Borrow Pits and Quarry Management Plan
Ulu Gold Project

Kitikmeot Region, Nunavut

March 2020

BLUE STAR GOLD CORP.

PLAIN LANGUAGE SUMMARY

This Plan describes activities associated with construction, operation and closure of the esker borrow pits and rock quarry areas at the Ulu Gold Project area in Kitikmeot region of Nunavut.

REVISION HISTORY

Revision #	Date	Section	Summary of Changes	Author	Approver
1	March 2020	-	New document	SRK Consulting	P. Kuhn

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1.0 INTRODUCTION

The *Borrow Pits and Rock Quarry Management Plan* (the Plan) is intended exclusively for use by Blue Star Gold Corp. (Blue Star) and its contractors to ensure that best practices for minimizing potential environmental impacts and potential environmental liabilities during the construction, operation and closure of borrow and rock quarry areas at its Ulu Gold Project (the Project), and that the conditions of the water and land use licences are met, and should be read in conjunction with the documents listed in Table 1.

Table 1 Related project documents, permits and licences.

Document	Authors
Interim Closure and Reclamation Plan (2020a)	Blue Star Gold Corp.
Engagement Plan (2020b)	Blue Star Gold Corp.
Spill Response Plan (2020c)	Blue Star Gold Corp.
Waste Management Plan (2020d)	Blue Star Gold Corp.
Wildlife Protection Plan (2020)	Environmental Dynamics Inc.
Interim Water Management Plan (2006)	Gartner Lee Ltd.
Mineral Claim	Government of Canada
Screening Decision Report	Nunavut Impact Review Board
Water License	Nunavut Water Board
Land Use License	Kitikmeot Inuit Association

Implementation of the Plan in part should be considered alongside the following relevant legislation:

- Workers Safety and Compensation Commission (WSCC) Chief Mines Inspector as per Mine Health and Safety Act, and its associated Regulations (Government of Nunavut, 1995).

1.1 SCOPE

This Plan is intended address how the quarries and borrow pits will be constructed, operated and closed, and outlines how the facilities will be inspected and managed to ensure compliance with authorizations.

1.2 OBJECTIVES

The objectives of the Plan are to:

- Ensure employees and contractors are aware of their responsibilities for the appropriate management of borrow and quarry material, explosives, dust, and water;
- Outline appropriate operation and management requirements of the facility from initiation to closure; and
- Support safe and compliant facility operations.

1.3 BACKGROUND

The Project is located on Inuit-owned land in the Kitikmeot Region, Nunavut, within the Hood River watershed. It is located 126 km north of the Lupin Mine (Figure 1).

The mineral claims holding the Ulu deposit were initially staked in 1988. Portal excavation at the Ulu site commenced in 1996 to confirm resource calculations and mining design for mill feed to the Lupin Mine. Equipment to construct the camp and develop the mine was mobilized to site via a winter road from the Lupin mine in 1996. Camp 3 was built at the esker sand borrow pits to facilitate construction of the airstrip, road and underground exploration site. It included tent accommodations, a garage and a fuel tank farm. Camp 3 was reclaimed in 2018/2019. Underground development of the ramp ceased in August 1997 at the 155 m level. The existing facilities at the Ulu underground exploration site consist of a 20-person camp with sleeping and dining quarters, a 22 m by 37 m vehicle repair shop, fuel containment areas (tanks removed in 2018) for bulk diesel and day tank storage, core storage area, core shack, and fuel staging area. Blue Star intends to utilize a surface landfill to dispose of equipment and infrastructure not required for their exploration program. Blue Star also intends to maintain and possibly extend the airstrip.

1.4 PLAN MANAGEMENT

The Plan is reviewed annually by Blue Star's General Manager and updated as needed following receipt of or amendments to licences and permits, to ensure alignment with relevant terms and conditions. When material changes occur, the updated document will be provided to parties in accordance with the *Engagement Plan* (Blue Star 2020b).

1.5 PLAN IMPLEMENTATION

This Plan is effective upon approval and is valid throughout all phases of the Project.

The General Manager or Remediation Project Manager is responsible for Plan implementation.

A copy of this Plan is maintained on site in the Office, while the camp is open.

