



**SABINA GOLD AND SILVER CORP.  
BACK RIVER PROJECT – GEORGE LAKE**

**2013 ANNUAL REPORT TO  
THE NUNAVUT WATER BOARD**

## **EXECUTIVE SUMMARY**

This report to the Nunavut Water Board (NWB) has been prepared to summarize the project activities and monitoring undertaken by Sabina Gold and Silver during 2013, in accordance with Part B, Item 2 of License 2BE-GEO1015. This license was issued on June 9<sup>th</sup>, 2010 with Amendment No. 1 issued on April 16<sup>th</sup>, 2012.

The water license for George Lake includes a sampling program for the recording of the water volume extracted for any purpose and monitoring water quality within specific project areas (pre and post drilling on ice water sampling requirements).

Key activities associated with the George Lake Project in 2013 are summarized as follows:

- Land based exploration drilling at the LCP South, Fold Forest and Locale 2 deposits, and ice based exploration drilling at Locale 1 and Locale 2
- Geomechanical drilling at Locale 1, Locale 2, LCP North and LCP South deposits.
- Delivery of fuel and supplies to support the quarrying and exploration activities
- Shipment of hazardous materials from site to approved disposal facilities
- Improvements to infrastructure to support the exploration program

During 2013, fresh water was utilized for both potable and drilling activities. Drilling operations in 2013 focused on exploration of known mineralized areas.

Potable water for the George camp was obtained from George Lake using a dedicated pump and transferred to water storage tanks at camp.

Water for exploration drilling was obtained from George Lake, Long Lake, Bob Lake and Occurrence Lake. Water required for regional drilling was obtained from water bodies chosen in advance and monitored to ensure drawdown did not occur. All water utilized was metered as per water license requirements. Calcium chloride was added to 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, an open burn pit, hazardous waste and drill waste.

During 2013, a total of 19,636 m of drilling was completed in a 100 hole program, plus one hole totaling 196m which was abandoned before being completed. In 2013, fuel supply was provided by aircraft on the ice strip on George Lake. Aircraft including Hercules, Electra's, and Buffalos were used to fly fuel in and was transferred into the 2-double walled 75,000 litre fuel tanks at the George Lake fuel farm.

During 2013, Sabina hosted visits as well as formal site compliance inspections from regulatory authorities including the Kitikmeot Inuit Association Lands Department, Aboriginal Affairs and Northern Development Canada (AANDC) Lands Department and Aboriginal Affairs and Northern Development Canada Water License Inspector. These inspections provided constructive feedback and Sabina has taken corrective action where required.

Progressive reclamation work completed in 2013 included: remediation of three historical exploration drill sites in the George area where permafrost degradation was evident, removal of historical drums, consolidation of scrap steel and the removal of hazardous wastes by air to approved disposal facilities.

An annual review of the management plans developed under the water license has been undertaken. Updates to Plans were not required and are therefore not included.

Community consultation was undertaken in 2013 and discussions for the current and proposed activities were held. In addition to community consultations, regulatory and technical groups were hosted allowing parties to view activities first hand.

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## **SECTION 1.0 INTRODUCTION**

### **1.1 GENERAL BACKGROUND**

This report to the Nunavut Water Board (NWB) has been prepared to summarize activities and monitoring undertaken at the Sabina Gold and Silver Corp. Back River Project – George Lake in accordance with Part B, Item 2 of 2BE-GEO1015. This license was issued on June 9<sup>th</sup>, 2010 with Amendment No. 1 issued on April 16<sup>th</sup>, 2012.

George Lake's water license includes a sampling program that involves monitoring water extracted for any purpose and testing water quality parameters for pre/post on ice drilling activities. This information is summarized on the completed NWB Annual Report Form included in Appendix A, and described in more detail in the following sections.

Figure 1.1 illustrates the locations of the key activities areas associated with the Back River Project which include the George Lake, Goose Lake, Boulder and Boot Properties.

Key activities associated with the Back River Project in 2013 are summarized as follows:

- Land based exploration drilling at the LCP South, Fold Forest and Locale 2 deposits, and ice based exploration drilling at Locale 1 and Locale 2
- Geomechanical drilling at Locale 1, Locale 2, LCP North and LCP South deposits
- Delivery of fuel and supplies to support exploration activities
- Shipment of hazardous materials from site to approved disposal facilities
- Improvements to infrastructure to support the exploration program

### **1.2 BRIEF OVERVIEW OF PROJECT ACTIVITIES IN 2013**

Exploration drilling focused on targets within the George lease. The George campaign focused on near surface extensions of the known mineralized zones in the LCP North, LCP South, Locale 1 and Locale 2 deposits areas, with a smaller program of deeper drilling on Locale 2. Further exploration drilling in areas without identified mineralized zones was conducted at the LCP West and Fold Forest prospects.

Exploration drilling was initiated on March 13<sup>th</sup> and completed on July 2<sup>st</sup>. A total of 82 exploration holes totaling 17162m were completed with drill holes ranging in depth from 80 to 707m using Major Drilling Duralite diamond drills. In addition, one hole totaling 196m was commenced but abandoned before completion for technical reason. The distribution of drilling completed among the various properties is as follows:

- 41 holes totaling 6055m were completed at the LCP South deposit
- 15 holes totaling 5839m were completed at the Locale 2 deposit
- 22 holes totaling 4717m were completed at the Fold Forest prospect
- 4 holes totaling 551m were completed at the LCP West deposit

Exploration drill hole locations are found on Figure 1.2.

