



## **BACK RIVER PROJECT**

# **2019 Annual Report for Water Licence 2BE-GOO2028**

**Prepared by  
Sabina Gold and Silver Corp.**

**Prepared for  
Nunavut Water Board**

**March 2020**

# BACK RIVER PROJECT

## 2019 2BE-GOO2028 Annual Report

### Table of Contents

---

Table of Contents.....	i
List of Figures.....	i
No table of contents entries found.List of Tables.....	i
List of Appendices .....	ii
Acronyms.....	iii
Executive Summary - English.....	1-1
ΔαΔΩ <sup>ᶜᵇ</sup> Λ <sup>ᶜᵇ</sup> – Δ <sup>ᵇ</sup> Π <sup>ᵇ</sup> ρ <sup>ᶜ</sup> Γ <sup>ᶜ</sup> .....	1-2
1. Introduction.....	1-3
2. Annual Report per Part B, Item 2 .....	2-4
a. Summary of Water Use and Waste Disposal .....	2-4
b. Unauthorized Discharges .....	2-7
c. Management Plan Revisions.....	2-7
d. Progressive and Final Reclamation.....	2-7
e. Artesian Flows .....	2-7
f. Information Requests and Results of Monitoring Program .....	2-7
g. Board Requests Re: Water Use and Waste Disposal .....	2-8
Appendix A NWB Annual Report Form .....	2-1

### List of Figures

FIGURE	PAGE
--------	------

### No table of contents entries found.List of Tables

TABLE	PAGE
Table 2.A-1. 2019 Goose Camp Daily Water Usage .....	2-4
Table 2.A-2. 2019 Goose Lake Daily Drill Water Usage by Lake.....	2-5
Table 2.A-3. Goose Lake Waste Storage Locations.....	2-6
Table 2.F-1. 2019 Goose Lake Water Source Locations .....	2-8

**List of Appendices**

**APPENDIX**

Appendix A NWB Annual Report Form

## Acronyms

---

CIRNAC	Crown Indigenous Relations and Northern Affairs Canada
KIA	Kitikmeot Inuit Association
The Licence	Water Licence 2BE-GOO2028 (previously 2BE-GOO1520)
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

---

Sabina Gold & Silver Corp. (Sabina) has filed its Annual Report on its activities during 2019 under Water Licence No. 2BE-GOO2028 (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; and
- Any other details on water use or waste disposal requested by the Board.

$$\Delta_{\mathcal{Q}} \Delta_{\mathcal{Q}}^{\text{fb}} \gamma_L \gamma^{\text{fb}} - \Delta_{\mathcal{M}} \gamma_L \gamma^{\text{fb}} \rho_{\mathcal{L}}^{\text{fb}} \gamma^{\text{fb}}$$
[illegible]

- [illegible]

# 1. Introduction

---

This report to the Nunavut Water Board (NWB) has been prepared to summarize the project activities and monitoring undertaken by Sabina Gold and Silver Corp. (Sabina) during the 2019 program, in accordance with Part B, Item 2 of License 2BE-GOO2028 (the Licence; previously 2BE-GOO1520). This License was renewed without change on Feb 17, 2020 and will expire on February 18, 2028. The NWB Annual Report Form can be found in Appendix A of this report.

Key activities associated with the Goose Lake Project in 2019 are summarized as follows:

- 8 holes were drilled for exploration purposes for a total of 6,467 meters
- Trenching bedrock exposure at the Goose Main deposit enabled detailed studies of mineralogy, stratigraphy and structure
- Mapping and sampling was conducted in sections of Goose and Del Properties
- Shipment of hazardous materials from site to approved disposal facilities
- Reclamation of historic and ongoing drill sites

During 2019, fresh water was utilized for both potable and drilling activities. Potable water for the Goose Lake Camp was obtained from Goose Lake using a dedicated pump and transferred to water storage tanks at camp. Water for exploration drilling was obtained from Goose Lake and Llama Lake. All water utilized was metered as per water license requirements. Calcium chloride was added to drilling water to lower the freezing point and to enable drilling under permafrost conditions.