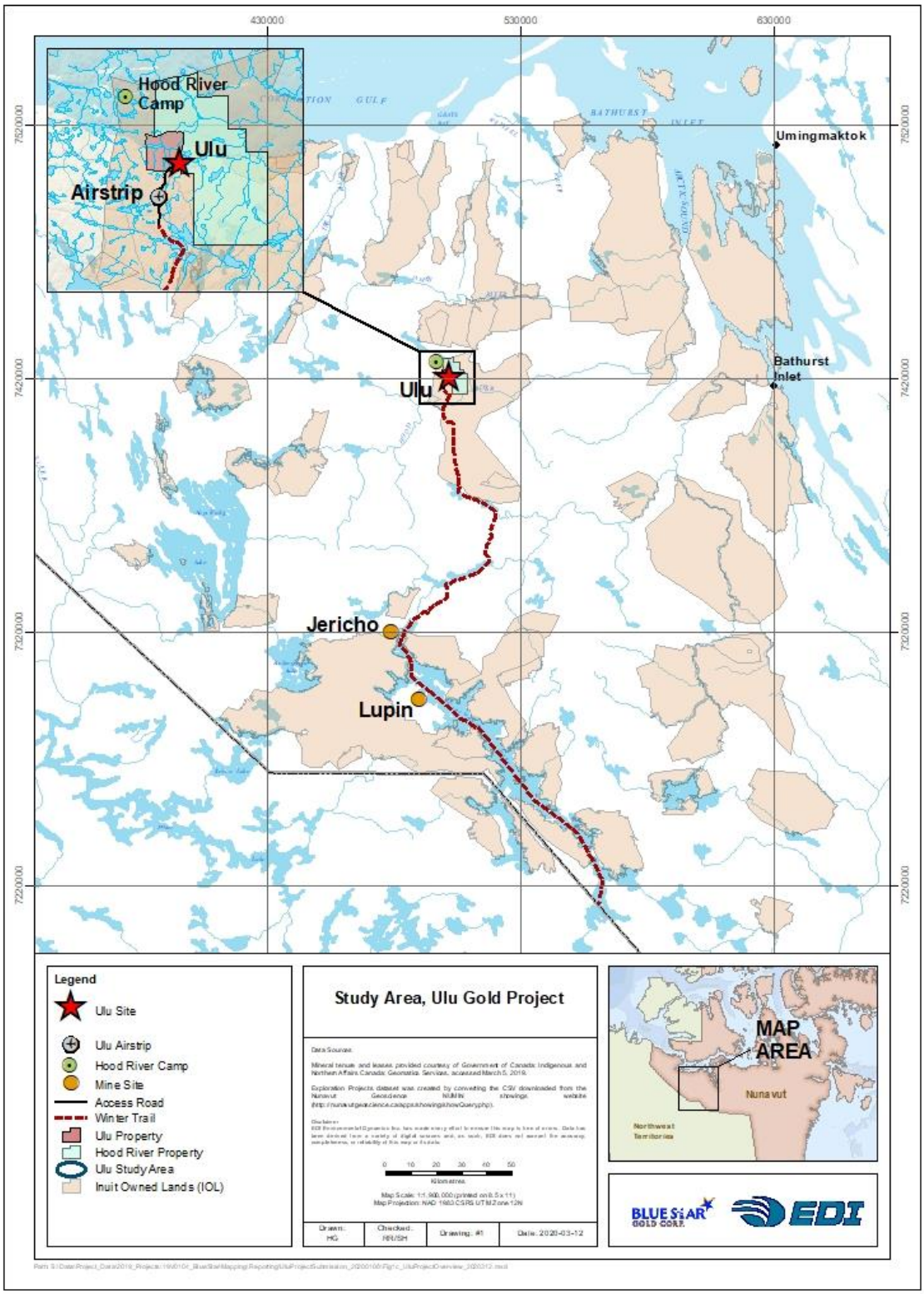


Figure 1 Ulu Gold Project location map

2.0 ROLES AND RESPONSIBILITIES

Blue Star is responsible for activities associated with the Ulu Gold Project, including implementation and management of this Plan. Blue Star's contact information is provided below.

Blue Star Gold Corp.
Suite 1125-595 Howe Street
Vancouver BC V6C 2T5
Phone: 1 778 379 1433
Contact: Peter Kuhn, General Manager
Phone: 1 604 347 6999
Email: kjgold2010@gmail.com

2.1 STAFF, CONTRACTORS, SUPPLIERS AND VISITORS

All personnel conducting activities on site, including staff, contractors, suppliers and visitors, are required to be guided by this Plan as it pertains to their activities on site. Specifically, these responsibilities include:

- Taking all necessary steps to minimize negative effects to water, land and air;
- Cooperating fully with your supervisor and/or Blue Star management to implement an environmental protection program in your work area;
- Only carrying out duties and tasks that you are experienced at and trained to perform;
- Where there is uncertainty, asking questions and bring concerns to the attention of your supervisor when working with products or conducting tasks that may pose potential environmental risks;
- Reporting wildlife observations, archaeological finds, spills and emergency situations in accordance with relevant management plans.

2.2 MANAGERS AND SUPERVISORS

Managers and supervisors have a responsibility to ensure that staff, contractors, consultants and visitors have been trained in Blue Star quarrying operations, environmental and any other relevant procedures. Additional supervisor and manager responsibilities include:

- Maintaining a no blame work environment in implementing mitigation measures and follow-up actions;
- Ensuring site-, task- and material-specific training is provided to all departments and staff;
- Ensuring there are appropriate and sufficient supplies on site to support implementing mitigation measures and follow-up actions;
- Providing assistance in responding to environmental hazards;
- Maintaining records regarding inspections, personnel training, equipment testing and maintenance; and
- Engaging with relevant parties in a timely and transparent manner, where appropriate.

2.3 REMEDIATION PROJECT MANAGER

In addition to the responsibilities listed above the Remediation Project Manager is responsible for:

- Conducting and documenting regular inspections for operational compliance;
- Coordinating with other managers and supervisors to ensure safe and appropriate allocation of resources on site; and
- Maintaining the remediation schedule, and where schedule changes occur, advising the General Manager in a timely manner;
- Controlling access within the quarry development boundaries;
- Maintaining a log of materials blasted and hauled daily, mitigation measures applied, analyses conducted, preventative maintenance undertaken;
- Maintaining photo documentation of works.

