

 Nunavut
Arctic College



North Baffin Annual Report and Plan for 2005

Dan Utting, Canada-Nunavut Geoscience Office

Project Description:

In 2003 the CNGO initiated the North Baffin Project, a three-year study of the Quaternary geology of NTS map sheets 37E, 37F, 37G and 37H (Figure 1). This project is designed to evaluate the economic potential of northeastern Baffin Island by providing an improved understanding of the glacial history in this extensively drift-covered area. The glacial history of the region is complex and poorly understood; an improved surficial geoscience knowledge base is a necessary prerequisite to effective mineral exploration. Volcanic rocks of the Archean Mary River group are thought to have a high potential for gold (Au), nickel (Ni), zinc (Zn), and platinum group elements (PGEs); in addition, there is potential for kimberlites in the area. The proposed drift prospecting survey, surficial materials mapping and ice-movement-chronology evaluations have the capability to identify new sources of Au, Ni, Zn and PGEs associated with supracrustal rocks, as well as kimberlite indicator-mineral trails. This information will be obtained through ongoing studies of regional ice dynamics, and the characterization of regional background values and source-rock petrology. Geochemical (till and whole-rock) and heavy mineral surveys undertaken as part of this project will significantly add to the geoscience knowledge of this area.

The North Baffin Project will make use of collaborations with university-based researchers to improve the understanding of ice dynamics to better interpret ice transport, and thus till geochemistry results. A project with the University of Alberta will examine sea level changes since deglaciation of the region in order to better understand ice loading, and ice thickness variations through time. In cooperation with Dalhousie University, the project will generate an ice-sheet model to better extrapolate the findings in the study area to a more regional perspective.

The field component of the project was put on hold in 2004. Research and mapping during the 2005 field season will focus on NTS area 37E and 37H. In addition, geochemical survey coverage of the southwestern corner of 37G will be improved during the 2005 field season.





Canada-Nunavut Geoscience Office

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John Gosse Dalhousie University

Roy Coulthard University of Alberta

Mike Young C-NGO

Shannon Johns C-NGO

Crystal Huscroft C-NGO

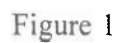
Surficial Geologist - TBA

Surficial Geologist - TBA

Cook - TBA

Jamie Boles Custom Helicopters

Engineer - TBA Custom Helicopters







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