APPENDIX F
QUARRY MANAGEMENT PLAN

BACK RIVER PROJECT
QUARRY MANAGEMENT PLAN

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1. Introduction

Sabina Gold & Silver Corp. (Sabina) is actively developing the Back River Project (the Project) approximately 75 km south of Bathurst Inlet, in the Kitikmeot Region, Nunavut. The Project is currently under review with the Nunavut Impact Review Board (NIRB).

Sabina is planning to seek regulatory approval of a site preparation program to initiate early works for mine development at Back River in advance of completing the mine development environmental assessment. This program (referred to herein and elsewhere as the "Site Preparation Works" or SPW) will consist of the positioning of equipment, consumables and fuel at the Project sites, the quarrying of aggregate for construction, and the establishment of basic infrastructure such as an all-weather road and an extended airstrip at the Goose Property. The SPW is further described in the accompanying environmental screening document prepared by Tetra Tech EBA on behalf of Sabina.

A necessary component of the SPW is the development of rock quarries to support the above site preparation activities at the Goose Property. Two quarries have been identified for use: the existing quarry next to the airstrip and another new quarry located within the footprint of the future Umwelt open pit (Figure 1.1). Up to 550,000 m^3 of rock will be required to support SPW, and this material will be extracted from one or both of these quarries. As such, Sabina is seeking approval to extract up to 550,000 m^3 of rock from each of the existing airstrip quarry and the proposed Umwelt quarry. The total volume of rock extracted from one or both quarries, however, will not exceed 550,000 m^3.

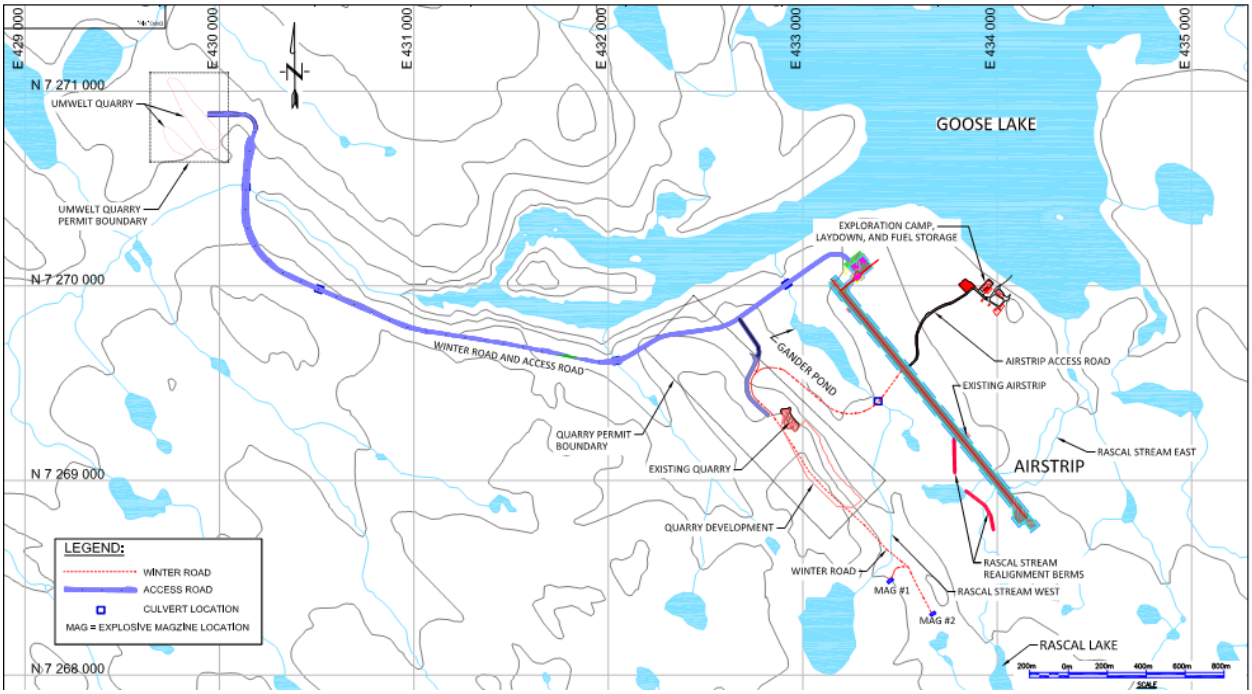
Sabina currently holds a Quarry Permit Agreement with the landowner, the Kitikmeot Inuit Association (KIA), for the existing airport quarry at the Goose Property ("Quarry A"). The existing quarry was also incorporated into Amendment 3 of the Type B Water Licence for the Goose Exploration Property (2BE-GOO1015). The coordinates of the existing and proposed quarries are presented in Table 1.1.