2.4 PROJECT GEOCHEMIST

In addition to the responsibilities listed above, the Project Geochemist, whose role may overlap with or be filled by the Remediation Project Manager, is responsible for the following specific tasks:

- Carrying out pre-construction geochemical and abrasion testing, review sampling results and advise on material suitability for use;
- Delineating quarry development area on paper an in the field;
- Visually inspecting the active quarry face during construction for the occurrence of sulphide veining.

3.0 SITE DESCRIPTION

3.1 SOILS AND GEOLOGY

Quaternary surficial deposits include bouldery thin sandy-silty till veneers less than 2 m thick, thicker hummocky drift sheets likely composed of both sub-glacial and ablation tills which obscure bedrock, and areas of extensive glaciofluvial sediments in eskers, esker complexes and deltas, and kames (Cowley 2015).

The Ulu Gold Project is within the Slave Structural Province, an Archean granite-greenstone terrane. Rocks within the Slave Structural Province are assigned to three lithotectonic assemblages identified as: an early assemblage of gneisses, granitic rocks and quartz arenites; Yellowknife Supergroup greywackes, mudstones, volcanic rocks and synvolcanic intrusions; and a younger sedimentary-plutonic assemblage of clastic sediments and granitic rocks. The regional geology is shown on Figure 2.

The Ulu deposit is an epigenetic lode-gold occurrence located on the western margin of the High Lake Volcanic Belt where Yellowknife Supergroup rocks are in contact with an Archean granitic batholith. The property covers supracrustal rocks in a sequence of basalts (40%), greywackes (45%) and gabbroic sills (15%) that have been folded into a series of second generation (F_2) anticlines and synclines, supported by remnant pillow structures indicating younging direction. There are no felsic volcanic rocks on the property. The supracrustal rocks have been metamorphosed to amphibolite grade. The supercrustals form a 2-3 km wide lobe separated from the bulk of the High Lake belt by a narrow embayment of granitic rocks, an apophysis of the granitic batholith. This apophysis is a leucogranite plug (informally named the "Peanut Intrusion") and lies to the east of this volcanic/sedimentary sequence. Late stage feldspar porphyry, quartz diorite and diabase dykes locally intrude this sequence. Northeast-trending, medium to coarse-grained quartz-feldspar porphyry and feldspar porphyry (FP) dykes, 3 to 30 m wide, locally intrude the volcanic

package (post folding). The Proterozoic diabase dykes are typically 5-20 m thick, and generally trend 160°. Often the plagioclase phenocrysts in the diabase dykes are stained with hematite (Flood et. al., 2004).

3.2 CLIMATE

The Project is located within the Southern Arctic Ecozone and the Takijuq Lake Upland Ecoregion. Much of this region is composed of unvegetated rock outcrops. Vegetative cover is characterized by shrub tundra, consisting of dwarf birch, willow, northern Labrador tea, avens species and blueberry species. Organic Cryosols are the dominant soils in the lowlands and permafrost is deep and continuous (ECCC 2019).

Based on regional normals from Lupin A station between 1980 and 2010 (ECCC 2020), average yearly rainfall in the region is 160 mm, mostly occurring during July and August, and average yearly snowfall is equivalent to 138 mm of water, most of which falls during autumn and spring. The average temperature in a year is -10.9 ° Celsius.

Lithology Legend

- Ag Leucocratic
- Agd Hornblende/biotite Granodiorite
- Am Mafic metavolcanics rocks and contemporaneous dykes, sills
- Aw Metagreywacke
- Q Unconsolidated Sediments

BLUE STAR GOLD CORP.

Ulu Gold Project

Borrow Management Plan

Regional Geology

Date:	Approved:	Figure:
Date	XX	**2**

4.0 PLANNING AND IMPLEMENTATION, BORROW PITS

4.1 GEOCHEMICAL TESTING

Material volumes historically extracted by previous operators from the esker quarry are unknown, as are metal leachate / acidic rock drainage (ML/ARD) characteristics. ML/ARD sampling is to be completed prior to expanding the existing borrow quarry. The existing borrow pits are illustrated on Figure 3.

4.2 OPERATIONS

Borrow pit operations may employ ripping methods using a dozer. This loosens the material and allows it to be picked up using a loader or excavator. Standard drill and blast methods similar to quarry operations may be used in instances where ripping is not possible. Overburden is to be stockpiled and used in reclamation activities where possible as capping material.

5.0 PLANNING AND IMPLEMENTATION, ROCK QUARRY

5.1 PROPOSED ROCK QUARRY INVESTIGATION

There are no rock quarries established in the Project Area, so new rock quarries may need to be established to supply suitable construction rock. Potential rock quarry locations are to be assessed by the geotechnical properties of the material, the geochemistry and ML/ARD potential, available volume of material, proximity to infrastructure, and avoidance of environmentally sensitive (e.g., wildlife dens) and culturally sensitive (e.g., archaeological) areas. Appendix A provides the areas for investigation.

5.2 ABRASION TESTING

A testing program on rock samples collected from proposed quarry locations is to include tests for: intact rock strength, freeze thaw, and jar slaking for weak rock.

