

Tundra Services Ltd

Aggregate Quarry Permit

Environmental Assessment

Registration: Document

July 11, 2023

Tundra Services Ltd.

PO Box 149, Station B

HVGB, NL

AOP1E0

HV GB, NL

AOP 0

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1.0 NAME OF UNDERTAKING

Aggregate Quarry Permit:

- Quarry Permit Identification
 - File 71113097 covering 4.8 Ha
- Environmental Assessment Registration Identification
 - File Reference No. 200.20.3272

2.0 PROPONENT

2.1 Name of Corporate Body

Tundra Services Ltd.

2.2 Address

[REDACTED]

AOP 1EO

2.3 President

Mr. Myron Roberts P.Eng.

[REDACTED]

HV-GB, NL

AOP 1EO

[REDACTED]

[REDACTED].ca

2.4 Principal Contact Person

[REDACTED]berts P.Eng.

PO Box 149 Station B

HV-GB, NL

AOP 1EO

[REDACTED]

[REDACTED]

3.0 THE UNDERTAKING

3.1 Nature of the Undertaking

The proposed project, referred to as the aggregate quarry, is a 4.8 Ha quarry permit application area (File# 71113097) located 19km along Route 510 from the town of Happy Valley-Goose Bay and approx 4km along South Branch Access Road (3km west of Alexander Lake). The site will be developed for its gravel aggregates under a quarry permit producing aggregate products for use in the construction industry, specifically class A, class B, class C, and concrete aggregates.

3.2 Purpose/Rationale for the Undertaking

The main purpose/rationale of this project is to produce aggregates for the construction industry. This area (South Branch Access Road) currently has a number of existing quarries and is the only area that meets government specifications for aggregates. Access to the 4.8 Ha project area will be obtained through the existing Forestry Access Road - South Branch Access Road.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geological Location

The project is located 19.0 km along Route 510 and 4km along South Branch Access Road near Happy Valley-Goose Bay. (Figures 1 to 3). The project area is on crown land near three existing quarries (2 of which are active). There are approx 12 remote cabins located within 1.1km to the north of the project boundary contained within the municipal boundaries of Happy Valley-Goose Bay.

4.2 Physical Features

4.2.1 Project Site Description

The 4.8 Ha quarry permit application area is situated in the former 4.0 Ha quarry permit to Tundra Services Ltd. which has undergone some crushing and screening of aggregates over the past 4 years. Other quarry permits and/or leases are depicted on figure 4. The quarry site is beyond the required 30m distance from all waterbodies/watercourses (wetlands) by the Water Resources Management Division of the Department of Environment and Climate Change, Government of Newfoundland and Labrador.

4.2.2 Existing Biophysical Environment

The area can be classified as northern boreal climate with short summers. The area also experiences long cold winters. The mean summer temperatures are around +20 degrees C and the mean winter temperatures are roughly -20 degrees C with an annual precipitation around 1110mm.

The Subregion is typically forested with fir, black spruce, juniper and mixed shrubs. The main wildlife species include moose, black bear, lynx, wolf, fox, and rabbits. The proposed development is located within several rolling hills that will provide a screen when viewed from all directions.

4.3 Construction and Operation

The construction aspect of the proposed project will consist of clearing the site from trees and organics/grubbing of soils before proceeding to remove the underlying gravels/backfill aggregate. Any organic material will be preserved for future reclamation work.

4.3.1 Site Access

The main access to the project will be via the already established Forestry Access Road (South Branch Access Road) off Route 510. This road will be the main haul route for the proposed aggregates.

4.3.2 Site Clearing

Any Merchantable timber will be cleared either by handheld chainsaws or mechanical harvesting equipment and will be garnered under a commercial cutting permit issued by the Department of Fisheries, Forestry and Agriculture. Surface soils, subsoils and grubbing will be stripped and windrowed to the permit boundary within the designated buffer zone. This windrowed material will be used to construct perimeter berms for future reclamation and to control any potential access to the site from the west.

4.3.3 Quarry Development and Operation

The area in question has been already developed under a previous quarry permit to Tundra Services. The area applied for (4.8 Ha) is 0.8 Ha larger than the previous permit. This additional area will allow for a laydown area and stockpile location.

Operational/processing activities will consist of removing the aggregate material by heavy equipment, including excavators, loaders, and a portable crushing plant consisting of a Jaw Crusher, a Cone Crusher, and a Screening Plant. Aggregates will be stockpiled until needed. Dump trucks will be utilized to transport aggregates to job-sites as required. The use of water for secondary processing will not be required. Typical activities will take place between June 15 - October 30 annually.

