NPC 150418: Somerset Trough Project

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Proposal Status: Conformity Determination Issued

Overview Documents

Project Overview

Type of application: Amendment

Proponent name:

Samuel Robb

Proponent company:

Bronzite Exploration Corp.

Project Description:

Summary Bronzite Exploration Corp. is pleased to submit this Project Proposal amendment for the Somerset Trough Project. The amendment application includes a proposed project schedule extension and the inclusion of drilling into project activities for 2025 and beyond. There are no proposed changes to the currently approved and permitted 2024 field program activities. The Somerset Trough Project is an early exploration program that will include the following activities: airborne and ground-based geophysical surveys, prospecting, sampling, and geological mapping in 2024 and similar activities along with potential drilling, and environmental and engineering studies in future years. The program will be based out of an exploration camp constructed on Crown Land in the Western Somerset Island Watershed and for 2024 will include a summer program to be conducted from July to early September. No drilling equipment or heavy machinery will be used over the course of the 2024 exploration program, but potential drilling activities are anticipated to occur in 2025 and the following years. Only hand tools and a power saw will be used to complete ground-based tasks in 2024. Helicopters and fixed-wing aircraft will be used to transport personnel to and from field locations and to collect airborne geophysical data. Drones may also be used to collect airborne survey data. Helicopter operations will be based mainly at the camp, but fixed-wing aircraft will be based off site and called in, as required, to conduct surveys and support operations. Future drill programs are anticipated to be between 5,000 metres to 15,000 metres of drilling annually. Drilling that is anticipated to occur in future years will be conducted using either or a combination of diamond drills and reverse circulation drills. Potential drilling activities are expected to be conducted on crown lands,. If any drilling activities are anticipated to occur on IOL in the future, extensive consultation and approval from the QIA or KIA will be sought by Bronzite. Exploration Camp Construction of an exploration camp to support the Somerset Trough Project will begin in March 2024. The camp will include a series of

Weatherhavens for accommodations, dining, camps drys, storage, sample processing, and first aid as well as a small generator building and a prefabricated metal building to enclose the camp incinerator. The Weatherhavens will be heated with diesel heaters complete with spill protection. Camp infrastructure and machinery such as a snowmobile and all-terrain vehicle (ATV) will be mobilized to site using either a Basler DC-3 or Twin Otter aircraft on skis. Camp infrastructure will be transported inland to the camp site using an ATV and snowmobile with trailers. The camp will include: •6 shared sleeper tents (14' x 16' each) •1 kitchen and dining hall (16' x 48') •2 camp dry tents (16' x 24' each) •1 storage tent (16' x 24') •1 first aid tent (14' x 16') •1 washroom with 2 Pacto toilets and small handwashing sink (14' x 16') •1 sample processing tent (16' x 24') •1 incinerator building •1 generator building (8' x 6') Maps outlining the location and layout of the camp are attached to this proposal for reference. The area will be ground-truthed by the construction crew and all camp structures will be placed on durable ground and located more than 50 metres from the nearest high-water mark. Exact placement and orientation of the Weatherhavens, incinerator, and generator may vary slightly from the maps provided to ensure stability and integrity of the structures. A main fuel cache of aviation fuel, diesel, and gasoline in 205 L metal drums will be established near camp and greater than 31 m from the ordinary high-water mark of any water course. See attached maps for the approximate location of the fuel cache. The main fuel cache may contain up to 180,000 L of total fuel at times, and the drums will be placed within pop-up "Insta-Berms" with a volume capacity at least 10% greater than the capacity of the largest container placed therein. The fuel caches will be flagged to make them highly visible and clearly marked with the owner's name and contact information. Fully stocked spill kits will be present at fuel caches and fuel transfer areas. Any fuel caches associated with the program will be reported to the territorial engineer in accordance with the Territorial Land Use Regulations. No fuel caches will be established on Inuit-owned Lands. Minimal water will be used for the 2024 exploration program. Surface water will be collected from a nearby water body with a pump or portable containers and used for cooking, drinking, and washing in camp. It is anticipated that 10 m3 or less of water will be used each day to accommodate the staff members. Greywater will be deposited to a sump located more than 31 m from the ordinary high-water mark of any body of water. Human waste will be collected using Pacto toilets and the waste will be incinerated daily along with domestic waste. All water use and waste deposition will be documented and available for review as per requirements of the Nunavut Water Regulations. The project is currently operating on a NWB Authorization (2WLC-STP2425) for water use and deposit of waste without a license. In years 2025 and beyond, we will use less than 299 m3 of water per day to support camp as well as drill operations, which will require a Class B Water License. Please see attached Waste Management Plan, Spill Contingency Plan, Wildlife Management Plan, and