5.3 GEOCHEMICAL TESTING

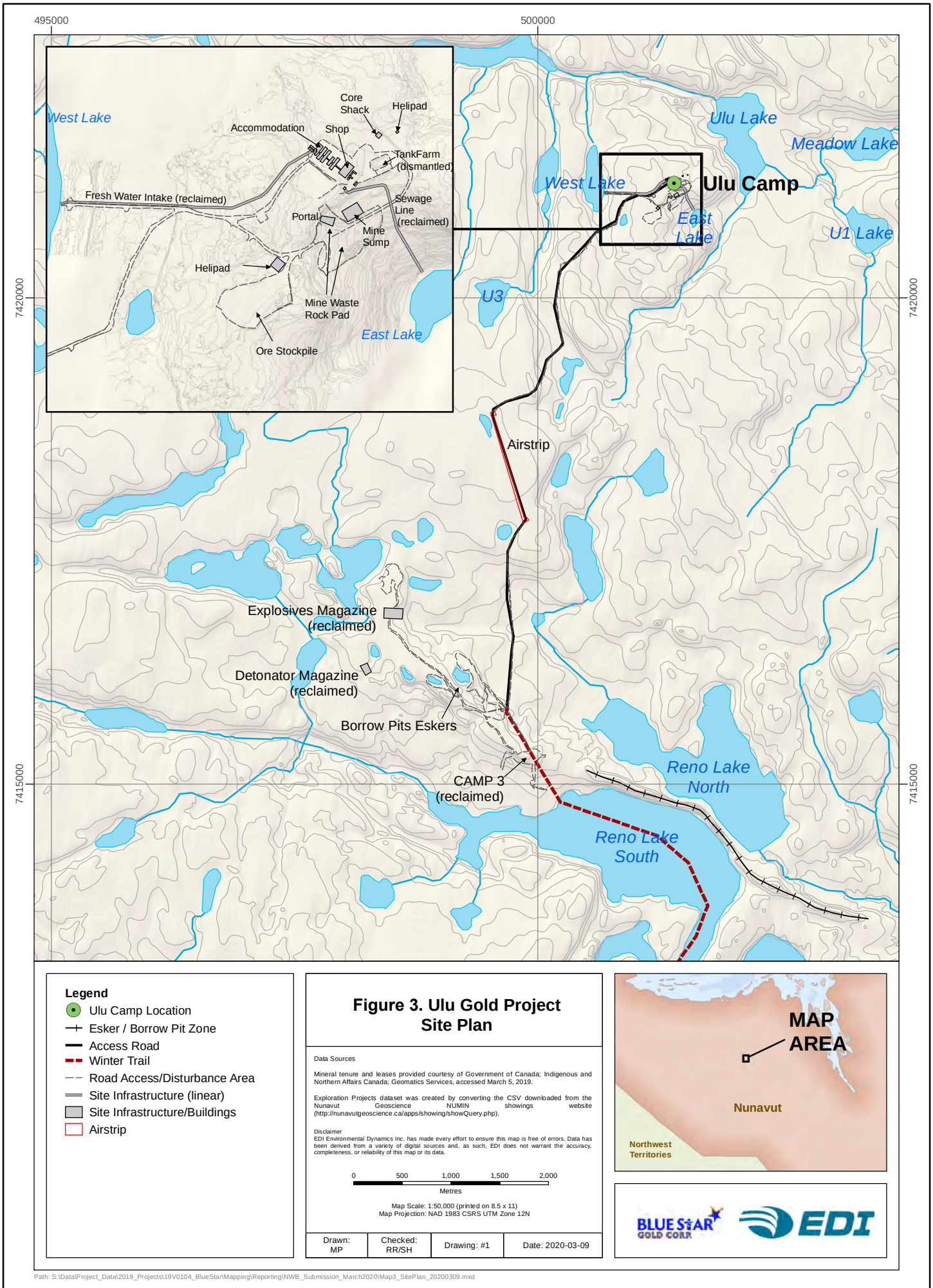
Acid-base accounting (ABA) and aqua regia elemental analyses are to be conducted on bedrock samples from prospective rock quarry locations. The sample results are to be reviewed by a qualified professional prior to quarry development.

During construction, the active quarry face will be visually inspected for the occurrence of sulphides.

ROCK QUARRY DEVELOPMENT

Following sampling and analysis, and once a suitable area proximal to Ulu is chosen for quarry development, a Quarry Development Plan will be drafted as an appendix to this Plan and submitted to the Nunavut Water Board accordance with the water licence. The location and configuration included in the Quarry Development Plan (QDP) will be developed foremost on safety and environmental protection based on sound engineering practice. The QDP must focus on the safe operating procedures for extraction, loading, and hauling of rock and provide specific site details, including:

- Delineation of the quarry development area
- confirmation that quarry rock is composed of geochemically inert minerals;
- description of archeology, vegetation, and wildlife habitat features in the quarry footprint area;
- estimates of the volume of rock to be extracted;
- expected permafrost conditions;
- explosive magazine locations; and
- design aspects that addressing environmental considerations such as erosion, sedimentation, water management and wildlife interaction, including
    - stockpiling location and any runoff control measures;
    - site development techniques;
    - dust and noise management; and
    - water management and any erosion control measures.