Table 1.1 Quarry Permit Coordinates

Aggregate Source	Permit	Material	Approved/Proposed Volume (m^3)	Approx. Surface Area (hectares)	Permit Area Boundaries
Quarry A	KTP11Q001	Rock	125,000/550,000	55	Point 1 E432188, N7269675 Point 2 E432438, N7269950 Point 3 E433425, N7269000 Point 4 E433138, N7268700
Umwelt	In application	Rock	0/550,000	4	Point 1 E429644, N7271096 Point 2 E430046, N7271096 Point 3 E430046, N7270637 Point 4 E429644, N7270637

An amendment will be sought for the Goose Property's Quarry A Quarry Permit Agreement, and a new agreement will be sought to develop a rock quarry at the Umwelt deposit.

Figure 1.1 Goose Property Layout for SPW



2. Scope and Objectives

This Quarry Management Plan (QMP) outlines Sabina conceptual plans to develop quarries in support of SPW in an environmentally sound manner. General mitigation measures that Sabina will apply to these and any other quarries or borrow areas are presented, along with development plans for the two quarries associated with the SPW. Specific mitigation measures are identified for the construction, operation and closure of each of the two quarries, and a monitoring program is prescribed.

The QMP addresses the following topics:

- Applicable legislation and guidelines
- Roles and responsibilities
- Environmental protection measures and proposed thresholds
- A monitoring program to collect water quality and quantity data during quarry operations
- Mitigation to avoid or minimize potential adverse effects on water quality and quantity during quarry operations identified through the monitoring program
- Checking and corrective actions
- Record keeping and environmental reporting
- A framework for the evaluation of plan effectiveness
- A Quality Assurance / Quality Control (QA/QC) program to be applied to the monitoring program

This QMP has been prepared to support permitting for site preparation work, the requirements under the Nunavut Water Board (NWB) water licence, and the Kitikmeot Inuit Association (KIA) land use permits. Subject to annual internal review and revision, the QMP will remain applicable throughout the duration of the SPW, or until a material change in the scope of the Project occurs.

Reference documents to support the SPW include:

- SPW Environmental Screening Document
- SPW Abandonment and Restoration Plan
- SPW Spill Contingency Plan
- Goose Exploration Camp Explosives Management Plan

The goal of any management plan is to reduce and prevent impacts to the environment while ensuring personnel safety and appropriate fiscal considerations during mineral exploration and project development activities.

3. Planning and Implementation

3.1 QUARRY A – EXISTING QUARRY

3.1.1 Consideration of Potential Environmental Effects

The existing quarry was previously subject to an environmental screening by NIRB. During that screening, Sabina considered the following:

- A setback of 31 m from watercourses and environmentally sensitive areas, including archaeological features;
- The quarry was assessed to contain adequate aggregate resources and would require minimal stockpiling of overburden;
- The quarry was low in ARD/ML potential (Rescan, 2011; see Section 6.1.1); and
- Extraction of rock from the quarry was not anticipated to meaningfully disrupt permafrost conditions.

