GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA

NUNAVUT WATER BOARD –
Non-technical Project Proposal Summary

GEM-2 North Baffin Bedrock Mapping Project 2018: Steensby – Barnes

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WHO IS PROPOSING THE PROJECT?

The proposed project would be carried out by the Geological Survey of Canada (GSC), which is part of Natural Resources Canada (Government of Canada). The work is financed by a federal program: Geomapping for Energy and Minerals (GEM). The project is co-led by two scientific researchers at the GSC: Drs. Diane Skipton and Benoit Saumur.

Dr. Skipton and Dr. Saumur are both geologists with 4+ years of experience conducting geological mapping and research based out of remote field camps in the Canadian Arctic. They co-led the first phase of the GEM-2 North Baffin Bedrock Mapping Project in the Pond Inlet – Mary River area in 2017. The research team for the proposed project also includes senior research scientists from GSC and universities, geology students and Environmental Technology students from the Nunavut Arctic College.

WHAT IS THE PROJECT?

The proposed project is a continuation of the successful 2017 geological bedrock mapping field campaign, which covered NTS map sheets 37G and 38B near Pond Inlet and the Mary River mine. The 2018 campaign would cover all of NTS map sheets (scale 1:250 000) 37F and 37E, in the vicinity of Steensby Inlet and Barnes Ice Cap, northern Baffin Island, Nunavut. Mapping would be conducted out of a temporary camp located along the Isortoq River from July 9 to August 19 2017 (about 6 weeks), and followed by analytical and map production work in Ottawa in 2018-2019.

Fieldwork would involve foot traverses (10-15 km hikes) by teams of two, causing minimal disturbance. Fist-size rock samples would be collected using a rock hammer. Other observations include GPS locations, hand-held compass measurements and digital photographs.

A Bell 407 helicopter would be used for daily transport of passengers from Isortoq Camp to and from various parts of the map area. Jet fuel would be stored in a designated area within a berm near Isortoq camp. Positioning and demobilization of equipment and crew at Isortoq Camp would be completed using fixed wing aircraft (Twin Otter). At camp, canvas tents will be erected for the purposes of a kitchen, office and sleeping quarters.

The proposed project will include hired positions for community members, including two Nunavut Arctic College students as bedrock mappers, and potentially an assistant cook.

WHY IS THIS PROJECT IMPORTANT?

Previous geology maps and reports for this area are based on outdated mapping methods, sparse data and outdated science. New maps are necessary to bring the geological knowledge of the area to the same level as recent mapping campaigns elsewhere in Nunavut. New mapping from this project would document the rocks, minerals and geological history of the land. They could also help identify potential mineral resources and carving stone, and contribute to land-use decisions.

WHERE WOULD THIS PROJECT BE LOCATED?

Geological mapping would be performed in an area broadly between Steensby Inlet and Barnes Ice Cap. The area consists mostly of Crown land, but also includes portions of Inuit-owned lands (Igloolik, Clyde River). Isortoq camp would be roughly 280 km west of Clyde River, 270 km southeast of Pond Inlet and 250 km northeast of Igloolik.

ANY PREDICTED ENVIRONMENTAL IMPACTS?

No long-term environmental impacts are expected. This is a small operation with limited water consumption. Greywater and sewage would be buried >35m and >50m away, respectively, from nearby water bodies.

For the main Isortoq camp fuel cache, a plane on tundra tires or snow skis can land and lift on a temporary airstrip with low environmental impact. This cache would be contained within a self-supporting insta-berm. Other small caches would be positioned by helicopter, without impact to the environment. All caches will have spill kits on hand.

Combustible waste would be incinerated at the Isortoq camp, with residues properly disposed of. Non-combustible waste would be returned to Pond Inlet and disposed of using designated municipal waste sites and protocols.

PROJECT TIMELINE

- January 2018: Consultation & Engagement visits in Pond Inlet and Clyde River, Nunavut
- March 2018: Consultation & Engagement visit in Igloolik
- March 1-31, 2018: Mobilization of 125 fuel drums from Pond Inlet to Isortoq Cache
- April 9-12, 2018: Nunavut Mining Symposium and Nunavut Arctic College Student Interviews, Iqaluit
- July 3-5, 2018: Arrival of Field team to Pond Inlet; Setup for fieldwork
- July 6 – July 8, 2018: Isortoq Camp Setup
- July 9 – August 19, 2018: Fieldwork
- August 20-21, 2018: Demobilization of field equipment and departure of personnel from Pond Inlet
- Oct 2018 – Publication of GEM Report of Activities
- Nov-Dec 2018 – Arrival (in Ottawa) of rocks collected during fieldwork
- Nov 2018 – June 2019 – Laboratory work
- December 2018 – Publication of Canada-Nunavut Geoscience Office Summary of Activities
- Jan-Feb 2019 – Follow-up community visits (presentation of 2018 results)
- March 2019 – Release of 4-5 bedrock maps stemming from 2018 fieldwork

This is the second and final summer field season planned for the GEM-2 North Baffin Bedrock Mapping Project.