Environmental Protection Plan for further details on the environmental and safety management systems that will be employed at the Somerset Trough Project. 2024 Summer Program The 2024 Summer Program will run primarily from June to September and consist of a crew of approximately 20 people running helicopter-based Time-Domain Electromagnetic (TDEM) surveys, fixed-wing airborne gravity surveys, and low-impact reconnaissance including geological mapping, sampling, prospecting, channel sampling with a power saw, over the Project area. Helicopter operations will be based out of the field camp with up to two A-Star B3 machines stationed at the camp at any given time during the Spring Program. Fixed-wing surveys will run daily (weather permitting) out of Resolute and will be coordinated between camp personnel, the flight crew, and flight personnel based in Resolute. The beach along the shorefront will be used as a landing strip for survey aircraft, as well as weekly re-supply flights to site. Ground-based electromagnetic geophysical surveys will be completed in targeted areas based on results of the airborne geophysical surveys. No ground-based work will be conducted on Inuit Owned Lands without the proper authorizations from either the Qikiqtani Inuit Association (QIA) or the Kitikmeot Inuit Association (KIA). Field work for the Summer Program will be supported by up to two A-Star B2 or B3 helicopters. Helicopter operations will be based out of the field camp with up to two machines stationed at the camp at any given time. There will also be an ATV brought to site for the safety and convenience of the crew members for use at field locations closer to camp. Exploration activities and surveys that cannot be finished within the timeline of the 2024 program will be completed in 2025. 2025+ Exploration Program Exploration activities in 2025 and onward will be a combination of field based geological (sampling, mapping) and geophysical studies along with diamond and/or reverse circulation drilling. The amount of drilling conducted annually is estimated to be between 5,000 metres and 10,000 metres. Drills will be mobilized and removed using helicopters and will require minimal to no ground clearing for drill pad construction. Lumber will be utilized, where required, to elevate the drill off the ground to minimize disturbance. Potential drill site locations will be pre-determined prior to the start of the future programs, although site suitability will be evaluated prior to the mobilization of a drill to a site during the season by a combination of the project manager, environmental monitor(s), and archaeologist(s). Drill sites that are deemed to be located in potentially sensitive local areas or contain archaeological artifacts will be adjusted to a more appropriate location prior to mobilization of a drill. Sediment and erosion controls will be utilized on sites with increased risk and will be monitored for the duration of their use and adjusted appropriately. No prohibited chemicals will be used in drilling operations and non-toxic drill waste will be deposited into a sump at each drill site. Drill waste and the drill sumps will be monitored throughout the duration of the drilling to ensure no waste is spread into the surrounding lands and to monitor any potential spill. All spills discovered will