4.4 Potential Sources of Pollution During Operations

During operations, equipment such as front end loaders, excavators, a jaw crusher, a cone crusher, and a screening plant will be utilized. This equipment and related activities represent a potential source of noise disturbance, exhaust emissions, the potential release of petroleum hydrocarbons, and dust.

4.4.1 Air

Air pollution will be controlled by having all equipment on site fitted with the appropriate emission-control equipment/engines (tier 4). Dust created by operations will be kept at a minimum by selective operations during or just after precipitation events and avoiding dry and humid time periods. All activities within the quarry will be conducted in a manner that respects Air pollution Control.

4.4.2 Noise

The day-to-day operations of the quarry site are not anticipated to have any greater effects on nearby people/property than the currently ongoing and previous operations at the adjacent quarries. All equipment will be kept in good operating order to ensure that maximum

manufacture decibel levels produced are not exceeded. Workers will have the proper hearing protection and the work site is a controlled work environment ie. no entry without permission and will be barricaded after each shift.

4.4.3 Domestic Waste and Sewage

Domestic waste generated during construction will be collected and disposed of in accordance with the Environmental Protection Act 2002. Portable lavatories located within the quarry boundaries will be utilized as required. Waste will be removed by an approved sewage service provider.

4.4.4 Fuel

Fuel will not be stored on site but will be brought in as required by a petroleum product service company. The handling of petroleum products on site will comply with the Storage and Handling of Gasoline and Associated Products Regulations. Complete and regularly checked emergency spill kits will be available on site at all times for containment and cleanup of any hydrocarbon leaks. Any spill or leaks in excess of 70 liters will be immediately contained, cleaned up and reported to the Environmental Emergency Spill Response phone number.

4.4.5 Effluent

The control of sediment and erosion is one of the more significant items to be addressed with quarrying activities. There is a potential for erosion and transport of fine-grained particles during activities. Erosion control ditches with check dams, culverts, and silt fencing to filter water leaving the area are already in place from previous operations. Site runoff will then be directed towards vegetated areas, acting as a secondary filter for fine particles. The quarry floor will be kept as flat as possible so as to minimize any runoff. Also, quarry operations will be suspended during peak precipitation events.

All water released into the environment will meet the regulatory requirements and provincial permits.

4.5 Potential Resource Conflicts During Operations

Potential resource conflicts during operation of the quarry could include the following: encounters with wildlife, the use of the area for recreational purposes such as big and small game hunting, cabin owners (there are approx 12 cabin owners within 1km radius of the quarry), and domestic wood cutting.

The quarry area is located beyond the 30 m reservation/buffer from all waterbodies and watercourses. The following quarry development plan will be applied as a precautionary measure to prevent suspended solids from entering any waterbody/watercourse:

- Within the proposed quarry area, a 5 m wide buffer zone will be left intact where no resources will be excavated alongside all permit boundaries, except for where the boundary is adjacent to other quarry operators. Berms constructed from the organics will be placed within the 5 m buffer area.
- The pit floor will be kept lower than the perimeter berms. This will contain precipitation water within the quarry site and retain suspended solids to within the quarry area. This will also provide line of site restrictions of the work area.
- Precipitation for the entire site will be controlled at discharge points using ditches, swales, and culverts to direct water to vegetated areas.

4.6 Operations

Operational requirements are listed below:

Construction

- none required; already a developed quarry

Quarry Operations

- 1 Quarry Supervisor
- 1 Heavy Equipment Operator – Loading Tool - Loader/Excavator
- 1 Heavy Equipment Operator – Stockpiling Tool - Loader/Excavator

Operation of the quarry will require 3 employees to run at the anticipated annual production rate of ~10,000 m³, although fluctuations in material demand may lead to a change in the annual production rates. Annual operations will be seasonal between June and October (5 months annually).

4.7 Reclamation and Closure

The project will be rehabilitated under a typical reclamation plan where quarry faces will be resurfaced to 30-degree sloping. Preserved organic material that is stripped during operations will be re-spread to promote natural re-vegetation. Rehabilitation will begin once the quarry reaches a phase where no additional expansion is required.

5.0 APPROVAL OF THE UNDERTAKING

A quarry permit application was referred to the Quarry Materials Division in October 2022. The Environmental Assessment Division was consulted on the project; requiring registration under Section 52 of the Environmental Assessment Regulations. A limited list of referral agencies is provided in Table 1 below.

