

August 27, 2013

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Dear Ms. Beaulieu:

RE: Submission of Construction Summary Report as per 2BE-GOO1015 Amendment 3, Part E: Item 8.

As per Nunavut Water Board's License 2BE-GOO1015 Amendment 3, Part E: Item 8, please find attached a Construction Summary Report for the Goose Lake site at the Back River Project.

Please do not hesitate to contact me should you have any questions or concerns.

Sincerely,

John Laitin

Manager, Technical Services and Logistics

Email: jlaitin@sabinagoldsilver.com



## SABINA GOLD AND SILVER CORP.



# BACK RIVER GOLD PROJECT CONSTRUCTION SUMMARY REPORT GOOSE CAMP SITE 2013

Prepared by

Reviewed by

Date

Date

Catherine Paul

28/8/13



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### 1.0 INTRODUCTION

Sabina Gold & Silver Corp. has been exploring the Back River mineral properties for several years under valid land use, mineral tenure and water permits. The properties are located approximately 500 kilometres northeast of Yellowknife with no access by surface means. The company's main exploration work is based at the Goose site centred on latitude 65° 32' 47"N, longitude 106° 25' 47"W.

At the beginning of 2013, the existing infrastructure on the Goose site comprised:

- A camp with a capacity for 100-125 people;
- A 914-metre x 30-metre airstrip; (This was not available until May, 2013)
- Tankage for 450,000 litres of diesel fuel (6-75,000L tanks); Added 7-75,000L tanks April 2013
- A road connecting the camp with the airstrip.

Reference is made to Sabina Gold & Silver: Back River Project, Transportation Management Plan, Revision 0, March, 2012 and Revision 1, January, 2013.

Reference is made to Sabina Gold & Silver: Back River Project, Comprehensive Quarry Management Plan, Revision 0, January, 2012.

Reference is made to Sabina Gold & Silver: Back River Property – Goose Project, 2013 Quarry Development Plan, Addendum to Quarry Management Plan, June 2013.

This report is filed to comply with annual reporting requirements and will describe the construction work carried out at the Goose site of the Back River properties during 2013, comprising:

- Development and operation of a rock quarry:
- Crushing and screening of blasted rock;
- Completion of the planned second phase of all-weather airstrip construction;
- Improvement of the existing sand road between the airstrip and Goose camp;
- Laying down of crushed rock for expanded fuel storage and general camp improvement;
- Relocation of helipads;
- Internal improvements to camp buildings.



### 2.0 CONSTRUCTION MATERIALS

The Goose area is underlain by greywacke rock covered by a layer of silty sand from 1 to 3 metres thick. The referenced airstrip originally designed by SRK Consulting envisioned two stages of runway construction. The first comprising a cut and fill, using only superficial sand, for short-term use with limited capability only; the second for long-term use, comprising blasted and crushed rock. One reason for this two-stage approach was the absence of any material intermediate in size between sand and solid bedrock.

Sabina applied for and was granted a quarrying permit, KTP11Q001 on December 18, 2012, to extract 125,000 m3 of rock from a quarry located on a rock ridge about 1 kilometre southwest of Goose camp (Plate 1 in Photographs Section).

Beginning in February, 2013, Sabina re-established an airstrip on the ice of Goose Lake and mobilized construction equipment to site, including a mobile crusher and screen deck, using a Hercules aircraft. Site work was contracted to Nuna Logistics.

Beginning in February, 2013, Sabina stripped superficial till from the quarry and stockpiled it for future reclamation; shortly after, the drill and blast programme began, with the first blast March 8, 2013. The total volume of material drilled and blasted at the Goose site is 41,091 m3.

Of this total, 26,263 m3 was hauled and placed; this volume is divided as 17,633 m3 Run of Quarry material, 5,079 m3 crushed to 4" minus, and 3,551 m3 crushed to 3/4" minus. Volumes for 2013 infrastructure are detailed in Table 1.

The remaining volume of 14,828 m3 is divided as 1,007 m3 superficial till, 1,457 m3 oversized material, 3,667 m3 in stockpiles of all three material types, and 8,697 m3 of Run of Quarry material left in the quarry for future use.

The above volumes are all listed as bank cubic meters (BCM); this is the in-place volume before the rock is disturbed during the drill and blast process. The other volume unit referenced in this report is engineered cubic meters (ECM), which represents the blasted, hauled, placed and compacted volume. A conversion table between the volume units is included in Table 1.

