



NIRB Application for Screening #126134

Somerset Trough Project

Application Type: New

Project Type: Mineral Exploration

Application Date: 1/31/2025 10:37:04 AM

Period of operation: from 2024-03-15 to 2029-04-24

Project Proponent: Samuel Robb
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DETAILS

Non-technical project proposal description

English: The Somerset Trough Project ("Project") is an early exploration program located on Somerset Island. The project area consists of contiguous mineral claims extending across both the Qikiqtani and Kitikmeot regions of Nunavut. Project activities for the year 2025 will consist of the construction of an exploration camp, airborne and ground-based geophysical surveys, geological studies (prospecting and mapping), and minor environmental and wildlife studies. These activities have previously been screened and approved by the Nunavut Impact Review Board (NIRB File #: 24EN005, NPC File #: 150217) with applicable Terms and Conditions. The Project has obtained a Class A Land Use Permit from Crown Indigenous and Northern Affairs Canada (CIRNAC) that covers the previously approved activities (CIRNAC LUP: N2024C0005). This application covers an amendment to the previously approved activities including the addition of drilling for future years beyond 2025 and associated increases in water usage and hazardous waste generation (through drilling activities). These exploration programs in years 2026 and beyond are anticipated to consist of advancing up to 45,000 metres of drilling annually using diamond drills and/or reverse circulation drills to retrieve drill core and rock chip samples that will be logged and sent for laboratory analysis. In line with Bronzite's previous NIRB application, the 2025 exploration program will consist of the construction of an approximately 20-person exploration camp in the spring and/or early summer. The initial spring camp will consist of temporary structures placed on top of the snow and ice cover without disturbing the ground underneath. Prior to snow melt and commencement of summer activities, the temporary structures will be removed to permit the completion of an archaeological survey over the camp area. After completion of the archaeological survey, the constructed camp will consist of a series of weatherhavens for accommodation, dining, camp dries, storage, sample processing, and first aid, along with a small generator building. Camp buildings will be heated with diesel heaters complete with spill protection. Camp infrastructure and machinery such as snowmobiles and all-terrain vehicles (ATV) will be mobilized to site using either a Basler DC-3 or Twin Otter aircraft on skis/tundra tires, depending on ground conditions. The camp is expected to remain on the land for the duration of the exploration program. 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 in the off-season until crews return the following year. Minimal water will be used for the 2025 exploration program, and only an NWB Authorization will be required. 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 a maximum of 10 m³ of potable 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. In years 2026 and beyond, Bronzite will use less than 299 m³ of water per day to support camp and drill operations, which will require a Class B Water License. Exploration activities in 2026 and onward will be a combination of field based geological and geophysical studies along with diamond and/or reverse circulation drilling. 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. Drill sites will avoid environmentally or culturally sensitive areas. No prohibited chemicals will be used in drilling operations and drill cuttings and return water will be deposited into a sump at each drill site. Appropriate water management methods will be used to ensure that drill cuttings and water are contained and do not impact adjacent land and water bodies. After completing drilling at each site, the work area will be cleared of all solid waste and other materials such as fuel drums, and these materials will be transported back to camp for safe temporary storage. Drill collars will be removed, where possible, or otherwise cut flush with the ground surface. All drill sites will be left in clean and stable conditions and will be inspected by the Project Manager and photographed prior to demobilisation.

French: Le projet Somerset Trough (« Le projet ») est un programme d'exploration initial situé sur l'île Somerset. La zone du projet est constituée de concessions minières contiguës qui s'étendent sur les régions de Qikiqtani et de Kitikmeot au Nunavut. Les activités du projet pour l'année 2025 consisteront en la construction d'un camp d'exploration, des levés géophysiques aériens et terrestres, des études géologiques (prospection et cartographie) et des études mineures sur l'environnement et la faune. Ces activités ont déjà été examinées et approuvées par la

Inuktitut:

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Inuinnaqtun: Kuganayukmi Kigiktami Havak ("Havak") nalvakheokveolihaktok havak inikaktok Kuganayukmi Kigiktami. Havap inigiya pikaktok ataohehakmi uyagaktakhanik nanminigiyaonikaktok ilagiyaani Kigiktani Kitikmeonilo nunakni Nonavumi. Havami holiyotit ukeomi 2025-mi pikakneaktok hanayaoniganik nalvakheoktit hiniktakvikhanik, tikmeamit nonamilo uyakanik naonaeyaotikakneaktut, nonameotanik ilitokhaotinik (kinikheanyut nonaoyanolo ileogaeyukhat), mikiyoniklo avataoyomik umayoniklo ilitokhaotinik. Ukoa huliyoitit hivoani ihivgeoktaohimaliktut agiktaohimavlotiklo Nonavumi Avatilikiyit Katimayenit (NIRB-kot Titigakaveani Nahaotit 24EN005-mit, NPC-kot Titigakaveani 150217-milo) atolaktoniklo Pikaknikhaenik Kanoginikhaeniklo. Havak pihimayok Atonetomi A-mik Nonanik Atogeagani Piyonaotimik Koen Nonakakaktut Ukeoktaktomilo Holiyotinik Kanatami (CIRNAC) ilagiyaoyk hivoani agiktaohimayonik holiyotinik (CIRNAC-kut LUP-mi: N2024C0005)-metonik).Una

