Services Ltd.

For
B2Gold Back River Corp.

For Submission to
Nunavut Water Board

April 2024

BACK RIVER PROJECT

2023 2BE-GEO2025 Annual Report

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Acronyms

B2Gold Nunavut	B2Gold Back River Corp., known as B2Gold Nunavut, a subsidiary of B2Gold Corp.
CIRNAC	Crown Indigenous Relations and Northern Affairs Canada
KIA	Kitikmeot Inuit Association
The Licence	Water Licence 2BE-GEO2025
NIRB	Nunavut Impact Review Board
MLA	Marine Laydown Area
NWB	Nunavut Water Board
The Project	Back River Project
Sabina	Sabina Gold & Silver Corp.

Executive Summary - English

B2Gold Nunavut has filed its Annual Report on its activities during 2023 under Water Licence No. 2BE-GEO2025 (the Licence) issued by the Nunavut Water Board. As set out in Part B, Item 2 of the Licence, the report includes information with respect to the following topics:

- A summary report of water use and waste disposal;
- A list of unauthorized discharges and a summary of follow-up actions taken;
- Any revisions to plans under this Licence;
- A description of all progressive and or final reclamation work undertaken, if any, including photographic records of site conditions before, during and after completion of operations;
- A report of any artesian flow occurrences;
- Quantities of water used and waste disposed of;
- Any temporary camp locations;
- Any other details on water use or waste disposal requested by the Board.

$$\Delta_{\mathcal{Q}} \Delta_{\mathcal{Q}'}^{\epsilon_b} \rho_{L'}^{\epsilon_b} - \Delta_{\mathcal{M}^b \cap \mathcal{D}^c} \rho_{\mathcal{L}^c}^{\epsilon_b \Gamma^c}$$
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1. Introduction

This report to the Nunavut Water Board (NWB) has been prepared to summarize the project activities and monitoring undertaken by B2Gold Nunavut during 2023, in accordance with Part B, Item 2 of License 2BE-GEO2025 (the Licence). This License was renewed on March 10th, 2020 and will expire on May 29th, 2025. The NWB Annual Report Form can be found in Appendix A of this report.

Key activities associated with the George exploration project in 2023 are summarized as follows:

- Exploration drilling; and
- Drill site reclamation.

The camp was open from March 21 to May 7, and from June 15 to July 31 in 2023. Fresh water was utilized for both exploration camp use and drilling activities. Water was used to support the George exploration camp as well as to supply the exploration drills.

Waste management included the handling of pack waste, domestic waste in an incinerator, hazardous waste and drill waste. Waste incineration and waste backhaul details are reported in the Annual Report for Water Licence 2AM-BRP1831.

Prior to seasonal cessation of drilling, B2Gold Nunavut reclaimed all 2023 drill sites. Materials removed from sites included any garbage, metal and timbers as well as anchors and all casings were cut and capped. B2Gold Nunavut continues to exercise drilling procedures where sites are required to be cleaned up prior to completion of the next drill site, and internal inspections are conducted to ensure that clean up procedures are occurring. B2Gold Nunavut intends to continue to cut and restore historic drill sites as part of regular programs. Ongoing reclamation programs will be documented as conducted in previous years.

Community consultation undertaken by B2Gold Nunavut in 2023 is outlined in the Annual Report for Water Licence 2AM-BRP1831.

2. Annual Report per Part B, Item 2

This section of the report has been constructed to address each of the requirements of Part B, Item 2 of the Licence. For ease of comparison, each subheading corresponds directly with the identically alphabetized subheading of Part B, Item 2 of Water Licence 2BE-GEO2025.

A. SUMMARY OF WATER USE AND WASTE DISPOSAL

i. **Quantity of Water (in cubic metres/year) obtained for Domestic and Other Purposes from Sources on, in or flowing through Inuit-Owned Lands**

All water used in 2023 was from water sources located on Inuit-Owned Lands. Table 2.A-1 provides the GPS coordinates for water sources used in 2023.

Potable water was extracted from George Lake via an electrical submersible pump with a screened intake. This screened intake meets Department of Fisheries and Oceans Freshwater Intake End of Pipe Fish Screen Guidelines requirements. Water was pumped directly from George Lake via a pipe into holding tanks within the exploration camp. Prior to consumption, potable water is treated with filtration, chlorination and UV disinfection. Appendix B summarizes daily water used for the George exploration camp, all of which was withdrawn from George Lake. Water was used daily from March 21 to May 6, and from June 15 to July 31 in 2023. Total annual camp water usage was 427 m³. Daily camp water usage averaged 4.5 m³/day and did not exceed the water licence limit of 45 m³/day (see Appendix B).

