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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

APPLICATION FOR APPROVAL FOR THE USE OF WATER OR DEPOSIT OF WASTE WITHOUT A LICENCE

Refer to the *Guide to the Approval for the Use of Water or Deposit of Waste Without a Licence*
(Guide) in completing this Application.

APPLICATION NO. <small>(for NWB use only)</small>													
1. APPLICANT CONTACT INFORMATION (name, address) Matthew B. Alkire Applied Physics Lab, University of Washington 1013 NE 40 th Street Seattle, WA 98105 Phone: 206-897-1623 Fax: 206-616-3142 e-mail: malkire@apl.washington.edu	2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address) Not applicable Phone: _____ Fax: _____ e-mail: _____ (Attach authorization letter)												
3. NAME OF THE OWNER OF THE LAND THAT WILL BE USED IN RELATION TO THE WATER TO BE USED OR THE WASTE TO BE DEPOSITED Inuit-owned (Nunavut Settlement Area)													
4. NAME OF PROJECT (consistent with the name of the project issued by other regulatory agencies): Assessing the impact of small, Canadian Arctic river flows to the freshwater budget of the Canadian Archipelago													
5. LOCATION OF UNDERTAKING Project Extents (decimal degree format)													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">NW</td> <td style="width: 30%; text-align: center;">74.050</td> <td style="width: 30%; text-align: center;">-115.080</td> </tr> <tr> <td>NE</td> <td style="text-align: center;">74.050</td> <td style="text-align: center;">-68.586</td> </tr> <tr> <td>SE</td> <td style="text-align: center;">66.908</td> <td style="text-align: center;">-68.586</td> </tr> <tr> <td>SW</td> <td style="text-align: center;">66.908</td> <td style="text-align: center;">-115.080</td> </tr> </table>		NW	74.050	-115.080	NE	74.050	-68.586	SE	66.908	-68.586	SW	66.908	-115.080
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Camp Location(s) (decimal degree format)

Not applicable

Name of the Water Management Area in which the Undertaking is located. (Please see Appendix D of the Guide):

Coronation Gulf Watershed, Queen Maud Gulf Watershed, Rasmussen Basin – Larsen Sound Watershed, Western Somerset Island Watershed, Southwestern Baffin Bay Watershed

6. CLASSIFICATION OF UNDERTAKING - Indicate the classification of undertaking by checking one of the following boxes.

☐ Industrial
☐ Mining
☐ Conservation
☐ Municipal

☐ Agricultural
☐ Recreational
☐ Power
☒ Other: Scientific research

See Appendix C of the Guide for descriptions of classifications of undertakings.

7. DESCRIPTION OF UNDERTAKING AND EQUIPMENT USED – Provide a brief description of the undertaking including a description of any equipment that will be used in using water or depositing waste.

The contribution of Canadian Arctic rivers to freshwater flows entering Baffin Bay is currently unknown. To determine the impact of these rivers, their contributions must be separated from those of other freshwaters (e.g., Mackenzie River, ice melt) using geochemical tracers. This project proposes to collect water samples from seven rivers and their estuaries throughout the Canadian Archipelago. Five of these rivers (Coppermine, Ellice, Back, Cunningham, and Clyde Rivers) are located in Nunavut whereas two (Kuujua and Thomsen Rivers) are located in the Northwest Territories. Each site will be visited via small aircraft (Twin Otter operated by Kenn Borek Air) and sampled over a period of 1-5 days during the months of June and July (following the spring floods/melt) or July and August (after break up of the landfast ice cover) depending on the study year (2014, 2015, or 2016). In 2014, we plan to focus solely on river sampling. In 2015 and 2016, both rivers and estuaries will be sampled. Water samples will be collected either by hand or by peristaltic pumps carried by researchers traveling in inflatable boats equipped with outboard motors. Sampling will be conducted during the day and the scientific team will return to towns (e.g., Kugluktuk, Gjoa Haven, Resolute Bay, and Clyde River) to stay in hotels in the evenings. Any garbage will be packed out of the site and brought back to these towns for proper disposal. Guides and wildlife monitors will be hired from local communities (Kugluktuk, Ulukhaktok, Sachs Harbour, and Clyde River) to support the research team during the main portion of field work. In addition, local field technicians will be hired in Kugluktuk and Clyde River to independently conduct weekly sampling of the Coppermine and Clyde Rivers in order to build a time series of these rivers' chemistry. We will also meet with local community leaders to discuss and plan presentations that will be given by the scientists to the general public. These presentations will summarize the purpose of the research project and any available results. A project website will also

be created and the public will be invited to visit this site to learn more about project details, gain direct access to resulting data, and learn about the methods and tools used by the scientists to analyze the data.

8. **SCHEDULE** – Applicants are advised that approvals without a licence are issued for a one year term.