tukhiktut piyotaoyok notaguktikniganik hivoani agiktaohimayomik holiyotinik ukonigalo ilageagotinik ikutaotikhani hivonikhami ukeoni avatanut 2025 ilagiyaeniklo agiklivaleaniganik imaknik atokniganik halomaetoniklo atoagonik hatkikhiyotinik (ikutaknikmit). Ukoa nalvakheogotit havat ukeoni 2026-mit avatanut nahogiyaoyut agiklivaleanikhaenik uvoga 45-taosit metanik ikotaknikmik aepagotoagagat atoklotok hitiyonik ikotaknik igloanolunet kaemaloalaktonik ikotaknik pivageagani toatonik kaemalogiktonik ikotakniginit uyakalo hikuptiktaoniginik naonaeyagakhanik titigageagani toyutaolotiklo naonaeyaevikmut ilitokhaktaovikmut. Ilagilogo Bronzite-kut hivoani NIRB-konit tukhiktutani, 2025-mi nalvakheogotinik havak ilakakneaktok hanayaoniganik kanitoani 20-nik inukaktukhamik nalvakheokvikmik hiniktakveoyomik upingami atolihalikalunet aoyak. Upingami hiniktakvikhak pikakneaktok napalaktukhanik aputip kagani hikuvlo aktokhimaetomik nona atani. Aput aoktoktinago atolikniginiklo aoyami huliyotit, napalaktut hanahimayut ahivaktaoneaktut iniktigeagani igilgaknitakakvikmik naonaeyaot inigiyaoyugaloami. Iniktakat igilgaknitakakvik naonaeyakniganik, hanahimayok hiniktakvik pikakneaktok ataohenaogitomik anogaolgomeovikhanik hiniktakvikhanik, nigivikhamik, panikheviknik, tutkomaviknik, ilitokhagakhanik havaohikmik, aniktokakalo monakhiyotinik, mikiyomiklo algoyaktutimik ignikotikakvikmik. Hiniktakvikmi iglukpaet unakotikakneaktut ukhokyoanik unakotinit inigekhimalotik kuviyokakat monagiyotinik. Hiniktakvikmi hanahimayut agnikotikaktovalolo ayikotaet siketut foa-hoelalo (4-wheelers) akyaktaoneaktut inigiyaoyomut atoklotik Basler DC-3-kut Malgolinoakolunet tikmeakut aleakaktonik/manigaenakmilunet milaktonik akhaloakaktonik, piyotaoneaktok manikap kanoginiganik. Hiniktakvik nahogiyaoyok aolaenakloni nonami atoktilogo nalvakheoknik havak. Piyotaoniganik Ukeoktaktomi Nonanik Atokniganik Maligoani, Bronzite-kot pinahoakneaktut titigakhimayomik agigunmik Koen Nonakakaktut Ukeoktaktomilo Havaoheoyonik Kanatami ihoakhaehimayut kimageagani pikotikakniganik havaktilogit havagitilogilo ukeop ilagani ukoa havaktut utiknigini atoktukhami ukeomi. Mikinikhak imak atoktaoneaktok 2025-mi nalvakheoknikmi havami, unatoaklo NWB-konit Agigut atogeakakneaktok. Nonap kagani imak imiktagiyoaneaktok kanitomit imakmit papaotikut imiktaotinulunet atoktaolotiklo igayotikhanik, neokaktakhanik, oakhitikhaniklo hiniktakvikmi. Nahogiyaoyok amigaenikhat 10 m³-nik imiktakhanik atoktaoneaktok ublotoagagat atoktakhaenik havaktuni ilaoyut. Atakut kuviyaovakneaktut imagikhitevikmi inikaktomik ugahitkiyamik 31-metanik imaokakpakniganit kituvlika imavaloet. Inoet anagoet katitiktaneaktut Pacto-ni kuyaktokvikni anagulo ikolatiyaoneaktut ublotoagagat ikolativikmi inoelo ikagovaloen. Ukeoni 2026-mit avatanulo, Bronzite-kot atokneaktut mikitkiyanik 299 m³-mik imaknik ublotoagagat atoktukhanik hiniktakvikmi ikotakviknilo, piyotikageakaktomik Atonetoni B-mik Imakmik Atogeagani Laeseoyomik. Nalvakheoknikmi holiyotit 2026-mi hivonikhamulo ilakakneaktut manikami nonalikiyotinik oyagaktakhalo ilitokhakniginik hitiyoniklo / igloanut kaevilaktut ikutaotinik. Ikutat akyaktaoneaktut ahivaktaolotiklo atoklotik halikaptanik atogeakakneaktolo mikiyomik nonamik naoteagiyaotinik ikutap tungamikha hanayaotilogo. Kiyot atoktaoneaktut, atogeakaknigini, kivikhimayagani ikutak nonamit mikinikhaoyagani nonamik aktokniganik. Ikutap inigiyaet atolimagitut avataoyomi ilitkohikmilunet kayaknaktonik nunanik. Atokoyaogitut kuviyaktut atoktaolimagitut ikutaktoni kivloeyonilo utiktolo imavaloet iliyaoneaktut imagikhitevikmut atoni ikutakvikmi. Ihoaktut imaknik monagiyotit pigeagotit atoktaoneaktut ikutanit kivloaktaoyut imavaloelo heamayagitagani aktoknikagitaganilo haneani nonanik imakniklo. Ikutaktagomik atoni inigiyaoyomi, havakveoyok ahivaktigiveoneaktok ikagonik aheniklo hanahimayonik ayikotaenik katakyoet, ukoalo hanahimayut akyaktaoneaktut hiniktakvikmut aniknaetomik ilipkamalageagani. Ikutani heamayagepkotit ahivaktaoneaktut, ayoknaetpat, aheani kipiyaoneaktut ayikotagiliklogo nunap kaga. Tamaeta ikutakvet ipigaktaoneaktut halomalotik namaenaklotiklo ihivgeoktaonektulo Havami Ataneoyomit piksaleoktaolotiklo.

Personnel

Personnel on site: 20

Days on site: 600

Total Person days: 12000

Operations Phase: from 2024-03-15 to 2029-04-24

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Bronzite Exploration - 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 by archaeological assessment prior to camp construction and 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, and Bronzite has a Land Access Authorization from QIA.
Camp location	Camp	Crown	Area ground-truthed during the 2023 Bronzite Crowberry Project	To be determined by archaeological assessment prior to camp construction and drilling. All finding will be reported as per the Environmental Protection Plan.	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.
Bronzite Exploration - Somerset Trough Project Area	Mineral Exploration	Inuit Owned Surface Lands	Bronzite has not conducted any work on IOL parcels RB-01 and RB-02 to date. In April 2024 Bronzite was issued a Land Access Authorization QL2-2423 by QIA.	Unknown. Bronzite will not create ground disturbance on IOL without consulting with QIA.	The project area overlaps the RB-01 and RB-02 IOL parcels on Somerset Island.

