

Nunavut Research Institute

Nunavummi Qaujisaqtulirijikkut

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SCIENTIFIC RESEARCH LICENCE APPLICATION

(Land, Freshwater & Marine Based Research)

This application fulfills the requirements for NIRB environmental screening

SECTION 1: APPLICANT INFORMATION 1. Applicant's full name and mailing address:	Phone:		
	Fax:		
	E-mail:		
2. Field Supervisor (address, if different from abo	Phone:		
	Sat. phone:		
3. Other Personnel list (name and position):	<u> </u>		
Total # of personnel:	Total # of person days:		

SECTION 2: AUTHORIZATION NEEDED

- 4. List the organisations you will contact for necessary authorizations associated with the project.
- 5. List the active permits, licences, or rights related to the project and their expiry date:

6. Proposed project title: _____ 7. Project duration: Period of operation: ______ to ___ 8. Location(s) of data collection: Land Status Types: Crown, Commissioners', Inuit Owned Surface Lands, Inuit Owned Sub-Surface Lands, & Other Please ensure that maps of the project area are attached (1:50 000, 1:250 000) **Location Name** Region Latitude (north) Longitude (west) NTS Map sheet # Land **Status** For additional sites, attach a separate page NON-TECHNICAL PROJECT PROPOSAL SUMMARY 9. On a separate page, please include a non-technical description of the project proposal, no more than 300 words, in English & Inuktituk (Inuinaktun, if in the Kitikmeot). The project description should outline the project activities (research methods, camps, etc.) and their necessity, method of transportation, any structures that will be erected, expected duration of activity and alternatives considered. If the proposed activity fits into any long-term developments, please describe the projected outcome of the development for the area and its timeline. SECTION 4: MATERIAL USE 10. List equipment (including drills, pumps, aircrafts, etc.): **Equipment type and number Size-dimensions** Proposed use 11. Detail fuel and hazardous materials use: **Number of Containers Capacity of Containers (gal & litres) Diesel** Gasoline **Aviation fuel Propane** Other **Hazardous Materials Number of Containers/Concentration Capacity of Containers (gal & litres)**

SECTION 3: PROJECT PROPOSAL DESCRIPTION

5 2	and other appropriate inf	ace to handle accidental sp formation about the hazardo	
SECTION 5: WASTE 1 14. Describe amount and		ATMENT FACILITIES	
Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Sewage			
Grey water			
Garbage			
Overburden (organic soil, waste material,tailings)			
Hazardous waste:			
Other:			
SECTION 6: RESTOR 15. Describe or attach th area associated with	e proposed procedure f	ONMENT PLANS or site restoration upon ab	pandonment of any

12. Describe method of fuel transfer:

SECTION 7: ENVIRONMENTAL IMPACT

16. Indicate and describe the components of the environment that are near the project area, as applicable. Attach any relevant maps or information:

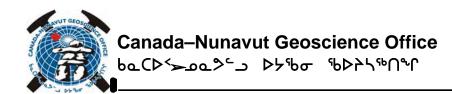
Type of species (sommer name		Cuitical time naminda
Type of species (common name,	Important Habitat Area (calving,	Critical time periods
associated herd, etc.)	staging, denning, migratory	(calving, post-calving, spawning, nesting,
	pathways, spawning, nesting, etc.)	breeding, etc.)
Example: Narwhal	Ice floe edge in Pond Inlet	June-July, around break-up
Fish:		
Caribou:		
Muskox:		
Raptor:		
Migratory Birds:		
Waterfowl:		
Seals:		
Whales:		
Narwhals:		
Canid family (wolves, wolverines,		
foxes, etc.)		
Bears (grizzly, polar, black):		
Other:		
Eskers:		
Communities:		
Historical/Archaeological sites:		

17. Indicate and describe other known uses of the area such as local development, traditional use (hunting/fishing/spiritual), outfitting, tourism, mineral development, research, etc.:

18. Describe the impacts of the proposed project activity on the environmental components and uses, in the area listed above:

			ENT & REGION ou have contacted			ect•	
Community	Name	Organisation	Date Contacted	Means	Telephone #	Fax #	
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proposed pr	oject. Elabor		residents of Nuna loyment opportun cable):				
22. Describe and attach documentation regarding community concerns or support for the proposed project:							
23. Is there a Traditional Knowledge (TK) component to this research project?							
24. Check YES □ or NO □ if you give NRI permission to release the applicants contact information in the Annual Compendium of Research Undertaken in Nunavut, published by the Nunavut Research Institute.							
Applicant:							
Signature		,,Title			,	Date	

