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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: (for NWB use only)													
1. APPLICANT CONTACT INFORMATION (name, address) Christopher Griffin 11 Ivy Lane Princeton, NJ 08544, USA Phone: <u>5302179516</u> Fax: _____ e-mail: <u>chris.griffin@princeton.edu</u>	2. APPLICANT REPRESENTATIVE CONTACT INFORMATION if different from Block 1 (name, address) 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 Crown Land													
4. NAME OF PROJECT (consistent with the name of the project issued by other regulatory agencies) Exploring the Terrestrial Vertebrate Communities of the Triassic High Arctic													
5. LOCATION OF UNDERTAKING Cameron Island Project Extents (decimal degree format) <table border="0" style="width: 100%;"> <tr> <td>NW</td> <td><u>76.605760</u></td> <td><u>-104.738256</u></td> </tr> <tr> <td>NE</td> <td><u>76.694658</u></td> <td><u>-104.118567</u></td> </tr> <tr> <td>SE</td> <td><u>76.472250</u></td> <td><u>-104.511328</u></td> </tr> <tr> <td>SW</td> <td><u>76.577214</u></td> <td><u>-103.898840</u></td> </tr> </table>		NW	<u>76.605760</u>	<u>-104.738256</u>	NE	<u>76.694658</u>	<u>-104.118567</u>	SE	<u>76.472250</u>	<u>-104.511328</u>	SW	<u>76.577214</u>	<u>-103.898840</u>
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Camp Location(s) (decimal degree format)

_____ 76.573976 _____ -104.491228 _____

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

_____ 55. Bathurst and Cornwallis Islands Watershed _____

6. Previous Approvals or Licences Associated with Undertaking (“Type A”, “Type B” or Approval Without a Licence)

NA or

Previous Licence/Approval Number: _____

The Board reminds the Applicant that as stated in s. 46 of the NWNSRTA, the expiry or cancellation of any previous licence does not relieve the holder from any outstanding obligations imposed under the licence.

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

<input type="checkbox"/> Industrial	<input type="checkbox"/> Agricultural
<input type="checkbox"/> Mining	<input type="checkbox"/> Recreational
<input type="checkbox"/> Conservation	<input type="checkbox"/> Power
<input type="checkbox"/> Municipal	<input checked="" type="checkbox"/> Other: (describe)

_____ Scientific Research (Palaeontology) _____

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

8. 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.

We will be primitive camping during palaeontological fieldwork, using local streams for drinking and cooking water and for the washing of cookware. Cooking will be with a propane-powered stove. Graywater will not be placed in any streams, and all human organic waste will be buried away from streams and waterways. All garbage produced will be removed when we leave camp.

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

Proposed Start Date: _____ 06/07/2026 _____ Proposed Completion Date: _____ 22/07/2026 _____
 (Day/Month/Year) (Day/Month/Year)

10. 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 is less than 5 metres wide at the ordinary high water mark at the point of training.
- 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.

11. QUANTITY AND QUALITY OF WATER INVOLVED - For each type of water use indicated in Block 10, 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 10	Name of water source	Estimated quantity of water to be used in cubic metres per day	Periods during which water will be extracted
<50 m ³ per day	Unnamed surface streams on northern Cameron Island	10 (at most)	During the day when cooking or washing (July 6-22)

12. 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.

- 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 Conservation 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.

13. QUANTITY AND QUALITY OF WASTE INVOLVED – For each type of waste indicated in Block 12, describe the quantity in cubic metres/day, measures to avoid or mitigate adverse impacts, and periods of deposition.

Type of Waste indicated in Block 12	Quantity to be deposited in cubic metres per day	Measures to avoid or mitigate any adverse impacts	Periods during which waste will be deposited
Other (human feces and graywater during camping)	<1	Graywater dispersed on ground and feces buried away from surface waters	During the day when at camp (July 6-22)

14. SIGNATURE

I, _____ Christopher Griffin _____ (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 10.

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 12.

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

Christopher Griffin Name (Print)	Assistant Professor Title (Print)	 Signature	April 13, 2026 Date
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Cameron Island

Study area in northern portion of island, circled in red



Google Earth

Image Landsat / Copernicus

Image IBCAO

Exploring the Terrestrial Vertebrate Communities of the Triassic High Arctic

The groups of animals that dominate life on land today—frogs, salamanders, mammals, lizards, turtles, crocodylians, and dinosaurs (with us today as birds)—all got their start during the Triassic Period, which was the period of time between 250 and 201 million years ago. The geographic context of the early evolution of these groups has received much attention, but because of uneven sampling of the fossil record we don't understand many aspects of these groups' origins and earliest evolution. Most members of these groups had very small body sizes during the Triassic (under 1 meter in length), making this sampling issue even worse: the collection of these small fossils requires specialized sampling techniques that are not often undertaken in Triassic fieldwork. During the Triassic Period the continents were arranged into a single supercontinent, called Pangaea. Although the world had no oceanic barriers to migration or dispersal at that time, climate still played a major role in arranging plant and animal communities. Pangean plants and animals were arranged into distinctive provinces, with communities tracking belts of climate that spanned latitudes. Following this pattern, the highest-latitude communities in the northern portion of Pangaea should be distinct from all other sampled localities at both lower latitudes and high southern latitudes on the supercontinent. It has also been suggested that Triassic high-latitude climate zones may have acted as refuges during the End Triassic Mass Extinction. If this is true, then we expect that high latitude Late Triassic communities should be populated with lineages that survived into later time periods, including early dinosaurs and mammals. Testing this will require palaeontological fieldwork in high latitude Late Triassic-aged sediments, and the Late Triassic rocks exposed in Nunavut presents one of the best opportunities for answering these questions. These Triassic rocks have yet to be intensely prospected by vertebrate paleontologists, however, there are tantalizing hints that these rocks are extremely productive: in 1853 the crew of the HMS Pioneer collected a single, beautifully preserved reptile vertebra from these sediments during a failed search for John Franklin's lost expedition.

I propose to engage in two weeks of palaeontological fieldwork in the Triassic sediments of Nunavut, Canada, on Cameron Island in July 2026, with the goal of finding and collecting vertebrate fossils. The joint Canadian-American team of palaeontologists (myself [Princeton University], Scott Rufolo [Canadian Museum of Nature], Ben Kligman [Smithsonian Institution], Emily Lessner [Bureau of Land Management], Jaelyn Eberle [University of Colorado Boulder]) will identify regions to prospect for fossils via geological maps, satellite imagery, and military aerial photographs. Excavation will follow standard field techniques, and sediments will be screenwashed on-site for small vertebrate fossils to avoid shipping bulk sediment and unnecessarily disturbing the environment. There is interest from a community member, Devon Manik, in also joining the team as a wildlife

monitor. Fossils will be temporarily taken to Princeton University for preparation and conservation in our laboratory, but will be permanently repositied in the Nunavut Fossil Vertebrate collection in the Canadian Museum of Nature.

