Natural Resources Canada
Waste Management & Spill Contingency Plan
with mitigation measures
Community Mapping Points of Interest, Kimmirut
June 29 – July 20, 2026

1. Background & Introduction

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 primarily related to the land. Its >45,000 users post and share observations related to mammals, birds, and fish (harvesting; food security) and sea-ice conditions (travel; safety). Previously as part of NRCan's GEM GeoNorth program, **SIKU** was expanded to allow users in the Kivalliq region to post and share observations of geology (2024) and the changing climate (permafrost features, glacial landforms; 2025). To further expand the role **SIKU** can have in access to geoscience, a new "Points of Interest" feature will allow representation of geological landmarks (e.g., Kimmirut's "heel") on mobile devices to permit easy, user-friendly access to the story of the evolving landscape that rocks record.

Community bedrock mapping within the municipality of Kimmirut and along the Itijjagiaq 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 by Kimmirut Hamlet council, Territorial Parks and GEM GeoNorth, to update and replace the out-dated, out-of-print paper 'Geology Walking Tour of the Kimmirut Area'.

Short term objectives:

- to provide a meaningful way to engage Northerners, especially youth, to experience and participate in science;
- to offer short-term, outdoor employment opportunities to interested residents;
- to replace the outdated, out-of-print 'Geology Walking Tour of the Kimmirut Region' with a digital alternative that is accessible by mobile phone, as a way to increase access, interest and uptake of knowledge and data related to geoscience in the North;
- to enable knowledge co-production and knowledge sharing via the free, user-friendly, Indigenous knowledge network **SIKU**;

Long term objectives:

- to make geoscience data available and accessible to Northerners;
- to build interest & increase uptake of knowledge & data related to geoscience in the North;
- to strengthen the capacity of Northern communities to address geoscience opportunities and challenges;

2. Location and Schedule of Activities

Three weeks of bedrock mapping is proposed to be carried out in the Kimmirut region, a geologically spectacular region of southern Baffin Island which is the source of pride for its

residents and a marvel for its many visitors who arrive annually on cruise ships, or via hiking and canoe along the Itijjagiaq (Overland) Trail through Katannilik Territorial Park.

Content for the "Points of Interest" feature will be collected by interested community members (**June 29-July 12**) hired and mentored in Kimmirut by GSC scientists (Sanborn-Barrie, Rayner & Ford). Within and near Kimmirut, bedrock mapping of notable 'landmark' exposures will be conducted by foot, truck and ATV (as circumstances allow) with a rotating roster of residents hired through an Agreement between NRCan & the Hamlet. Community mappers will be equipped with digital cameras, hand lenses, magnets, UV lights, geological hammers and chisels, a drone, etc. to aid in the collection of data. This activity will be co-designed with the community such that they will guide where knowledge is acquired. Direct daily involvement of local indigenous residents will transfer traditional knowledge and best practices with respect to local wildlife and the natural environment. Community members will decide which local features (landmarks) should become "Points of Interest" in **SIKU** for access by eco-tourists to the region.

At the request of Territorial Parks staff, Kimmirut-based geoscience content will be supplemented by content collected by NRCan personnel (Sanborn-Barrie, Rayner, Ford) during a 5-day traverse (**July 13-18**) along the Itijjagiaq Trail towards Frobisher Bay. Bedrock mapping and content collection through Katannilik Territorial Park will allow future visitors to the park the opportunity to appreciate the setting and the timescale within which its spectacular rocks evolved. Bedrock mapping along the Itijjagiaq trail will be undertaken by foot and supported by well-marked and maintained shelter cabins spaced at 8 to 23 km intervals along the route. We are applying for one day of rotary support (helicopter) originating from and returning to Iqaluit on July 18, 2026. This single day of use would support bedrock mapping at 3 locations (~1 hour shutdown) within Katannilik Territorial Park and demobilization from the park to Iqaluit.

3. Preliminary Plan

A satellite image showing the general region of municipal bedrock mapping and the sites to be mapped within Katannilik Territorial Park is attached as a separate file.

4. Description of Undertaking & Equipment, Impacts

Mapping will involve examination and documentation of exposed bedrock. Coverage will be via low-impact foot traverses by a 2-4 person team comprising the project proponent (Mary Sanborn-Barrie) and 1 or 2 community members. Transport to the exposures will be by foot, truck or ATV (as circumstances allow). All equipment to be used will fit into a small backpack to be provided to all field assistants along with a bagged lunch. Examination of rock exposures is done using a hand lens, structural compass for measurements, pen magnet, hammer (to break off a fresh sample), and digital camera. Observations and interpretations will be recorded on small, hand-held computers with bluetooth GPS or using a small drone.

Within the park, mapping will be conducted while hiking from Kimmirut to shelter #7, however, we are requesting a few hours of helicopter time (contracted out of Iqaluit Airport) to transfer mappers between shelter #7 and shelter #1 (trailhead) and to shut down at 3 sites (near shelter #4, #3 and #1 trailhead) for an hour in order to conduct mapping.

** No camps, buildings, ditches, trenches, dams, roads or other structures will be constructed **

5. Fuels

If permission and permitting for the use of a helicopter on one day only (July 18) is provided, fueling will be done at the Iqaluit Airport, by airport authorities.

