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General Water Licence Application
(Application for a new Water Licence)

Document Date: May 2011

Application Submission Date: _5/16/2011_____
Month/Day/Year

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NUNAVUT IMALIRIYIN KATIMAYIT
NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

DOCUMENT MANAGEMENT

Original Document Date: April 2010

DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 4	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)		
(4)		
(5)		
(6)		
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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

GENERAL WATER LICENCE APPLICATION
(APPLICATION FOR NEW WATER LICENCE)

The applicant is referred to the NWB's Guide 4: *Guide to Completing and Submitting a Water Licence Application for a New Licence* for more information about this application form.

LICENCE NO:
(for NWB use only)

1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION (name, address)

Keith Dewing, Geological Survey of Canada
3303 33rd St NW
Calgary AB T2L 2A7

Phone: ____403-292-7135_____
Fax: _____403-292-4961_____
e-mail: _____kdewing@NRCan.gc.ca_____

2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address)

Phone: _____
Fax: _____
e-mail: _____
(Attach authorization letter.)

3. NAME OF PROJECT (including the name of the project location)

Stratigraphy of Mesozoic Rocks of the Sverdup Basin (an activity in the "Hydrocarbon Potential of Ellef Ringnes Island" project

4. LOCATION OF UNDERTAKING

Project Extents

NW:	Latitude: (80° 0' 0" N)	Longitude: (90° 0' 0" W)
NE:	Latitude: (80° 0' 0" N)	Longitude: (82° 30' 0" W)
SE:	Latitude: (78° 0' 0" N)	Longitude: (82° 30' 0" W)
SW:	Latitude: (78° 0' 0" N)	Longitude: (90° 0' 0" W)

Camp Location(s)

Latitude: (78° 38' 07" N)	Longitude: (89° 50' 44" W)	NTS 059E
Latitude: (79° 42' 36" N)	Longitude: (85° 47' 38" W)	NTS 049G
Latitude: (79° 33' 50" N)	Longitude: (83° 16' 01" W)	NTS 049H

5. MAP - Attach a topographical map, indicating the main components of the undertaking.

NTS Map Sheet No.: __NTS 059E__ Map Name: __Glacier Fiord_ Map Scale: 1:250,000__
NTS Map Sheet No.: __NTS 049G__ Map Name: __ Slidre Fiord_ Map Scale: 1:250,000__
NTS Map Sheet No.: __NTS 059E__ Map Name: __Canon Fiord_ Map Scale: 1:250,000__

6. NATURE OF INTEREST IN THE LAND - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

Sub-surface

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

Surface

☐ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Qikiqtani Inuit Association (QIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Commissioner's Land Use Authorization
Date (expected date) of issuance: _____ Date of expiry: _____

☐ Other: _____
Date (expected date) of issuance: _____ Date of expiry: _____

Name of entity(s) holding authorizations:

The camp size falls under the size that requires an INAC landuse permit.
_____

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

Indicate the land use planning area in which the project is located.

X North Baffin
☐ South Baffin
☐ Akunniq
☐ Keewatin
☐ Sanikiluaq
☐ West Kitikmeot

Is a land use plan conformity determination required?

X Yes ☐ No

If Yes, indicate date issued and attach copy ____May 11 2011_____
If No, provide written confirmation from NPC confirming that a land use plan conformity review

is not required.

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Is an Article 12 Part 4 screening determination required?

☐ Yes XNo

If Yes, indicate date issued and attach copy _____
If No, provide written confirmation from NIRB confirming that a screening determination is not required.

9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.

The purpose of this project is to update our understanding of the geology and hydrocarbon potential of Ellef Ringnes Island (NIRB File No. 09YN056; INAC File No. N2009N0010). The island was last mapped in 1967. A detailed geological map of the island will be produced. Field work on Ellef Ringnes showed that some key geological contacts are poorly exposed. We wish to examine the contacts elsewhere to do the detailed sampling that we cannot undertake on Ellef Ringnes. These will help determine the age of the formations, as well as provide details on the change in environment at the time that the rocks were deposited.