19. What are some suggested mitigation measures for these impacts?



North Baffin Island Surficial Geology Studies: Improving Exploration and Development Opportunities

Project Description:

In 2007, the Canada-Nunavut Geoscience Office, in collaboration with the University of Alberta and Dalhousie University, proposes a project on northeastern Baffin Island, along the coast near Pond Inlet (Fig.1). This project is designed improve the potential for exploration and resultant mining development opportunities in northeastern Baffin Island by providing an improved understanding of the distribution, nature and chemistry of surficial materials, and the glacial history of this extensively drift-covered area. A portion of the project attempts to resolve the glacial history in the northeastern sector of the Laurentide Ice Sheet.

The study area lies along the northeast coast of Baffin Island between Bylot Island and the Clyde foreland; areas with contrasting ice sheet reconstructions and chronologies. The study area provides an opportunity to resolve critical issues in glacial history, and will have significant implications for regional drift prospecting programs. The glacial history of the area is complex and poorly understood, and so an improved regional surficial geoscience knowledge-base is a prerequisite to efficient mineral exploration. The complex glacial history resulted from overprinting of both erosive and non-erosive basal thermal regimes at various stages of the deglaciation, as well as overprinting of Last Glacial Maximum (LGM)-related geomorphology with those of the paleo- and modern-day Barnes Ice Cap.

The ice sheet reconstruction and glacial chronology developed in flanking areas of the Clyde Foreland (Briner et al. 2005) and Brodeur Peninsula (Dyke and Hooper 2001) do not correlate with the glacial geology in the Bylot Island and Pond Inlet area. New dating techniques such as Terrestrial Cosmogenic Nuclide dating, which the collaborating Dalhousie University Terrestrial Cosmogenic Lab is a leader in the use of in Canada, will be used to resolve this issue.

In 2005 a collaborative effort with the University of Alberta's NSERC Northern Chair Program was initiated to examine glaciomarine sediments and landforms in the area. Radiocarbon dating of included organic remains (shells and wood) provides key information on the timing and extent of glaciation. In particular, this work will help to distinguish between the LGM-age landscape and its associated flow directions and basal thermal regime, and subsequent re-advances that may have had different flow directions and basal thermal regimes. Further field work in 2007 is needed to complete this study, a component of R. Coulthard's PhD thesis. This work will be done in several days at Cape Jameson, Cape Hunter and Duart Lake.

In summary, the three objectives for the 2007 field season are:

- 1- Glacial chronology near Pond Inlet
- 2- Completion of the glaciomarine study in the Buchan Gulf, initiated in 2005
- 3- Field logistics. In 2005 some sample buckets, and fuel caches were left in the field. In 2007 we propose removing this material.

The project would make use of three camps (Fig. 2 and 3), occupied for two to three days, by a field team of two or three people.

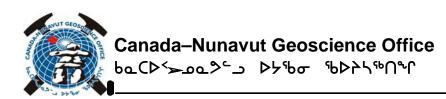
References cited:

Briner, J.P., Miller, G.H., Davis, P.T., and Finkel, R.C. 2005. Cosmogenic exposure dating in arctic glacial landscapes: implications for the glacial history of northeastern Baffin Island, Arctic Canada. Canadian Journal of Earth Sciences 42, 67-84.

Dyke, A.S., Hooper, J.M.G. 2001. Deglaciation of northwest Baffin Island, Nunavut. Geological Survey of Canada, Map 1999A, scale 1:500 000.







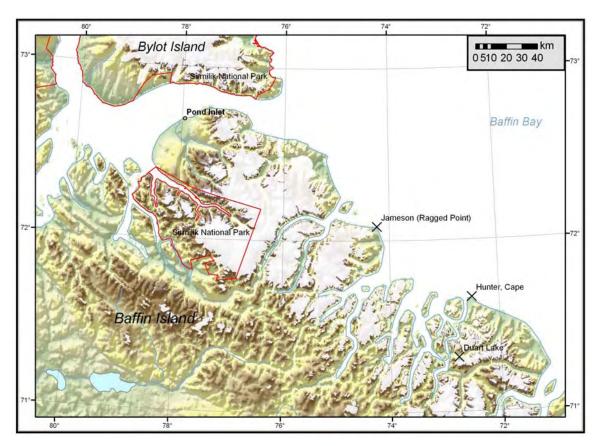


Figure 1. Location of study area.







