



## **NIRB Application for Screening #125434**

### **North Arrow Minerals - Mel Project**

**Application Type:** New

**Project Type:** Mineral Exploration

**Application Date:** 1/11/2019 6:50:34 PM

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

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

**Project Proponent:** North Arrow Minerals Inc.  
North Arrow Minerals Inc.  
Suite 960-789 West Pender Street  
Vancouver BC V6C1H2  
Canada  
Phone Number:: 604-563-4808, Fax Number:: 604-336-4813

## DETAILS

### Non-technical project proposal description

English: North Arrow Minerals Inc.'s ("North Arrow") Mel Project ("Project" or "Property") is located on the Melville Peninsula, Nunavut, Canada. The property is located approximately 200 km northeast of the Hamlet of Nauyasat and 150 km south of the Hamlet of Hall Beach and is comprised of 46 mineral claims covering prospective areas resulting from exploration work conducted between 2013 and 2018. The project area sits within the Qikiqtani region of Nunavut, and most of the Property is covered by Inuit Owned Land ("IOL") parcel HB-01. The proposed land use activity will consist primarily of drilling, till sampling, prospecting and geophysics. Work will be conducted during the spring and/or summer months of 2019, and beyond, for up to eight weeks at a time. A roughly 12-person exploration camp was built in July 2018 to support fieldwork, and all programs will be helicopter supported. Drilling-related water source locations are yet to be determined and will only be conducted within North Arrow's mineral claims. Once known, these locations will be provided to the appropriate authorizing agencies (INAC, NWB, and QIA), for reference. Personnel working on the project may vary, and typical personnel requirements will likely include between one and four project geologists or geo-technicians, one helicopter pilot, one helicopter engineer, one cook/first-aid attendant, one wildlife monitor, and three to five drilling crew members. Helicopter flights will be limited, and no low-level flying will be done except during takeoff/landing, and in cases of emergency, when required. Supplies, including fuel, will be mobilized through either Hall Beach or Nauyasat. If results from the proposed program are positive, further work may be conducted, including additional drilling, till sampling, prospecting and geophysical surveying. North Arrow hired temporary Wildlife Monitor's, Expeditor's and Camp Support personnel from Hall Beach during operations in summer 2018 and will do so again for future programs.

French: Le projet Mel de North Arrow Minerals Inc. est situé dans la péninsule de Melville, au Nunavut, au Canada. La propriété est située à environ 200 km au nord-est du hameau de Naujaat et à 150 km au sud du hameau de Hall Beach (Figure 1) et comprend 46 claims miniers couvrant des zones potentielles résultant des travaux d'exploration menés entre 2013 et 2018. La zone du projet est située dans la région de Qikiqtani au Nunavut et la plus grande partie de la propriété est couverte par la parcelle HB-01 appartenant à une terre inuite («LIO»). L'activité d'utilisation des sols proposée consistera principalement en forage, échantillonnage de till, prospection et géophysique. Les travaux seront menés pendant les mois de printemps et / ou d'été de 2019 et au-delà, pendant huit semaines au maximum. Un camp d'exploration d'environ 12 personnes a été construit en juillet 2018 pour appuyer les travaux sur le terrain et tous les programmes seront assistés par hélicoptère. Les sources d'eau liées aux forages n'ont pas encore été déterminées et ne seront localisées que dans les claims miniers de North Arrow. Une fois connus, ces emplacements seront fournis aux organismes d'autorisation appropriés (AINC, NWB et QIA), à titre de référence. Le personnel travaillant sur le projet peut varier et les besoins en personnel incluent généralement entre un et quatre géologues ou techniciens en géotechnique du projet, un pilote d'hélicoptère, un ingénieur hélicoptère, un cuisinier / secouriste, un surveillant de la faune et trois à cinq membres de l'équipe de forage. Les vols en hélicoptère seront limités et aucun vol à basse altitude ne sera effectué, sauf lors du décollage / atterrissage et en cas d'urgence, le cas échéant. Les fournitures, y compris le carburant, seront mobilisées via Hall Beach ou Naujaat. Si les résultats du programme proposé sont positifs, des travaux supplémentaires peuvent être menés, notamment des forages supplémentaires, des échantillonnages de till, des travaux de prospection et des levés géophysiques. North Arrow a embauché du personnel temporaire de Wildlife Monitor, Expeditor et Camp Support à Hall Beach pendant les opérations de l'été 2018 et le fera de nouveau pour les programmes futurs.