This project aims to look at the contacts between rock types on where they are exposed on the surface. This allows geologists to get a much more accurate picture of the contact, the ancient environments that were present, and in some cases, fossils above and below the contact to establish the age of the rock. Thomas Hadlari and Ashton Embry, both from the Geological Survey of Canada would lead the activity. Field work is proposed between 2 July and 25 July, with a total of 9 people spending 10 days each in the field at various times during that period.

There are two main areas that we wish to go: Glacier Fiord, on southern Axel Heiberg Island (78º 38'N, 89º 48'W) where rocks about 130 to 80 million years old are exposed. This camp would consist of 5 people for about one week. They would measure the rock units and collect small samples through the section (about 50 grams) for chemical and fossil analysis.

The second area is around the Eureka weather station on Ellesmere Island. The geologists and helicopter would stay at the Eureka airport. Two field crews of two to four people would be set out by helicopter to visit rock exposures within 150 km of Eureka. This includes exposures along the coast south of Eureka (79º 42' 34"N; 85º 45' 53"W), the mountains east of Eureka (79º 45'N; 82º 56'), and north of Eureka (80º 49' N; 81º 49'W). In several cases, depending on weather, two person camps may be established for several days to reduce the amount of helicopter flying time. Several small (1 kg) samples may be collected at each site.

Field work is done using helicopter support, followed by walking and sampling using a trowel or small hammer. There is no drilling, motorized equipment or use of chemicals. Logistical support is provided by Polar Continental Shelf project in Resolute Bay.

10. OPTIONS – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.

These rocks occur in other areas, but existing geological reports indicate that this is the best exposed and most continuous section of rock known.

11. CLASSIFICATION OF PRIMARY UNDERTAKING - Indicate the primary classification of undertaking by checking one of the following boxes.

☐ Industrial
☐ Agricultural
☐ Mining and Milling (includes exploration/drilling/exploration camps)
☐ Conservation
☐ Municipal (includes camps/lodges)
☐ Recreational
☐ Power
X Miscellaneous (describe below):
Scientific Research

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings.

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

☐ Hydrostatic Testing
☐ Tannery
☐ Tourist / Remote Camp
☐ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil
☐ Onshore Oil and Gas Exploration Drilling
☐ Mineral Exploration / Remote Camp
☐ Advanced Exploration
☐ Mine Development
☐ Municipal
☐ General Water Works
☐ Power

12. WATER USE - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

X To obtain water for camp/ municipal purposes
☐ To obtain water for industrial purposes
☐ To divert a watercourse
☐ To cross a watercourse
☐ To modify the bed or bank of a watercourse
☐ To alter the flow of, or store water
☐ Flood control
☐ Other: _____

13. QUANTITY AND QUALITY OF WATER INVOLVED - For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.

Name of water source(s) (show location(s) on map):
_____unnamed creeksflowing west and south into the fiords_____

Describe the quality of the water source(s) and the available capacity: _____
_____unknonw, but likely high quality because of the glacial source_____
_____

Provide the overall estimated quantity of water to be used: _____0.2_____ m^3/day

Provide the estimated quantity(s) of water to be used from each source:
_____0.2 m3 per day from each creek_____

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)
__0.2 m3 for drinking and dishes_____

Describe the method of extraction(s): The water will be collected by hand using buckets. The water will be collected from the same area of the river that is easily accessible and devoid of fish populations and habitats. All buckets are inspected after filling to ensure no fish or other freshwater life were accidently captured. In the event that any is the water will be placed back into the creek and a new bucket taken. small amount of water (<10 l) will be stored on the site at any time for basic water use.

Estimated quantity(s) of water returned to source(s) ____0_____ m^3/day

Describe the quality of water(s) returned to source(s): __No sewage will be left at the camp facility, human waste will be captured in a contained latrine and flown out of the camp location.