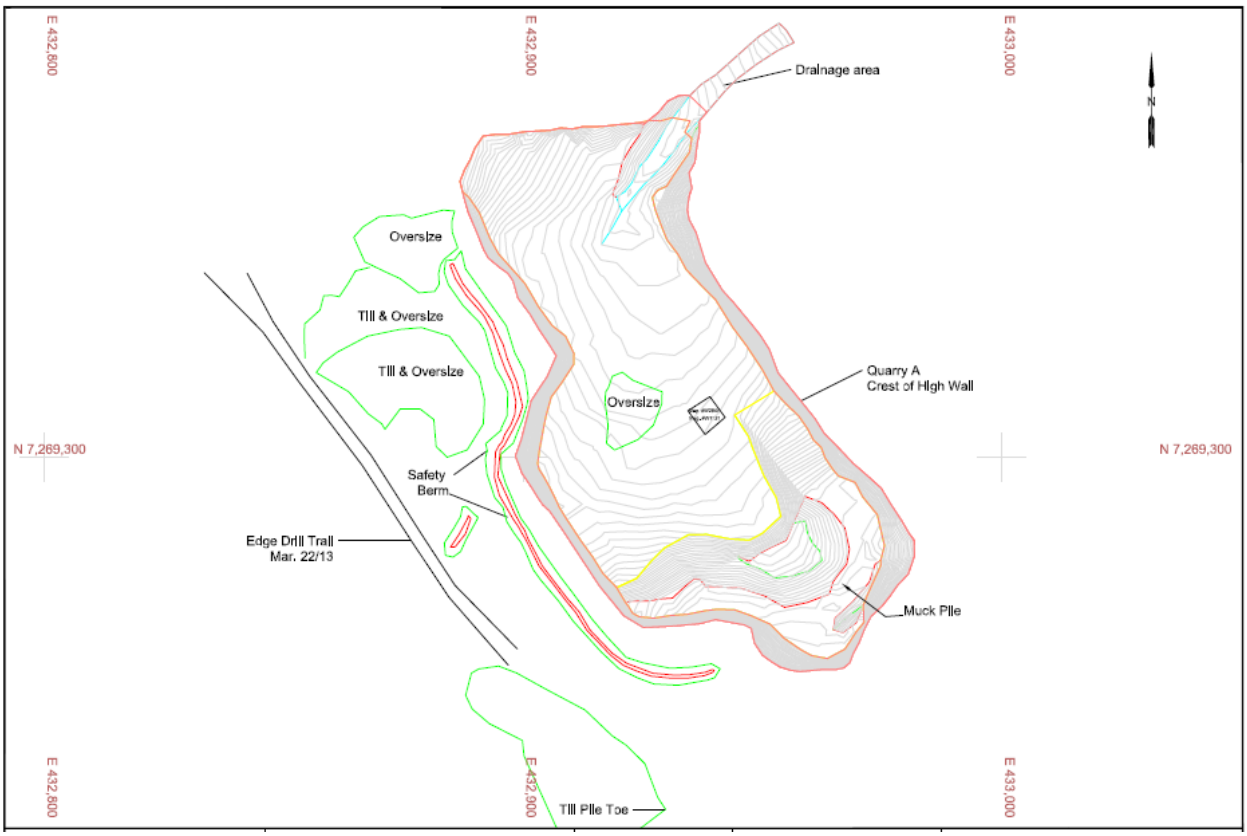
3.1.2 Previous Quarry Development

Sabina's current Quarry Permit Agreement KTP11Q001 allows for the quarrying of up to 125,000 cubic meters (m^3) of rock from Quarry A at the Goose Property. The Quarry A permit boundary is a rectangular area measuring 1,375 m by 400 m (~55 ha) as shown on Figure 1.1. The development of this quarry was incorporated into Amendment 3 of Type B Water Licence 2BE-GOO1015 for the Goose Exploration Property.

During the 2013 season (March 1 to May 15, 2013) approximately 40,000 m^3 of rock material was drilled and blasted at Quarry A. Run of Quarry (ROQ) material was trucked over winter road corridor from the quarry to crushing equipment located at the all-weather airstrip. The material was crushed to 4-inch and ¾ inch aggregate and was used to build a pad and containment for bulk fuel tanks in Goose camp and to surface the all-weather airstrip and connecting road between the airstrip and Goose camp.

Minor stockpiles of surface till and oversized ROQ remain. A survey of the quarry following completion of the 2013 extraction is shown as Figure 3.1.

Figure 3.1 Existing Quarry A after Extraction in 2013



3.1.3 Development Plan

As mentioned above, Sabina intends to extract up to 550,000 m^3 of rock to support the SPW program. Figure 3.2 shows the anticipated final Quarry A footprint based on the maximum extraction of 550,000 m^3 of rock.

Quarry A is located on a rock outcrop. Further development of the quarry will involve drilling and blasting as was undertaken in the previous phase. Quarry operations will use explosives and the design, shape, and size of the blasts shall be planned with safety being the most important consideration. A predetermined pattern of drillholes will be drilled to a depth not exceeding the overall depth of the quarry and filled with explosives. Prior to the blast, all personnel and equipment are moved to a safe distance. The blasted rock and fragments will be loaded into haul trucks using a loader, a hydraulic shovel, or similar means. The ROQ material will then be hauled to the construction area, dumped, and placed using a dozer ("drill, blast, load, haul, dump" sequence).

Some of the ROQ will be moved to a crusher to produce aggregate of various sizes. The crusher will be offset from local waterways and may be shielded from the prevailing wind. The shielding is best managed by placing the crusher within the quarry behind a high wall to reduce the quantity of windblown dust and enabling dust to fall within the quarry boundaries.

A highwall will be created along the high point in the ridge along the western extent of the proposed SPW quarry, and the quarry floor will be sloped to the east. A gentle slope to the quarry floor will ensure that the quarry is free-draining. The highwall may reach a height of 20 m in places, if the quarry is fully developed.

The existing quarry has minimal overburden. Any overburden generated and not used by the Project will be placed in stable stockpiles either above the highwall or along the toe of the quarry.

3.1.4 Water Management

As mentioned above, the quarry will be developed to be free draining. As such, runoff from the quarry will drain to the lower lying area to the east, eventually reporting to the stream that connects to Gander Pond. Runoff, if present, will be sampled and compared to the quarry runoff criteria presented in Section 7.1.

3.1.5 Abandonment and Restoration

The design of the quarry incorporates closure considerations. Sloping of the quarry floor will prevent the ponding of water. A safety berm was established along the highwall during quarrying activities in 2013. This safety berm will be extended as required during quarry expansion as a progressive reclamation measure. At closure, any equipment, fuel and wastes will be removed. The quarry may be used for landfilling bulky, non-hazardous wastes at the conclusion of the program. In this instances, stockpiled rock and/or till overburden will be used to place a 1 m cover over landfilled materials. Remaining stockpiles will be inspected and re-contoured to ensure slopes are stable in the long term.