



NIRB Application for Screening #125875

Somerset Trough Project

Application Type: New

Project Type: Mineral Exploration

Application Date: 1/30/2024 5:31:04 PM

Period of operation: from 0001-01-01 to 0001-01-01

Proposed Authorization: from 0001-01-01 to 0001-01-01

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DETAILS

Non-technical project proposal description

English: 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. The program will be based out of an exploration camp constructed on Crown Land in the Western Somerset Island Watershed and will include a spring program to be conducted March to May, as well as a summer program to be conducted from July to early September. No drilling equipment or heavy machinery will be used for the 2024 program. Only hand tools and a power saw will be used to complete ground-based tasks. Helicopters and fixed-wing aircraft will be used to move personnel to and from field locations and to collect airborne geophysical 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. The camp will include a series of Weatherhavens for accommodations, dining, camp dries, storage, sample processing, and first aid as well as a small generator building and a small metal building to enclose the camp incinerator. The Weatherhavens will be heated with diesel heaters complete with spill protection. Any fuel caches associated with the program will be reported to the territorial engineer in accordance with the Territorial Land Use Regulations. Minimal water will be used for this 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.

French: The Somerset Trough Project est un programme d'exploration précoce qui inclura les activités suivantes : les levés géophysiques aériens et terrestres, la prospection, l'échantillonnage et la cartographie géologique. Le programme se basera à un camp d'exploration construit sur les terres de la Couronne dans le bassin ouest de l'île Somerset et inclura un programme de printemps réalisé entre mars et mai, ainsi qu'un programme d'été réalisé entre juillet et le début de septembre. Aucun équipement de forage ni de machinerie lourde sera employé pendant le programme de 2024. Seulement les outils à main et une scie mécanique vont être utilisés pour compléter les tâches sur le sol. Les membres du personnel utiliseront des hélicoptères et des aéronefs à voilure fixe pour se déménager sur le terrain et pour recueillir les données de levés géophysiques aériens. L'exploitation d'hélicoptères se fera surtout au camp, alors que les aéronefs à voilure fixe se baseront à l'extérieur du site et seront appelés pour compléter les levés et pour supporter les opérations. Le camp va contenir une série de Weatherhavens pour l'hébergement, l'espace repas, les vestiaires, le stockage, le traitement des échantillons et premiers secours, ainsi qu'un petit bâtiment pour la génératrice et un petit bâtiment en métal pour contenir l'incinérateur du camp. Les Weatherhavens seront chauffés avec des chauffages au diesel avec protection de déversement. Tous les dépôts de carburants seront portés à la connaissance de l'ingénieur territorial, conformément au Règlement sur l'utilisation des terres territoriales. Le programme d'exploration utilisera un minimum d'eau. L'eau de surface sera recueillie d'une masse d'eau avoisinante par pompe ou par un réservoir portatif et sera utilisée pour la cuisine, l'eau à boire et le lavage au camp. Il est anticipé que 10 m3 ou moins vont être utilisés à chaque jour par les membres du personnel. L'eau usée sera déposée dans un puisard à une distance de plus de 31 m de la laisse des hautes eaux ordinaires de la masse d'eau la plus proche. Les déchets humains seront collectés par des toilettes Pacto et les déchets seront incinérés quotidiennement avec les déchets domestiques. Tous les utilisations d'eau et les dépôts de déchets vont être documentés et disponibles pour consultation, conformément aux exigences du Règlement sur les eaux du Nunavut.

