



NIRB Application for Screening #126255 Community Bedrock Mapping Points of Interest

Application Type: New

Project Type: Scientific Research

Application Date: Friday, December 5, 2025

Period of operation: from 2026-06-29 to 2026-07-20

Project Proponent: Mary Sanborn-Barrie
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DETAILS

Non-technical project proposal description

English: Community Mapping Points of Interest, Kimmirut Region Mary Sanborn-Barrie (Geological Survey of Canada) Summary: Community bedrock mapping near Kimmirut and along the Itijjagiq Trail (Kimmirut to Frobisher Bay) will form the foundation of a pilot study to develop a new "Points of Interest" feature on the mobile app SIKU, intended to increase access to geoscience by Northerners and visitors to the region. Community involvement (hiring/training) in acquisition of digital geoscience content, accessible on mobile devices, will be co-designed with local residents, Kimmirut Hamlet council, and Territorial Parks, to update and replace the out-dated, out-of-print paper "Geology Walking Tour of the Kimmirut Area". Background & Research Objectives: Accessibility and uptake of geoscience knowledge by First Nations and Inuit communities have traditionally been limited. This is, at least in part, due to the technical nature of geological maps and the expensive licensing requirements of the geographic information system software used to view and analyse geoscience data. SIKU is an existing web platform and mobile app, developed by the Arctic Eider Society, that supports knowledge-gathering related primarily to the land (wildlife, sea-ice conditions). Previously under GEM, SIKU was expanded to allow users in the Kivalliq region to post and share geoscience observations. This current proposal seeks to expand the geo-functionality of SIKU to support a "Points of Interest" feature to store and display information on local geoscience landmarks, as a means to further increase access, interest and uptake of knowledge and data related to geoscience in the North. Project Description: A 3-week community bedrock mapping activity is proposed primarily in Kimmirut, a geologically spectacular region of southern Baffin Island that is a source of pride for its residents, and a marvel for its visitors who arrive annually on cruise ships, or via hiking or canoeing through Katannilik Territorial Park. The region presents an ideal pilot study to develop a new "Points of Interest" feature on the Indigenous Knowledge App – SIKU, given that the paper "Geology Walking Tour of the Kimmirut Area" is out-of-date and out-of-print. The foundation of a new digital "Points of Interest" feature on SIKU will be geoscience content collected by interested community members (June 29-July 12) hired and mentored by GSC scientists (Sanborn-Barrie, Rayner & Ford). Community mappers will be equipped with digital cameras, hand lenses, UV lights, magnets, geological hammers and chisels, to aid in the collection of data. This activity will be co-designed with the community, such that its residents will decide which local features should become "Points of Interest" in SIKU for access by eco-tourists to the region. Methodology: In Kimmirut, bedrock mapping will be conducted by foot, truck & ATV (as circumstances allow) with a rotating roster of residents hired through an Agreement with the Hamlet. Direct daily involvement of local indigenous residents on the project will transfer traditional knowledge and best practices with respect to local wildlife and the natural environment. At the request of Territorial Park staff, Kimmirut geoscience content will be supplemented by content collected (Sanborn-Barrie, Rayner, Ford) during a 5-day traverse (July 13-18) along the Itijjagiq Trail towards Frobisher Bay, so that future visitors to the park have the opportunity to appreciate the setting and timescale within which its spectacular rocks evolved. In the park, bedrock mapping will be undertaken by foot, supported by well-marked and maintained shelter cabins spaced at 8 - 23 km intervals along the route. We are applying for one day of helicopter support, originating from and returning to Iqaluit (July 18), to allow bedrock mapping at 3 locations (~1 hour shutdown) within NE Katannilik Territorial Park and demobilization from the park to Iqaluit. Sharing of Research Results: Community-acquired digital data and photos collected will be showcased and assessed in a public meeting (July 12), so that residents of Kimmirut have an opportunity to decide/vote which landmarks should appear as Points of Interest on SIKU. Community-acquired content for the chosen landmarks will be uploaded into SIKU for access by SIKU users (residents and visitors). Illustrated plain-language laminated cards will also be created and supplied to Kimmirut interested in offering short duration ATV geo-tours to day-trippers off the many cruise ships that visit Kimmirut. Similar weather-proof cards will be designed for localities within Katannilik Territorial Park so that park staff can make them available at the relevant park shelters. Throughout this activity, community input on traditional place names in the Kimmirut area will be recorded, discussed, and forwarded to Inuit Heritage Trust so that names appearing on the available place names map (a map layer available on the SIKU app) can be verified and corrected, if required.