Geomechanical drilling was undertaken in 2013 to determine underlying ground and rock conditions for mine design. A total of 18 holes totaling 2474m and ranging in depth from 61 to 345m were completed. Geomechanical drill hole locations are included in Figure 1.2. The geomechanical drill holes were distributed as follows:

- 8 holes totaling 1373m were completed at the Locale 1 deposit
- 4 holes totaling 286m were completed at the Locale 2 deposit
- 4 holes totaling 311m were completed at the LCP North deposit
- 2 holes totaling 501m were completed at the LCP South deposit

Water source locations for all types of drilling were extracted from George Lake, Long Lake, Bob Lake, and Occurrence Lake. Water source locations are found on Figure 1.3 and Table 1.1 provides water source location coordinates.

Exploration and geomechanical drilling was conducted during both ice covered and ice free conditions. The focus of the on ice drilling was to further define and extend the known resource. All land based drilling during the open water season was conducted at a minimum of 31 meters from a water body.

Drill core from the 2013 drilling program is stored in a designated area greater than 31 meters away from a water body.

Following key activities were completed to support the activities on site encompassing exploration and geomechanical drilling, environmental and engineering studies:

- Approximately 74 m3 of material from the George Lake quarry was used for general camp maintenance and back filling of drilling induced thermokarsts;
- Movement of core boxes to the approved, new location on the esker south of camp commenced. A large number of boxes were relocated, although not all were moved;
- Fuel was delivered to site via aircraft landing on an ice strip;
- Three existing helicopter pads were outfitted with a lined area for the fuel transfer;
- An impermeable liner was installed underneath the quonset maintenance and equipment storage facility;
- Upgrades to the incinerator building were completed to ensure efficiencies in the operation of the incinerator; and
- Grey water sump was upgraded to ensure appropriate drainage was occurring.

Consultations with Community members and interested stakeholders was undertaken in 2013 and all communities in the Kitikmeot were visited.

Tours of the Sabina Gold and Silver Corp. sites were undertaken in 2013, where proposed future development areas were visited in addition to current infrastructure and practices. High level government officials as well as technical staff had an opportunity to see “first hand” areas of proposed infrastructure.

## **SECTION 2.0 WATER USE AND WASTE DISPOSAL ACTIVITIES (PART B, ITEM 2 (A))**

### **2.1 WATER USE**

In 2013, fresh water was utilized to serve two purposes: potable water supply for the George camp and water supply for drilling operations.

#### **2.1.1 Methods of Obtaining Freshwater for Potable Use and Quantities of Water Used**

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 camp. Prior to consumption, potable water is treated with filtration, chlorination and UV disinfection.

Table 2.1 summarizes daily potable water used in 2013.

#### **2.1.2 Methods of Obtaining Freshwater for Drilling Purposes**

Water for exploration and geotechnical drilling purposes was extracted from George Lake, Long Lake, Bob Lake, and Occurrence Lake. Water bodies were chosen in advance and monitored to ensure drawdown did not occur.

Water was removed from sources utilizing a diesel pump located at a minimum distance of 31 meters away from the water body. Screened intakes were used in all instances to meet Department of Fisheries and Oceans Freshwater Intake End-of-pipe Fish Screen Guidelines to prevent entrapment of fish.

Prior to use by drills, calcium chloride was added to the water to lower its freezing temperature to allow for drilling in permafrost. A closed circuit system (poly drill) was used at each drill where return water was captured and re-used within the drilling operations. Concentrations of calcium chloride were monitored by drill staff and where required, additional calcium chloride was added to the system. This enhanced system reduces over all water and calcium chloride consumption.

In 2013, digital meters were added to each drill and daily consumption volumes were recorded.

Table 2.2 summarizes daily water consumption for exploration and geomechanical drilling purposes.



## **2.2 GREY WATER, LATRINE AND WASTE MANAGEMENT**

### **2.2.1 Grey water and Latrine Wastes**

Grey water generated at the George 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 the George Lake camp located at a site away from surface water. The grey water sump was upgraded in 2013 to ensure appropriate drainage was occurring.

At the George Lake camp, latrine toilets (pacto toilets) are used which solid effluent is collected and disposed of in camp incinerators.

Table 2.3 contains coordinates for the grey water discharge and waste locations and Figure 2.1 illustrates those locations.

### **2.2.2 Non-hazardous and Hazardous Waste Management**

Non-hazardous waste streams consist of kitchen refuse, paper, recyclable food containers, cardboard and inert wood.

Kitchen refuse and paper are disposed of in two-stage commercial incinerators on a daily basis.

Plastic and metal food containers which were deemed appropriate for recycling are shipped off of site to an approved disposal facility in Yellowknife.

In 2013, approval from the Water Board was obtained to conduct open burning activities at the George Lake property. Materials suitable for open burning include cardboard and inert wood. An open burn area is designated and located on bare rock which is enclosed within a cage. Open burning is conducted when environmental conditions are suitable such as dry and calm days.

Volumes and a photo catalogue of open burning activities are included in Appendix B.

In 2013, Sabina Gold and Silver Corp. expended great effort in consolidating hazardous wastes from previous years. Once received in Yellowknife, KBL Environmental was retained to manage and properly dispose of hazardous wastes generated at the George Lake Camp.

Hazardous wastes generated at the George 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 off of site.

Appendix C summarizes types and volumes of hazardous materials shipped off of site.

Figure 2.1 show the following as it relates to solid and hazardous wastes:

- Location of lined waste storage area

- Location of camp incinerator
- Location of burn pit

Table 2.3 provides coordinates for solid and hazardous wastes locations.