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Inuinnaqtun: Somerset Trough-mik Havaaq atulihaqhimayuq nalvaqhiuqvikmik havaamik ilaqaqniaqtumik ukuniga hulijutinik: hilainakmik nunamiklu pijutiqaqtut qanurininiginik naunaiyautit, qiniqhianik uyaraktaqvikhanik, ilituqhaujutit uyaqanik, uyaraktaakhaniklu nunaiyiurutini. Havaaq iniaqniaqtuq qiniaqhiayunit hiniktaqvianit hanahimayumik Kuin Nunagiyani Ualiqhiani Somerset-mi Qigigtami Immaqaqnigani ilaqaqniaqhunilu upinaami havaamik atuqtukhamik March-mit May-mut, auyamilu havaamik atuqtukhamik July-mit atulihagniganut September. Ikutaqnik agiyunikluniit igniquutiliknik atulimagitut 2024-mi havaami. Algaknut hanalrutinik kihiani alruyaqtuqtumiklu uluunmik atuqtauniaqtut iniqtiriagani maniqami havaakhat. Halikaptat tikmijalu atuqtauniaqtut akyariagani havaktut talvuga talvangalu maniqami inigiyaayunit katitiriyaaganilu hilainaguuqtut nunamiutanik naunaipkutinik. Halikaptanik atuqnigit igluqpaqaqvikmilua atuqtauniaqtut, kihiani tikmijat anianiiniaqtut inigiyaayup tikiyuqaulutiklu, piyariaqaliraagat, naunaiyaiaagani havaktut ikayuqlutiklu aulaniginik. Inigiyaayuyq maniqami ilaqaqniaqtuq Anurailrumiuviknik hinikhaqvikhanik, nirivikhani, paniqhiiviknik, tamayaqaqvikmik, ilituqhaivikmik, munaqhivikmiklu aniaqtuqaqat ila mikiyuqlu igniquitinuaq alruyaqtuutiqaqvik igluqpak mikiyuqlu havigalik igluqpak iluaniitaagani ikulativikmik iqagunik. Uqaqmiuviit unaqutiqaqniaqtut uqhuqyuanik uunaqutinit kuviyuqaqat akiutaqaqtunik. Kituliqaa uqhuqyuqaqviit ilagiyayut havaami uqautauniaqt ukiuqtaqtumi hanayakhanik ihuaqhaiyiut atuqlugit Ukiuqtaqtumi Nunanik Atuqniginik Maliruaguyuyq. Mikiyuq immaq atuqtauniaqtuq uvani nalvaaqhiuqvikmi havaami. Qaganit immaq katitiqtauniaqtuq qanituaniit immaqmit papautikut immiqtautinuluniit atuqtaulutiklu igayutikhani, immigakhanik, uaqtirutikhanik igluqpaqaqvikmi. Nahuriyaayuyq 10 m3 -mik mikitqiyamiluniit immaqmik atuqtauniaqtuq ublutuaraagat atuqtakhaenik havaktuni ilaayut. Atagut kuviyauniaqtut immarikhitiivikmi iniaqqluni uganitqiyamik 31-miitanik imaukagniganit kituliqaa immaqaqniganit. Inuit annaguit/quvaluit katitiqtauniaqtut Pacto-nik quiviknik atuqlutik ikulatiyaulutiklu ublutuaraagat ukualu iqaguvaluit inuknit. Tamaita immaqnik atuqnigit atagulu titiraqtauniaqtut qahaklutiklu ihivriuqtauyaagani aturiaqaqniganit ukua Nunavumi Immaliqiyit Maliruagiqini.

Personnel

Personnel on site: 14

Days on site: 120

Total Person days: 1680

Operations Phase: from 2024-03-15 to 2024-09-01

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Somerset Trough Project Area	Mineral Exploration	Crown	A small exploration program was completed by Bronzite in 2023 on Somerset Island (the Crowberry Project), but the Somerset Trough Project will cover a more expansive area.	To be determined prior to any high-impact activities such as drilling.	The closest communities are Resolute Bay to the north and Taloyoak to the south of the project. Part of the project area overlaps with IOL in the QIA territory, but the QIA has determined that Bronzite does not require an authorization from QIA because no ground based work, fuel caches, or camps will be located on IOL.
Camp location	Camp	Crown	Area ground-truthed during the 2023 Bronzite Crowberry Project	To be determined prior to any high impact activities such as drilling. All findings will be reported to the proper authorities.	The closest communities are Resolute Bay to the north and Taloyoak to the south of the project. The camp is not located on a sensitive or protected area as defined by the North Baffin Land Use Plan or the Draft Nunavut Land Use Plan.

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Iqaluit	Joel Fortier	QIA	2023-12-11
Resolute Bay	Aziz Kheraj	Hamlet Mayor	2023-09-29
Resolute Bay	Administrator	HTO	2024-01-31
Taloyoak	Administrator	HTO	2023-12-11
Kugluktuk	Tannis Bolt	KitIA	2023-12-11

Authorizations

Indicate the areas in which the project is located:

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Aboriginal Affairs and Northern Development Canada	Class A Land Use Permit	Applied, Decision Pending	2024-01-12	
Nunavut Water Board	NWB Authorization	Not Yet Applied		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	2 A-Star Helicopters will be used to transport personnel to field sites and for airborne surveys	
Land	1 ATV and 1Snowmobile will be used to transport personnel to nearby field sites and for transporting supplies	