Please note Figures 5 - 10 reference different total volumes: these volumes are estimates based on draft survey data and do not represent additional volume placed. Table 1 outlines the adjusted and final reconciled volumes for the Goose site.

The quarry was developed in non-acid-generating greywacke rock intersected by gabbro dykes. This material shattered well when blasted and readily produced a reasonable surface, and therefore needed only a thin topping of 4" minus and 3/4" minus material to provide acceptable running surfaces.



### 3.0 CONSTRUCTION

#### 3.1 AIRSTRIP

The first phase of airstrip construction was completed in 2012 and the second phase was completed in 2013; this construction summary report is being submitted upon the final completion of the full airstrip. For the 2012 construction, silty sand was the only available construction material; the result was marginally satisfactory. The southeast half of the runway was usable by small aircraft; the northwest half became too deeply rutted to be usable by aircraft.

Figures 1 and 2 show the structure of this runway on completion of work in August, 2012.

Sabina reopened the Goose site in late January, 2013. Nuna built a 1.2 km winter road from the airstrip to the quarry site and began to quarry and place rock in February-March in accordance with the cross-section shown below (Figure 3). Figure 3 shows only notional cross-slopes of the existing runway surface. Actual cross-slopes varied significantly in both gradient and direction. The longitudinal slope of the runway was also uneven. Nuna used Run of Quarry material to produce a cross-wise level surface and even out the variations in longitudinal and cross-slopes. Sabina intended that the whole runway surface would be covered by a minimum of least 0.2 metres of quarried rock. Levelling out the gradients resulted in local thicknesses up to 1.1 metres. Nuna then built a uniformly graded crest along the runway, using 4" minus material, ranging from 0.2 to 0.35 metres and surfaced it with a 0.15-metre skin of 3/4" minus.



#### Typical runway cross-section

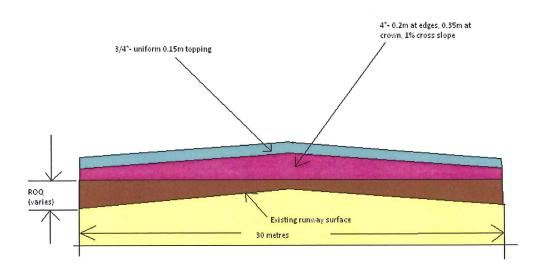


Figure 3. Runway Completion Design

#### Material placed totalled:

Material	Volume [BCM]	Volume [ECM]
Run of Quarry	11,461	12,595
4" minus	4,965	5,456
3/4" minus	2,994	3,290
Total	19,420	21,341

Work on the runway was completed in May, 2013, compaction-tested at locations listed in Table 2 and shown in Figure 8 and accepted by user airlines based in Yellowknife.

Figures 4-7 show the as-built condition of this runway.

### 3.2 ROAD BETWEEN AIRSTRIP AND GOOSE CAMP



The Phase 1 airstrip was connected to the Goose camp by a narrow road, also built by cutting and filling poorly drained silty sand. The original design showed the 2012 road connecting to the southern apron of the airstrip; this alignment was altered in favour of a road that connected to the middle of the Phase 1 airstrip (Sta. 4+40). This decision was based on reducing the earthworks requirements for the 2012 season. This road suffered from the same problems of poor usability as the 2012 Phase 1 airstrip.

In 2013, Sabina made completion of the airstrip a priority. When this work was completed, Nuna began placing Run of Quarry on the road, averaging 0.42 metres in thickness, topped by a skin of ¾" minus, averaging 0.08 metres in thickness. The 2013 road followed the 2012 road alignment and terminates at the middle of the airstrip.

#### Material placed totalled:

Material	Volume [BCM]	Volume [ECM]
Run of Quarry	1,208	1,328
3/4" minus	154	170
Total	1,362	1,498

Figure 9 shows the arrangement of drainage around the 2013 airstrip and camp road.

#### 3.3 EXPANDED FUEL STORAGE AND GENERAL CAMP IMPROVEMENT

Sabina obtained permission to install seven 75,000-litre double-walled fuel tanks at the Goose camp in addition to the six 75,000-litre double walled tanks already in place. For this purpose, Nuna installed a pad immediately adjacent to the existing tank pad.