### **2.2.3 Drill Waste**

For exploration activities, the main excavated trench at George camp was utilized as the sump. The coordinates for this sump is found in Table 2.4. The sump which was utilized during the 2013 season to place cuttings from the drilling operations has been backfilled and graded to natural topographical levels. Before and after pictures of this activity are found in Appendix D.

The drilling program in 2013 consisted of utilizing a poly drill system where brine was recirculated and cuttings were deposited within a mega bag. The mega bags sat in full impermeable containment so that brine was collected and pumped back into the system. Once a mega bag was full of solids it was transported to the approved location for disposal.

### **SECTION 3.0 – UNAUTHORIZED DISCHARGES (PART B, ITEM 2 (B))**

In 2013, spill contingency training was delivered to site employees through classroom and tool box meetings.

In 2013, 2 (two) spills were reported to the Nunavut Spill Line. On April 13<sup>th</sup>, 200 liters of brine and drill cuttings was lost on the ice of Occurrence Lake. Materials were scraped off of snow and ice and placed in drums for disposal at the George Lake cuttings trench. On May 14<sup>th</sup>, 1400 liters of brine and drill cuttings was lost on the ice of Lytle Lake. Once again materials were scraped off of snow and ice and placed in drums for disposal at the excavated George Lake cuttings trench.

Details of the unauthorized discharges which occurred in 2013 are provided on Table 3.1.

#### **SECTION 4.0     UPDATES TO PLANS (PART B, ITEM 2(C))**

In accordance with Part B, Item 2 (c) of the water license, an annual review of the management plans developed under the water license has been undertaken. There are currently no required updates to existing Plans.

## **SECTION 5.0    PROGRESSIVE RECLAMATION WORK (PART B, ITEM 2(D))**

A summary of progressive reclamation work completed in 2013 is provided below.

- Hazardous wastes were consolidated and packaged for removal in 2013 in accordance with permits and regulatory requirements. Shipments were continuous throughout 2013 and aircraft were utilized to ship hazardous wastes to Yellowknife where KBL Environmental was contracted to package, manifest and ship wastes to approved disposal facilities. Appendix C provides details on materials shipped off of site in 2013.
- Empty drums were sent back to fuel suppliers for recycling via aircraft.
- During the 2013 season, reclamation activities were focused on the remediation of three historical exploration drill sites in the George area where permafrost degradation was evident (thermokarsts) and casing and anchor pipes were still present. Also the cuttings sump which was utilized during 2013 season to place cuttings from the drilling operations has been backfilled and graded to natural topographical levels. Appendix D provides a photographic catalogue of these activities.

## **SECTION 6.0    ARTESIAN FLOW OCCURRENCES (PART B, ITEM 2(E))**

No artesian flow occurrences were reported during 2013.

## **SECTION 7.0 WATER QUALITY OF WATER LICENSE MONITORING PROGRAM (PART B, ITEM 2(F))**

Drilling on ice was conducted at the George Project on Occurrence and Lytle Lakes. Both of the water bodies were frozen to bottom therefore pre and post water quality monitoring was not conducted.

**SECTION 8.0    OTHER INFORMATION REQUESTED (PART B, ITEM 2 (G))**

In 2013, no details on water use or waste disposal was requested by the Board.



## **SECTION 9.0 INSPECTION AND COMPLIANCE REPORT CONCERNS**

Inspections that occurred during the 2013 exploration program include:

- April 25-28, AANDC Water Resources inspector Eva Paul completed an inspection of the Back River Project. Deficiencies of note:
  - The lack of inclusion of water quality and quantity data with the 2012 NWB Annual Report. Information was provided on June 28<sup>th</sup>, 2013 as an Addendum to the Inspector and NWB.
- July 12-13, AANDC Lands Inspector Baba Pedersen, completed an inspection of the Back River Project. Additional work was needed to address drillhole reclamation. Work requested was completed and follow up report submitted to Lands Inspector on August 5<sup>th</sup>, 2013.
- July 16-17, KIA Inspectors Wynter Kuliktana, Luigi Toretti and Sam Arnakalak completed an inspection of the George camp and it was found to be in compliance with permits.
- August 18, WSCC inspection, Martin Van Rooy and Jeff Fuller focused on electrical systems at the Goose Lake Project. All deficiencies were corrected at that time

## TABLES

**TABLE 1.1**

**SABINA GOLD & SILVER CORP.**  
**BACK RIVER PROJECT**

**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

**WATER SOURCE LOCATIONS**

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
<b>George Lake</b>				
George Camp Intake	388,107	7,313,368	65° 55' 17.8"N	107° 27' 29.9"W
George Lake	387,435	7,315,366	65° 56' 21.5"N	107° 28' 29.2"W
Long Lake	386,639	7,317,149	65° 57' 18.0"N	107° 29' 37.7"W
Bob Lake	387,280	7,314,202	65° 55' 43.7"N	107° 28' 37.8"W
Occurrence Lake	387,863	7,312,863	65° 55' 1.2"N	107° 27' 47.6"W