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.

In 2019, fuel supply was provided by aircraft on both the ice and all-weather airstrip at Goose Lake.

Sabina hosted visits as well as formal site compliance inspections from regulatory authorities including the Kitikmeot Inuit Association (KIA), and Crown Indigenous and Northern Affairs Canada (CIRNAC) Water Resources Inspector and District Geologist in 2019. These inspections provided constructive feedback and Sabina has taken corrective action where required.

Prior to seasonal camp close Sabina commenced restoration of approximately 7 historic drill sites. Materials removed from sites included garbage, metal, and timbers as well as anchors and casing cut and capped. Sabina continues to exercise drilling procedures where sites are required to be cleaned up prior to moving on to the next drill site, and internal inspections are conducted to ensure that clean up procedures are occurring. Sabina intends to continue to cut and restore historic drill site as part of regular programs in 2019. Ongoing reclamation programs will be documented as conducted in previous programs.

Community consultation was undertaken in 2019 and discussions for the current and proposed activities were held.

## 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- GOO2028.

### A. SUMMARY OF WATER USE AND WASTE DISPOSAL

Potable water was extracted from Goose 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 Goose Lake via a pipe into holding tanks within camp. Prior to consumption, potable water is treated with filtration, chlorination and UV disinfection. Table 2.A-1 summarizes daily potable water used in 2019, with a total annual camp water usage of 423.1 m<sup>3</sup>.

Table 2.A-1. 2019 Goose Camp Daily Water Usage

Date	Total Goose Camp Water Usage (m3)		Date	Total Goose Camp Water Usage (m3)		Date	Total Goose Camp Water Usage (m3)		Date	Total Goose Camp Water Usage (m3)
3-Apr-19	1.0		21-Apr-19	3.0		9-May-19	5.3		27-May-19	11.9
4-Apr-19	0.7		22-Apr-19	10.6		10-May-19	7.7		28-May-19	3.1
5-Apr-19	1.0		23-Apr-19	7.8		11-May-19	6.9		29-May-19	4.7
6-Apr-19	1.5		24-Apr-19	3.1		12-May-19	6.8		30-May-19	7.7
7-Apr-19	4.1		25-Apr-19	4.9		13-May-19	6.2		31-May-19	3.0
8-Apr-19	4.2		26-Apr-19	7.8		14-May-19	6.4		1-Jun-19	4.7
9-Apr-19	5.5		27-Apr-19	5.1		15-May-19	6.0		2-Jun-19	6.6
10-Apr-19	8.9		28-Apr-19	6.4		16-May-19	7.8		3-Jun-19	5.3
11-Apr-19	3.3		29-Apr-19	8.0		17-May-19	7.1		4-Jun-19	6.7
12-Apr-19	4.8		30-Apr-19	7.2		18-May-19	8.8		5-Jun-19	4.9
13-Apr-19	11.2		1-May-19	8.9		19-May-19	7.9		6-Jun-19	5.6
14-Apr-19	6.5		2-May-19	5.1		20-May-19	11.6		7-Jun-19	8.0
15-Apr-19	4.3		3-May-19	5.2		21-May-19	13.6		8-Jun-19	2.9
16-Apr-19	6.9		4-May-19	9.5		22-May-19	6.3		10-Jul-19	9.9
17-Apr-19	5.3		5-May-19	6.3		23-May-19	3.5		13-Jul-19	0.9
18-Apr-19	4.1		6-May-19	6.5		24-May-19	1.7		15-Jul-19	2.2
19-Apr-19	5.9		7-May-19	10.0		25-May-19	4.1		17-Jul-19	2.5
20-Apr-19	3.7		8-May-19	7.9		26-May-19	3.1		8-Sep-19	5.5
Annual Total:										423.1

All Goose Camp domestic water was withdrawn from Goose Lake in 2019

Drill water was obtained from Llama and Goose Lakes in 2019. Daily drill water usage is provided in Table 2.A-2 by water source. The Licence specifies a daily water usage allowance of up to 267 m<sup>3</sup> for drilling purposes. This allowance was unintentionally exceeded on six occasions in 2019 (bolded values in Table



2.A-2). Sabina will ensure that drill water use is managed more closely in 2020 to avoid exceedance of daily allowances.