French: Cartographie communautaire des points d'intérêt, région de Kimmirut Mary Sanborn-Barrie (Commission géologique du Canada) Résumé: La cartographie communautaire du substratum rocheux près de Kimmirut et le long du sentier Itijjagiq (de Kimmirut à Frobisher Bay) servira de base à une étude pilote visant à développer une nouvelle fonctionnalité « Points d'intérêt » pour

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
municipality of Kimmirut, NU June 29-July 13	Researching	Municipal	community mapping bedrock landmarks	No archeological or paleontological sites will be visited	within Kimmirut
hike to shelter #9 July 14	Researching	Crown	observing bedrock in Katannilik Territorial Park walking from Kimmirut to shelter #9	none	8 km from Kimmirut
hike from #9 to shelter #8 July 15	Researching	Crown	observing bedrock in Katannilik Territorial Park walking from shelter #9 to shelter #8	none	23 km from Kimmirut
hike from #8 to shelter #7 July 16	Researching	Crown	observing bedrock in Katannilik Territorial Park walking from shelter #8 to shelter #7	none	46 km from Kimmirut
bedrock mapping near shelter #7 July 17	Researching	Crown	investigate the geology around shelter #7 for the day	none	46 km from Kimmirut
bedrock mapping near shelter #5 July 18	Researching	Crown	investigate the geology around shelter #5 for an hour	none	75 km from Kimmirut
bedrock mapping near shelter #4 July 18	Researching	Crown	investigate the geology around shelter #4 for an hour	none	85 km from Kimmirut
bedrock mapping near shelter #3 July 18	Researching	Crown	investigate the geology around shelter #3 for an hour	none	100 km from Kimmirut
bedrock mapping near shelter #1 trailhead July 18	Researching	Crown	investigate the geology around shelter #1 and trailhead to Katannilik Territorial Park for an hour	none	125 km from Kimmirut

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Kimmirut	John Mabberi-Mudonyi CAO	Hamlet	2025-09-18
Kimmirut	Nigel Audla EDO	Hamlet	2025-09-18
Kimmirut	Andrew Boyd	Katannilik Territorial Park	2025-09-19
Iqaluit	Jakub Garbarczyk	Nunavut Parks & Special Places	2025-10-11

Authorizations

Indicate the areas in which the project is located:

South Baffin

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Planning Commission	NPC Application 150966	Applied, Decision Pending		
Nunavut Research Institute	Scientific Research Licence	Applied, Decision Pending		
Nunavut Water Board	to use water without a licence for personal drinking (4 days) while in Territorial Park	Not Yet Applied		
Qikiqtani Inuit Association	certificate of exemption from the designated Inuit organization for this area	Not Yet Applied		
Other	Nunavut Territorial Parks Use permit	Not Yet Applied		
Other	Nunavut Territorial Parks Firearm Permit (for wildlife defense)	Not Yet Applied		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	commercial (Ottawa, ON to Kimmirut, NU June 29 - Iqaluit, NU to Ottawa, ON July 20)	

Project accomodation types

Community

Other,

Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
digital camera	3	5x10cm	photograph rocks and minerals
geological pick hammers	3	20cm	take fist-size samples
pen magnet	3	6cm	test for magnetic properties in various rocks
compass	3	10cm	take bearing of planar and linear fabric in rocks
drone	2	20cm	residents take aerial footage of landmark outcroppings
digital toughpad	2	20x12cm	record location and fabric data measured
chisel	3	8cm	more precisely take fist-size samples

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Information is not available						

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0	personal water bottle	Soper River (when in Kattanilik Territorial Park for 4 days)

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Researching	Other, packaging from foods consumed during 4 days in Katannilik Territorial Park	2 litres	carry out	dispose in Iqaluit municipal system
Researching	Sewage (human waste)	1 litre	carry out of Katannilik Territorial Park	dispose in Iqaluit municipal system

Environmental Impacts:

If approval for helicopter support is awarded, noise will be mitigated by shutting down at the stops while mapping takes place. No fueling will be done except at Iqaluit Airport.

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

Description of Existing Environment: Physical Environment

2 weeks will be conducting bedrock mapping (rock and mineral identification) within the municipality of Kimmirut with residents assisting (employment), with 5 days proposed within Katannilik Territorial Park hiking from Kimmirut towards Frobisher Bay

Description of Existing Environment: Biological Environment

Wildlife we could encounter within the Territorial Park may include fox, wolf, polar bear, ravens, snow buntings.

Description of Existing Environment: Socio-economic Environment

For two weeks (June 29-July 13) our plan is to reside in the community of Kimmirut to engage/mentor/hire interested residents to participate in bedrock mapping for the ultimate purpose of acquiring geo-content for community-approved Points of Interest on the mobile app SIKU.

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

Negative impacts are not anticipated. Positive impacts include outside employment opportunities, enthusiastic training and mentoring in mapping and using SIKU for social and geoscience sharing, spending in the community (homestay accommodation, groceries).

Cumulative Effects

This community mapping activity is not anticipated to increase effects not already incurred by residents in the community given that most transportation is by foot and samples will be fist-sized (no trenching, no blasting). Hiking the Itijjagial Trail will be no-trace. If support by helicopter is acquired there will be no refueling in the park, landings will be in stable areas and the aircraft would shutdown while observations on the ground are made.