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Kugluktuk	Wynter Kuliktana	KIA	2024-10-28
Iqaluit	Joel Fortier	QIA	2024-11-01
Resolute Bay	Mark Amarualik	RBHTA	2024-11-05
Resolute Bay	Community meeting	Community meeting	2024-11-05
Taloyoak	David Irquit	Taloyoak	2024-11-12

Taloyoak	Peter Aqqaq	TUA	2024-11-12
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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	N2024C0005 Type A Land Use Permit	Active	2024-04-25	2029-04-25
Qikiqtani Inuit Association	Land Access Authorization QL2-2423	Active	2024-05-15	2025-12-31
Nunavut Water Board	2WLC-STP2425 Approval Without a Licence	Active	2024-04-29	2025-04-28
Nunavut Water Board	Type B Water Licence for 2026 and beyond	Not Yet Applied		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Two (2) A-Star B3 Helicopters (or similar) will be used for transported personnel and for geophysical surveys. Fixed week aircraft such as Basler DC-3 or Twin Otter will be used to transport equipment and supplies to site periodically, and used for backhaul of waste.	
Land	One (1) snowmobile and one (1) ATV will be used for transporting personnel to nearby field sites and for transporting supplies.	

Project accomodation types

Temporary Camp

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
Diamond Drill	1-2	10ft x 15ft	Drilling for core samples

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
CaCl ₂	hazardous	2500	50	125000	Lbs	Drilling
Hydraulic Oil	hazardous	50	20	1000	Liters	Drilling
Engine oil	hazardous	5	4	20	Liters	Motor/engine oil for ATVs, snowmobiles, and generators
Propane	fuel	25	100	2500	Lbs	Fuel for stoves and hot water

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
299	Pump or portable containers	From nearby watercourses for camp purposes and diamond and/or RC drilling purposes at various locations.

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Mineral Exploration	Combustible wastes	<1 cubic meter/day	Incineration	Incinerated using a dual-chamber, forced-air, diesel-fired incinerator
Mineral Exploration	Greywater	10 m3/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 in a sump. Sump pits will be located adjacent to camp and allowed to percolate into overburden.
Mineral Exploration	Hazardous waste	Negligible	Waste fuel products, contaminated snow/ice, incinerator ash, and contaminated soil will be packaged in appropriate containers, labelled, and shipped off site.	Please see Waste Management Plan for further details
Mineral Exploration	Non-Combustible wastes	<1 m3/day	Non-combustible waste such as construction debris and plastics will be bagged and shipped off site.	Please see Waste Management Plan for further details
Mineral Exploration	Sewage (human waste)	<1 m3/day	Packo toilets	Please see Waste Management Plan for further details.

Environmental Impacts:

Please see attached Environmental Protection Plan, Spill Contingency Plan, Waste Management Plan, Wildlife Management and Monitoring Plan, and Restoration and Abandonment 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

Please see Environmental Protection Plan for details.

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. Creswell Bay is also classified as an Important Bird Area (IBA) due to the population and diversity of shorebirds in the area. Bronzite will pursue archaeological surveys of the project areas prior to camp construction and 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 and Monitoring 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 areas prior to camp construction and drilling, and will report all archaeological findings. See Environmental Protection Plan for further details. Bronzite has engaged with QIA, KIA, Resolute Bay, and the Resolute Bay Hunters and Trappers Organization 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 has obtained a Land Access Authorization (QL2-2423) from the QIA for potential work in IOL parcels RB-01 and RB-02.

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 2025, 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, Wildlife Management and Monitoring Plan, and Abandonment and Restoration Plan.