Project accomodation types

Temporary Camp

Other,

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
ATV	1	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

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Aviation fuel	fuel	400	205	82000	Liters	Aircraft fuel
Diesel	fuel	95	205	19475	Liters	Heating and incinerator fuel
Gasoline	fuel	5	205	1025	Liters	Generator fuel
Liquid nitrogen	hazardous	2	20	40	Liters	Used during ground geophysical surveys during Summer Program

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
10	Pump or portable containers	From a nearby watercourse

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Camp	Combustible wastes	<1 cubic meter/day	Incinerated using a dual-chamber, diesel-fired incinerator	See attached Waste Management Plan appendix for incinerator Information Sheet
Camp	Greywater	<1 cubic meter/day	Sump located more than 31 m from the ordinary high water mark of any water course	Kitchen greywater will pass through a grease trap prior to being deposited to a sump
Camp	Hazardous waste	>10 kg	Waste fuel products, contaminated snow/ice, incinerator ash, and contaminated soil will be packaged in appropriate containers, labelled, and shipped off site	Please see attached Waste Management Plan for complete details.
Camp	Non-Combustible wastes	<1 cubic meter/day	Non-combustible waste such as construction debris and plastics will be bagged and shipped off site.	Please see attached Waste Management Plan for complete details.
Camp	Sewage (human waste)	<1 cubic meter/day	Pacto toilets	Waste will be incinerated. Please see Waste Management Plan for further details.

Environmental Impacts:

Please see attached Environmental Protection Plan, Spill Contingency Plan, Waste Management Plan, and Wildlife Management Plan for complete details. Bronzite and its consultants are planning future baseline environmental studies to understand the biophysical and socio-economic components of the project area.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

Copper exploration

SECTION B2: Exploration Activity

Please see attached Project Description for details.

SECTION B3: Geosciences

Please see attached Project Description for details.

SECTION B4: Drilling

N/A

SECTION B5: Stripping

N/A

SECTION B6: Underground Activity

N/A

SECTION B7: Waste Rock

N/A

SECTION B8: Stockpiles

N/A

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

Bronzite is aware of sensitive areas on Somerset Island that have been proposed as limited use areas in the Draft Nunavut Land Use Plan, including caribou calving grounds and key migratory bird habitats which are north of the project camp site. The QIA has indicated that Creswell Bay is also a sensitive area due to the abundance of Beluga Whales. Bronzite will pursue archaeological surveys of the project area prior to any higher impact work such as drilling, and will report all archaeological findings. See Environmental Protection Plan for further details. Bronzite and its consultants are planning future baseline environmental studies to better understand the physical elements in the project area.

Description of Existing Environment: Biological Environment

Please see attached Wildlife Management Plan

Description of Existing Environment: Socio-economic Environment

The project camp is located on QIA territory, and the full project boundaries cover QIA and KIA territory. The closest communities to the project camp site are Taloyoak and Resolute Bay, both of which are roughly 300 km away. Bronzite will pursue archaeological surveys of the project area prior to any higher impact work such as drilling, and will report all archaeological findings. See Environmental Protection Plan for further details. Bronzite has been in communication with QIA and KIA about the project, and has reached out to the Resolute Bay Hunters and Trappers Organization to arrange a meeting to discuss how the land is used, issues of concern, and how the company can minimize impacts on wildlife and traditional activities in the area. Bronzite understands through engagement with QIA that the Inuit Owned Lands (IOL) on

Somerset Island are particularly sensitive and sacred. Bronzite is not planning any ground-based work, fuel caches, or camps on IOL in 2024, but understands the process for applying with QIA in the future should that work become necessary.

Miscellaneous Project Information

Bronzite understands from engagement with QIA that Creswell Bay is a particularly sensitive area due to the abundance of Beluga Whales. Bronzite is not planning any high-impact work in the Creswell Bay area in 2024, but will continue to engage with QIA and the HTO to understand how best to mitigate risks in the area.

Identification of Impacts and Proposed Mitigation Measures

Please see attached Environmental Protection Plan, Waste Management Plan, Spill Contingency Plan, and Wildlife Management Plan.

Cumulative Effects

Bronzite will monitor cumulative impacts as the project progresses into more advanced mineral exploration (ie. drilling) and mine development. For 2024, the project remains a low-impact reconnaissance operation with ground-based mapping and surveys and airborne surveys.

