Canada-Nunavut Geoscience Office
ᑲᓇᑕᐅᑉ-ᓄᓇᕗᑦ ᐅᔭᕋᓂ ᖃᐅᔨᓴᖅᑎᖏᑦ

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.

A GSC Current Research report based on North Baffin field work (2004-B1) discusses the ice dynamics in NTS area 37G; the interpretations presented will be tested in 2005. Results of the 2003 sampling programs (bedrock and till geochemistry, including till gold-grain counts) will be published in 2005 as GSC Open File reports. The surficial geology maps will be released as GSC Open File maps in 2006. Reports on the technical aspects of the project in 2005 will be published in GSC's Current Research.

Current Project References

Little, E.C., 2004: Deglacial History of the Icebound Lakes (NTS 37G) Region, Northern Baffin Island, Nunavut: Development of the Western Margin of the Paleo-Barnes Ice Sheet. Geological Association of Canada Abstracts and Programs, May 12–14, St. Catharines Ontario.

Little, E.C., Holme, P.J., Hilchey, A.C., and Young, M., 2004: Glacial Geology, ice-movement chronology and drift prospecting in the vicinity of Icebound Lakes, northern Baffin Island, Nunavut, Geological Survey of Canada, Current Research 2004-B1, 16 p.

Utting, D.J., Little, E.C., Brown, O., Young, M., and Taylor, J. In Press: Glacial geology, drift and bedrock prospecting, and related remote sensing applications on northern Baffin Island, Nunavut. Geological Survey of Canada Open File 4736, Poster presentation at the B.C. and Yukon Chamber of Mines Mineral Exploration Roundup 2005.

Holme, P.J. and Little, E.C., 2003: Introduction to the North Baffin Quaternary Mapping and Till Geochemistry Programme. Yellowknife Geoscience Form Programme with Abstracts. Yellowknife Geoscience Form: Novermber 19–21, 2003, Yellowknife, NWT.

Young, M., Berniolles, F., Sandeman, H., and Gertzbein, P., 2003: Prospecting on Northern Baffin: a stratigraphic and structural framework for the Archean Mary River group and its economic mineral potential. Yellowknife Geoscience Form Programme with Abstracts. Yellowknife Geoscience Forum: Novermber 19–21, 2003, Yellowknife, NWT

Young, M.D., Sandeman, H., Berniolles, F., Gertzbein, P.M.,2004: A preliminary stratigraphic and structural framework for the Archean Mary River Group, northern Baffin Island (NTS 37G), Nunavut; Geological Survey of Canada, Current Research 2004-C1, 14 p.

Project Team Members for 2005:

Dan Utting	Canada-Nunavut Geoscience Office
Edward Little	Geological Survey of Canada (Calgary)

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

Canada-Nunavut Geoscience Office
ᑲᓇᑕᐅᖅ-ᓄᓇᕗᑦᓯ ᐅᓴᖅᓂ ᖃᐅᔨᓴᖅᑎᖏᑦ

ᐅᐊᓐᓇᖓᓂ ᖁᑭᖅᑕᒍᑦ ᐊᖏᕐᔪᑕᒪᖓᑦᓴᐅᑦ ᐅᓂᒃᑲᖅ ᐊᖓᒪᓯ ᕿᓇᔪᑎ 2005-ᒪᑦ

Dan Utting, ᑲᓇᑕ-ᓄᓇᕗᑦ ᓄᓇᒥᒃ ᖃᐅᔨᓴᓂᖅᒪᑦ ᐊᓪᓚᕆᐊᓘ

ᐱᓕᓚᐊᖏᑲᐃᓐᓇᖅᑐᖓ ᓇᓗᓇᐃᖅᑕᐅᓂᖓ:

2003-ᖏᑎᓪᓗᒍ ᑲᓇᑕᒥ-ᓄᓇᕗᑦ ᓄᓇᒥᒃ ᖃᐅᔨᓴᓂᖅᒪᑦ ᐊᓪᓚᕆᐊᖓ ᐱᑭᐊᖅᑎᓂᑕᐅᖏᓚᑦ ᐅᐊᓐᓇᖓᓂ ᖁᑭᖅᑕᒍᑦ ᐱᓕᓚᐊᖏᑲᐃᓐᒪᑦ, ᐊᖏᔪᒍᓂ ᐱᖓᓱᓂ ᖃᐅᔨᓴᓂᖅ ᑎᓴᒪᐅᓪᓚᕆᐊᖏᓂᖅ ᓄᓇᖅᑐᐊᓂᒪᑦ NTS ᓄᓇᖅᑐᐊᓂᒃ 37E, 37F, 37G ᐊᖓᒪᓗ 37H (ᑎᑎᕋᐅᔨᖅᓯᒪᔪᖅ 1). ᒥᖅᓇ ᐱᓕᓚᐊᖏᓕᐊᖅᑐᖓ ᐃᖅᑭᓯᖅᑕᐅᓯᒪᔪᖅ ᖃᐅᔨᓴᕐᑕᐅᓗᓂ ᒪᑭᒪᐅᑎᖃᖅᓯᓗᓂᑦ ᐅᐊᖓᓇᖅ ᑲᓇᖅᓯᔪᓕᐊᓂ ᖁᑭᖅᑕᒍᑦ ᑐᑭᓯᓇᖅᑐᖓ ᐊᐅᓚᑲᓐᓂᖅᓴᓂᖓ ᑕᒪᓂ ᓄᓇᒥ ᐊᐅᑎᖅᑐᑦ. ᑕᒪᓂ ᓯᓚᑦ ᖃᐅᔨᒪᓕᒪᓂᑕᐊᖏᓪᓕᓇᒪᒪᑦ ᑭᓯᐊᓂᓗ ᖃᐅᔨᓴᖅᑐᖃᓕᓂᓗᓂ ᓄᓇᒧᑦ ᖃᓄᐃᓕᓴᐅᓂᖓᓂ ᓇᓗᓇᐃᖅᓱᓕᔪᒪᑦ ᑕᒪᓐᓇ ᓴᓇᔨᓴᖅᓴᖅᑐᐊᖏᖅᑐᓂᓂ ᔪᓗᓴᖅᑎᑦ ᓂᐅᒃᑯᓂᖅ ᑲᑎᒪᔨᖅᑎᑦ ᐱᓕᓚᐊᖏᑲᐃᓐᒪᑦ ᐱᓯᒪᔨᐅᒪᒃᑯᑦ ᐃᓚᖓ ᑲᑎᒪᔨᖅᑎᑦ, ᐊᖓᒪᓗ ᐊᓯᖏᓪᓗ ᓴᓇᔨᓴᖅᓴᖅᑐᐊᖏᓪᓗ, ᐊᖓᒪᓗᖅᑲᓂᕐᑕᐊᖏᓪᓗᓂᖅ ᐱᓕᓚᐊᖏᑲᐃᓐᒪᑦ ᐱᐅᓯᖅᑕᐅᓂᖓ ᐃᓗᓕᖅᑐᖓ ᐊᐅᓚᑲᓐᓂᖅᓴᓂ

ᐃᓚᒃᓴᖏᑦ, ᑕᒪᐸᑯᐊᓗ ᖃᐅᔨᓴᓯᑕᐅᔪᑦ ᔫᓂᓴᒍᑦ) ᑎᑎᕋᖅᑕᐅᓂᐊᖅᑐᑦ 2005-ᒥ GSC ᐅᓂᒃᑲᖏᓐᓂ. ᖃᖓᓂ ᓄᓇᐅᑦ ᓄᓇᕐᔪᐊᑦ ᓴᖅᑭᑕᐅᓂᐊᖅᑐᑦ GSC ᓄᓇᕐᔪᐊᑦ 2006-ᒥ. ᐅᓂᒃᑲᑦ ᓴᓇᔨᐅᓂᖏᓐᓄᑦᑐᓖᖓᔪᑦ 2005-ᒥ ᑎᑎᕋᖅᑕᐅᓂᐊᖏᒥᔪᑦ ᑕᑯᓪᓚ GSC-ᓂᑦ ᖃᐅᔨᓴᖅᐳᖓᓂ.

