



Committee Bay Project

Quarry Development Plan

Revision 1

North Country Gold Corp.
November 2014

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DOCUMENT CONTROL

Version	Date	Section	Pages	Revision
1	17/Nov/2014	all	all	Format update

1.0 **COMPANY AND PROJECT BACKGROUND**

North Country Gold Corp. ('NCGC') is a publically listed, Canadian based exploration company conducting mineral exploration within the Committee Bay area in the eastern portion of the Kitikmeot Region, Nunavut Territory, Canada.

The Committee Bay Project ('CBP') comprises mineral claims and leases located on both Crown Land and Inuit owned (surface rights) land pursuant to the Nunavut Land Claims Agreement. The project encompasses NCGC's flagship Three Bluffs gold deposit, numerous gold occurrences, four exploration camps and a number of fuel and equipment caches.

Exploration work programs are generally undertaken as seasonal campaigns occurring between March and October in any given year, largely dictated by market conditions. Work activities comprise claim and lease staking, prospecting, geological mapping, rock, till and soil sampling, airborne and ground geophysics and drilling. Supplies, including fuel are airlifted to the CBP from various towns and cities in Nunavut, Manitoba and the Northwest Territories.

In 2011, NCGC initiated an upgrade of its primary camp, Hayes Camp. These upgrades were designed to increase the camp capacity to 100 people and improve the overall safety, working conditions and environmental impacts of ongoing work at the Three Bluffs gold deposit. Upgrades completed in 2011 comprised construction of additional camp accommodation, the installation of new washroom facilities, quonset structures, a dual chambered incinerator, waste water treatment system, and initiation of the construction of a 3000' airstrip. NCGC intends to continue these camp upgrades and to construct an all-weather road from Hayes Camp to, and within, the Three Bluffs drilling area in coming years.

NCGC has the following permits and licences in place to support advanced exploration activity at the CBP.

Organization	Description	Permit/Licence #
Nunavut Impact Review Board	Project Reference Number	07EN021
Aboriginal Affairs and Northern Development Canada (AANDC)	Land Use Permit (Bullion camp)	N2014C0002
	Land Use Permit (Hayes camp)	N2014C0005
Kitikmeot Inuit Association	Land Use Licence for IOL (Ingot /Crater camps)	KTL314C003
Nunavut Water Board (NWB)	Water Licence	2BE-CRA1015
Aboriginal Affairs and Northern Development Canada (AANDC)	Commercial Leases	Lease 065J/11-1-2
		Lease 065J/12-1-2

2.0 INTRODUCTION

NCGC's Hayes Camp is located at Latitude 66°39'31"N and Longitude 91°33'11"W, approximately 220 km SSW of Kugaaruk and 235 km WSW of Repulse Bay within the Eastern Kitikmeot region of Nunavut.

As part of the overall plans for the 2011 – 2016 seasons, NCGC applied for a quarry permit to provide material for enhancements to the infrastructure at the existing camp, including: extensions to the camp facilities; grading and lengthening of the airstrip; and the development of a road to the Three Bluffs gold deposit. Three borrow areas were identified in the applications to regulatory authorities (Appendix 1). NCGC will renew its quarry permit prior to recommencement of quarrying operations.

3.0 QUARRY MATERIAL CHARACTERIZATION

Proposed Borrow Areas 1 and 2 are located on a low lying terrace associated with a large esker complex and containing mixed glacial and beach sediments. Material at both these locations is covered by up to 10cm of organic material mixed with fine silts and sands. Quarry material comprises immature, poorly sorted, quartz rich sands with common seams containing intermixed sub-angular to rounded boulders and cobbles. All material is quartzo-feldspathic in nature. Cobbles and pebbles are predominantly granitic in composition.

Proposed Borrow Area 3 occupies a low lying hill representing a residual glacio-fluvial terrace. Material at this location comprises very poorly sorted glacial till with sub-angular to sub-rounded boulders with diameter of 0.6-1.5m and a matrix of poorly sorted sand, pebbles and cobbles. All material is quartzo-feldspathic in nature and appears to be derived from a distal granitic source.

