



NIRB Uuktuutinga Ihivriughikhamut #125785

Bedrock Mapping from Angikuni Lake

Uuktuutinga Qanurittuq: New

Havaap Qanurittunia: Scientific Research

Uuktuutinga Ublua: 3/31/2023 1:17:46 PM

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

Piumayaat Angirutinga: from 0001-01-01 to 0001-01-01

Havauhikhaq Ikayuuqtinga: Lorraine Lebeau
Canada-Nunavut Geoscience Office
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Hivayautit Nampanga:: 8672221232, Kayumiktukkut Nampanga::

Tukihiannaqtunik havaariyaayumayumik uqauhiuyun

Qablunaatit: The geology of this area remains poorly described, visited only by the Geological Survey once by aerial survey in the 1950s. This work focuses on aspects of stratigraphy, structural geology and age dating of the rocks to form a bedrock map and create associated scientific publications. According to western science, this area could provide critical information involving the initial assembly of North American continents and critical minerals. Therefore, the necessity of the work is to advance our understanding of the Earth's evolution, and to investigate the potential for critical minerals. The project will be undertaken in the study area outlined in the map (attached). We aim for the field research to tentatively commence from July 10th to the 31st. The team will collect field observations by taking notes, photographs, and rock samples by hammer. The team will be transported by foot, helicopter and boat; with the intention being mostly by boat (inflatable Zodiac) and helicopter to a lesser extent. Immediate risk to the environment is noise from the helicopter. We will follow the Government of Nunavut's recommended altitude for aircraft of 610 meters during point-to-point travel, and only intended on using the helicopter for 7 days. To mitigate noise caused by boats, we will use a smaller more quiet motor and stay well away from large mammals. Our stay at a field camp will also impact the environment with the use of water and the production of waste and garbage. The field crew will be advised that water use should be kept to a minimum and be well within the constraints of our Nunavut Water Board permit. Waste will be incinerated and/or stored in a bear safe container for later disposal. Crew members will give a wide berth of at least 100m to large mammals. We will have safety protocols in place for predatory wildlife. Human impacts will be limited. The Hunters and Trappers Organization Office and Senior Administrative Officer of Arviat have been and will be consulted and this was not a point of concern that was raised to avoid potential disturbance to the Nunavummiut community. The data will be stored in the Geological Survey of Canada's, and the Canada-Nunavut Geoscience Office's database. Field notes and photographs will be catalogued and archived. Archeological findings will be photographed and coordinates noted; this data will be sent to the Inuit Heritage Trust for their management. It is our intention to involve as many Inuit owned firms and employees as possible for this project. This includes: 1) hiring interpreters for community consultations, 2) Indigenous translators for text in permits, presentations and letters to the community, 3) a wildlife monitor/ field assistant/cook is intended to be hired from Arviat to join us into the field, and 4) the contract for building the field camp will be prioritised to Indigenous owned firms. We intend to share our findings by: •Providing all publications to the local community of Arviat and the Nunavut Research Institute •Potentially presenting findings at the Nunavut Mining Symposium (if space is available). •Following-up with the community after the field season to report the activities and findings.

Uiviititut: This work is not in Iqaluit, and thus does not require French translation

[illegible]

Inuinnaqtun: Not required as this is in the Kivalliq region

Operations Phase: from 2023-07-10 to 2023-07-31

Hulilukaarutit

Inigiya	Hulilukaarut Qanurittuq	Nunannga Qanurittaakhaanik	Initurlinga qanuritpa	Initurlinga utuqqarnitat unaluuniit Ingilraaqnitat Uyarannguqtut akhuurninnga	Qanitqiyauyuq qanitqiamut nunallaat kitulluuniit ahiruqtailiyainnit nuna
Study area 2023	Researching	Crown	Angikuni Lake was previously inhabited by communities prior to the 1960's. The area continues to be an area that is visited by the nearest communities.	This area likely will contain evidence of community living in the area. Artifacts such as tent rings, kayak stands, traps, food caches, and inuksuit are likely to be observed in the area.	The nearest community in Nunavut is Arviat, is 330 km away.
Field camp	Camp	Crown	Angikuni Lake was previously inhabited by communities prior to the 1960's. The area continues to be an area that is visited by the nearest communities.	We will not have a camp in proximity to an archeological/paleontological site.	330 km distance from Arviat

Nunaliin Ilauyun, Aviktuqhimayuniitunullu Ikayuuhiarunguyun

Nunauyuq	Atia	Timiuyuq	Upluani Uqaqatigiyaungmata
Arviat	Mona Okalik	Hunters and Trappers Office	2023-02-10
Arviat	Joe Savikataaq	Arviat Hamlet	2023-02-10
Arviat	Nicole Issakiark - Manager	HTO	2023-03-16
Arviat	Bobby Suluk	Arviat Interpreter	2023-03-16

Angiuttauvaktunik

Naunaiqlugu nunanga talvani havauhikhaq ittuq:

Kivalliq

Angiuttauvaktunik

Munariniqmut Ayuittiaqtuq	Angirutinga Qanurittuq	Tadja Qanurittaakhaanik	Ublua Tuniyauyuq/Uuktuqtuq	Umikvikhaa Ublua
Nunavunmi Ihivriunqimut Timiqutigiyanga	sent permit to Mosha Cote, pending approval.	Applied, Decision Pending		
Indigenous and Northern Affairs Canada	Application sent to Tracie McCaie and discussions with Kyle Amsel (Rankin Inlet)	Applied, Decision Pending		
Nunavut Imaligiyyit Katimayit	Application sent to Robert Hunter Licensing Admin.	Applied, Decision Pending		

Project transportation types

Transportation Type	Qanuq Atuqtauniarmangaa	Length of Use
Air	fixed wing aircraft to mob in and out of camp. Possibly 7 days helicopter	
Water	4-person Zodiak boats	
Land	walking	

Project accomodation types

Temporary Camp

Alaanut,

Ihuaqutivaluin Atuqtauyukhan

Hanalrutit atuqtaunahuat (ukuallu ikuutat, pampiutainnik, tingmitinik, akhaluutunik, hunaluuniit)

Hanalrutit Qanurittuq	Qaffiuyut	Aktikkulaanga – Qanurittullu	Qanuq Atuqtauniarmangaa
Zodiak boat	2	4 person	daily boating geologists for mapping and transportation across the lake.
Helicopter	1	206 Bell Long Ranger	1 week of helicopter supported mapping
generator	1	3000-5000 KW	generator electricity for the camp
refrigerator	1	280 lbs	food storage, propane fueled
freezer	1	190 lbs	food storage
Heater	4	32 000 BTU	heating the tents
incinerator	1	180 lbs	waste management

Qanurittuq Urhuqyuaq unalu Qayangnaqtut Hunavaluit Aturninnga

Qanurittuq urhuqyuaq hunavaluit aturninnga:	Urhuqyuaq Qanurittuq	Qaffiuyut qattaryut	Qattaryuk Aktikkulaanga	Atauttimut Qaffiuyut	Ilanga	Qanuq Atuqtauniarmangaa
Motor oil	hazardous	2	1	2	Liters	4-stroke outboard oil change kit. includes 1 liter of 4-stroke marine engine oil
Diesel	fuel	4	45	180	Gallons	heaters for office and kitchen tents
Gasoline	fuel	2	45	90	Gallons	For boats
Propane	fuel	2	100	200	Lbs	refrigerator and freezer
Aviation fuel	fuel	10	45	450	Gallons	helicopter

Imaqmik Aturninnga

Ubluq qanuraaluk (m3)	Aturumayain imavaluin utiqittagaani qanuq	Atulirumayain imavaluin utiqittagani humi
0	water pump	Angikuni Lake

Iqqakuq

Ikkakunik Munakgiyauyunik

Havauhikhaq Hulilukaarut	Qanurittuq Iqqakut	Ihumagiyauyuq Qanuraaluktut Atuqtait	Qanuq Iqqakuurniarmangaa	Halummaqtitarnirutikhan piyutin
Camp	Ikulalaaqtun iqqakuuvaluin	500 lbs	incineration and/ or transported back to town for appropriate disposal	-
Camp	Qimarivyaktuq imaq	130L daily	grey water pit	-
Camp	Qayangnaqtut	16 45 gallon drums	empty drums will be transported outside of Nunavut for proper disposal	-
Camp	Anaagun (inuin anaaguin)	250 lbs	outhouse/burial	-

Avatiliriniqmut Ayurhautingit:

Environmental impacts from this project is largely from the use of a helicopter. Immediate risk to the environment from the helicopter is noise. To decrease stress on animals, we will follow the recommended altitude for aircraft by the Government of Nunavut of 610 meters during point-to-point travel. In addition, we will provide a wide berth to any animals spotted, including migratory birds. Long term impacts of the helicopter include the burning of fossil fuels into the atmosphere, contributing to climate change. To mitigate this, we will mostly be boating as a mode of transportation rather than using the helicopter. To mitigate this, we will only be using a 20 or 25 horse power motor, and stay well away from large mammals. Our stay at a field camp will also impact the environment with the use of water and the production of waste and garbage. The field crew will be advised that water is a precious resource, and that water use should be kept to a minimum. In addition, if wildlife is spotted in the field or around the field camp, all crew members will be advised not to distress any animals. If large mammals are spotted, crew members should give them a wide berth of at least 100m). We will have safety protocols in place for predatory wildlife. The only impact we should have on flora is when we are hiking along the land and we may step on small plants. We will not disturb the flora any further than this. There are no current communities nearby this area, and members of the community of Arviat did not present concern of our presence in this area.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

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

Qanurittuq Ittunik Avatinga: Avatingalluanga

Angikuni Lake is one of several lakes located along the Kazan River. The lake is notable for rocky outcroppings of the Precambrian shield, with many islands. Small shrubs and stunted coniferous trees are present in the lows of the landscape.

Qanurittuq Ittunik Avatinga: Inuuhimayunut Avatinga

The Qamanirjuaq caribou herd migrate through this area every year. Grizzly bears, wolverine, muskox, and wolves also inhabit the area.