**TABLE 2.1**

**SABINA GOLD & SILVER CORP.**  
**BACK RIVER PROJECT**

**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

**DAILY QUANTITIES OF WATER FOR CAMP**

Day	January	February	March	April	May	June	July	August	September	October	November	December
	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )	GEO-1 (m <sup>3</sup> )
1	0.0	0.0	7.0	5.4	5.5	8.4	11.7	3.1	N/A	N/A	N/A	N/A
2	0.0	0.0	1.8	5.9	7.0	7.3	2.7	2.6	N/A	N/A	N/A	N/A
3	0.0	0.0	5.5	7.4	6.7	10.8	0.6	2.6	N/A	N/A	N/A	N/A
4	0.0	0.0	4.0	3.9	8.4	9.1	8.1	4.4	N/A	N/A	N/A	N/A
5	0.0	0.0	6.6	6.2	6.4	5.7	6.8	Camp Closed	N/A	N/A	N/A	N/A
6	0.0	0.0	7.4	6.1	7.5	8.2	9.0	N/A	N/A	N/A	N/A	N/A
7	0.0	0.0	4.8	5.3	7.2	5.3	7.1	N/A	N/A	N/A	N/A	N/A
8	0.0	0.0	2.9	7.3	6.4	7.1	8.9	N/A	N/A	N/A	N/A	N/A
9	0.0	0.0	6.2	2.5	8.4	7.6	7.9	N/A	N/A	N/A	N/A	N/A
10	0.0	0.0	3.6	8.0	5.8	5.6	7.2	N/A	N/A	N/A	N/A	N/A
11	0.0	0.0	5.0	4.7	8.0	5.6	8.5	N/A	N/A	N/A	N/A	N/A
12	0.0	0.0	4.5	6.2	6.2	7.4	4.0	N/A	N/A	N/A	N/A	N/A
13	0.0	0.0	5.3	6.5	3.0	6.4	7.6	N/A	N/A	N/A	N/A	N/A
14	0.0	0.0	7.7	5.7	7.2	7.0	2.0	N/A	N/A	N/A	N/A	N/A
15	0.0	0.0	3.9	9.3	6.4	9.2	5.7	N/A	N/A	N/A	N/A	N/A
16	0.0	0.0	5.2	4.1	10.4	6.0	8.2	N/A	N/A	N/A	N/A	N/A
17	0.0	5.0	5.2	7.6	8.0	6.0	4.0	N/A	N/A	N/A	N/A	N/A
18	0.0	4.3	5.5	5.0	7.7	7.0	2.9	N/A	N/A	N/A	N/A	N/A
19	0.0	3.0	5.7	6.8	4.7	4.9	9.0	N/A	N/A	N/A	N/A	N/A
20	0.0	2.3	6.2	5.7	10.1	6.8	5.0	N/A	N/A	N/A	N/A	N/A
21	0.0	2.7	5.4	6.9	7.8	8.9	9.1	N/A	N/A	N/A	N/A	N/A
22	0.0	2.5	5.3	6.9	8.8	7.8	8.3	N/A	N/A	N/A	N/A	N/A
23	0.0	2.6	5.4	6.6	7.3	9.9	6.6	N/A	N/A	N/A	N/A	N/A
24	0.0	1.3	6.5	7.7	6.9	7.6	7.1	N/A	N/A	N/A	N/A	N/A
25	0.0	2.5	5.5	4.1	8.0	9.9	7.7	N/A	N/A	N/A	N/A	N/A
26	0.0	2.6	6.1	7.9	7.6	12.1	5.8	N/A	N/A	N/A	N/A	N/A
27	0.0	3.4	2.4	4.6	7.5	4.2	4.8	N/A	N/A	N/A	N/A	N/A
28	0.0	3.3	7.1	8.2	8.5	11.4	3.6	N/A	N/A	N/A	N/A	N/A
29	0.0	N/A	4.6	4.9	7.2	8.3	5.4	N/A	N/A	N/A	N/A	N/A
30	0.0	N/A	6.8	4.0	8.4	8.5	4.2	N/A	N/A	N/A	N/A	N/A
31	0.0	N/A	4.6	N/A	8.3	N/A	5.3	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	<b>0.0</b>	<b>35.6</b>	<b>163.7</b>	<b>181.2</b>	<b>227.0</b>	<b>229.9</b>	<b>194.9</b>	<b>12.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Notes:

**TABLE 2.2**

**SABINA GOLD & SILVER CORP.**  
**BACK RIVER PROJECT**

**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

**DAILY QUANTITIES OF WATER FOR DRILLING PURPOSES**

Day	January	February	March	April	May	June	July	August	September	October	November	December
	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )	(m <sup>3</sup> )
1	0.0	0.0	0.0	43.9	6.3	30.6	7.7	N/A	N/A	N/A	N/A	N/A
2	0.0	0.0	0.0	9.1	9.8	28.0	16.1	N/A	N/A	N/A	N/A	N/A
3	0.0	0.0	0.0	8.5	7.6	23.9	8.5	N/A	N/A	N/A	N/A	N/A
4	0.0	0.0	0.0	8.1	3.4	23.3	8.5	N/A	N/A	N/A	N/A	N/A
5	0.0	0.0	0.0	7.4	5.3	27.6	12.2	N/A	N/A	N/A	N/A	N/A
6	0.0	0.0	0.0	7.7	0.0	3.9	21.8	N/A	N/A	N/A	N/A	N/A
7	0.0	0.0	0.0	54.3	2.3	0.0	6.6	N/A	N/A	N/A	N/A	N/A
8	0.0	0.0	0.0	62.8	8.6	6.3	16.3	N/A	N/A	N/A	N/A	N/A
9	0.0	0.0	0.0	7.4	7.6	20.6	19.6	N/A	N/A	N/A	N/A	N/A
10	0.0	0.0	2.2	7.4	9.1	19.2	26.4	N/A	N/A	N/A	N/A	N/A
11	0.0	0.0	11.1	7.4	15.0	16.8	16.2	N/A	N/A	N/A	N/A	N/A
12	0.0	0.0	11.9	33.6	15.7	19.6	7.8	N/A	N/A	N/A	N/A	N/A
13	0.0	0.0	20.8	57.0	19.4	13.0	15.8	N/A	N/A	N/A	N/A	N/A
14	0.0	0.0	18.9	36.9	21.5	44.0	28.9	N/A	N/A	N/A	N/A	N/A
15	0.0	0.0	5.0	7.0	6.4	13.3	23.4	N/A	N/A	N/A	N/A	N/A
16	0.0	0.0	59.1	7.2	18.5	8.1	20.4	N/A	N/A	N/A	N/A	N/A
17	0.0	0.0	96.5	2.7	16.7	18.2	14.4	N/A	N/A	N/A	N/A	N/A
18	0.0	0.0	6.2	5.0	9.8	18.5	14.4	N/A	N/A	N/A	N/A	N/A
19	0.0	0.0	40.4	6.4	9.0	13.7	14.8	N/A	N/A	N/A	N/A	N/A
20	0.0	0.0	34.9	7.9	20.8	11.7	14.8	N/A	N/A	N/A	N/A	N/A
21	0.0	0.0	18.0	10.0	14.9	13.0	Drill Completed	N/A	N/A	N/A	N/A	N/A
22	0.0	0.0	21.7	10.6	30.7	9.9	N/A	N/A	N/A	N/A	N/A	N/A
23	0.0	0.0	36.8	9.6	36.7	10.0	N/A	N/A	N/A	N/A	N/A	N/A
24	0.0	0.0	37.7	11.5	33.8	12.0	N/A	N/A	N/A	N/A	N/A	N/A
25	0.0	0.0	38.1	16.2	23.8	9.3	N/A	N/A	N/A	N/A	N/A	N/A
26	0.0	0.0	46.2	6.6	6.0	12.6	N/A	N/A	N/A	N/A	N/A	N/A
27	0.0	0.0	37.6	12.0	19.5	11.2	N/A	N/A	N/A	N/A	N/A	N/A
28	0.0	0.0	31.1	11.8	26.8	11.0	N/A	N/A	N/A	N/A	N/A	N/A
29	0.0	N/A	5.8	11.8	20.3	10.7	N/A	N/A	N/A	N/A	N/A	N/A
30	0.0	N/A	36.4	9.5	26.8	8.9	N/A	N/A	N/A	N/A	N/A	N/A
31	0.0	N/A	13.0	N/A	18.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>629.3</b>	<b>497.0</b>	<b>470.4</b>	<b>469.0</b>	<b>314.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

**Notes:**

\* Incorrect readings recorded.



**TABLE 2.3**

**SABINA GOLD & SILVER CORP.**  
**BACK RIVER PROJECT**

**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

**LOCATION OF STORAGE AREAS FOR WASTES AND WASTE STREAMS**

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
<b>George Lake</b>				
Grey Water Line	387,984	7,313,303	65°32'38.94"	106°25'38.35"
Incinerator	388,115	7,313,215	65°32'38.0"	106°25'31.6"
Cuttings Trench	388,177	7,312,765	65°54'58.5"	107°27'22.5"
Open Burn Pit	388,139	7,313,208	65°32'37.0"	106°25'35.4"
George Lake Fuel Farm	387,757	7,313,599	65°32'43.9"	106°25'58.4"
Jet A Fuel Storage	387,720	7,313,611	65°55'25.3"	107°28'01.2"



**TABLE 2.4**

**SABINA GOLD & SILVER CORP.**  
**BACK RIVER PROJECT**

**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

**DRILLING WASTE (CUTTINGS) DEPOSIT LOCATIONS**

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting	Northing		
	(m)	(m)		
<b>George Lake</b>				
George Lake Cuttings Trench	388,177	7,312,765	65°54'58.5"N	107°27'22.5"W