Proposed Start Date: August, 2016 (Month/Year)	Proposed Completion Date: September, 2016 (Month/Year)
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9. **TYPE OF USE OF WATER WITHOUT A LICENCE PROPOSED** - Check the box that applies to the type of water use proposed. If none of the water uses listed below applies to the proposed water use, an application for a water licence will be required. See the NWB's Guide 4 – *Completing and Submitting a Water Licence Application for a New Licence*.

☐ For an undertaking other than a Power undertaking and for a use of water related to the construction of a structure across a watercourse that is less than 5 metres wide at the ordinary high water mark at the point of construction.

☐ For an undertaking other than a Power undertaking and for a use of water related to the training of an intermittent watercourse.

☐ For an undertaking other than a Power undertaking and for a use of water related to the training of a watercourse that involves the infilling of the watercourse, if the watercourse has no inflow or outflow and a surface area of less than 0.5 hectares.

☐ For an undertaking other than a Power undertaking and for a use of water related to the training of a watercourse that involves removal or placement of less than 100 m³ of material.

☐ For an undertaking other than a Power undertaking and for a use of water related to the construction of a temporary structure in a watercourse for the purpose of flood control.

☐ For an undertaking other than a Power undertaking and for any use of water related to the storage of 2,500 m3 or less.

☒ For an undertaking other than a Power undertaking and for any use of water less than 50 m³ per day.

10. **QUANTITY AND QUALITY OF WATER INVOLVED** - For each type of water use indicated in Block 9, provide the source of water, the estimated quantity to be used in cubic metres per day, and the periods during which water will be extracted.

Type of Water Use indicated in Block 9	Name of water source	Estimated quantity of water to be used in cubic metres per day	Periods during which water will be extracted
For an undertaking other than a Power undertaking and for any use of water less than 50 m ³ per day.	Coppermine River	< 0.02 m ³ per day	August 17-20, 2016
For an undertaking other than a Power undertaking and for any use of water less than 50 m ³ per day.	Ellice River	< 0.02 m ³ per day	August 10-13, 2016
For an undertaking other than a Power undertaking and for any use of water less than 50 m ³ per day.	Back River	< 0.02 m ³ per day	August 13-16, 2016
For an undertaking other than a Power undertaking and for any use of water less than 50 m ³ per day.	Cunningham River	< 0.02 m ³ per day	August 22-25, 2016
For an undertaking other than a Power undertaking and for any use of water less than 50 m ³ per day.	Clyde River	< 0.02 m ³ per day	August 25-28, 2016

11. TYPE OF DEPOSIT OF WASTE PROPOSED - Check the box that applies to the type of deposit of waste proposed. If none of the deposits of waste listed below apply to the proposed deposit of waste, an application for a water licence will be required. See the NWB's Guide 4 – Completing and Submitting a Water Licence Application for a New Licence.

Not applicable – no deposit of waste is proposed as part of this project. All garbage will be packed out of each field site and brought back to towns (e.g., Kugluktuk, Resolute Bay, Clyde River) and properly disposed.

☐ For an Industrial undertaking, for an activity related to hydrostatic testing or cleaning of storage tanks and pipelines, and for any deposit of waste resulting from hydrostatic testing or cleaning of unused storage tanks or pipelines.

☐ For an Industrial undertaking, for an activity related to quarrying and gravel washing, and for any deposit of waste that is not deposited to surface water and that results from quarrying or gravel washing above the ordinary high water mark.

- ☐ For a Mining undertaking, for an activity related to exploratory work, any deposit of sewage to a sump.
- ☐ For a Power undertaking, any deposit of sewage to a sump.
- ☐ For an Agricultural undertaking, any deposit of sewage to a sump.
- ☐ For a Recreation undertaking, any deposit of sewage to a sump.
- ☐ For any Other type of undertaking not listed above, other than Municipal, any deposit of sewage to a sump.

12.

QUANTITY AND QUALITY OF WASTE INVOLVED – For each type of waste indicated in Block 11, describe the quantity in cubic metres/day, measures to avoid or mitigate adverse impacts, and periods of deposition.

Not applicable – no deposit of waste is proposed as part of this project. All garbage will be packed out of each field site and brought back to towns (e.g., Kugluktuk, Resolute Bay, Clyde River) and properly disposed.

Type of Waste indicated in Block 11	Quantity to be deposited in cubic metres per day	Measures to avoid or mitigate any adverse impacts	Periods during which waste will be deposited

13. SIGNATURE

I, Matthew B. Alkire (print name), certify that the information given on this form is, to the best of my knowledge, correct and complete.

☒ Yes

☐ No

OR

I, _____ (print name), as an authorized representative of the Applicant, _____, certify that the information given on this form is, to the best of my knowledge, correct and complete.