4.0 MITIGATIVE MEASURES

4.1 *Erosion Control*

NCGC will use sand bags as mitigation measures to prevent and control erosion. Sand bags will be used along the length of the airstrip during construction in areas where runoff and drainage create the potential for washout. Construction of the airstrip will not be completed in one field season, therefore it will be important to have measures in place to keep materials used in the airstrip construction from being washed out during freshet and storm events. The use of sand bags will:

- Reduce water flow velocities in channels and ditches;
- Reduce run-off erosion;
- Allow water to collect and sediment to settle out; and,
- Are easy to construct and re-usable.

4.2 *Sediment Control*

Silt fences will be erected in drainages near the quarry locations as well as along the roadways to the quarry areas.

Silt fences:

- Filter sediment from run-off;
- Aid in water ponding so that coarse sediment settles out; and,
- Are effective for sheet flow erosion.

If scouring occurs, sand bags will be used to reduce the velocity of the runoff and the silt fences will be erected. These mitigation measures will allow sediment to drop out and reduce the potential for the migration of sediments toward the lake.

Additional erosion control measures will be employed if needed.

4.3 *Surface Drainage*

Drainage patterns are not expected to be impacted or altered as a result of quarrying activities at Hayes camp. NCGC has noted that during freshet and heavy storm events, natural drainages are active with water. However, at other times, smaller events and naturally ponding water infiltrates the esker surface.

The quarry areas were selected based on material needs, proximity to infrastructure to be constructed and environmental considerations, including surface drainage. The Hayes camp and airstrip are situated on an esker along a lake. Natural drainage flows along this esker toward the lake from a number of points. Quarrying activities will be conducted in a manner that avoids these drainage areas and does not impact the natural movement of the water. As well, no steep areas will be created from the removal of quarry material and thus runoff scouring of slopes is not anticipated to occur.

As a precautionary measure, silt fences will be erected in all drainages.

4.4 Water Management Procedures

It is important to keep water from ponding in the quarried areas of esker, sand and gravel material. Moving water is an effective erosive agent of frozen soils that, in the permafrost terrain, becomes thermal erosion. Spring freshet releases large volumes of water quickly over the frozen ground surface. Ponded water can lead to thermal degradation of frozen ground. Thermally degraded ground is more susceptible to erosion. In the event that ponding of water does occur, the following measures will be undertaken:

- Water will be pumped out of the quarried areas carefully, and will be directed along the natural drainages that have erosion control measures erected; or,
- Water will be drained off by the creation of a ditch which will direct water from the pond downslope away from the quarry area. The ditch would be monitored.

If, during the removal of quarry material, ice is encountered, quarrying activities will cease and the material will be replaced to ensure that preferential drainage areas are not created. A record will be kept of ice encounters and the sites will be monitored. A new location will be chosen for quarrying.

If water quality is a concern, due to TSS, water will be collected in a sump and pumped through a form of “filters” before release overland toward the natural drainages.

5.0 MONITORING

The quarry areas will be monitored during:

- Construction;
- Freshet;
- Following storm events; and,
- During ground bird migration and nest selection.

Drainages will be walked and visually inspected regularly. Water samples will be collected in the event that there are concerns with regard to elevated TSS.

Prior to beginning quarrying activities, a survey will be conducted to ensure that there will be no disturbance to ground nesting birds.

6.0 **CLOSURE AND REMEDIATION**

Quarry areas will be reclaimed as soon as they are no longer in use. Material within the quarry area will be sloped to encourage drainage from the quarry area toward natural drainages. Material will be built up in any areas where there is a concern or risk of ice melting, should ice be encountered during quarrying activities. If needed, quarry areas will be covered and capped to insulate ground ice and promote permafrost aggradation.

Quarry areas will be monitored following remediation and closure. The expectation is that the areas will stabilize and over time, in the eskers, revegetation will occur naturally.

APPENDIX 1

Quarry Development Areas