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## Personnel

Personnel on site: 12

Days on site: 60

Total Person days: 720

Operations Phase: from 2019-03-29 to 2024-09-28

Closure Phase: from 2019-03-29 to 2024-09-28

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Mel Project - Mineral Claims Boundary	Mineral Exploration	Inuit Owned Surface Lands	Prior to North Arrow Minerals acquiring mineral claims at Mel, historic heavy mineral sampling was conducted by Apex Geoscience and Stornoway Diamond Corp. in the early 2000's.	N/A - A site visit to the project was organized by North Arrow in September 2017 for a member of the Hall Beach Hunter's and Trapper's Association (Danny Arvalaq) to inspect the area of the camp and future drilling areas for evidence of archaeological sites. Nothing was found.	The project is located on the Melville Peninsula in Nunavut, approximately 200 km northeast of the Hamlet of Naujaat, and 150 km south of the Hamlet of Hall Beach. It is comprised of 46 mineral claims within the Qikiqtani region of Nunavut, and most of the claims are covered by Inuit Owned Land parcel HB-01.
Exploration Camp	Camp	Crown	Prior to North Arrow Minerals acquiring mineral claims at Mel, historic heavy mineral sampling was conducted by Apex Geoscience and Stornoway Diamond Corp. in the early 2000's.	N/A - A site visit to the project was organized by North Arrow in September 2017 for a member of the Hall Beach Hunter's and Trapper's Association (Danny Arvalaq) to inspect the area of the camp and future drilling areas for evidence of archaeological sites. Nothing was found.	The project is located on the Melville Peninsula in Nunavut, approximately 200 km northeast of the Hamlet of Naujaat, and 150 km south of the Hamlet of Hall Beach. It is comprised of 46 mineral claims within the Qikiqtani region of Nunavut, and most of the claims are covered by Inuit Owned Land parcel HB-01.
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## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Hall Beach	George Qulaut	MLA of Amittuq	2016-04-06
Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2016-04-06
Hall Beach	P.J. Akeeagok	President of the Qikiqtani Inuit Association	2016-04-06
Hall Beach	Salamonie Shoo	Qikiqtani Inuit Association	2016-04-06
Hall Beach	Salamonie Shoo	Qikiqtani Inuit Association	2016-02-25
Hall Beach	Salamonie Shoo	Qikiqtani Inuit Association	2016-02-22
Hall Beach	Salamonie Shoo	Qikiqtani Inuit Association (QIA)	2016-01-28
Hall Beach	Salamonie Shoo	QIA	2016-12-16
Hall Beach	Salamonie Shoo	QIA	2017-02-08
Hall Beach	Darryl Dibblee	Hall Beach Senior Administrative Officer	2017-02-08
Hall Beach	Darryl Dibblee	Hall Beach Senior Administrative Officer	2017-03-13
Hall Beach	Darryl Dibblee	Hall Beach Senior Administrative Officer	2017-03-15
Hall Beach	Jayko Simonie (Deputy Mayor), Peter Seakuluk (Mayor), Joeline Kaernerker (Councillor - community liaison for Baffinland), Lily Arnaqjaaq (Councillor), Philip Arguratsiaq (Councillor), Stacey Kadlutsiak (Councillor), Anne Curley (Councillor), Danny Arvalak (Councillor), Paul Haulli (Councillor), Abe Qammaniq	Hall Beach Mayor and Council	2017-04-06
Hall Beach	Jopie Kaernerker, Chair Lou Nattuk Cain Pikuyak Paypeetee Audluqiaq Abraham Qammaniq (interpreter) Sam Arnarjunq Manasee Naulaq (Manager)	Hunters and Trappers Association	2017-04-06
Hall Beach	33 members of the community	Community Meeting in Hall Beach	2017-04-06
Hall Beach	George Qulaut	Nunavut MLA	2017-04-14
Hall Beach	Manasee Naulaq	Hunters and Trappers Association	2017-04-20
Hall Beach	Manasee Naulaq	Hunters and Trappers Association	2017-05-08
Hall Beach	Manasee Naulaq	Hunters and Trappers Association	2017-05-31
Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2017-06-28
Hall Beach	Manasee Naulaq	Hunters and Trappers Association	2017-07-14
Hall Beach	Samantha ?	Hunters and Trappers Association	2017-09-07

Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2017-09-07
Hall Beach	Jason Mikki	Hunters and Trappers Association	2017-09-14
Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2017-09-19
Hall Beach	Jason Mikki	Hunters and Trappers Association	2017-09-19
Hall Beach	Salamonie Shoo	QIA	2017-09-25
Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2017-10-17
Hall Beach	Salamonie Shoo	QIA	2017-10-17
Hall Beach	Peter Siakuluk	Mayor of Hall Beach	2018-01-24
Hall Beach	Joelie Kaernerck	Nunavut MLA	2018-01-26
Hall Beach	Jim Langille	Senior Administrative Officer	2018-02-20
Hall Beach	Jim Langille (SAO Hall Beach), Jaypeetee Audlakiak (Mayor of Hall Beach)	Mayor and SAO	2018-09-24
Hall Beach	Joel Fortier	QIA	2018-09-24
Hall Beach	Joelie Kaernerck	Nunavut MLA	2018-09-24
Hall Beach	Jim Langille (SAO Hall Beach), Jaypeetee Audlakiak (Mayor of Hall Beach)	SAO and Mayor of Hall Beach	2018-11-13
Hall Beach	Joel Fortier and P.J. Akeegok	QIA	2018-11-13
Hall Beach	Joelie Kaernaerk	Nunavut MLA	2018-11-13
Hall Beach	Joyce Arnadjuak	Hunters and Trappers Association	2018-11-13
Hall Beach	Danny Arvalaq	Hunters and Trappers Association	2017-09-19
Hall Beach	Manasee Naulaq	Hunters and Trappers Association	2018-09-05
Hall Beach	Jim Langille	Senior Administrative Officer	2018-09-05

## Authorizations

Indicate the areas in which the project is located:

South Baffin

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Aboriginal and Northern Affairs Canada	N2017C0006 Crown Land Use Permit	Active		2022-04-30
Nunavut Water Board	2BE-MPP1719 Type B Water Licence	Active		2019-06-02
Qikiqtani Inuit Association	Q17L2003 Level 3 Access to IOL Permit	Active		2019-03-31

### Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Helicopter and Fixed Wing Aircraft (Summer and Winter)	
Land	Snowmobile (Winter)	

### Project accommodation types

Temporary Camp

## Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Diamond Drill	1	6m x 6m x 6m, 3000 kg	Diamond Drilling
Reverse Circulation Drill	1	6m x 6m x 6m, 3000kg	RC Drilling
Helicopter (Bell 206 Long Ranger)	1	12m x 10.m(rotor diameter) x 2.8m, 1000kg	Daily transport of personnel between sites and camp. Moving drilling-related equipment and fuel. Moving drill core samples between sites and camp.
Snowmobile	1-2	2m x 1m x 1m, 200kg	Transporting crews to/from the drill, and general working purposes in camp during winter months.
Water Pumps	2	1m x 1m x 1m, 100-200lbs	Water for camp and the drill.
Ice Auger	2	1m x 0.5m x 0.5m, 30lbs	Water for camp and the drill.
Incinerator	1	1m x 1m x 2m	Disposal of Combustible Waste

