Public Registry - Project Proposals

NPC 150700: Impacts of Past Glacial Ice Sheets

Close

Proposal Status: Conformity Determination Issued

Overview Documents Questionnaire

Project Overview

Type of application: New

Proponent name: Pierre-Marc Godbout

Proponent company: Geological Survey of Canada, Natural Resources Canada

Project Description:

The Impacts of Past Glacial Ice Sheets study aims to deepen our understanding of how a large ice sheet moved and shaped the landscape during the last glaciation, as well as how the land is still slowly rising and adjusting now that the ice's immense weight is gone. This research will further investigate how the ice sheet transported and deposited minerals from their original, unknown source to new locations. The research team involved in this study has recently completed two years of fieldwork under the Keewatin Glacial Dynamics study in an area south of Dubawnt Lake. They propose to continue this work with a new field study area east of Baker Lake, complemented by a larger regional-scale remote study. To support these interpretations, the team will conduct remotely-based research using specialized tools, such as high-resolution satellite imagery, and analyze archived samples to track these mineral movements across the region. The research team is seeking to carry out the fieldwork portion of this study over 2-3 weeks in summer 2025. The team would consist of four researchers and a wildlife monitor, travelling daily from Baker Lake by helicopter to study sites of interest. One fuel cache of up to 15 drums will be needed for this work within the field study area. While on the land, the team would collect fist-sized samples of rocks, and buckets of glacial sediments (till) dug by hand from small holes, as well as record observations, photographs and measurements of landscape features created by glaciers.

Project Schedule

Start Date: 2025-07-29

End Date: 2025-08-12

Project Map

List of project geometries:

Id	Geometry	Location Name
16889	polygon	Approximate intended fieldwork area
16891	polygon	Approximate intended data realease area

16888 point Intended fuel cache location

NPC Planning regions:

Keewatin

Project Land Use and Authorizations

Project Land Use:

Scientific Research

Licensing Agencies:

Nunavut Research Institute

Nunavut Impact Review Board

Government of Canada - Crown-Indigenous Relations and Northern Affairs Canada

Kivalliq Inuit Association

Material Use

Equipment:

Type	Quantity	Type	Use
Helicopter	1	Exterior Height: 10 ft 4 in Wing Span: 35 ft 1 in Length: 35 ft 11 in	One Astar 350B2 helicopter will be used daily.
Shovels	3	1 m	Shovels will be used to dig holes and take soil samples daily.
Battery-powered portable rocksaw (DeWalt 60V MAX Brushless Cordless 9'' Cut-Off Saw)	1	12 in	The rocksaw will be used to collect bedrock or boulder samples daily.

Fuel Use:

Type	Container	Capacity	Use
Aviation fuel	15	205	Fuel cache (15 drums) at intended location 63.856319 N and 98.156757 W. An electrical pump supplied by the helicopter contractor will be used for the transfer of Jet A aviation fuel.
Aviation fuel	15	205	Stored at Baker Lake airport

Hazardous Material and Chemical Use:

Type	Container	Capacity	Use

No data found

Water Consumption:

Daily Amount (m2)	Retrieval Method	Retrieval Location

0

Waste and Impacts

Environmental Impacts:

The proposed fieldwork will result in minimal environmental impact. Helicopter access to sites within the study area will be conducted at altitudes above 1,000 feet to avoid disturbing wildlife. Refueling will primarily occur at the Baker Lake airport, with an additional fuel cache of 12-15 drums located 100 km west of Baker Lake. These drums will be securely sealed and neatly arranged on dry mineral soil. A spill kit will be available at the refueling site, and all drums will be removed by helicopter and returned to Baker Lake for proper disposal at the end of the two-week fieldwork period. Fieldwork will involve the collection of small surface soil samples using a hand shovel and bedrock samples from outcrops or glacially transported boulders with a portable rock saw. Any excavated holes will be filled and covered with turf to minimize disturbance. No waste will be created from the proposed work. Any garbage would be small (i.e., waste from a lunch or snacks) and will be packed out of the site and returned to the base camp (Baker Lake) for proper disposal.

Waste Management:

Waste Type Quantity Generated Treatement Method Disposal Method

Non-Combustible wastes Minimal N/A Any garbage would be small (i.e., waste from a lunch or snacks) and will be packed out of the site and returned to the base camp (Baker Lake) for proper disposal.