Legend

- Ulu Camp Location
- Esker / Borrow Pit Zone
- Access Road
- Winter Trail
- Road Access/Disturbance Area
- Site Infrastructure (linear)
- Site Infrastructure/Buildings
- Airstrip

Figure 3. Ulu Gold Project Site Plan

Data Sources

Mineral tenure and leases provided courtesy of Government of Canada; Indigenous and Northern Affairs Canada; Geomatics Services, accessed March 5, 2019.

Exploration Projects dataset was created by converting the CSV downloaded from the Nunavut Geoscience NUMIN showings website (http://nunavutgeoscience.ca/apps/showing/showQuery.php).

Disclaimer
EDI Environmental Dynamics Inc. has made every effort to ensure this map is free of errors. Data has been derived from a variety of digital sources and, as such, EDI does not warrant the accuracy, completeness, or reliability of this map or its data.

0 500 1,000 1,500 2,000
Metres

Map Scale: 1:50,000 (printed on 8.5 x 11)
Map Projection: NAD 1983 CSRS UTM Zone 12N

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5.4 OPERATIONS

It is anticipated that the quarry will be open during a single construction season from May to October. Within the construction season, the extraction process will consist of minor site stripping prior to extraction.

Minor stripping of overburden will be accomplished by using an excavator to pull down excess material to clean off the bedrock surface. Removed material will be stockpiled and used for site reclamation.

The primary rock extraction method will consist of drilling and blasting the exposed bedrock. It is possible that the natural fracturing of the rock will allow excavation without blasting, but that cannot be determined until the entire bedrock surface is exposed. Typical operations require the 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 will be moved to a safe distance. The blasted rock will be loaded into haul trucks using either a loader or excavator. The blasted rock is then hauled to the construction area, dumped, and placed using a dozer or grader.

It is anticipated that quarried riprap will be produced by blasting and screening. A crusher may be required to produce aggregate of a size appropriate for the facility being constructed or repaired. Ideally the crusher will be set up within the quarry to reduce the quantity of wind-blown dust and confine the dust to the quarry site. Dust suppression, where required, will consist of using water as permitted by the relevant Water Licence. A record of the volume of water used for this purpose will be maintained.

The majority of the rock fill will be blasted using packaged explosives only; no mixing of ammonium nitrate (AN) and fuel oil (FO) will be conducted on site.

The clean-up of the spilled material will be initiated immediately and the material disposed of in accordance with the Explosives Management Program.

6.0 Water Management

6.1 SURFACE WATER MANAGEMENT

Surface water accumulation generated from precipitation are to be contained and managed within the quarry development boundaries. Surface waters that collect within the quarry area will be managed as follows:

- Roadside landings will be graded where needed to shed ponded surface water into a common roadside ditch.
- Where necessary, landing approaches may have a culvert installed to connect ditch conveyance flow through the quarry workings.
- During operation, the quarry excavation will minimize the creation of pits and depressions that lead to standing water.
- Where necessary, sediment management structures may be installed to intercept ditch conveyance flow and remove suspended sediments prior to discharging into receiving waters.

6.2 SEDIMENT MANAGEMENT

Any suspended sediments generated from surface runoff are to be contained within the quarry development area. To manage sediments, silt fencing will be installed around the base of erodible surfaces within the quarry development. Suspended sediments in ditch water flow will be intercepted by

sediment management structures such as a check dam. Dust suppression efforts will be managed on-site by the use of vehicle speed restrictions on the roads and the application of water as needed.

7.0 CLOSURE

The closure objectives outlined in the *Interim Closure and Reclamation Plan* (Blue Star 2020a) are to return the site to a condition of similar environmental productivity and land use that existed prior to the development of mine facilities. It is also intended eliminate/minimize requirements for long-term monitoring and maintenance. The specific objectives of quarry and borrow closure are to prevent erosion impacts beyond the borrow pit or quarry.

Any approach road and landing will be excavated down to a pre-development state. Excavated material will be used to backfill against the quarry headwall and to cover exposed bed rock in the borrow pits and quarry areas.

Presently there is minimal vegetation growth at the Ulu Gold Project. The borrow pit and quarry footprint will be scarified and it is anticipated that positive drainage will be established to prevent the ponding of water within the borrow pit or quarry.

8.0 REPORTING AND DOCUMENTATION

8.1 REPORTING

Reporting will occur in accordance with the water licence and land use permit, and the *Engagement Plan* (Blue Star 2020b).

8.2 DOCUMENTATION

The Remediation Project Manager should maintain a logbook of:

- Quantity of rock extracted daily (in cubic meters);
- Measures taken to avoid or mitigate any adverse impacts from the deposition of waste;
- Records of any test results or other determinations;
- Equipment preventative maintenance and required follow-up actions on site; and
- Water use.

Photographs to document activities are taken throughout the field season. The logbook is transported to the site at the start of each field season and stored off-site during the off season for safe keeping. An electronic copy is made at the end of each field season and retained by Blue Star.

9.0 REFERENCES

Blue Star Gold Corp. 2020a. Interim Closure and Reclamation Plan, Ulu Gold Project, Kitikmeot Region, Nunavut.

Blue Star Gold Corp. 2020b. Engagement Plan, Ulu Gold Project, Kitikmeot Region, Nunavut.

Blue Star Gold Corp. 2020c. Spill Response Plan, Ulu Gold Project, Kitikmeot Region, Nunavut.

Blue Star Gold Corp. 2020d. Waste Management Plan, Ulu Gold Project, Kitikmeot Region, Nunavut.

