

NWB Annual Report

Year being reported: 2011 ▼

License No: 2BE-GOO1015 Issued Date: March 26, 2010  
Expiry Date: March 31, 2015

Project Name: Back River Project - Goose

Licensee: Sabina Gold & Silver Corp.

Mailing Address: 930 West 1st Street, Suite 202  
North Vancouver, BC V7P 3N4

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

General Background Information on the Project (\*optional):

The Goose Project is located approximately 160 km south of the hamlet of Bathurst Inlet, with the camp located at 65°32'00" N, 106°25'00" W.

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):	Camp Lake for domestic use; lakes proximal to drilling	
Water Quantity:	45 m3/day	Quantity Allowable Domestic (cu.m)
	7.0 m3/day	Actual Quantity Used Domestic (cu.m)
	240 m3/day	Quantity Allowable Drilling (cu.m)
	107 m3/day	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☒ Solid Waste Disposal  
☒ Sewage  
☒ Drill Waste  
☒ Greywater  
☒ Hazardous  
☐ Other:

Additional Details:

Refer to the water use tracking figure and discussion included in Appendix A

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

Other: (see additional details)

Additional Details:

Comprehensive Spill Contingency Plan submitted March, 2012.

#### Revisions to the Abandonment and Restoration Plan

Other: (see additional details)

Additional Details:

Updated Abandonment and Restoration Plan submitted March, 2012.

#### Progressive Reclamation Work Undertaken

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

Please see discussion in Appendix A.

#### 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:

Please see Appendix B.

**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:

Please see Appendix B.

**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)

If a report is issued, it will be appended to this report as an addendum.

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

**Date Submitted:**

Mar 27, 2012

**Submitted/Prepared by:**

Peter Manojlovic / Elizabeth Sherlock

**Contact Information:**

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**Water Volumes Used**

### **Camp Water Use**

Water used in the camp is taken from Goose Lake with the water source adjacent to the dock, approximately 30 feet offshore in 6-8 feet of water. The intake hose is equipped with a screen to prevent entrapment of fish. Drinking water is pumped into a holding pool located in a heated shed adjacent to the kitchen and dry facility. Any larger particles will settle to the bottom of the pool. Filtration is then used to remove smaller suspended material. Final treatment consists of UV and chlorination.

The holding pool for camp water will store up to 11 m<sup>3</sup> of water. The pool is normally filled on a daily basis (sometimes every other day), though the entire tank is not normally drawn down.

Up to 5 m<sup>3</sup> is stored in a plastic tank in the core processing facility at Goose Lake camp for on-demand use with the core splitting saws. Refilling of this tank is anticipated to occur 2-3 times per week when the saws are in use.

Pacto type toilets were used to collect sewage and incinerated daily.

Greywater from the kitchen and dry facilities is plumbed to a common line which discharges behind the camp, well away from Goose Lake. The area is mostly bedrock and shallow soil, precluding the digging of a suitable sump. The discharge area is lined with stones to disrupt the flow of water and allow larger particles to come out of suspension, as well as to disperse the flow of water and help alleviate erosion of the topsoil. The greywater percolates into the ground after leaving the discharge point.

### **Camp Associated Solid Waste Disposal Activities**

Solid waste in camp is separated at source. Burnable solid waste consisting mainly of paper, food scraps, small wood pieces and plastic packaging was incinerated in a diesel fuel, dual stage forced air commercial incinerator.

Much of the final solid waste generated in camp consists of ashes containing unburnable metallic residue that accumulates in the incinerator. The ash from the incinerator was placed in empty metal fuel drums, sealed and flown out to Yellowknife for subsequent disposal at a hazardous waste facility near Onaway, Alberta, operated by E.I.L. Environmental Services.

Tin cans, aerosol cans, glass containers and other non-burnable trash produced by camp operations were flown out to Yellowknife for disposal in the Yellowknife dump. Aluminum cans, plastic water bottles and Gatorade bottles were separated and sent back to Yellowknife for recycling.