Table 1: Referral Agencies, Responses and Possible Permits Required

Department/ Regulatory Agency	Status	Possible Required Approvals/Permits
Environment and Climate Change - Environmental Assessment Division	Project Registration Required	Environmental Assessment Registration
Industry, Energy and Technology- Mineral Lands Division	Unknown	Quarry Permit

6.0 SCHEDULE

The proposed schedule for this project is as follows:

Submission of Registration Document
Review/Response by Government
Commencement of Operations

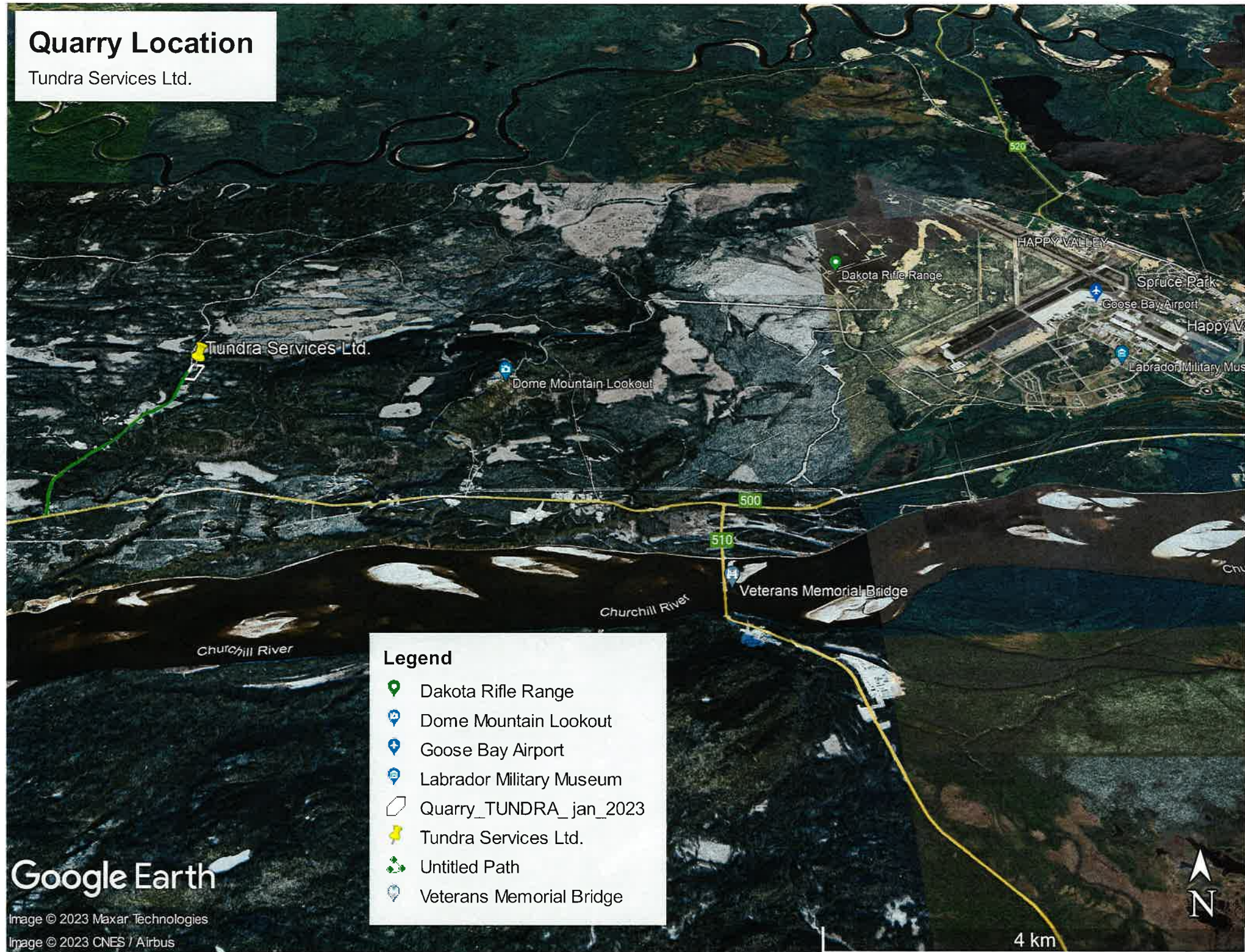
July 15, 2023
Aug 30, 2023
Sept 10, 2023

7.0 FUNDING

Funding for the operations will be provided entirely by the proponent.

Quarry Location

Tundra Services Ltd.