### 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	50	205	10250	Liters	Helicopter and Fixed Wing Aircraft
Diesel	fuel	50	205	10250	Liters	Camp Generator, Tent Stoves, Drilling
Gasoline	fuel	3	20	60	Liters	Water Pumps, Snowmobiles
Propane	fuel	10	100	1000	Lbs	Camp (Cooking, Laundry Facilities), Drilling (Heating)
Engine Oil	hazardous	12	1	12	Liters	Drill engine, Snowmobiles, Camp Generator
Antifreeze	hazardous	5	5	25	Liters	Drill Engine, Camp Generator
Drilling Muds/Greases	hazardous	20	20	400	Liters	Drilling
Salt	hazardous	50	20	1000	Kg	Drilling
Lead Battery	hazardous	2	10	20	Lbs	Camp Generator, Drill Engine

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
50	Hose with screen and water pump at the Camp and all drilling sites	Waterbodies with suitable capacity located within the proposed land use area



# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Camp	Combustible wastes	Small amount	Incineration	n/a
Camp	Greywater	12 people for up to 8 weeks at a time	Sump	Sumps will be back-filled upon completion of the program
Drilling	Greywater	Approx. 15 m <sup>3</sup> of drill water per 200 m drill hole	Along with drill cuttings, a small amount of recirculated water used for drilling will be deposited in a natural depression or hand-dug sump	Sumps will be back-filled upon completion of the program
Mineral Exploration	Hazardous waste	50 empty fuel drums (the rest will be reused)	Transport to town (Hall Beach or Naujaat) on backhaul flights for approved and proper disposal	n/a
Mineral Exploration	Hazardous waste	Used engine oil and antifreeze	Collected and sealed in clearly marked containers and transported to town (Hall Beach or Naujaat) and beyond for approved and proper disposal	n/a
Mineral Exploration	Non-Combustible wastes	Small amount	Transport to town (Hall Beach or Naujaat) on backhaul flights for approved and proper disposal	n/a
Drilling	Overburden (organic soil, waste material, tailings)	Approx. 2 m <sup>3</sup> per 200 m drill hole	Drill cuttings will be pumped out of the drill hole and into an appropriate natural depression or hand-dug sump >31 m above the normal high water mark of nearby waterbodies to allow the settlings of fine material. If drilling on ice, cuttings will be pumped into a natural depression or hand-dug sump on land, or a cuttings-capture system such as a "Polydrill Filter" will be employed at the drill to contain all of the cuttings so as to avoid releasing material into lakes. Cuttings will then be	Hand-dug sumps will be back-filled upon completion of drilling activities to match, as close as possible, the surrounding topography

			transported to a location >31 m above the normal high water mark of nearby waterbodies and deposited into a natural depression or hand-dug sump.	
Camp	Sewage (human waste)	12 people for up to 8 weeks at a time	Outhouse, hand-dug pits	Application of lime upon completion of program

**Environmental Impacts:**

Camp, Drilling, Helicopter and Fixed Wing Aircraft, Snowmobile

# **Additional Information**

## **SECTION A1: Project Info**

## **SECTION A2: Allweather Road**

## **SECTION A3: Winter Road**

## **SECTION B1: Project Info**

Diamonds

## **SECTION B2: Exploration Activity**

Exploration Drilling (on land and/or ice using a diamond or reverse circulation drill), Delineation Drilling, Preliminary Delineation Drilling, Soil Sampling, Geophysical Surveying (Air and Ground),

## **SECTION B3: Geosciences**

Geophysical Surveys (Magnetic, Electromagnetic, Gravimetric; surveys will be flown below 610m, and could be as low as 10m from the ground; surveys will only be conducted within the property), Geological Mapping, Prospecting

## **SECTION B4: Drilling**

At this point in time, it is unknown how many drill holes will be proposed. The proponent estimates that the next round of drilling will range from 4-8 targets tested by 8-12 drill holes with an average depth of between 50-150 metres. The purpose of the drilling will be to follow-up drilling conducted in 2018, as well as test a number of new targets.