This pad was a base of Run of Quarry material, topped with 4" minus and ¾" minus crushed rock. Due to local topography, the Run of Quarry material ranged from 0.5 to 1.6 metres in thickness. A layer of 4" minus averaged 0.23 metres in thickness, and was topped by a skin of ¾" minus, averaging 0.14 metres thick.

#### Material placed totalled:

Material	Volume [BCM]	Volume [ECM]
Run of Quarry	1,689	1,856
4" minus	114	126
¾" minus	164	181
Total	1,967	2,163

A low-lying wet area where the road entered the camp was filled in with oversize material, Run of Quarry material and capped with a running surface of ¾" minus. Due to the lack of soil cohesion in the area, a thick base layer was required to stabilize it; this allowed for the utilization of oversize material that would not normally be usable.



#### Material placed totalled:

Material	Volume [BCM]	Volume [ECM]
Run of Quarry	1,536	1,688
3/4" minus	194	213
Total	1,730	1,901

Other miscellaneous camp improvements, listed as ECM, consumed 635 m3 of Run of Quarry and 49 m3 of 3/4" minus.

Figure 10 shows an overview of the airstrip access road, camp entrance laydown, as well as internal camp road additions in 2013.

#### 3.4 STOCKPILES

The following material was stockpiled beside the airstrip on completion of the work:

Material	Volume [BCM]	Volume [ECM]
Run of Quarry	1,609	1,768
4" minus	1,077	1,184
¾" minus	981	1,078
Total	3,667	4,030

As the guarry was accessed by a winter road, quarrying ceased when this road thawed.

#### 3.5 RELOCATION OF HELIPADS

In August, 2013, Sabina used minor amounts of stockpiled material to relocate the three helipads from the west end of the camp to the north end. This provided a safer working radius for flying aircraft, improved environmental mitigation, and moderated the effects of noise and dust produced by helicopter operations.

#### 3.6 INTERNAL CAMP IMPROVEMENTS

Sabina carried out a number of improvements to the camp buildings, comprising carpentry and electrical work, to improve the health, safety and comfort of the camp personnel and to improve warehouse facilities.



## 4.0 MONITORING REQUIREMENTS

As per Nunavut Water Board Licence No. 2BE-GOO1015 Type 'B' – Amendment No. 3 Part E, Item 16, and Part J, Item 10, surveys were conducted to determine if water flow was present and if sampling was required. Surveys were conducted on the following dates and water flow was not present: June 4<sup>th</sup>, June 12<sup>th</sup>, June 16<sup>th</sup>, June 25<sup>th</sup>, July 28<sup>th</sup> and August 8<sup>th</sup>.

Two culverts were installed along the access road from the camp to the airstrip in a low topographical area in the event that flow was present. These areas were monitored daily during freshet and remained dry.



## 5.0 CONSTRUCTION CHANGES

The above-mentioned placement of material took place in accordance with field measurements and design.



# 6.0 DISCUSSION AND RECOMMENDATIONS

No problems have developed with use by aircraft; only minor maintenance work has been needed. The runway is now usable year-round by Buffalo, Dash-8 and similar as well as smaller aircraft for its full length of 914 metres.



# 7.0 CLOSURE

The programme described above was completed in May, 2013.



## 8.0 REFERENCES

Sabina Gold & Silver: Back River Project, Transportation Management Plan, Revision 0, March, 2012, Revision 1, January, 2013.

Sabina Gold & Silver: Back River Project, Comprehensive Quarry Management Plan, Revision 0, January, 2012.

Sabina Gold & Silver: Back River Project, 2013 Quarry Development Plan, Addendum to the Quarry Management Plan, June 2013.

SRK Consulting: Sabina Gold and Silver Corporation: Goose Lake Project Airstrip, Conceptual Design, October 25, 2010

SRK Consulting: Sabina Gold and Silver Corporation: Goose Lake Project Airstrip, Conceptual Design, August 3, 2011



## 9.0 PHOTOGRAPHS



Plate 1. Overview Showing Relative Locations of Quarry (foreground), Airstrip (middle distance), Camp Road and Camp (background). (White area in background is ice on Goose Lake.)





Plate 2. Quarrying Rock, Showing Quality of Rock Breakage.



Plate 3. Overview of Quarry.