ᒪᓕᒐᔨᖅ ᐱᓕᓇᖅᑯᑦ ᐃᒃᓱᐊᑎᑦ

Little, E.C., 2004: ᓯᖏᒻᒥᖅᓴᕐᓂᕆᐊᓂᖅ Icebound Lakes (NTS 37G) ᐊᐱᑐᖅᓯᒪᔨᒥ, ᖁᑭᖅᑕᓗᒍᒥ, ᓄᓇᕗᑦ: ᐱᓕᕐᓂᐊᓂᖅ ᐅᐊᖅᓄᖅ ᓇᓗᓇᐃᒃᓯᑎᖅᑕ ᐅᐊᑎᑎᐊᖅᓂᕐᓴᐃᑦ ᓯᓂᖅᑕ. ᓄᓇᕐᔪᐊᓂᕆᔨᒃᓯᑦ ᑲᓇᑕᒥ, ᐃᓕᓴᕆᔨᐅᔪᑦ ᐊᒻᒪᓗ ᐱᓂᕆᔪᓐᓇᖅᑐᑦ, ᒪᐃ 12–14, St. Catharines Ontario.

Little, E.C., Holme, P.J., Hilchey, A.C., ᐊᒻᒪᓗ Young, M., 2004: ᐊᐅᔨᐃᑐᒃᖁᖅ ᓄᓇᖅᑐ, ᓂᓪᓕᐅᑦ ᐊᐅᓪᓂᖅᑐ ᐊᒻᒪᓗ ᓄᑦᑕᖅᑕᕐᓂᖅᑐ ᑕᒪᓐᓂ Icebound Lakes, ᐅᐊᓴᓇᕐᓯᐊᓂ ᖁᑭᖅᑕᓗᒍᑦ, ᓄᓇᕗᑦ, ᓄᓇᕐᔪᐊᓂᕆᔨᒃᓯᑦ ᑲᓇᑕᒥ, ᖃᐅᔨᓴᖅᓂᐅᔨᖅᖁᖅ ᒪᓴᓇᖅᑯᑦ 2004-B1, 16 p.

Utting, D.J., Little, E.C., Brown, O., Young, M., ᐊᒻᒪᓗ Taylor, J. ᐱᓕᕐᓂᐊᔨᑎᒍᑦ: ᐊᐅᔨᐃᑐᑦ, ᖃᖓᒍᑦ ᐊᒻᒪᓗ ᖃᐃᓱᓂᒃ ᖁᓂᓴᓂᖅ, ᐊᒻᒪᓗ ᖃᐅᔨᓴᕆᐊᓂᖅ ᐅᐊᓪᓚᓇᖅᑐᖅᖁᖅ ᒪᓴᓇᖅᑯᑦ ᖁᑭᖅᑕᓗᒍᑦ, ᓄᓇᕗᑦ, ᓄᓇᕐᔪᐊᓂᕆᔨᒃᓯᑦ ᑲᓇᑕᒥ ᑎᑎᖃᖅᑲᓇᑕᖅᑐᑦ 4736, ᐊᓕᓗᒥᐅᑕ ᓴᖅᑭᑕᐅᓕᐅᖅᖁᖅ ᓴᓇᑎᑦ ᑲᓇᑕᒥ ᐊᒻᒪᓗ ᓱᒃᑲᑦ ᐅᐸᑦᓂᐅᔪᓐᓇᖅᓂᖅ 2005.

Holme, P.J. ᐊᒻᒪᓗ Little, E.C., 2003: ᓇᓗᓇᐃᖅᓯᓂᖅ ᐅᐊᓪᓚᖓᓂ ᖁᑭᖅᑕᓗᒍᑦ ᑎᓴᒪᐅᓕᖅᓯᒪᔨᒥ ᓄᓇᕐᔪᐊᒥ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖅᑭᑕᐅᔪᖅ ᐱᓗᐅᖏᓐᖏᑦᑐᑦ ᓄᓇᒥᑦ. ᐅᐊᓗᓇᐃᒥ ᓄᓇᒥᐅ ᖃᐅᔨᓴᖅᓂᑦᒧᑦ ᐱᓕᕐᓂᐊᓂᖅ ᐃᓕᓴᕆᔨᐅᔪᓐᓇᖅᑐᓗ. ᐅᐊᓗᓇᐃᒥ ᓄᓇᒥᐅ ᖃᐅᔨᓴᖅᓂᑦᒧᑦ ᑎᑎᕋᖅᑕᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥᐅᑦ. ᐅᐊᓗᓇᐃᒥ, ᓄᓇᕗᑦ ᐃᓚᖃᕆᑕᐅᓂᖅ 19–21, 2003, ᐅᐊᓗᓇᐃᒥ, ᓄᓇᕗᑎᐊᖅ.