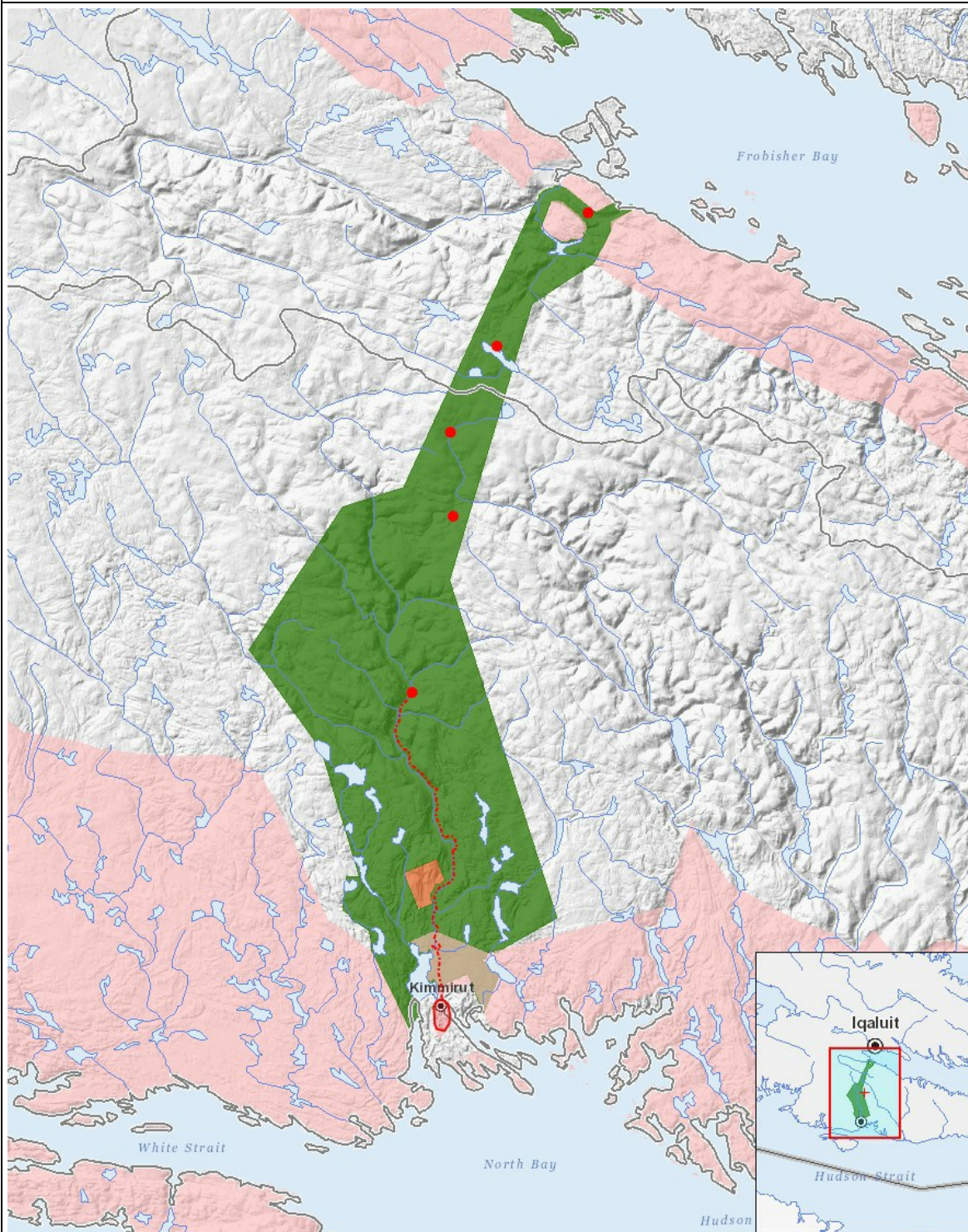
Impacts

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Operation																									
Researching		-	-	-	-	-	-	-	-	-	-	-	M		-	-	-	-	-		-	P	P	-	-
Decommissioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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

Project Location



List of Project Geometries

- | | | |
|---|----------|---|
| 1 | polygon | municipality of Kimmirut, NU June 29-July 13 |
| 2 | polyline | hike to shelter #9 July 14 |
| 3 | polyline | hike from #9 to shelter #8 July 15 |
| 4 | polyline | hike from #8 to shelter #7 July 16 |
| 5 | point | bedrock mapping near shelter #7 July 17 |
| 6 | point | bedrock mapping near shelter #5 July 18 |
| 7 | point | bedrock mapping near shelter #4 July 18 |
| 8 | point | bedrock mapping near shelter #3 July 18 |
| 9 | point | bedrock mapping near shelter #1 trailhead July 18 |