☐ Yes

☐ No

I certify that the Nunavut Planning Commission's land use planning requirements under Article 11 of the Nunavut Land Claims Agreement have been met.

☒ Yes

☐ No

I certify that the Nunavut Impact Review Board's development impact review requirements under Article 12 of the NLCA have been met.

☒ Yes

☐ No

I certify that the proposed water use is of a type set out in column 2 of Schedule 2 of the Regulations that is further specified by column 3, in respect of an undertaking set out in column 1. See list in Block 9.

☒ Yes

☐ NA

☐ No

I certify that the proposed deposit of waste is an activity that is set out and then further specified in columns 2 and 3 of Schedule 3 of the Regulations, in respect of an undertaking that is set out in column 1 of Schedule 3. See list in Block 11.

☐ Yes

☒ NA

☐ No

I certify that the proposed water use or deposit of waste will not substantially affect the quality, quantity or flow of the watercourse whose waters are used.

☒ Yes

☐ No

I certify that the proposed water use or deposit of waste will not substantially affect the quality, quantity or flow of waters flowing through Inuit Owned Lands.

☒ Yes

☐ No

I certify that the proposed water use or deposit of waste will not affect the use of waters by a person who would be entitled to compensation under sections 58 or 60 of the Nunavut Waters Nunavut Surface Rights Tribunal Act (Act) if their use of these waters were to be adversely affected by an applicant for a licence.

☒ Yes

☐ No

I certify that a licence is not required for another use of water, or deposit of waste in respect of the proposed undertaking.

☒ Yes

☐ No

I have read and agree to comply with the following conditions outlined in sections 4(3), 5(4), 5(5) and 6 of the Nunavut Waters Regulations:

1. In the case of an applicant who has a mineral right and who intends to use waters or deposit waste in relation to that right, the applicant shall respect the priority conferred on Inuit by section 62 of the *Act* as if that applicant had a licence for the use or deposit.
2. Measures must be taken prior to using water to minimize any alteration to the bed or banks of a watercourse whose waters are to be used, and the measures shall be maintained during the operation of the undertaking.
3. No waste is to be deposited to surface water or within 31 metres of the ordinary high water mark of any body of water.
4. The waste shall not contain more than 15 milligrams per litre of petroleum or petroleum product and must not have a visible hydrocarbon sheen.

5. Prior to the closure or abandonment of the undertaking or end of the period authorized for the use of water or deposit of waste without a licence, whichever occurs first, the site shall be restored — to the extent practicable — to the state in which it was before the water was used or the waste was deposited.^a

6. An applicant who is authorized under the Regulations to use waters or deposit waste without a licence shall:

- a. maintain accurate and detailed books and records of:
 - i. the quantity of water, in cubic metres, used each day,
 - ii. the quantity, in cubic metres, of waste deposited each day,
 - iii. the type of waste deposited each day,
 - iv. where the waste is deposited,
 - v. the concentration of the substance, or substances, in the deposited solid or liquid that has the effect of making the deposit waste,
 - vi. the methodology used to calculate or determine the information referred to in items (i) to (iv), and
 - vii. the measures that were taken to avoid or mitigate any adverse impacts of the deposit of waste.
- b. keep the books and records on the site of the undertaking during the period of its operation and make them available during that period to an inspector on request;
- c. submit to the Board a report containing a summary description and supporting photographs of the restoration of the site of the undertaking within 30 days after the earliest of (i) the day on which the undertaking is closed or abandoned, and (ii) the last day of the period authorized for the use or deposit without a licence;^b and
- d. keep the books and records for two years after submitting the report describing the restoration of the site of the undertaking.

Notes:

a) A site need not be restored prior to the end of the period authorized for the water use or deposit of waste without a licence, as required by Item 5, if the Board issues a licence for the use of water or deposit of waste on that site prior to the end of that period.

b) An applicant need not submit the report referred to in Item 6 (c), to the Board if the applicant obtains the Board's approval for a use of water or deposit of waste without a licence, or a licence for a use of water or deposit of waste, on the same site within thirty (30) days after the last day of the period authorized for the use or deposit.

☒ Yes

☐ No

I understand that any approval granted by the Board for the use of water or deposit of waste without a licence will be authorized for a period of one year after the day on which the Board approves the Application. The use or deposit is not authorized until the Board approves the Application and it is only valid as long as the applicant is in compliance with the conditions set out in the declaration above.

☒ Yes

☐ No

I understand that if I have answered "No" to any of the above statements a water licence is required from the Nunavut Water Board prior to the use of water or deposit of waste.

☒ Yes

☐ No

Matthew B. Albre	Ph. D.	Arthur S. O'Brien	3/1/16
Name (Print)	Title (Print)	Signature	Date