Daily drill water usage is provided in Appendix C by water source. Exploration drilling took place from March 23 to April 29, and from June 23 to July 28 in 2023 with 1 to 2 drill rigs operating at a time. Due to an oversight, drill water use volumes were not directly metered in 2023. Instead, drill water use was estimated based on a historic drill water usage of 38.38 m³/drill/day.

The Licence specifies a daily water usage allowance of up to 130 m³ for drilling purposes from lakes proximal to drill targets; no exceedances of this allotment were identified as likely as a maximum of two drills were operating at any one time under this Licence, producing a peak daily drill water usage estimation of 77 m³/day and total annual drill water usage was 4,528 m³. However, between July 2 and 9, approximately 308 m³ of water was also withdrawn from Komatic Creek; an unapproved water source as it is not a lake. An examination of baseline hydrometric data collected upstream of Komatic Creek in 2012 and 2013 indicated that measured July discharge was 24,538 m³/day on July 11, 2012, and 10,886 m³/day on July 12, 2013 and calculated monthly discharges averaged 16,129 m³/day (for July 2012) and 3,226 m³/day (for July 2013). Therefore, the removal of 38 m³/day of water from this creek (equivalent to between 0.2 and 1.2 % of historical baseline flow) for 11 days in July 2023 is unlikely to have caused any negative environmental impact to Komatic Creek. B2Gold Nunavut is implementing corrective actions to ensure only allowable water sources are used in future, and that all water used will be metered.

Table 2.A-1. George Exploration Project Water Source Locations 2023

Description	UTM Coordinates (NAD83)	
	Easting	Northing
	(m)	(m)
George Project		
George Camp Intake (George Lake)	434,129	7,269,996
George Lake (Drilling Source)	388,194	7,312,710

Bob Lake	387,267	7,314,327
Dragon Lake	390,619	7,310,663
Fold Lake	388,630	7,314,235
Komatik Creek	391,107	7,308,858
Low Cow Pond	387,020	7,316,159
Occurrence Lake	387,797	7,312,875

ii. Quantity of Water (in cubic metres/year) obtained for Domestic and Other Purposes from Sources on, in or flowing through Crown Lands

No water was used that was located on Crown Lands in 2023.

iii. Quantity of Waste Disposed at On-Site Waste Disposal Facility and Waste Backhauled to Approved Facility for Disposal

All Waste storage area locations are provided in Table 2.A-2.

For drilling activities, sumps consist of an excavated trench at the George exploration camp where drill cuttings were deposited. Coordinates of all cutting disposal sites are maintained and are available on request. Continual inspections were conducted of these locations to ensure stability of areas.

The drilling program utilizes a poly drill system whereby brine was recirculated and cuttings were separated and collected in mega bags. Mega bags containing cuttings were kept in containment trays to ensure overflow or remaining brine did not contaminate the tundra. Once full, mega bags were transported to the designated disposal site by an overland vehicle or helicopter.

Greywater generated at the George exploration camp consists of waste streams collected from the kitchen and camp washing facilities (showers and laundry). Grease traps are installed within the kitchen which removes solid particles prior to discharge. Greywater is discharged to the tundra located at a site away from surface water.

Table 2.A-2. George Exploration Camp Waste Storage Locations

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
George Exploration Camp				
Grey Water Line	387,967	7,313,296	65° 55' 15.4"	107° 27' 40.7"
Incinerator	388,101	7,313,281	65° 55' 15.1"	107° 27' 30.1"
Cuttings Trench	388,178	7,312,739	65° 54' 57.7"	107° 27' 22.3"
George Lake Fuel Farm	387,845	7,313,576	65° 55' 24.3"	107° 27' 51.2"

At the George exploration camp, pacto toilets are used and collected human waste is collected and disposed of in camp incinerators along with suitable non-hazardous wastes including: kitchen refuse, paper, recyclable food containers, cardboard and inert wood. Kitchen refuse and paper are regularly disposed of in two-stage commercial incinerators. In total, 3,708 kgs of pacto waste and 7,416 kg of kitchen and other wastes were incinerated in 2023.