Cumulative Effects

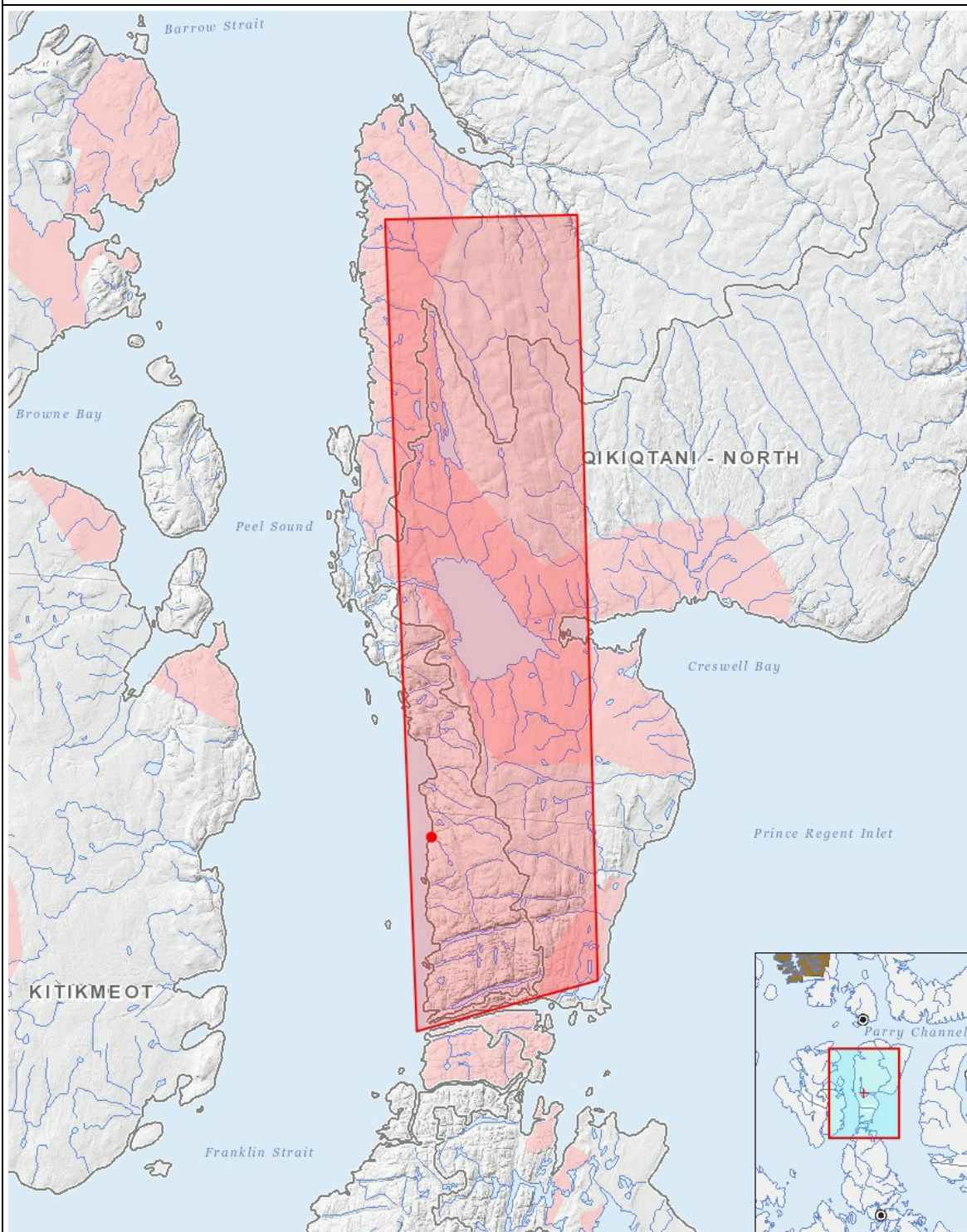
Bronzite will monitor cumulative impacts as the project progresses into more advanced mineral exploration (ie. drilling) and mine development. For 2025, the project remains a low-impact reconnaissance operation with ground-based mapping and surveys and airborne surveys.

Impacts

Identification of Environmental Impacts

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

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