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Environmental Dynamics Inc. (EDI). 2020. Wildlife Protection Plan, Ulu Gold Project, Kitikmeot Region, Nunavut.

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Gartner Lee Limited. 2006. Interim Water Management Plan. Prepared for Wolfden Resources Inc., Ulu Gold Project. March 2006.

Government of Nunavut. 1995. Consolidation of Mine Health and Safety Act (Nunavut). S.N.W.T. 1994, c.25; In force December 15, 1995; SI-014-95. As Amended by Northwest Territories Statues: S.N.W.T. 1996, c.9; In force April 16, 1996. As Amended by Statues Enacted Under Section 76.05 of Nunavut Act: S.N.W.T. 1998, c.34; In Force April 1, 1999.

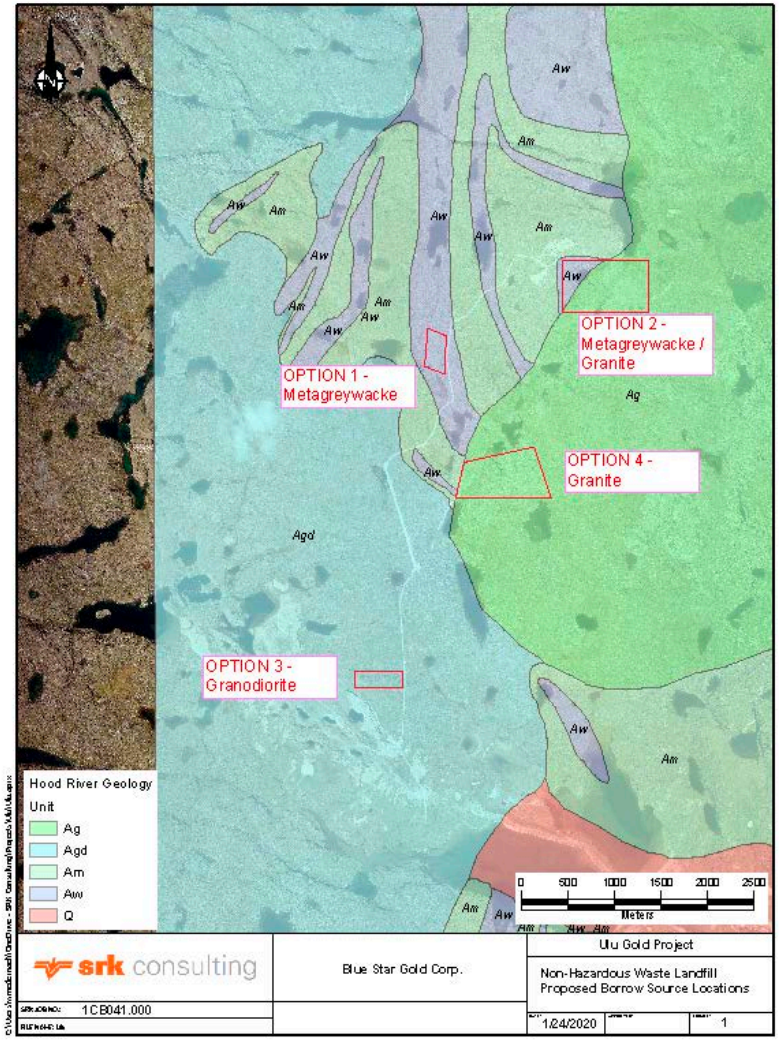