Other non-hazardous wastes along with all hazardous are transported to the Goose or MLA properties for management and disposal in accordance with the approved Back River Project waste management plans or backhauled to KBL Environmental in Yellowknife for disposal at an approved waste management

facility. In total, 48x 200L drums of ash and waste metal and 320 pails of old drill fluids were backhauled to KBL in Yellowknife for disposal in 2023.

Hazardous wastes are temporarily stored within a lined containment area for future shipment from site. These materials include waste hydrocarbon liquids, used batteries and contaminated soil. Empty fuel drums are either stored on site for further use or shipped back to the supplier for recycling purposes.

B. UNAUTHORIZED DISCHARGES AND A SUMMARY OF FOLLOW-UP ACTIONS TAKEN

No spills meeting or exceeding the NWT/NU spill reporting thresholds occurred in 2023 for exploration activities covered under this Licence.

C. ANY REVISIONS TO THE SPILL CONTINGENCY PLAN, ABANDONMENT AND RESTORATION PLAN AND ANY OTHER PLANS, SUBMITTED IN THE FORM OF AN ADDENDUM, INCLUDING RECORD OF REVISIONS, AS REQUIRED BY PART B, ITEM 7

B2Gold Nunavut did not revise any management plans specific to this Licence in 2023.

D. PROGRESSIVE AND FINAL RECLAMATION

B2Gold Nunavut continues to exercise drilling procedures where sites are required to be cleaned up prior to completion of the next drill site, and internal inspections are conducted to ensure that clean up procedures are occurring. Restoration of historic drill sites will continue as practical. As in previous years, ongoing reclamation programs will continue to be documented.

E. ARTESIAN FLOWS

No artesian flows were encountered in 2023.

F. INFORMATION REQUESTS AND RESULTS OF MONITORING PROGRAM

No information requests were made in 2023.

Part J of the licence, *Conditions Applying to the Monitoring Program*, indicates that the following information be included in the Annual Report:

- 1. The Licensee shall maintain the following monitoring station(s): GEO-1 Final Discharge Point from the Bulk Fuel Storage Facility (Volume / Water quality)**

No water was discharged from monitoring station GEO-1 (the George Camp Bulk Fuel Storage Facility) in 2023.

- 2. The Licensee shall measure and record, in cubic metres, the daily quantities of Water utilized for camp, drilling and other purposes.**

See Section 2.A.i above.

- 3. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes.**

See Table 2.A-1 in Section 2.A.i above.

- 4. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes associated with camp operations and drilling operations are deposited.**

See Table 2.A-2 in Section 2.A.iii above.

- 5. The Licensee shall obtain representative samples of the Water column below any ice where required under Part F, Items 5 and 6.**

Due to an oversight, no paired pre- and post-drilling under ice drill water quality samples were collected in association with the winter exploration activities at the George Project in 2023. Pre- and post-drilling under ice water quality samples will be collected in future in parallel with on-ice George winter exploration activities.

- 6. The Licensee shall include in the Annual Report required under Part B, Item 2 all data, monitoring results and information required by this Part.**

All required information is provided within this report and appendices.

G. LOCATIONS OF ALL TEMPORARY CAMPS ESTABLISHED IN SUPPORT OF THE PROJECT

No temporary camps were established under this Licence in 2023.

H. ANY OTHER DETAILS ON WATER USE OR WASTE DISPOSAL REQUESTED BY THE BOARD BY NOVEMBER 1 OF THE YEAR BEING REPORTED

No requests related to water use or waste disposal were made by the Board in 2023 in relation to this Licence.

Appendix A NWB Annual Report Form

NWB Annual Report

Year being reported:

Select ▼

2023

License No: 2BE-GEO2025

Issued Date:

March 10, 2020

Expiry Date:

May 29, 2025

Project Name:

GEORGE LAKE, BACK RIVER PROJECT

Licensee:

B2Gold Nunavut

Mailing Address:

Suite 3400, Park Place, 666 Burrard Street
Vancouver, British Columbia, Canada, V6C 2X8
Telephone: +1 604 681 8371

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

B2Gold Nunavut

General Background Information on the Project (*optional):

Licence Requirements: the licensee must provide the following information in accordance with

Part B

▼ Item 2 ▼

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):

George Lake, Bob Lake, Dragon Lake, Fold Lake, Komatik Creek, Low Cow Pond, Occurrence Lake

Water Quantity:

45

Quantity Allowable Domestic (cu.m/day)

427

Actual Quantity Used Domestic (cu.m/yr)

130

Quantity Allowable Drilling (cu.m/day)

4,529

Total Quantity Used Drilling (cu.m/yr)

Waste Management and/or Disposal

☒ Solid Waste Disposal

Suite
3400,
Park
Place,
666
Burrard
Street

☒ Sewage

☒ Drill Waste

☒ Greywater

☒ Hazardous

☐ Other:

Additional Details:

See Section 2.A of the Annual Report.