**Table 2.A-2. 2019 Goose Lake Daily Drill Water Usage by Lake**

Date	Goose Total Daily Usage (m3)	Llama Total Daily Usage (m3)	Total Daily Usage (m3)	Date	Goose Total Daily Usage (m3)	Llama Total Daily Usage (m3)	Total Daily Usage (m3)
9-Apr-18	37	0	37	8-May-18	97	57	154
10-Apr-18	27	11	38	9-May-18	154	85	238
11-Apr-18	22	55	78	10-May-18	201	0	201
12-Apr-18	30	65	95	11-May-18	163	0	163
13-Apr-18	28	56	84	12-May-18	229	0	229
14-Apr-18	29	56	85	13-May-18	166	0	166
15-Apr-18	15	48	62	14-May-18	151	0	151
16-Apr-18	45	40	85	15-May-18	285	0	<b>285</b>
17-Apr-18	33	42	75	16-May-18	251	0	251
18-Apr-18	28	0	28	17-May-18	240	0	240
19-Apr-18	31	79	110	18-May-18	228	0	228
20-Apr-18	228	60	<b>287</b>	19-May-18	208	0	208
21-Apr-18	227	142	<b>369</b>	20-May-18	294	0	<b>294</b>
22-Apr-18	30	143	173	21-May-18	255	0	255
23-Apr-18	31	142	172	22-May-18	119	0	119
24-Apr-18	31	143	174	23-May-18	133	0	133
25-Apr-18	30	0	30	24-May-18	141	0	141
26-Apr-18	31	0	31	25-May-18	155	0	155
27-Apr-18	15	172	187	26-May-18	100	0	100
28-Apr-18	68	196	264	27-May-18	182	0	182
29-Apr-18	38	49	87	28-May-18	263	0	263
30-Apr-18	34	97	131	29-May-18	194	0	194
1-May-18	130	101	231	30-May-18	63	0	63
2-May-18	100	73	174	31-May-18	75	0	75
3-May-18	116	120	236	1-Jun-18	67	0	67
4-May-18	163	126	<b>289</b>	2-Jun-18	105	0	105
5-May-18	164	124	<b>289</b>	3-Jun-18	33	0	33
6-May-18	75	131	206	4-Jun-18	78	0	78
7-May-18	103	133	236	5-Jun-18	0	0	0
<b>Annual Totals:</b>					<b>6,569</b>	<b>2,546</b>	<b>9,115</b>

*Bolded values indicate exceedance of daily drill water usage allotment*

Wastes disposed of under this Licence include Greywater, latrine, non-hazardous and hazardous wastes and drill wastes. All Waste storage area locations are provided in Table 2.A-3. Grey water generated at the Goose Lake 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. Grey water is discharged at two locations at the Goose Lake camp located at a site away from surface water, however, was only discharged from one location in 2019. At the Goose Lake camp, latrine toilets (pacto toilets) are used from which human waste is collected and disposed of in camp incinerators.