Appendix A: Potential Rock Quarries

Blue Star Gold Corp.
Ulu

Potential Borrow Source Material For Landfill Cover

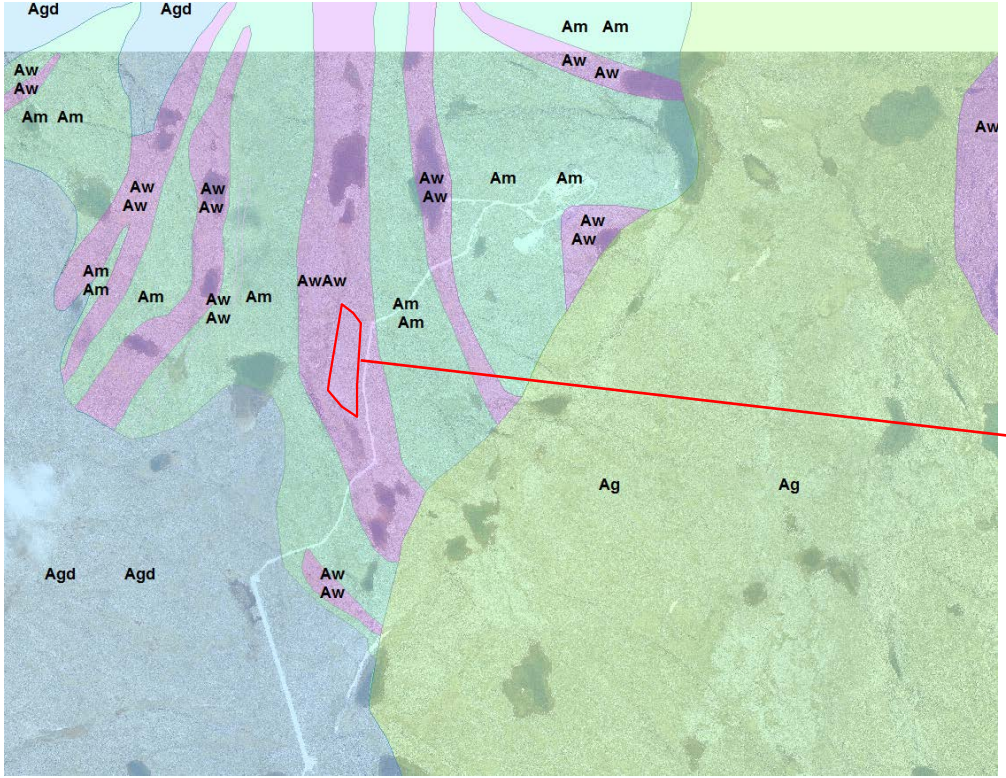
January 24, 2020

srk consulting

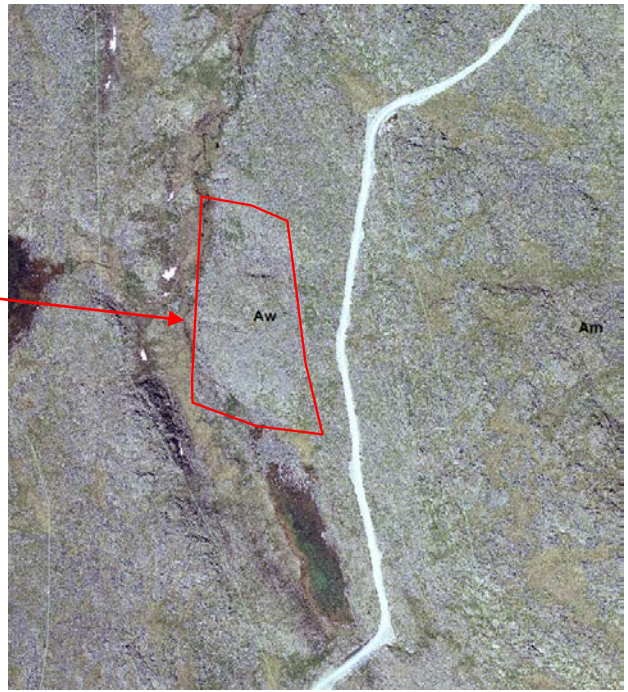


srk consulting

Option 1



- Greywacke lithology needs to be confirmed
- MLARD properties needs to be assessed
- Road accessible
- Adjacent to drainage (environmental limitation to be assessed)
- There does not appear to be a lot of positive relief of outcrop
- Borrow pit pond may develop depending on design of pit



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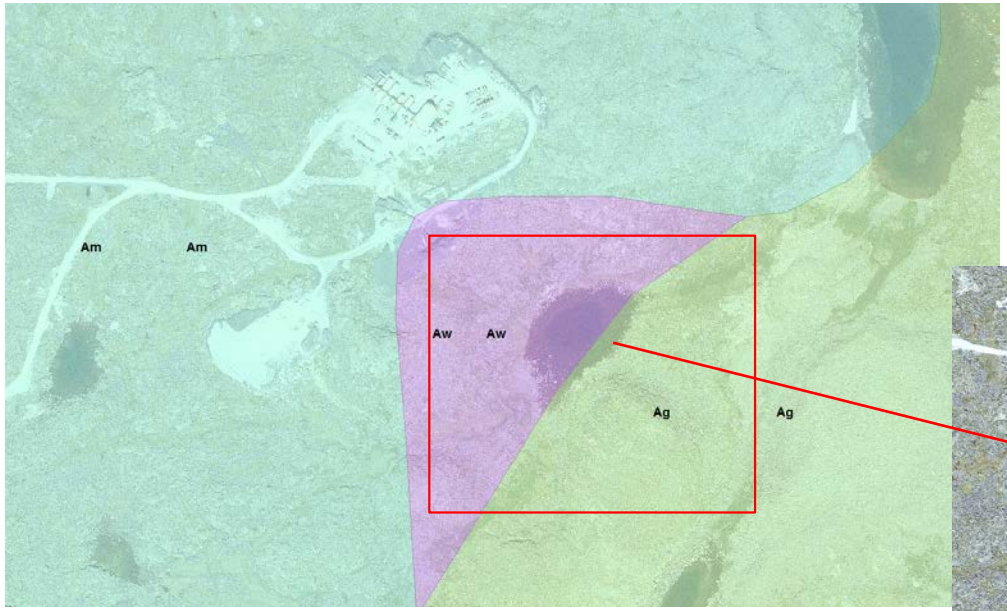
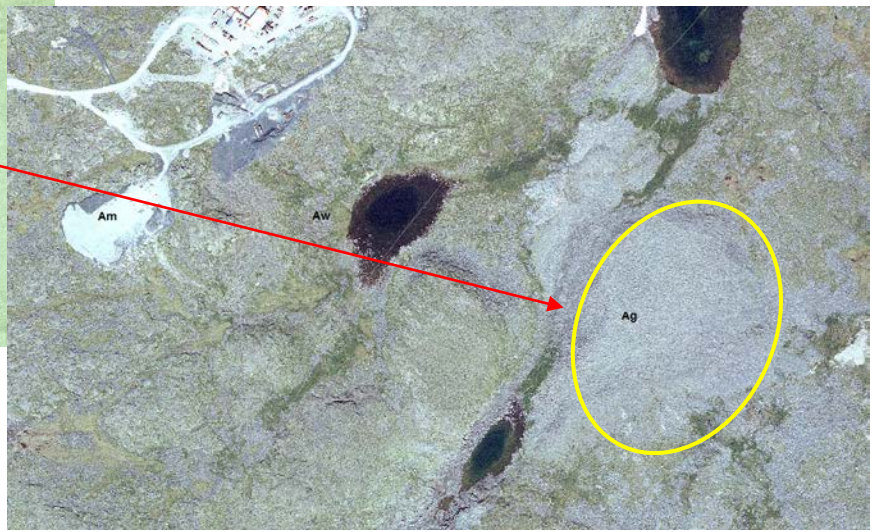
Option 2