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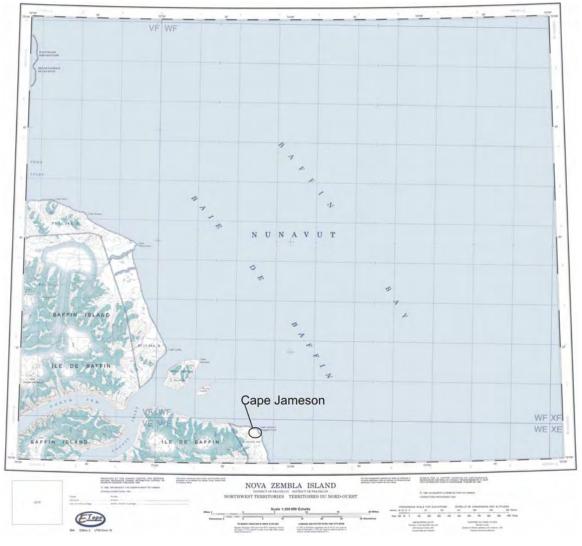
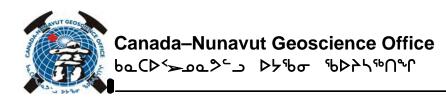


Figure 2. Location of proposed camp at Cape Jameson.







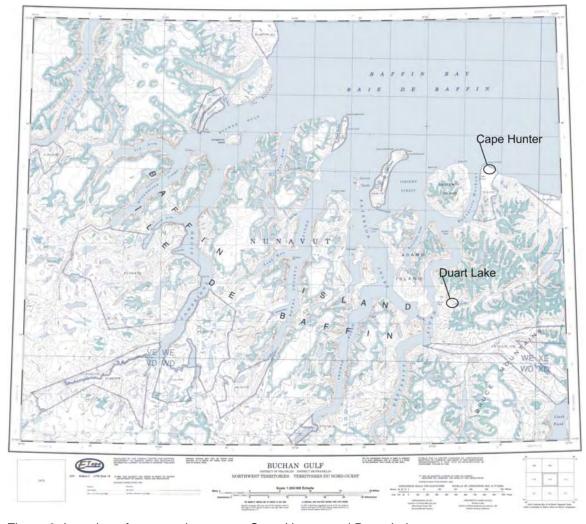


Figure 3. Location of proposed camps at Cape Hunter and Duart Lake.







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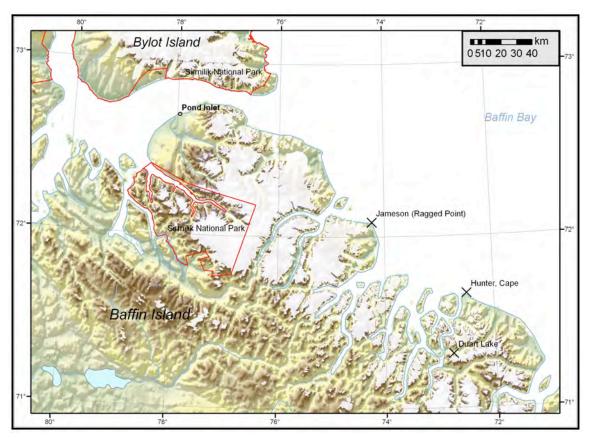
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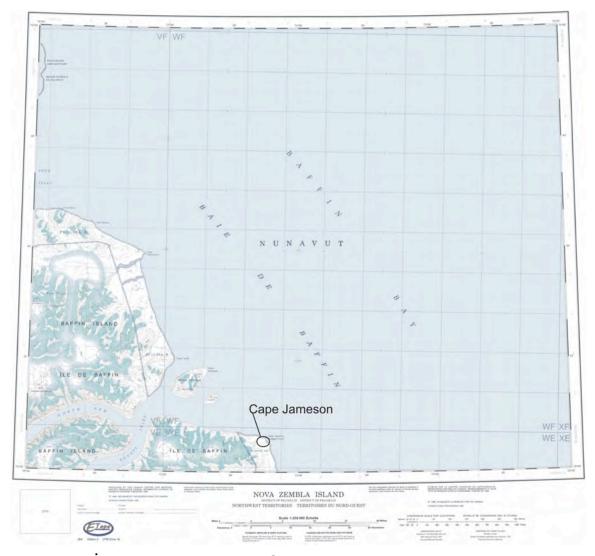


Figure 2. ៤፫ ቴ ጋለ የረፈል አል Cape Jameson- Г c.