Vancouver,
British Columbia,
Canada,
V6C 2X8
Telephone: +1 604 681 8371

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: (as reported to the Spill Hot-line)

Date of Spill:

Date of Notification to an Inspector:

Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed



Additional Details:

See Section 2.C of Annual Report.

Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed



Additional Details:

See Section 2.C of Annual Report.

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

See Section 2.D of Annual Report.

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details described below



Additional Details:

See Section 2.Ai of the Annual Report.

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details described below



Additional Details:

See Section 2.Aiii of the Annual Report.

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board



Additional Details: (date of request, analysis of results, data attached, etc)

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board



Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC



Additional Details: (Dates of Report, Follow-up by the Licensee)

No CIRNAC inspections under this Licence in 2023

Any additional comments or information for the Board to consider

Date Submitted:
Submitted/Prepared by:
Contact Information:

March 31, 2024
Merle Keefe/Katsky Venter
Tel:
Fax:
email: mkeefe@b2gold.com

Appendix B George Daily Camp Water Usage

Table B-1 Daily Water Use for George Exploration Camp 2023

Date	Volume (m ³)	Date	Volume (m ³)	Date	Volume (m ³)
March 21, 2023	4.8	May 1, 2023	5.2	July 19, 2023	8.0
March 22, 2023	4.8	May 2, 2023	5.7	July 20, 2023	7.3
March 23, 2023	4.8	May 3, 2023	3.2	July 21, 2023	6.4
March 24, 2023	4.8	May 4, 2023	2.3	July 22, 2023	5.9
March 25, 2023	4.8	May 5, 2023	2.7	July 23, 2023	6.6
March 26, 2023	4.8	May 6, 2023	2.7	July 24, 2023	4.3
March 27, 2023	4.8	(camp closed May 7-June 14)		July 25, 2023	5.2
March 28, 2023	4.8	June 15, 2023	4.8	July 26, 2023	5.9
March 29, 2023	4.8	June 16, 2023	1.4	July 27, 2023	5.7
March 30, 2023	4.8	June 17, 2023	1.8	July 28, 2023	5.9
March 31, 2023	4.8	June 18, 2023	2.0	July 29, 2023	5.9
April 1, 2023	4.8	June 19, 2023	0.9	July 30, 2023	6.8
April 2, 2023	1.1	June 20, 2023	2.3	July 31, 2023	5.7
April 3, 2023	5.5	June 21, 2023	4.3	(camp closed Aug 1, 2023)	
April 4, 2023	5.0	June 22, 2023	4.1	Total (m ³)	427.0
April 5, 2023	5.0	June 23, 2023	2.2		
April 6, 2023	8.2	June 24, 2023	4.8		
April 7, 2023	3.6	June 25, 2023	3.4		
April 8, 2023	3.6	June 26, 2023	3.8		
April 9, 2023	5.9	June 27, 2023	3.3		
April 10, 2023	4.3	June 28, 2023	3.6		
April 11, 2023	4.1	June 29, 2023	4.3		
April 12, 2023	4.1	June 30, 2023	4.7		
April 13, 2023	4.1	July 1, 2023	4.0		
April 14, 2023	5.5	July 2, 2023	3.0		
April 15, 2023	3.2	July 3, 2023	4.1		
April 16, 2023	2.7	July 4, 2023	5.1		
April 17, 2023	3.0	July 5, 2023	5.2		
April 18, 2023	2.3	July 6, 2023	5.5		
April 19, 2023	2.5	July 7, 2023	8.2		
April 20, 2023	1.8	July 8, 2023	9.1		
April 21, 2023	2.3	July 9, 2023	7.3		
April 22, 2023	3.2	July 10, 2023	5.1		
April 23, 2023	3.5	July 11, 2023	5.5		
April 24, 2023	3.2	July 12, 2023	5.7		
April 25, 2023	4.5	July 13, 2023	4.8		
April 26, 2023	5.0	July 14, 2023	5.2		
April 27, 2023	5.0	July 15, 2023	4.3		
April 28, 2023	5.5	July 16, 2023	4.5		
April 29, 2023	5.7	July 17, 2023	5.2		
April 30, 2023	6.4	July 18, 2023	5.7		

