QIKIQTANI INUIT ASSOCIATION

NON-TECHNICAL PROJECT PROPOSAL DESCRIPTION

Project Title: Cumberland Peninsula Integrated Geoscience (CPIG) Project

Researchers Name & Affiliation: Mary Sanborn-Barrie (Geological Survey of Canada – Ottawa)
Mike Young (Geological Survey of Canada – Atlantic)

Project Location: Cumberland Peninsula, eastern Baffin Island

Timeframe: The duration of the project is planned for 2008 to 2012 with two field seasons in the summers of 2009 and 2010. The field seasons are anticipated to take place between June 25th and Aug 25th in both years.

Project Description:

Cumberland Peninsula, Nunavut, forms the northeastern extent of the Canadian landmass, a frontier region for resource exploration and development. The northwest corner of the peninsula is occupied by Auyuittuq National Park, a spectacular remote eco-/recreational landuse. The main part of the peninsula supports the Inuit communities of Pangnirtung (pop. 1325) and Qikiqtarjuaq (pop. 500) and between them exposes a 58,000 km^2 terrain with rocks of unknown age and affinity. Given the current out-dated, reconnaisance understanding of the bedrock geology - based on early 1970's, 1:500,000 scale mapping, and an absence of regional aeromagnetic, geochronological and glacial data, this region presents a significant gap in knowledge which detracts from investment. In light of newly identified diamond occurrences across eastern Nunavut, and the potential for Cu-Ni-PGE and gold in the region, the Cumberland Peninsula was targetted for geoscience mapping as part of the Geomapping of Energy and Minerals (GEMs) initiative. This northern strategy will result in better understanding of eastern Baffin Island's lithological associations, crustal architecture and mineral potential, necessary to meet the needs of the exploration industry and provide updated public geoscience for the Inuit communities of Pangnirtung and Qikiqtarjuaq.

GEMs geoscience activities will be conducted from a temporary, tent-based research camp constructed for approximately 20 researchers, including scientists from the Geological Survey of Canada (GSC), Canada–Nunavut Geoscience Office (CNGO), university and college students (including Arctic College), and kitchen and helicopter support staff. In this rugged terrain, the greatest potential for a basecamp site for the 2009 field season is in a broad valley approximately 40km E of Kingnait fjord and approximately 70km E of Pangnirtung (Lat: 65^{0}54'44"N, Long: 64^{0}13'59"W, *see attached location map*). Operations from the basecamp are anticipated to take place between July 5 and August 20, 2009 (approximate dates). In consultation with the community, we will investigate the possibility of a partial mapping crew to be based from Pangnirtung from June 25 – July 2, 2009, in order to initiate mapping and logistics, independent of our ability to set up a basecamp (due to weather, snow cover, etc..). Two or three people will remain in Pangnirtung for a few days after Aug 20th to ensure the campsite is clean,all field gear and samples are shipped south, and all refuse is properly disposed of, or shipped out of the community. The same camp design and schedule is anticipated for the 2010 field season which will focus on the northern part of the Cumberland Peninsula. For this second field season, we will consult with the community in regard to mobilizing camp and receiving flights and gear based out of Qikiqtarjuaq. A potential location for a campsite is approximately 25km W of Totnes Fiord and 125km SE of Qikiqtarjuaq (Lat: 66^{0}27'42"N, Long: 62^{0}58'34"W, *see attached location map*).

Helicopter-supported research activities include: 1) regional bedrock mapping to upgrade the existing geologic map coverage, for which most of the area was mapped in the late 1960s and 1970s and is not

formally published; 2) an assessment of the exploration potential for mineral resources on the peninsula; 3) mapping and sampling of surficial materials and landforms and determination of ice flow history; 4) sampling of bedrock and surficial materials for supporting geochemical and geochronological analyses to help characterize the geologic/tectonic environments and metallogenic associations, and provide industry and community-based clients with value-added information on prospectivity; and, 5) integration of ground-based geologic data, satellite imagery and airborne aeromagnetic data to test and develop Remote Predictive Mapping (RPM) techniques and expand the footprint of ground-based studies.

Prior to field work, community consultation will be initiated through school visits and meetings with local hamlet and Hunters' organizations, with the intent to hire and train local community members, where possible. We hope to have an opportunity to meet with elders and hunters to gain an appreciation and knowledge of their observations of various rock types and landform features. We will create and publicly release geological maps, technical reports, and scientific presentations. In addition, we will facilitate the production and release of Traditional Place Names maps through Inuit Heritage Trust for the region. All of this information will be summarized in non-technical presentations, posters and multi-media DVD-ROMs and delivered and explained to community members. Project updates and summaries will be submitted to authorizing organizations at specified intervals throughout the life of project.