**TABLE 3.1**

**SABINA GOLD AND SILVER CORP.**  
**BACK RIVER PROJECT**

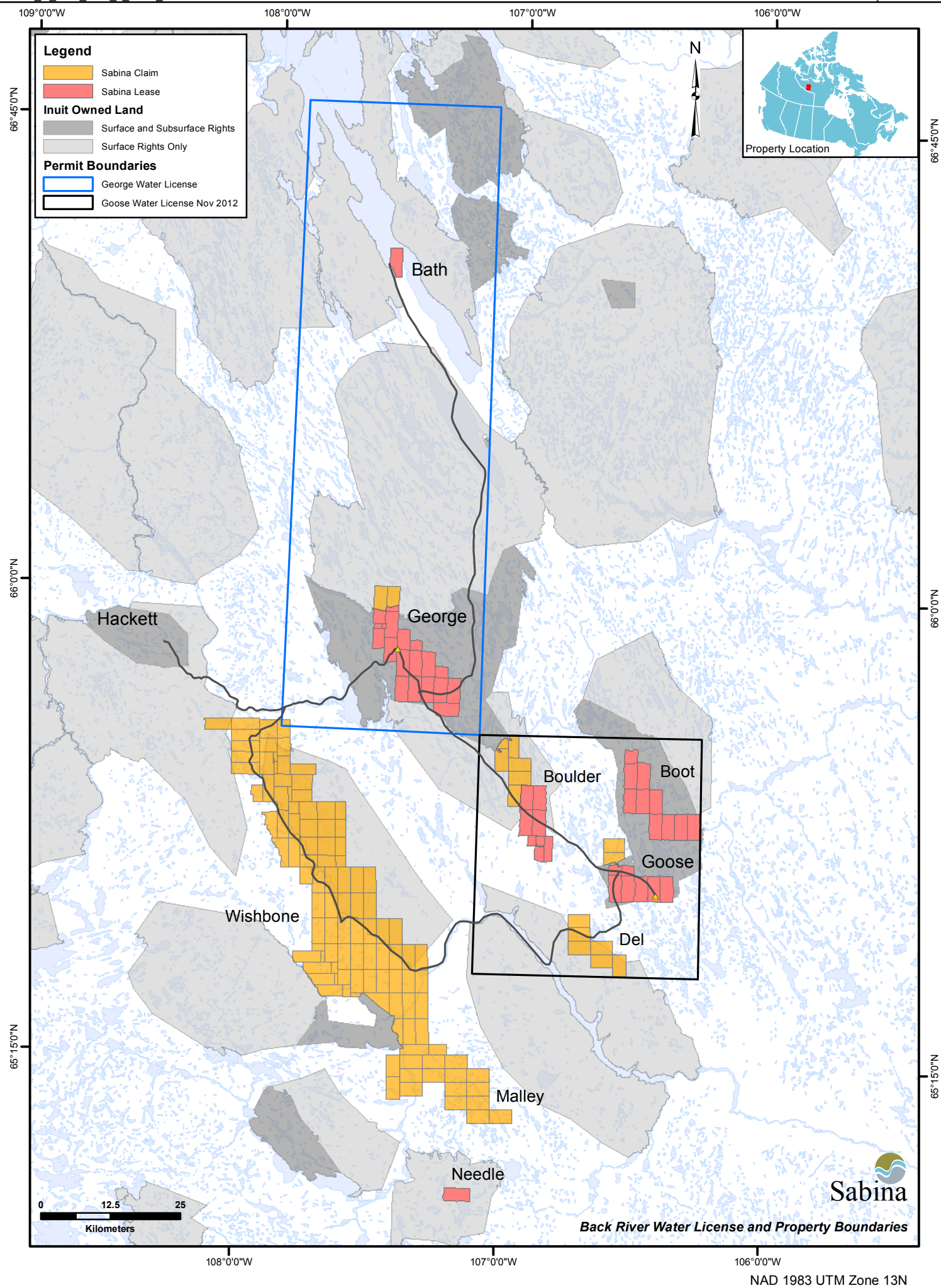
**2013 ANNUAL REPORT TO THE NUNAVUT WATER BOARD**