Table 2.A-3. Goose Lake Waste Storage Locations

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
Goose Lake				
Grey Water Line	434,069	7,269,849	65°32'38.94"	106°25'38.35"
Grey Water Line #2	433,943	7, 269,908	65°32'40.8"	106°25'48.3"
Incinerator	434,155	7,269,817	65°32'38.0"	106°25'31.6"
Hazardous Waste Backhaul Storage Area	433,840	7,270,021	65°32'44.3"	106°25'56.5"
Cuttings Trench (Reclaimed)	434,122	7,269,616	65° 32' 31.5"	106° 25' 33.8"
Cuttings Trench #2 (Reclaimed)	434,140	7,269,738	65° 32' 35.4"	106° 25' 32.6"
Cuttings Trench #3	434,120	7, 269,738	65° 32' 35.3"	106° 25' 32.6"
Open Burn Pit	434,105	7,269,787	65°32'37.0"	106°25'35.4"
Hazardous Materials Storage Area	433,815	7,270,008	65°32'43.9"	106°25'58.4"
Goose Lake Fuel Farm	433,959	7,269,975	65°32'42.9"	106°25'47.2"
Major Drilling Oils/ Additives Location #1	434,079	7,269,648	65°32'32.5"	106°25'37.2"
Major Drilling Oils/ Additives Location #2	434,061	7,269,636	65°32'32.1"	106°25'38.6"

Non-hazardous waste streams consist of kitchen refuse, paper, recyclable food containers, cardboard and inert wood. Kitchen refuse and paper are disposed of in a two-stage commercial incinerator daily. Plastic and metal food containers which were deemed appropriate for recycling are shipped off site to an approved disposal facility in Yellowknife.

Open burning of suitable wastes was not conducted at the Goose Lake property in 2019.

Sabina Gold and Silver Corp. continued to expend great effort in consolidating hazardous wastes from previous years. A lined storage area was previously constructed where materials can be sorted and packaged to be shipped to Yellowknife. Once received in Yellowknife, KBL Environmental was retained to manage and properly dispose of hazardous wastes generated at the Goose Lake Camp. Hazardous wastes generated at the Goose Lake site included 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. Remaining hazardous materials are stored within a lined containment area for future shipment from site.

Types and quantities of solid wastes incinerated, open burned or backhauled from the Back River Project, including from the Goose Property, are detailed in the Annual Report for Water Licence 2AM-BRP1831.

For drilling activities, sumps consisted of an excavated trench at the Goose 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 2019 drilling program utilized 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.

## B. UNAUTHORIZED DISCHARGES

One spill triggering the NWT/NU spill reporting thresholds occurred in 2019; a 400 L drilling brine spill on April 19<sup>th</sup>. A spill report was filed with the NT/NU Spill line on April 20<sup>th</sup> and the spill was cleaned up on discovery. A second spill of 1 L of hydraulic oil was reported to the NT/NU Spill line at the request of CIRNAC; the spill was also cleaned up on discovery.

## C. MANAGEMENT PLAN REVISIONS

Sabina made revisions to the following Management Plans in 2019:

- Back River Project Comprehensive Non-Hazardous Waste Management Plan, dated October 2019;
- Back River Project Comprehensive Hazardous Materials Management Plan, dated October 2019;
- Comprehensive Spill Contingency Plan, dated June 2018; and
- Back River Project Abandonment and Restoration Plan Goose Camp and Exploration Project, dated January 2019.

These revised plans were provided to the NWB with the submission of the Licence renewal application. The NWB approved these plans with the issuance of renewed Water Licence 2BE-GOO2028.

## D. PROGRESSIVE AND FINAL RECLAMATION

Prior to camp close Sabina commenced restoration of 7 historic drill sites. Materials removed from sites included garbage, metal and timbers as well as anchors and casing cut and capped. Sabina continues to exercise drilling procedures where sites are required to be cleaned up prior to moving on to the next drill site, and internal inspections are conducted to ensure that clean up procedures are occurring. Sabina intends to continue to cut and restore historic drill site as part of regular programs in 2020. Ongoing reclamation programs will be documented as conducted in previous years.

## E. ARTESIAN FLOWS

No artesian flows were encountered in 2019.