Sabina contracted transport company (KBL Environmental Ltd.) to ship the drums of solid waste to the E.I.L. Environmental facility for disposal, including empty fuel drums, which are crushed on site at Goose Lake.

### **Drilling Associated Water Use**

The drills in service during 2011 were supplied by helicopter and equipped with portable water pumps, equipped with secondary containment drip pans. The intake hose for each of the pumps was equipped with a screen. A pressure hose leading from the pump to the drill supplied water.

The pumps for the drills would operate continuously as long as the drills were drilling, but were shut down for drill moves. Drill moves typically took about 12 – 24 hours depending on weather and the time of day that the drill was shut down. During drilling, the water was stored in a 500-gallon, trough-type surge tank at the drill where it was then pressurized by a second pump and pumped down the drill hole to cool the drill bit and remove cuttings. Drill water was re-circulated through the hole and new water was added on an as-needed basis to replace any lost through the sludge separation process and to fill the drill hole. Most of the water diverted from the lake and pumped to the drill was not used at the drill site and was allowed to return to the lake; or for land based drilling, the water was allowed to percolate into the soil.

Sludge from the drills was pumped into fibre mega bags, which allowed the water to percolate out while retaining the cuttings. The bags were then flown to the trench adjacent to camp which has been used as a cuttings sump for several years.

Used alkaline batteries and empty paint and aerosol spray cans were placed with the unburnable kitchen waste and double-bagged in plastic garbage bags and flown back to Yellowknife for disposal.

The secondary containment berms used with primary fuel and salt supplies or waste material have generally proven to be an effective measure to safeguard impacts to freshwater sources as they are quickly and easily set up where needed. Snowmelt and rainwater collection can be easily managed with periodic inspections and appropriate use of the rain drains and a water transfer pump, should pooling of snowmelt or rainwater occur.

### **Trench Reclamation**

In August 2009, work was started to reclaim the mechanically excavated trenches located immediately southeast of the camp, which was reported in the 2009 Annual Report. In September 2010, work started on the remaining trench (trench 4) to be reclaimed. Overburden material from the original excavation was used to fill in the trench to approximately 70%. The remaining work was completed in 2011.