Legend

-  Dakota Rifle Range
-  Dome Mountain Lookout
-  Goose Bay Airport
-  Labrador Military Museum
-  Quarry_TUNDRA_jan_2023
-  Tundra Services Ltd.
-  Untitled Path
-  Veterans Memorial Bridge

Google Earth

Image © 2023 Maxar Technologies

Image © 2023 CNES / Airbus

4 km

Quarry Location

Tundra Services Ltd.

Tundra Services Ltd.

Legend

- Quarry_TUNDRA_jan_2023
- Tundra Services Ltd.

Google Earth

Image © 2023 Maxar Technologies

500

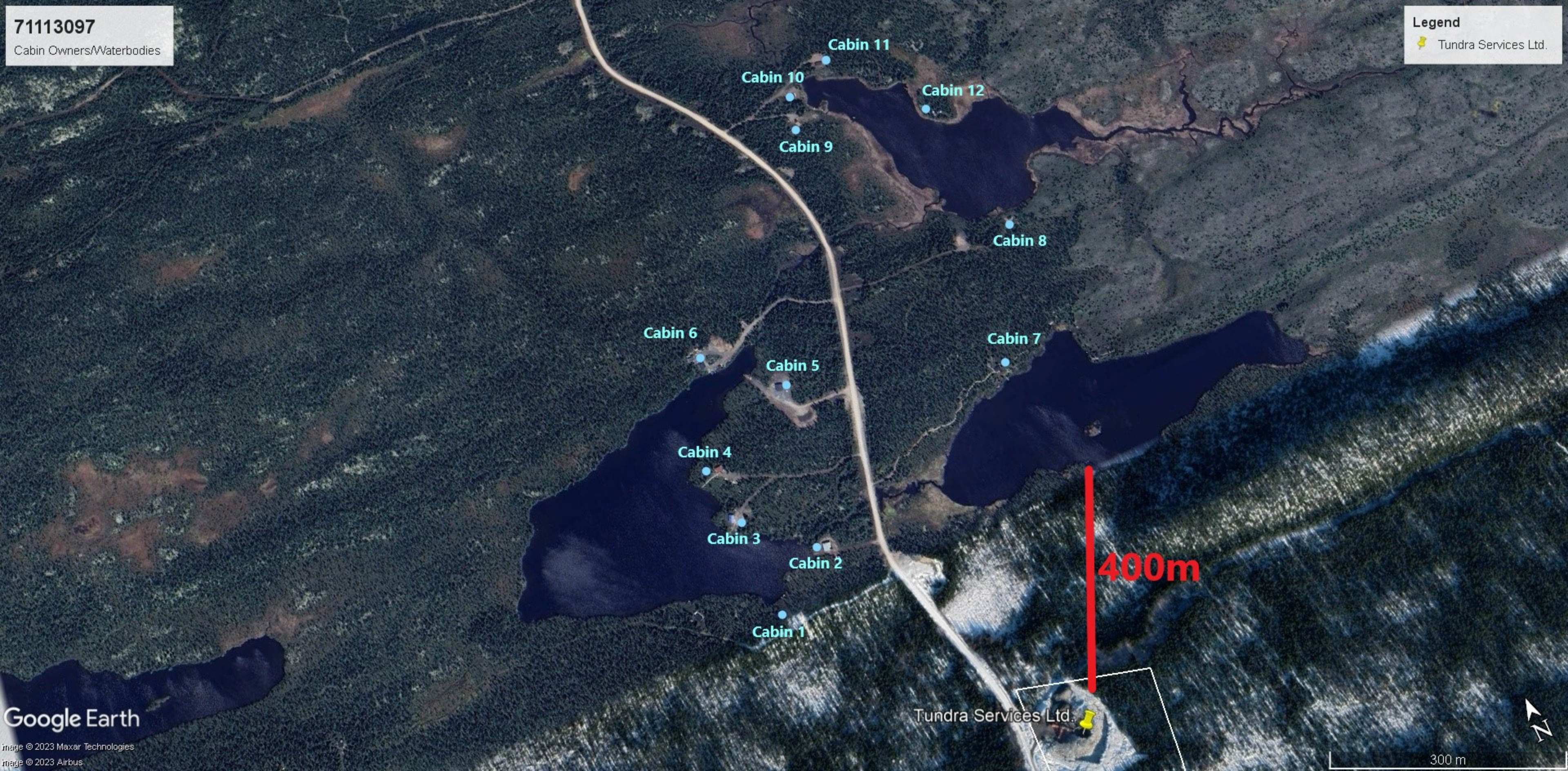
Trans-Labrador Hwy



800 m

71113097
Cabin Owners/Waterbodies

Legend
Tundra Services Ltd.