Grey water will be disposed of in an appropriately place sump that allows proper natural filtration of the grey water. Any solid particles associated with the grey water (e.g. remnants from washing dishes) will be collected from the sump and properly incinerated. The only sump will be located to minimize any potential contamination of the nearby creek. The sump will be placed (at a minimum) 200m from the creek and approximately 100m from camp. The sump dimensions will be approximately 0.3m square and 0.3m deep, lined with gravel. All ash and non-combustable materials will be collected and flown out of the camp location for proper disposal.

Solid waste will be gathered, removed from the camp facilites and properly disposed of in an approved landfill site.

14. **WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

XSewage
XSolid Waste
☐ Hazardous
☐ Bulky Items/Scrap Metal
☐ Animal Waste
☐ Other (describe): _____
☐ Waste oil
XGreywater
☐ Sludges
☐ Contaminated soil and/or water

15. **QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
grey water	water, soap, food particles	5 litres/day	sump	fly out waste
Sewage	sewage	5 l day	latrine	fly out for disposal

16. OTHER AUTHORIZATIONS – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization: _____Nunavut Science Licence_____

Administering Agency: _____Nunavut Research Institute_____

Project Activity: _____All parts_____

Date (expected date) of issuance: __22 June, 2011_ Date of expiry: July 30, 2011___

Authorization: _____Nunavut Paleontological Collection permit_____

Administering Agency: _____Nunavut Culture Language Elders and Youth_____

Project Activity: ____sampling_____

Date (expected date) of issuance: __22 June, 2011_ Date of expiry: July 30, 2011___

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES - Describe direct, indirect, and cumulative impacts related to water and waste.

18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

None

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

None

19. INUIT WATER RIGHTS

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

20. CONSULTATION – Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

This project was chosen by Natural Resources Canada at the request of the request of the Minerals and Petroleum Resources Division, Department of Economic Development Transportation Government of Nunavut. Plans for scientific component of this work were reviewed by the Government of Nunavut during the Nunavut Petroleum workshop in Iqaluit November, 2011

21. SECURITY INFORMATION

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

<$100,000
Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut,* Indian and Northern Affairs Canada, 2002.

22. FINANCIAL INFORMATION

Provide a statement of financial responsibility.

This work is part of the Government of Canada's Geomapping for Energy and Minerals program, of the department of Natural Resources Canada. The Government of Canada will assume liability for any environmental damage incurred during this activity.

If the applicant is a business entity, provide a list of the officers of the company.

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

23. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc
Field mapping was undertaken

24. PROPOSED TIME SCHEDULE – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Construction
Proposed Start Date: _____ (month/year) Proposed Completion Date: _____ (month/year)

Operation

Proposed Start Date: __02 July, 2011____ Proposed Completion Date: ___30 July, 2011___
(month/year) (month/year)

Closure
Proposed Start Date: _____30 _____ Proposed Completion Date: _____
(month/year) (month/year)

Post - Closure
Proposed Start Date: _____ Proposed Completion Date: _____
(month/year) (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Operation
☐ Winter ☐ Spring X Summer ☐ Fall ☐ All season

Closure
☐ Winter ☐ Spring X Summer ☐ Fall ☐ All season

Post - Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

25. PROPOSED TERM OF LICENCE

Number of years (maximum of 25 years): ___1_____ years

Requested Date of Issuance: ___02 July, 2011 Requested Expiry Date: ___30 July, 2011__
(month/year) (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

26. ANNUAL REPORTING – If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

27. **CHECKLIST –** The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

XYes ☐ No If no, date expected _____

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

XYes ☐ No If no, date expected _____

Completed General Water Licence Application form.

XYes ☐ No If no, date expected _____

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

☐ Yes X no If no, date expected _____

English Summary of Application.

X Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Application.

X Yes ☐ No If no, date expected _____

Application Fee of $30.00 CDN (Payee Receiver General for Canada).

☐ Yes X No If no, date expected __Arrange to pay by phone_____

Water Use Fee Deposit of $30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☐ Yes X No If no, date expected __By phone_____

28. SIGNATURE

Keith Dewing	**Research Scientist**		**16 May 2011**
Name (Print)	**Title (Print)**	**Signature**	**Date**