6. Waste

Operations will be primarily based from a licensed homestay in Kimmirut, such that there are no foreseen waste issues related to sewage, greywater, food or garbage. The proposed 4-day hike through Katannilik Territorial Park will follow no-trace principles whereby all garbage and waste is packed out to be disposed of appropriately in Iqaluit.

7. Predicted environmental impacts and proposed mitigation measures

No permanent or long-term environmental impacts are expected from the proposed mapping activity which primarily takes place at exposures of interest in the municipality of Kimmirut. On one day only (July 18) we are seeking permission from Nunavut Parks for helicopter support which would involve a helicopter landing at 5 localities chosen to mitigate any disruption to the tundra. At 3 of these localities (shelters #4, #3 and #1 trailhead) the helicopter would shutdown for an hour while mapping takes place, thus mitigating impact related to noise. The helicopter would then transport the 3-person team to Iqaluit. The Iqaluit Airport will supply any fuel required.

8. Petroleum Storage, Inventory and Transfer

This activity does not involve petroleum storage or transfer.

9. Risk Assessment and Mitigation of Risk

No aviation fuel drums, propane tanks, diesel heaters, or gasoline are required for this activity.

10. Responding to Failures and Spills

10.1 Spill Responses and Contact List

Nunavut & NWT 24-hour Spill Report Line……..…. (867) 920-8130

Water Resources Inspector for Crown-Indigenous Relations & Northern Affairs Canada
(formerly INAC), Iqaluit, NU……..…. (867) 975-4550
24-hour pager…… (867) 766-3737

GN-Dept of Environment (DOE)……. (867) 975-7700
Manager of Pollution Control and Air Quality…… (867) 975-7748

Qikiqtani Inuit Association
200-922 Sivumugiaq St., Iqaluit, NU…….. (867) 975-8400
toll-free……. 1-800-667-2742

Darby Desrosiers, NRCan GEM Science Project Officer…. (343) 574-7490

10.2 Basic Steps – Spill Procedure

In the case of any spill or other environmental emergency, it is necessary to react in the most immediate safe and environmentally responsible manner. No spill or incident is so minor that it can be ignored. Every spill must be reported.

The basic steps of the spill response plan are:

1. Ensure the safety of all persons at all times.
2. Identify and find the spill substance and its source, and, if possible, stop the process or shut off the source.
3. Inform the on-site coordinator or his/her designate at once, so that he/she may take the appropriate actions. Appropriate action includes the notification of the spill to the 24-hour Spill Report Line and CIRNAC Water Resource Officer (a copy of the Spill Report form can be found in Appendix I).
4. Contain the spill or environmental hazard, as per its nature, and according to the advice of the Spill Line and CIRNAC Water Resources Officer as required.
5. Implement any necessary clean-up and/or remedial action.

10.3 Basic Steps – Chain of Command

- Immediately notify and report the 24-hour Spill Report Line at (867) 920-8130, the CIRNAC Water Resource Officer at (867) 975-4550, and Qikiqtani Inuit Association at (867) 975-8400
- A Spill Report Form (Appendix 1) is filled out as completely as possible before or after contacting the 24-hour Spill Report Line. A copy of the guidelines for completing the Spill Report form is found in Appendix II.
- Notify Darby Desrosiers, NRCan-GEM Science Project Officer at (343) 574-7490

11. Taking Action

11.1 Spill Response Actions for Jet B Aviation Fuel

Take action only if safety permits. Stop the source flow if safe to do so and eliminate all ignition sources. Never smoke when dealing with these types of spills.

On Land

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.
Remove the spill by using absorbent pads or excavating the soil, gravel or snow.
Remove spill splashed on vegetation using particulate absorbent material.
Contact regulatory agencies for approval before commencing with the removal of any soil, gravel or vegetation.

On Muskeg

Do not deploy personnel and equipment on marsh and vegetation/;
Remove pooled gasoline or Jet B with sorbent pads and/or skimmer.
Flush with low pressure water to push toward collection point.
On advice from regulatory agencies, burn only in localized areas, e.g. trenches, piles or windrows.
Do not burn if root systems can be damaged (low water table).
Minimize damage caused by equipment and excavation.

On Water

Contain spill as close to release point as possible.
Use containment boom to capture spill for recovery after vapours have dissipated.
Use absorbent pads to capture smaller spills.
Use skimmer for larger spills.

On Snow and Ice
Build a containment berm around spill using snow.
Remove the spill using absorbent pads or particulate sorbent material/
The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, or polypropylene bags

Storage and Transfer
All contaminated water, ice, snow, soil and clean-up supplies will be stored in closed, labelled containers. All containers will be stored in a well-ventilated area away from incompatible materials.

Disposal
Any contaminated material will be shipped to an appropriate and approved disposal facility. The DOE monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A waste manifest will accompany all movements.

12. Permits and Licences

The applicant is applying for all necessary Land Use and Scientific Research permits and licences. These include:

- Nunavut Planning Commission Application 150966
- Nunavut Impact Review Board Screening
- Nunavut Research Institute – Research License
- Qikiqtani Inuit Association - Exemption Certificate
- Nunavut Water Board – Use of water (personal use) without a license
- Nunavut Territorial Parks Use Permit
- Nunavut Territorial Parks Firearm Permit

13. Contacts

Project Proponent / Field Supervisor:

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Appendix A: Spill Report Form

Appendix B: Guidelines for completing a Spill Report