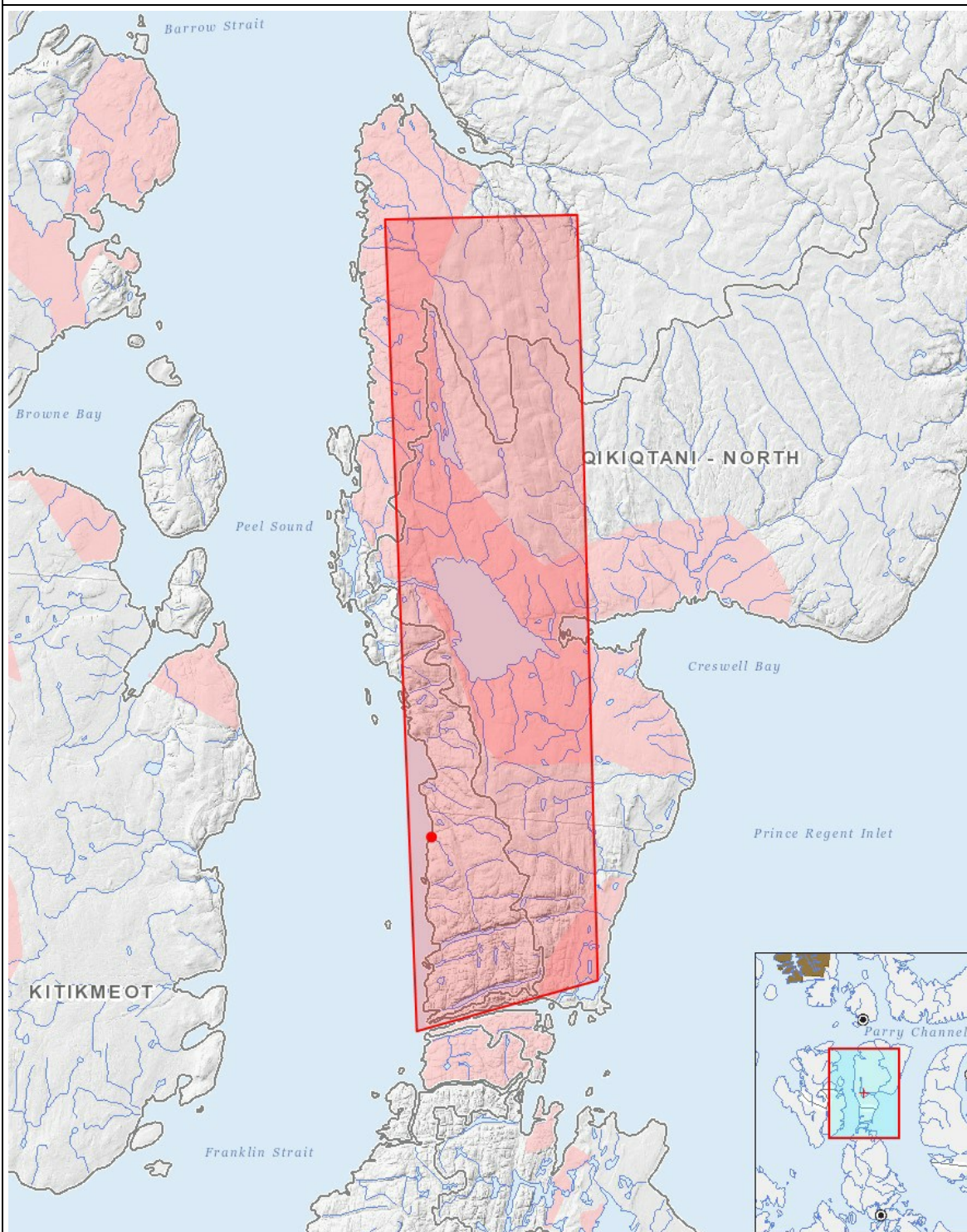
Impacts

Identification of Environmental Impacts

		PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Construction																										
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Operation																										
Camp		U	U	U	-	U	U	U	U	U	U	U	M	M		U	M	M	U	U		U	P	P	U	U
Mineral Exploration		U	U	U	-	U	U	U	U	U	U	U	M	M		U	M	M	M	U		U	P	P	U	U
Decommissioning																										
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(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

- | | | |
|---|---------|------------------------------|
| 1 | polygon | Somerset Trough Project Area |
| 2 | point | Camp location |