

## **Nunavut Water Board**

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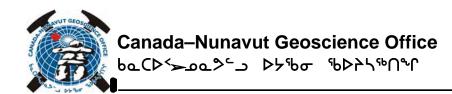
Planner toll-free fax line 1-866-NUNAFAX (1-866-686-2329)

E-mail planner@nunavut.ca

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	WATER LICENCE APPLICATION FORM				
	Application For (check one)NewAmendmentRenewalAssignment				
	Licence Number (NWB use only)				
Name and mailing address of applicant/licensee		2. Address of corporate off (if applicable)	ice in Canada		
Phone E-mail		Phone F	Fax		
3. Location of undertaking (describe and attach a topographic map indicating the main components of the undertaking)					
LatitudeoNorth LongitudeoWest NTS Map Number Scale					
4. Description of undertaking (attach plans and drawings)					
5. Type of primary undertaking (A supplementary questionnaire <u>must</u> be submitted with the application for undertakings marked with an asterisk. See Schedule II of the Northwest Territories Waters Regulations for description of undertakings)					
Industrial *		Agricultural			
Mining and Milling *		Conservation *			
Municipal (includes c	amps / lodges) *	Recreational			
Power		Miscellaneous (includes exp	oloration / drilling) *		
		(describe):			

6. Water use	
To obtain water	To divert a watercourse
To modify the bed or bank of a wa	itercourse Flood control
To alter the flow of, or store, wate	r Other (describe):
To cross a watercourse	
7. Quantity of water involved (cubic metres per day including both qu	antity to be used and quality to be returned to source)
8. Waste (for each type of waste describe: compo	
Sewage	Waste oil
Sold waste	Greywater
Hazardous	Sludges
Bulky items / scrap metal	Other (describe):
9. Persons or properties affected by the (give name, mailing address and location)	
Land Use Permit	
DIAND Yes No	If no, date expected
Regional Inuit Association Yes	_ No If no, date expected
Commissioner Yes No	If no, date expected
10. Predicted environmental impacts of (direct, indirect, cumulative impacts, e	of undertakings and proposed mitigation measures etc.)
NIRB Screening Yes No	If no, date expected

11. Inuit water rights					
Will the project or activity substantially affect the quality, quantity, or flow of water through Inuit Owned Lands and the rights of Inuit under Article 20 of the <i>Nunavut Land Claims Agreement</i> ?					
Yes No					
If yes, has the applicant entered into an agreement with the Designated Inuit Organization to pay compensation for any loss or damage that may be caused by the alteration?					
Yes No					
If no compensation agreement has been made, h	now will compensation be def	ermined?			
12. Contractors and sub-contractors (name,	address and functions)				
13. Studies undertaken to date (list and attac	ch copies of studies, reports,	research, etc.)			
14. The following documents <u>must</u> be included the regulatory process to begin	led with the application fo	or			
Supplementary Questionnaire Yes No (where applicable; see Section 5)	If no, date expected				
Inuktitut/English project summary Yes No	If no, date expected				
Application fee \$30.00 Yes No If no, date expected (payee Receiver General for Canada)					
Water use fee Yes No (see section 9 of the <i>NWT Waters Regulations</i> ; page 1	•	 nada)			
15. Proposed time schedule					
Annual (or) Multi-year Start date Completion date		date			
Name (print) Title (print)	Signature	 Date			
Nunavut Water Board Use Only					
Application fee Amount \$	Pay ID No:	Pay ID No:			
Water use deposit Amount \$	Pay ID No:				



# 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.

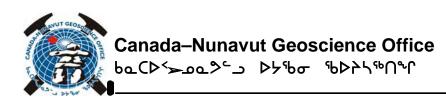
#### References cited:

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.







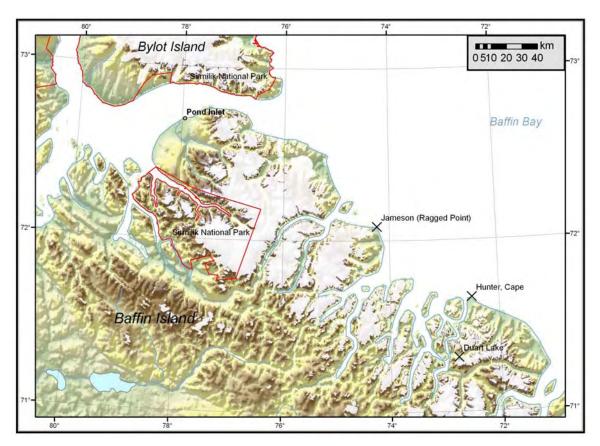


Figure 1. Location of study area.







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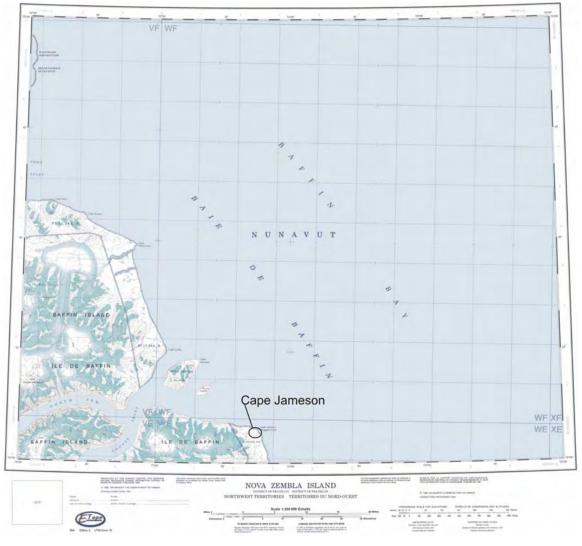
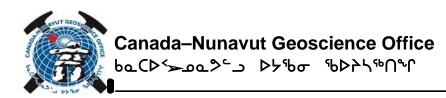


Figure 2. Location of proposed camp at Cape Jameson.