Cabin 6

Cabin 10

Cabin 11

Cabin 12

Cabin 9

Cabin 8

Cabin 5

Cabin 7

Cabin 4

Cabin 3

Cabin 2

Cabin 1

400m

Tundra Services Ltd.

Google Earth

Image © 2023 Maxar Technologies
Image © 2023 Airbus

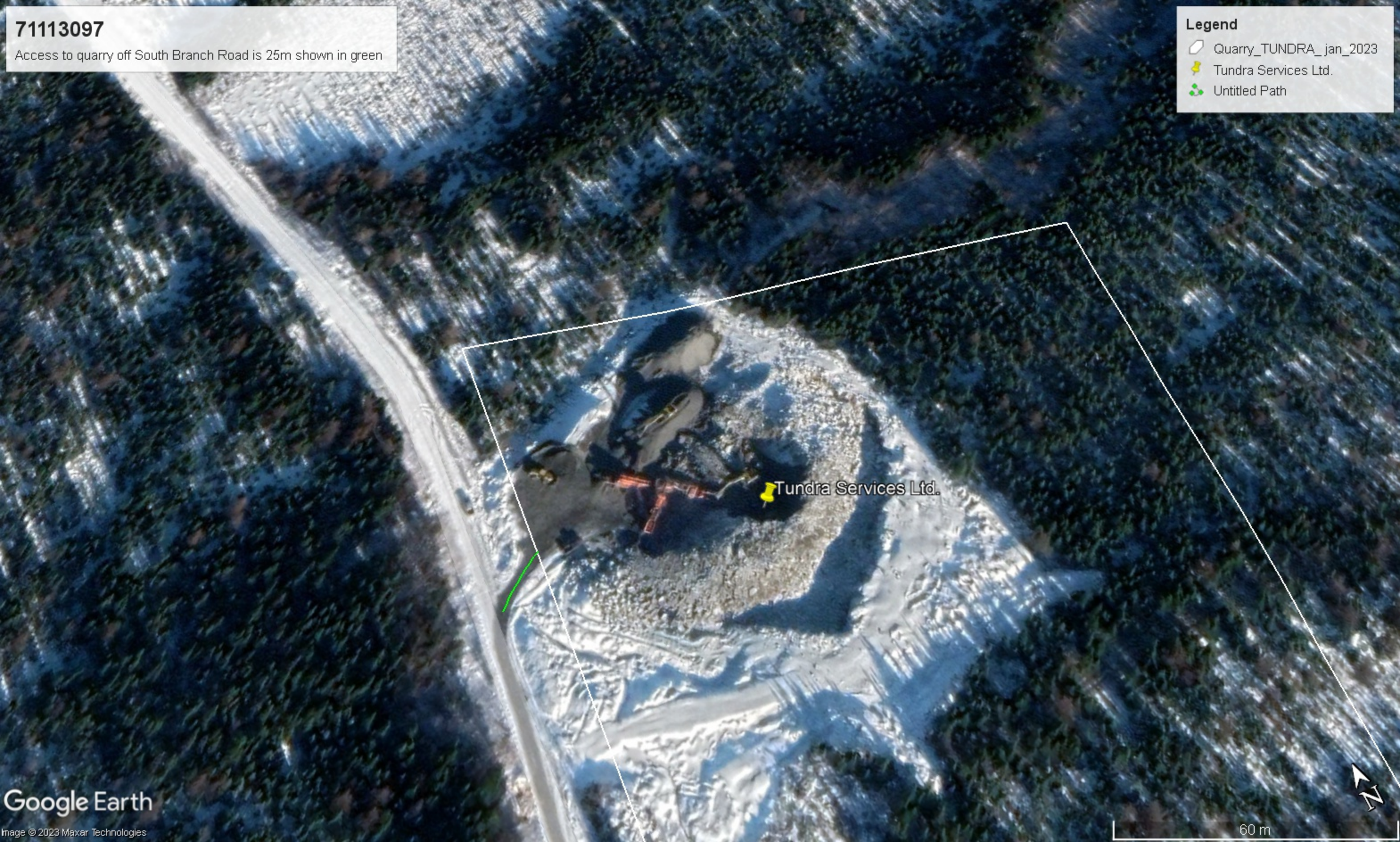
300 m



71113097
Access to quarry off South Branch Road is 25m shown in green

Legend



- Quarry_TUNDRA_jan_2023
- Tundra Services Ltd.
- Untitled Path



Quarry Location

Tundra Services Ltd.

Legend

-  Quarry_TUNDRA_jan_2023
-  Tundra Services Ltd.

Google Earth

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200 m