- Greywacke and granite lithologies needs to be confirmed
- MLARD properties needs to be assessed
- Short haul distance and could be accessed in winter road or with a new all season spur road
- Adjacent to drainage (environmental limitation to be assessed)
- Granite outcrop shown with a yellow circle



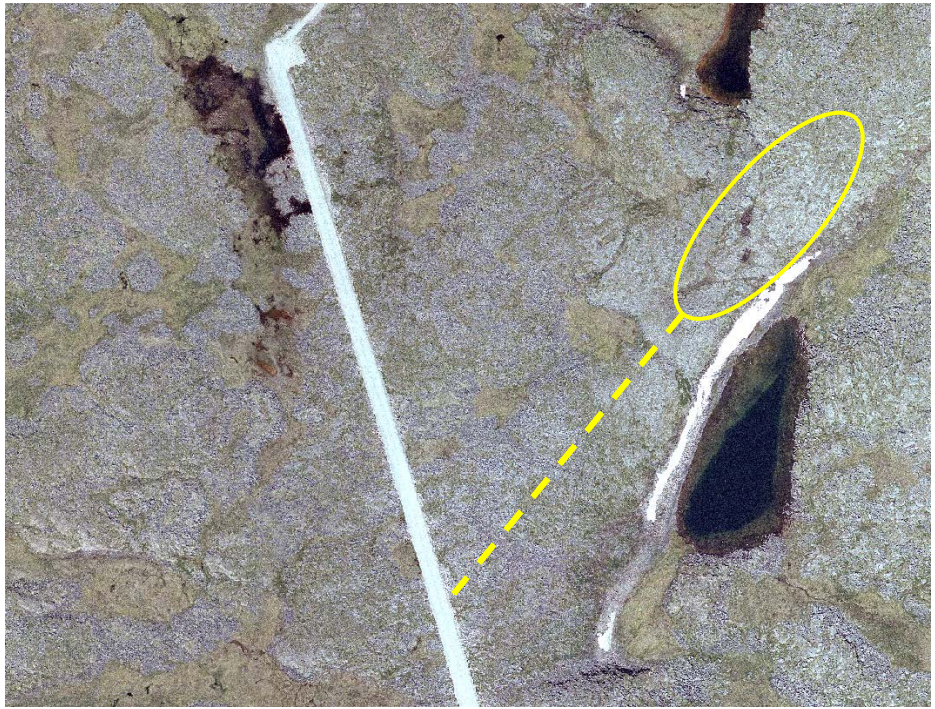
Option 3

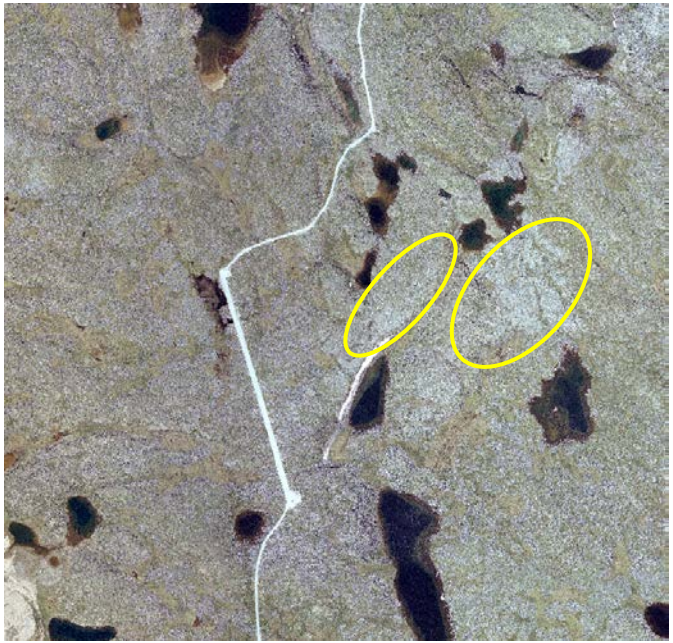
- Granodiorite lithology needs to be confirmed
- MLARD properties needs to be assessed
- Road accessible
- Site is adjacent to drainage (environmental limitation to be assessed)

srk consulting

Option 4

- Granite lithology need to be confirmed
- MLARD properties needs to be assessed
- Access would be ~600 m from existing road (winter road)





Appendix B: Quarry Development Plan

To be provided once a quarry location has been selected.

Appendix C: Explosives Management Program

To be provided by blasting contractor