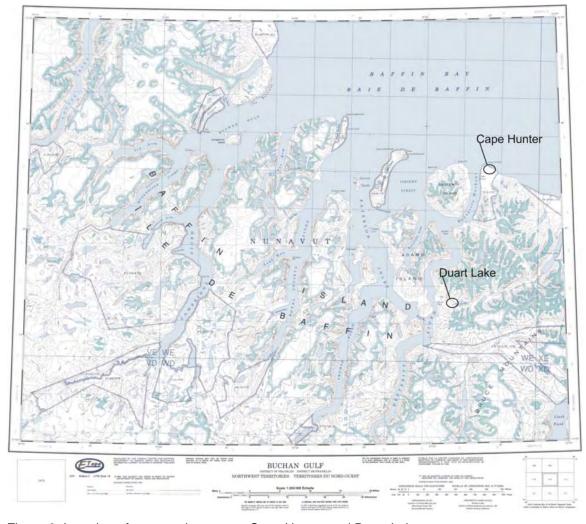


Figure 3. Location of proposed camps at Cape Hunter and Duart Lake.







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2007- $\Gamma$ ,  $ba(b^c Da^c)$   $Db^bbc^c BDPL^bn^c$ ,  $Acabnbbn Ze^c Nbbc^c$   $Ab^c All Cathab^c Ze^c Nbbc^c$   $Ab^c All Cathab^c Ze^c Nbbc^c$   $Acad^b$ ,  $Acad^b$   $Acad^b$   $Ab^c Nb^c$   $Ab^c$   $Ab^c Nb^c$   $Ab^c$   $Ab^c$ 

2005-Γ ለ~  $\Lambda$  ከΓ΄ ጋበ ለ  $\Delta$  ነ አሉ  $\Delta$   $\Delta$  ነ Γ NSERC PPP (\*) Γ΄ Δ  $\Delta$   $\Delta$  የ  $\Delta$   $\Delta$  \C \A \

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- 2- ለኦቪ ያlaciomarine ቴኦት አራፕ Buchan Gulf-୮, ለቦላ በርኦ ርኦ ን 2005-୮

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Dyke, A.S., Hooper, J.M.G. 2001. ላ▷ ≺᠘′ጋኄዖ˚÷<′ ፫ ላታ የሀው ኮላቴ ፌኒታ የዖቴር , ዾፌንና. ▷৮ቴታና ቴኦትኒናቴ ቴፌር୮, ዾፌኒኒላቴ 1999A, ୮ዮ፫ የላቴ/ Lታኒኒ 1:500 000.







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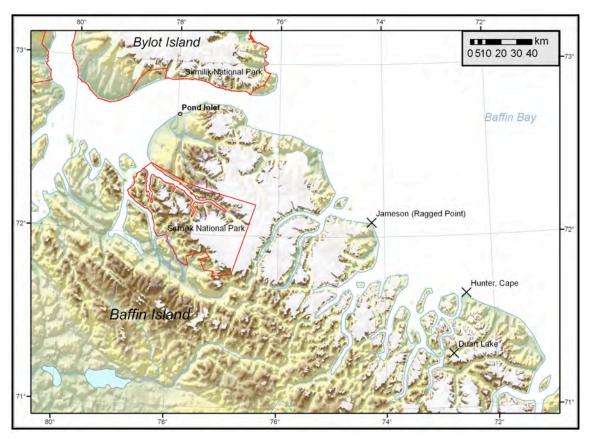


Figure 1. ៤广 ታ ሁንት ነ ነውን ተነ







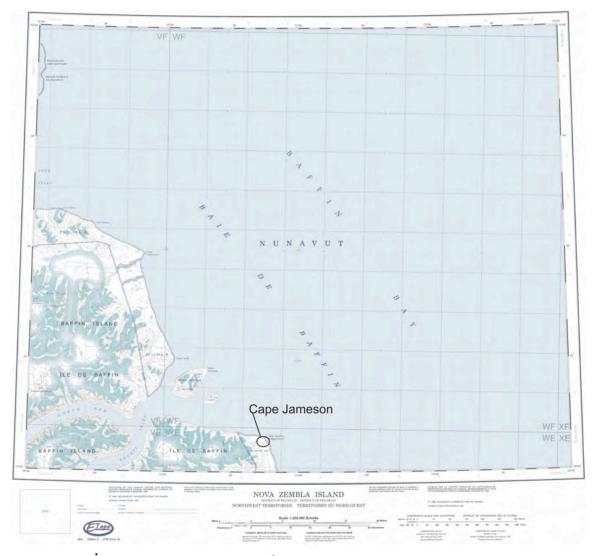


Figure 2. ៤፫ ቴ ጋለ የረፈል አል Cape Jameson- Г c.