Appendix C George Daily Drill Water Usage

George Daily Drill Water Use by Water Source for 2023

Date	Daily Water Use (m³) from George Lake	Daily Water Use (m³) from Dragon Lake	Daily Water Use (m³) from Fold Lake	Daily Water Use (m³) from Low Cow Pond	Daily Water Use (m³) from Bob Lake	Daily Water Use (m³) from Komatic Creek	Daily Water Use (m³) from Occurance Lake	Total Daily Water Use (m³)
March 23, 2023	38.38							38.38
March 24, 2023	38.38							38.38
March 25, 2023	38.38							38.38
March 26, 2023	38.38							38.38
March 27, 2023	38.38							38.38
March 28, 2023	38.38							38.38
March 29, 2023	38.38							38.38
March 30, 2023	38.38							38.38
March 31, 2023	38.38							38.38
April 1, 2023	38.38							38.38
April 2, 2023	38.38				38.38			76.76
April 3, 2023	38.38				38.38			76.76
April 4, 2023	38.38				38.38			76.76
April 5, 2023	38.38				38.38			76.76
April 6, 2023	38.38				38.38			76.76
April 7, 2023	38.38				38.38			76.76
April 8, 2023	38.38				38.38			76.76
April 9, 2023	38.38				38.38			76.76
April 10, 2023	38.38				38.38			76.76
April 11, 2023	38.38				38.38			76.76
April 12, 2023	38.38				38.38			76.76
April 13, 2023	38.38							38.38
April 14, 2023								0
April 15, 2023		76.76						76.76
April 16, 2023		76.76						76.76
April 17, 2023		76.76						76.76
April 18, 2023		76.76						76.76
April 19, 2023		38.38						38.38

April 20, 2023		38.38	38.38					76.76
April 21, 2023		38.38	38.38					76.76
April 22, 2023		38.38	38.38					76.76
April 23, 2023		38.38	38.38					76.76
April 24, 2023		38.38	38.38					76.76
April 25, 2023	38.38	38.38						76.76
April 26, 2023	38.38	38.38						76.76
April 27, 2023	38.38	38.38						76.76
April 28, 2023	38.38	38.38						76.76
April 29, 2023		38.38						38.38
camp closed April 30-June 22								0
June 23, 2023			38.38					38.38
June 24, 2023			38.38					38.38
June 25, 2023			38.38					38.38
June 26, 2023			38.38					38.38
June 27, 2023			38.38					38.38
June 28, 2023			38.38					38.38
June 29, 2023			38.38					38.38
June 30, 2023			38.38					38.38
July 1, 2023			38.38					38.38
July 2, 2023			38.38			38.38		76.76
July 3, 2023			38.38			38.38		76.76
July 4, 2023			38.38			38.38		76.76
July 5, 2023			38.38			38.38		76.76
July 6, 2023				38.38		38.38		76.76
July 7, 2023				38.38		38.38		76.76
July 8, 2023				38.38		38.38		76.76
July 9, 2023				38.38		38.38		76.76
July 10, 2023		38.38		38.38				76.76
July 11, 2023		38.38		38.38				76.76
July 12, 2023				38.38				38.38
July 13, 2023				38.38			38.38	76.76
July 14, 2023				38.38			38.38	76.76
July 15, 2023				38.38			38.38	76.76

July 16, 2023				38.38			38.38	76.76
July 17, 2023				38.38			38.38	76.76
July 18, 2023				38.38			38.38	76.76
July 19, 2023				38.38			38.38	76.76
July 20, 2023				38.38			38.38	76.76
July 21, 2023				38.38			38.38	76.76
July 22, 2023				38.38			38.38	76.76
July 23, 2023				38.38			38.38	76.76
July 24, 2023	38.38							38.38
July 25, 2023	38.38							38.38
July 26, 2023	38.38							38.38
July 27, 2023	38.38							38.38
July 28, 2023	38.38							38.38
Total Annual Use (m³):	1189.78	805.98	690.84	690.84	422.18	307.04	422.18	4,528.84

Notes: daily drill water usage has been estimated based on historical drill water use average of 38.38 m3/drill/day.

No exceedance of Water Licence 2BE-GEO2025 drill water allowance of 130 m3/day was identified.