be recorded internally and reported in accordance with the appropriate legislation. If an artisanal spring is intersected during drilling operations the collar will be sealed in bedrock using concrete. No drilling activities will be conducted in areas of noted significant local community interest, such as Creswell Bay, and Bronzite will continue its engagement with communities and stakeholders regarding the project activities prior to and after the completion of each year's program. Drill Site Reclamation After the completion of drilling operations at each drill site, the site will be cleaned of all waste and minor contaminants, such as potential hydrocarbon staining. Collars will be removed, where possible, or otherwise cut such that they are flush with the ground surface. Land disturbances will be recontoured to their original topography and re-seeding/re-vegetating will be conducted as required using native flora. Sumps will be refilled and recontoured after the waters have penetrated into the surrounding soils and water levels have reached a sufficiently low level. Each drill site will be inspected by either or a combination of the project manager/drill geologist and the environmental monitor to ensure that the site has been remediated appropriately. Photos of each drill site will be taken prior to the mobilization of a drill, after its removal, and after the site has been remediated. Camp Closure Following completion of the Summer Program, Bronzite proposes keeping the camp on the land for use in 2025 to continue exploration work. As per the Territorial Land Use Regulations, Bronzite will seek written approval from the Crown Indigenous and Northern Affairs Canada engineer to leave the camp largely intact until crews return the following year. Equipment will be stored in a manner, at a location, and for a duration approved by the engineer. Machinery such as the site snowmobile will likely be removed from site, while the ATV will likely be securely stored over the winter at the camp site. All camp equipment will be properly stored within the site structures, and the buildings and Weatherhavens will be winterized and secured to keep out wildlife. Camp sumps will be backfilled and photographed prior to leaving site for reporting purposes. All domestic waste will be incinerated prior to final demobilization, and all ash will be removed from the incinerator chamber, packaged, and removed from site as per the Waste Management Plan. All other waste and potential animal attractants will be removed from site when crews are demobilized for the year. Bronzite will conduct a thorough end-of-season inspection of the area to check for: •Hydrocarbon staining •Fire and safety hazards •Debris or litter on the tundra, or unsecured products that could blow onto the tundra •Possible points of entry for wildlife into camp structures •Major sources of wildlife attraction, such as leftover food products or open fuel containers •Compromised or unsealed in the main fuel cache, or fuel that is not contained within secondary containment Bronzite commits to taking a series of photographs of the camp area prior to final demobilization for reporting purposes.

Project Schedule

Start Date:
2024-03-15
End Date:
2029-04-24

Project Map

List of project geometries:

Id	Geometry	Location Name
12490	polygon	2024 - Bronzite Exploration - Somerset Trough Project Area
12491	point	Camp location

NPC Planning regions:

North Baffin

Project Land Use and Authorizations

Project Land Use:

Mineral Exploration
Mineral Exploration

Licensing Agencies:

Government of Canada - Crown-Indigenous Relations and Northern Affairs Canada
Nunavut Water Board
Qikiqtani Inuit Association
Government of Nunavut - Department of Culture and Heritage
Nunavut Water Board

Material Use

Equipment:

Type	Quantity	Type	Use
ATV			

211 x 120 x 122 cm
Transporting personnel to nearby field sites, transporting supplies
Snowmobile
1
185 x 91 x 86 cm
Transporting personnel to nearby field sites, transporting supplies
A-Star B3 Helicopter
2
12.94 x 10.69 x 3.14 m
Transporting personnel, conducting airborne surveys
Diamond Drill
1-2
10ft x 15ft
Drilling for core samples

Fuel Use:

Type	Container	Capacity	Use
Aviation fuel			
		400	
		205	
Aircraft fuel			
Diesel			
		95	
		205	
Heating and incinerator fuel			
Gasoline			
		5	
		205	
Generator fuel			
Propane			
		25	
		100	
Fuel for stoves and hot water			

Hazardous Material and Chemical Use:

Type	Container

Capacity Use
Liquid nitrogen
2 20
Used during ground geophysical surveys during Summer Program
CaCl2
2500 50
Drilling
Hydraulic Oil
50 20
Drilling
Engine oil
5 4
Motor/engine oil for ATVs, snowmobiles, and generators

Water Consumption:

Daily Amount (m^2) Retrieval Method Retrieval Location
299
Nearby watercourse
Pump, portable containers

Waste and Impacts

Environmental Impacts:

Please see attached Waste Management Plan for complete details on waste management at the Somerset Trough Project.

Waste Management:

Waste Type Quantity Generated Treatement Method Disposal Method
Combustible wastes
< 1 cubic meter/day
See attached product information sheet

Incinerated using a duel-chamber, diesel-fired incinerator

Greywater

10 m3/day

Kitchen greywater will pass through a grease trap prior to being deposited in a sump. Sump pits will be located adjacent to camp and allowed to percolate into overburden. Sump located more than 31 m from the ordinary high water mark of any water course

Hazardous waste

Negligible

Please see Waste Management Plan for complete details.

Waste fuel products, contaminated snow/ice, incinerator ash, and contaminated soil will be packaged in appropriate containers, labelled, and shipped off site.

Non-Combustible wastes

< 1 cubic meter/day

Please see Waste Management Plan for further details.

Non-combustible waste such as construction debris and plastics will be bagged and shipped off site.

Sewage (human waste)

< 1 cubic meter/day

Waste will be incinerated. Please see Waste Management Plan for further details