## F. INFORMATION REQUESTS AND RESULTS OF MONITORING PROGRAM

Daily quantities of water used under this Licence are presented in Section 2.A of this report. Wastes generated under this Licence are also discussed in Section 2.A of this report, and details of wastes incinerated and shipped off site are included in the waste quantities reported in Annual Report for Water Licence 2AM-BRP1831. Goose Property water source locations are provided in Table 2.F-1 of this report. No water was discharged from GOO-2 (the bulk fuel berm) in 2019 as a result of active snow removal from the berm prior to melt and evaporative loss of any remaining water.

Personnel were on site at the Goose Property from June 19 through 21 to assess site conditions including that of the quarry, airstrip and connecting road. No runoff was observed and no sampling Part J, Item 8 was required.

As no construction took place under this Licence in 2019, no construction-related sampling was conducted. No on-ice drilling took place in 2019.

No inspections were conducted by CIRNAC specific to this Licence in 2019, however, see inspections conducted under related Water Licence 2AM-BRP1831, which are discussed in the Annual Report for that Licence.

**Table 2.F-1. 2019 Goose Lake Water Source Locations**

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
Goose Lake				
Goose Camp Intake	434,129	7,269,996	65° 32' 43.7"N	106° 25' 34.0"W
Goose Neck	431,725	7,269,877	65° 32' 38.1"N	106° 28' 41.0"W
Goose Beak	431,391	7,269,957	65° 32' 40.4"N	106° 29' 07.1"W
Llama Lake	428,790	7,272,028	65° 33' 45.2"N	106° 32' 33.7"W
Umwelt Lake	428,921	7,270,948	65° 33' 10.5"N	106° 32' 21.5"W
Rascal Lake	434,038	7,267,812	65° 31' 33.1"N	106° 25' 37.1"W
Vega Lake	413,935	7,279,106	65° 37' 20.8"N	106° 52' 8.0"W
Vega Lake	413,691	7,279,432	65° 37' 31.1"N	106° 52' 27.9"W
Pigeon Lake	413,753	7,280,329	65° 38' 0.1"N	106° 52' 25.1"W

## G. BOARD REQUESTS RE: WATER USE AND WASTE DISPOSAL

No requests related to water use or waste disposal were made by the Board in 2019.

# Appendix A NWB Annual Report Form

---

**NWB Annual Report**

**Year being reported:**

Select ▼

2019

**License No:** 2BE-GOO2028

**Issued Date:**

February 19, 2020

**Expiry Date:**

February 20, 2028

**Project Name:**

GOOSE LAKE, BACK RIVER PROJECT

**Licensee:**

SABINA GOLD AND SILVER CORP

**Mailing Address:**

#1800 - 555 Burrard Street, Box 220, Vancouver, BC,  
V7X 1M7

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

SABINA GOLD AND SILVER CORP

**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):**

Goose Lake, Llama Lake

**Water Quantity:**

30

Quantity Allowable Domestic (cu.m/day)

423.1

Actual Quantity Used Domestic (cu.m/yr)

267

Quantity Allowable Drilling (cu.m/day)

9,115

Total Quantity Used Drilling (cu.m/yr)

**Waste Management and/or Disposal**

☒ Solid Waste Disposal

☒ Sewage

☒ Drill Waste

☒ Greywater

☒ Hazardous

☐ Other:

**Additional Details:**

See Sections 2.A and 2.G of the Annual Report.

**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: April 19 2019

Date of Notification to an Inspector: April 20 2019

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

See Section 2.B of the Report

**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 attached ▼

Additional Details:

See Section 2.F 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 attached ▼

Additional Details:

See Section 2.A 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**

Inspection Report received by the Licensee (Date): ▼

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

See Section 2.F of the Annual Report

**Any additional comments or information for the Board to consider**

**Date Submitted:**

March 31, 2020

**Submitted/Prepared by:**

Merle Keefe/Katsky Venter

**Contact Information:**

**Tel:**

**Fax:**

**email:** [mkeefe@sabinagoldsilver.com](mailto:mkeefe@sabinagoldsilver.com)