*Goose Lake Trenches before Reclamation. August 2009.*



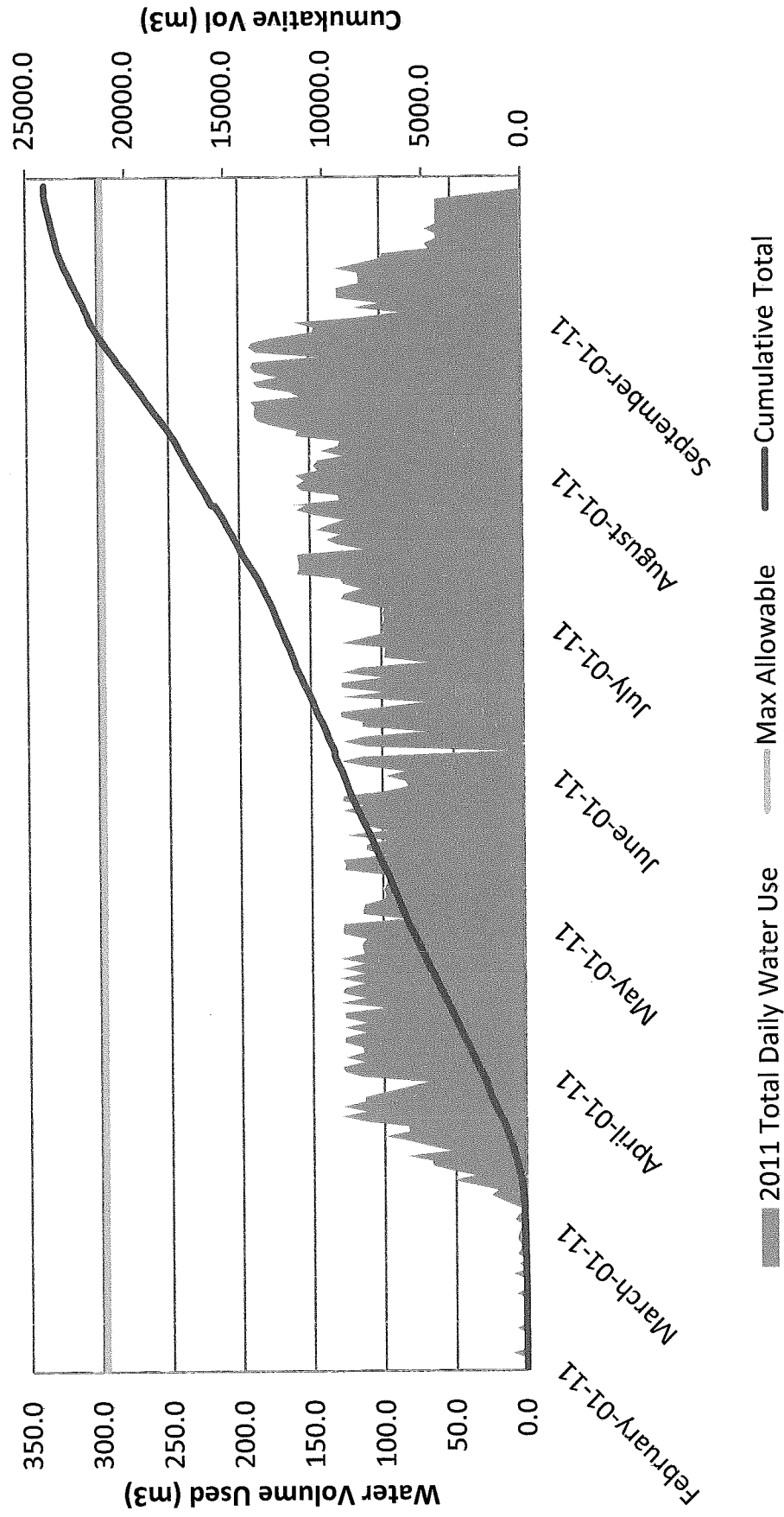


*Goose Trenches post reclamation. September 2009.*



*Aerial view of reclamation of Trench #4, approximately 70% completed. Remaining trench for drill cuttings visible at middle left. View to the north. September, 2010.*

# 2011 Water Use at Back River Project - GOOSE





**Water Use Fees Calculator:**

Northwest Territories Waters Regulations s. 9(1)(a), (b), and (c)

**AGRICULTURAL UNDERTAKING**Enter the volume of authorized water use (m<sup>3</sup>/year)

Calculated Annual Water Use Fee (\$)

**INDUSTRIAL, MINING and MILLING or MISCELLANEOUS UNDERTAKING**Enter the volume of authorized water use (m<sup>3</sup>/day)Enter the volume of authorized water use (m<sup>3</sup>/year)

Calculated Annual Water Use Fee (\$)

**POWER UNDERTAKING**

Identify the class of Power Undertaking (0, 1, 2, 3, 4, 5, 6)

For class 6 Power Undertakings enter the authorized output (kW)

Calculated Annual Water Use Fee (\$)

Source Description	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "
Camp Water	65	32	42	106	25	29
Drilling Water Sources	65	33	49	106	33	35
	65	33	44	106	32	34
	65	33	6	106	32	13
	65	33	18	106	31	48
	65	33	33	106	31	16
	65	32	27	106	33	51
	65	32	16	106	33	7
	65	32	28	106	30	55
	65	32	40	106	29	5
	65	32	6	106	29	3
	65	32	47	106	27	35
	65	32	50	106	25	48

[illegible]