## **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**

There are no known protected environmental areas or parks in the vicinity of the proposed land use activity. During previous exploration programs conducted by the proponent, no potential archaeological sites have been encountered. The Melville Peninsula is divided into physiographic regions on the basis of topography and surface materials. Topography in the Project area consists of low to moderate relief, with common bedrock exposures consisting of mostly granites and gneisses. Sediments consist primarily of unconsolidated glacial deposits.

**Description of Existing Environment: Biological Environment**

Vegetation at the project site is scarce and is comprised of a mix of small shrubs, sedges and grasses, mosses, and lichens. Wildlife is also rare in and around the project area. During previous exploration programs carried out in the summer months, field crews have encountered sik-siks, small birds, wolves and caribou. The Government of Canada and COSEWIC websites list wildlife that may inhabit areas within the proposed work area, they include: Peary caribou (Schedule 2 designation), muskox, arctic hare, arctic fox, polar bear (Schedule 1 designation), snowy owl (Not at Risk) and other seabirds. Field crews and wildlife monitors will make every effort to record instances of all large wildlife sighted while completing exploration activities in conjunction with the Project.

**Description of Existing Environment: Socio-economic Environment**

The Mel Property is located approximately 200 km northeast of the Hamlet of Naujaat, and approximately 150 km south

of the Hamlet of Hall Beach. The Project takes about 100-120 minutes to reach via helicopter from either community. The Department of Heritage (Inuit Heritage Trust) recommends that if archaeological sites or features are encountered during the exploration program, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to their office using a Site Reporting Form (obtained from the GN website). Photographs and a map indicating location of site(s) should be provided as well. The proponent will follow these guidelines should suspected archaeological sites be found during the work program. Due to the fact that the Mel Project is in an early, low impact stage, there have been no studies conducted regarding the socioeconomic environment of the Hamlets of Nauyasat and Hall Beach, which are the closest communities to the land use area.

### **Miscellaneous Project Information**

n/a

### **Identification of Impacts and Proposed Mitigation Measures**

See Impacts section

### **Cumulative Effects**

The effects from the land use activities described herein are expected to be minimal due to the relatively short time frame within which it will be conducted. The identified land use area is relatively small and there are presently no competitor interests adjacent to or within the immediate vicinity of the project area. As addressed throughout this application, the proponent recognizes that there are concerns across the North regarding low level helicopter flights and their potential to disturb wildlife, migratory birds, and individuals engaging in traditional land use activities. The proponent has addressed the mitigation measures that will be implemented regarding any foreseeable concerns, notably, the potential for disturbance of wildlife and traditional land use. The proponent believes that the mitigation measures described are sufficient to address any potential concerns and welcomes further recommendations from the NIRB and other government organizations.