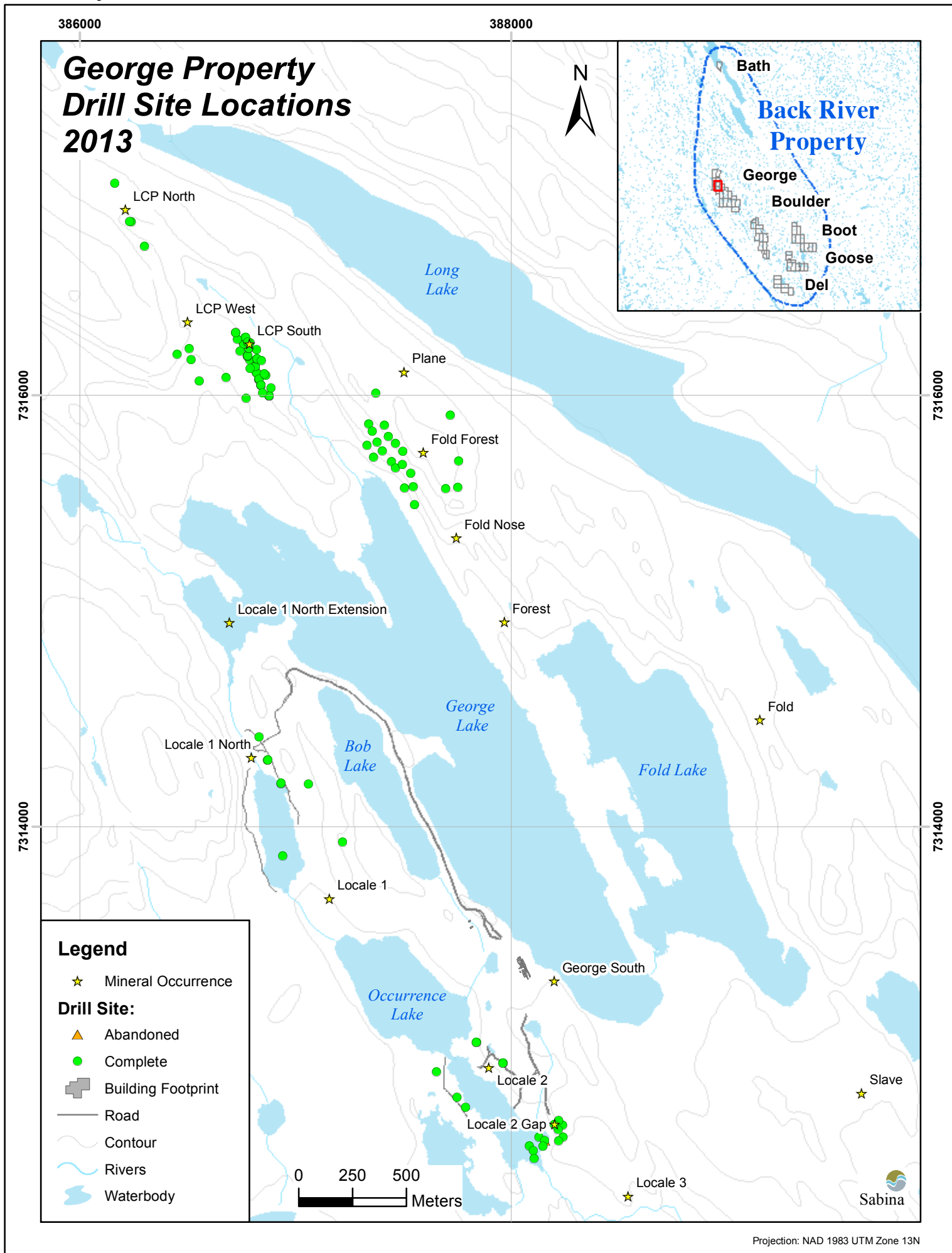
**SUMMARY OF UNAUTHORIZED DISCHARGES**

Date of Occurrence	Quantity	Product Spilled	Cause of Spill	Approximate Location	Proximity to any Water body?	Actions Taken (Summarized)	Spill no.
13-Apr-13	200L	Brine and Drill Cuttings	Megabag froze to the ice surface while being filled; resulting in a puncture and a loss of fluid.	Occurrence Lake	On Ice	Contaminated snow/ice was excavated and placed into drums for proper disposal. Megabags are now stored in plastic containers and not allowed to rest on ice.	2013-005
14-May-13	1400L	Brine and Drill Cuttings	Fluid was being stored in a portable tank prior to transfer. While stationary the tank valve malfunctioned releasing in a loss of fluid.	Lytle Lake	On Ice	Contaminated snow/ice was excavated and placed into drums for proper disposal.	2013-006



## FIGURES





# George Lake Area Water Source Locations for 2013 Drilling Season



7310000

7310000

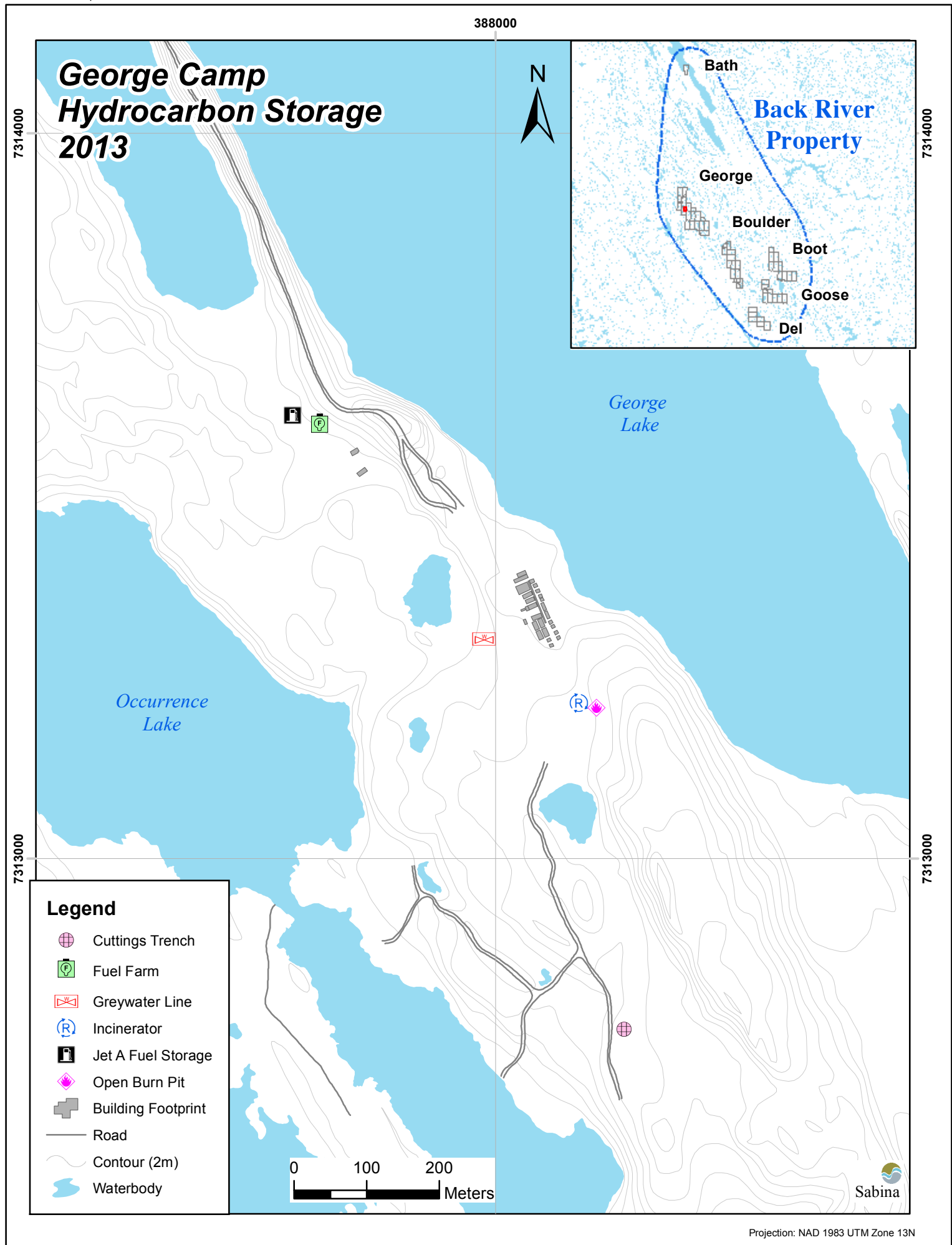
390000

**Legend**  
**Water Source Use:**  

- Drilling
- Domestic
- Rivers
- Waterbody







## **APPENDIX A**

### **NWB ANNUAL REPORT FORM**

**NWB Annual Report**

**Year being reported:** 2013 ▼

**License No:** 2BE-GEO1015 **Issued Date:** June 9, 2010  
**Expiry Date:** April 23, 2015

**Project Name:** GEORGE LAKE, BACK RIVER PROJECT

**Licensee:** SABINA GOLD AND 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):**

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):	George lake for domestic, lakes proximal to drilling		
Water Quantity:	45	Quantity Allowable Domestic (cu.m)	
		Actual Quantity Used Domestic (cu.m)	
	130	Quantity Allowable Drilling (cu.m)	
		Total Quantity Used Drilling (cu.m)	

**Waste Management and/or Disposal**

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

**Additional Details:**

**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)

Please see Section 3.0 of Annual Report.

### Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed ▼

Additional Details:

### Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed ▼

Additional Details:

### Progressive Reclamation Work Undertaken

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

Please see Section 5.0 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:

Please see Table 1.1 of 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:

Please see Table 2.3 and 2.4 of 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)

Please see Section 9.0 of Annual Report.

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

**Date Submitted:**

March 31, 2014

**Submitted/Prepared by:**

Cheryl Wray

**Contact Information:**

**Tel:**

**Fax:**

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

## **APPENDIX B**

### **OPEN BURNING LOG AND PHOTOGRAPH CATALOGUE**

## **OPEN BURNING LOG - George Lake Camp 2013**

Date	Volume	Material Burned	Pictures #	
			Before	After
July 16, 2013	16 CU.M. 400kg	Wood/Cardboard	1	2
July 18, 2013	1 CU.M. 20kg	Cardboard	3	4
July 21, 2013	2 CU.M. 60kg	Wood/Cardboard	5	6
July 22, 2013	.5 CU.M. 15kg	Wood/Cardboard	7	8
July 23, 2013	1 CU.M. 20kg	Wood/Cardboard	9	10
July 24, 2013	.5 CU.M. .5kg	Wood	11	12
July 25, 2013	1 CU.M. 1kg	Cardboard	13	14
July 27, 2013	1 CU.M. 1kg	Wood/Cardboard	15	16

## GEORGE OPEN BURNING LOG - Pictures

Before



After



July 16, 2013

Picture #

1

2



July 18, 2013

Picture #

3

4



July 21, 2013

Picture #

5

6



July 22, 2013

Picture #

7



8



July 23, 2013

Picture #

9



10



July 24, 2013

Picture #

11



12

Before



July 25, 2013

Picture #

13

After



14



July 27, 2013

Picture #

15



16

## **APPENDIX C**

### **WASTE SHIPMENT SUMMARY**

**2013 Sabina Waste Backhaul Manifest  
George Camp**



Waste Generator	TDG Description	Waste Description	HAZ NON	Class	UN #	Qty	Cont Type	End Disposal Method
Sabina - George	Non Regulated Solids	General Debris	Non Haz	N/R	N/R	91	drums	Landfill
Sabina - George	Non Regulated Solids	General Debris	Non Haz	N/R	N/R	28	Megabags	Landfill
Sabina - George	Non Regulated Solids	Incinerator Ash	Non Haz	N/R	N/R	8	drums	Landfill
Sabina - George	Non Regulated Solids	Scrap Metal	Non Haz	N/R	N/R	8	drums	Landfill
Sabina - George	Non Regulated Solids	Scrap Metal	Non Haz	N/R	N/R	14	drums	Recycling
Sabina - George	Waste Leachate	Oil	Non Haz	N/R	N/R	4	drums	Recycling
Sabina - George	Water	Contaminated with hydrocarbons	Non Haz	N/R	N/R	22	drums	Treatment
Sabina - George	Soil	Contaminated with hydrocarbons	Non Haz	N/R	N/R	7	drums	Treatment
Sabina - George	Soil	contaminated with hydrocarbons	Non Haz	N/R	N/R	2	Megabags	Treatment
Sabina - George	Flammable Liquids	Fuel	Haz	3	1993	17	drums	Recycling
Sabina - George	Non Regulated Solids	Calcium Chloride	Non Haz	N/R	N/R	2	drums	Landfill
Sabina - George	Non Regulated Solids	Calcium Chloride	Non Haz	N/R	N/R	5	Megabags	Landfill
Sabina - George	Non Regulated Solids	Empty Calcium Chloride Bags	Non Haz	N/R	N/R	7	drums	Landfill
Sabina - George	Non Regulated Solids	Rags and Absorbents	Non Haz	N/R	N/R	6	drums	Landfill
Sabina - George	Non Regulated Solids	Oil/Fuel Filters	Non Haz	N/R	N/R	6	drum	Processing
Sabina - George	Non Regulated Solids	Glycol	Non Haz	N/R	N/R	1	drum	Recycling
Sabina - George	Non Regulated Solids	Hoses	Non Haz	N/R	N/R	1	drum	Landfill
Sabina - George	Non Regulated Solids	Recyclables	Non Haz	N/R	N/R	8	Megabags	Recycling

NWT Waste Generator # NTG000018

NU Hazardous Waste Generator # NUG100028



## **APPENDIX D**

### **RECLAMATION SUMMARY**



Pre-reclamation Cuttings Sump



Post-reclamation Cuttings Sump



Pre-reclamation Thermokarst TK-01.



Post-reclamation Thermokarst TK-01.





Pre-reclamation Thermokarst TK-02.



Post-reclamation Thermokarst TK-02.





Pre-reclamation Thermokarst TK-03.



Post-reclamation Thermokarst TK-03.