Young, M., Berniolles, F., Sandeman, H., ᐊᒻᒪᓗ Gertzbein, P., 2003: ᐅᓴᖅᓯᐅᔨᓂᖅ ᐅᐊᓪᓚᖓᓂ ᖁᑭᖅᑕᓗᒍᑦ: ᖃᐅᔨᓴᖅᑕᐅᓂᖅ ᖃᓄᐃᓕᓴᖅᑎᓂᒃᓴᓗ ᓄᓇᕗᒻᒥᐅᑦ ᐊᒻᒪᓗ ᐱᓕᕐᓂᐊᓂᖅ ᐃᓕᓴᕆᔨᐅᔪᓐᓇᖅᑐᑦ ᐅᓴᖅᓂᖅ. ᐅᐊᓗᓇᐃᑦ ᓄᓇᕗᑦ ᖃᐅᔨᓴᖅᓂᑦᒧᑦ ᐱᓕᕐᓂᐊᓂᖅ ᐅᐊᓗᓇᐃᒥ ᓄᓇᕗᑦ ᖃᐅᔨᓴᖅᓂᑦᒧᑦ ᑲᑎᒪᓂᖅ: ᓄᓇᐱᓇ 19–21, 2003, ᐅᐊᓗᓇᐃᑦ, ᓄᓇᕗᑎᐊᖅ.

Young, M.D., Sandeman, H., Berniolles, F., Gertzbein, P.M.,2004: ᓯᖏᒻᒥᖅᓴᕐᓂᕆᔨᒥ ᖃᐅᔨᓴᖅᓂᖅ ᐊᒻᒪᓗ ᐊᖏᔪᓯᒪᓂᖅᓂᑦ ᓄᓇᕗᒻᒥᐅᑦ, ᐅᐊᓪᓚᖓᓂ ᖁᑭᖅᑕᓗᒍᑦ (NTS 37G), ᓄᓇᕗᑦ: ᓄᓇᕆᔨᒃᓯᑦ ᑲᓇᑕᒥ, ᒪᓕᒐᔨᖅ ᖃᐅᔨᓴᖅᐳᖓᓂ -C1, 14 p.

ᐱᓕᕆᔨᐅᔪᑦ 2005-ᒧᑦ:

Dan Utting	ᑲᓇᑕ-ᓄᓇᕗᑦ ᓄᓇᒥᐅ ᖃᐅᔨᓴᖅᓂᕐᓴᐃᑦ ᐊᓪᓚᕆᓚᖓᖅ
Edward Little	ᓄᓇᕆᓂᕐᓴᐃᑦ ᖃᐅᔨᓴᖅᓂᖅ ᑲᓇᑕᒥ (Calgary)
John Gosse	Dalhousie ᐃᓕᓴᓂᐊᕐᓯᐊᓂᖅ
Roy Coulthard	ᐃᓕᓴᓂᐊᕐᓯᐊᓂᖅ ᐊᔪᕐᑕᐅᓵ
Mike Young	C-NGO

Shannon Johns	C-NGO
Crystal Huscroft	C-NGO
Surficial Geologist - TBA	
Surficial Geologist - TBA	
Cook - TBA	
Jamie Boles	ᐊᒻᒪᓗ
ᓴᓇᔨᖓ - TBA	ᐊᒻᒪᓗ

Canada
626 Tumiit Building P.O.Box 2319 Iqaluit, Nunavut X0A 0H0 tel: (867)979-3539 fax: (867)979 0708 email: cngo@nunanet.com
ᐃᓕᓴᕐᓂ 626 ᑐᓂᒃ ᑎᑎᖅᑯᓂ 2319 ᐃᖅᓗᓇᐃᑦ, ᓄᓇᕗᑦ X0A 0H0 ᐅᖅᓯᓇᑎᑐᑦ (867)979-3539 ᓯᓚᖅᑐᓂ (867)979-0708 ᖃᕐᕕᐅᓂᒃ cngo@nunanet.com
Nunavut