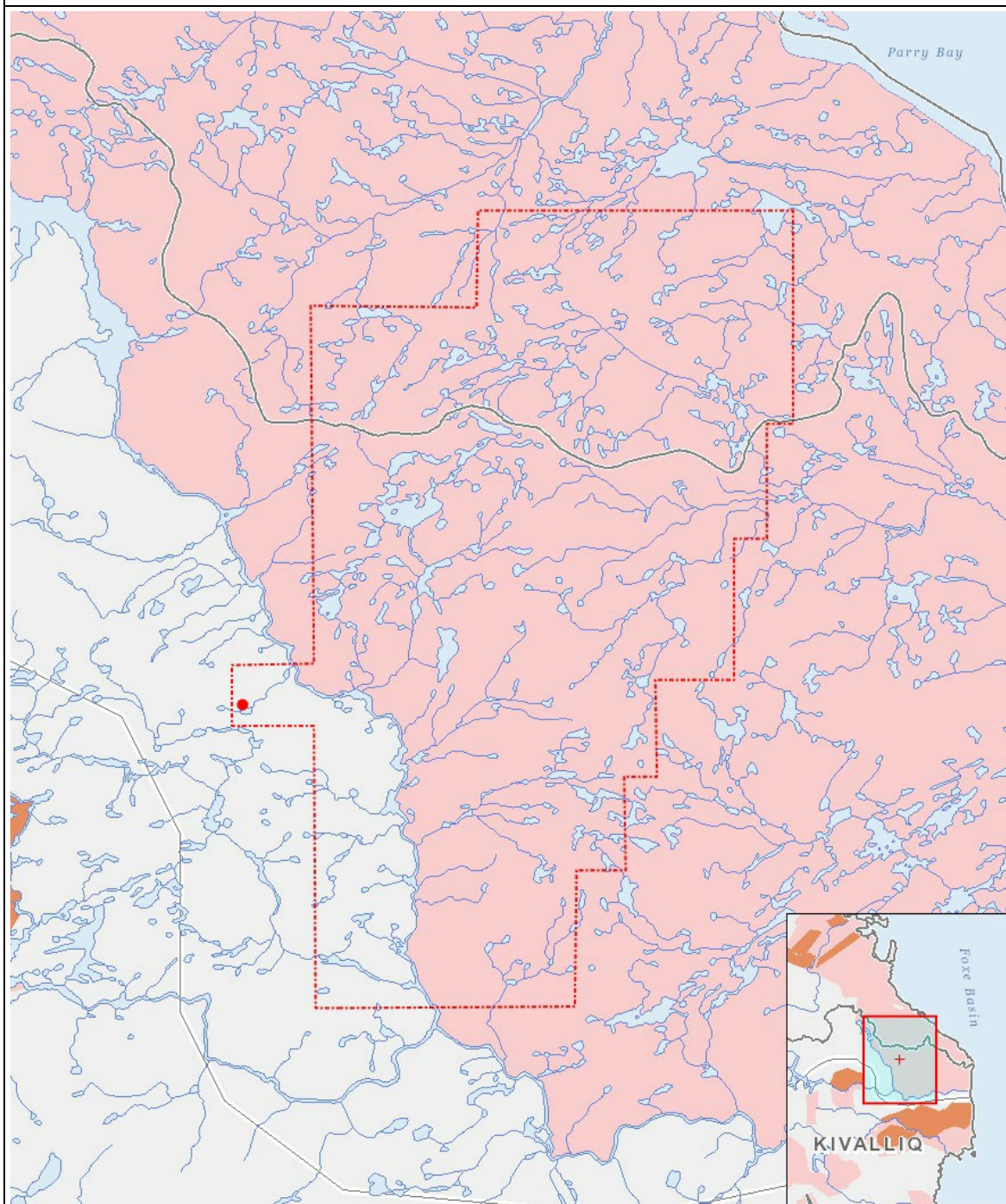
# Impacts

## 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
<b>Construction</b>																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Operation</b>																										
Camp		-	-	-	-	-	-	-	-	-	-	-	-	U		-	U	U	U	-		P	-	-	-	-
Mineral Exploration		-	-	-	-	-	-	-	-	-	-	-	-	U		N	U	U	U	-		P	-	-	-	-
<b>Decommissioning</b>																										
Camp		-	-	-	-	-	-	-	-	-	-	-	-	U		-	U	U	U	-		P	-	-	-	-

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

## Project Location



## List of Project Geometries

- |   |          |                                       |
|---|----------|---------------------------------------|
| 1 | polyline | Mel Project - Mineral Claims Boundary |
| 2 | point    | Exploration Camp                      |