Qanurittuq Ittunik Avatinga: Inungit-maniliurutingit Avatinga

Presently there are no communities that inhabit the immediate area. It was once an area in which Inuit ancestors lived and were relocated from. Members from Arviat do not often visit this area to hunt or fish, though it is visited occasionally (as per communications with the HTO of Arviat).

Miscellaneous Project Information

Naunaiyainiq ukuninnga Ayurhautingit unalu Piumayaat Ikkiliyuumiutinahuarutit

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Tamatkiumayunik Ihuikgutivaktunik

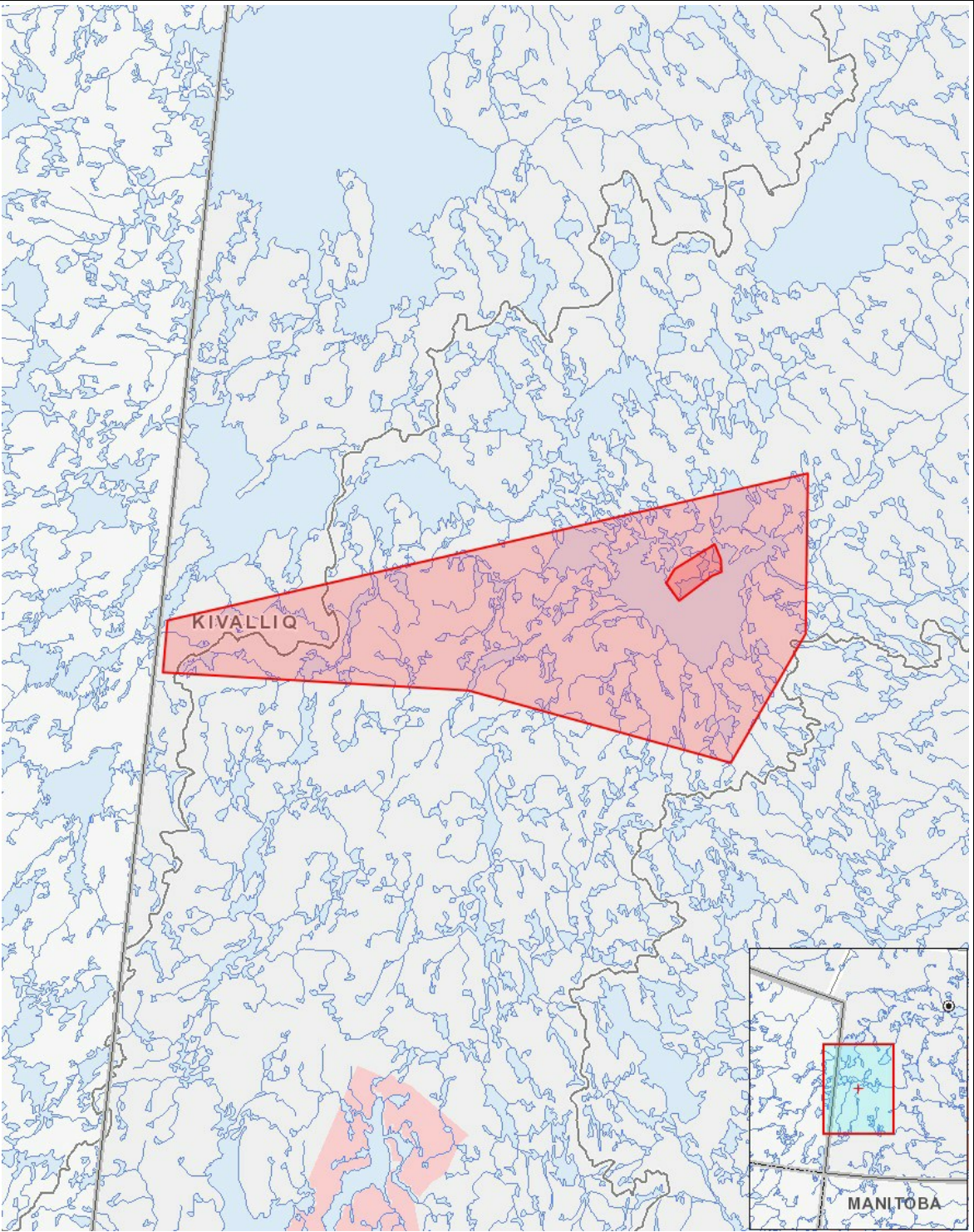
This is a short term project, and on its own will not present cumulative effects.

Impacts

Ilitariyauniq Avatiliriniqmut Ayurhautingit

	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
Havakvinga	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aulapkaininnga																									
Camp	-	-	-	-	M	-	-	M	M	-	-	M	-	-	M	M	M	-	-	U	P	-	-	-	-
Piiqtauniq																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(P = Nakuuyuq, N = Nakuungittut unalu mikhilimaittuq, M = Nakuungittut unalu mikhittaaqtuq, U = Naluyauyuq)



List of Project Geometries

1	polygon	Study area 2023
2	polygon	Field camp