SCIENTIFIC RESEARCH LICENCE APPLICATION
LAND, FRESHWATER & MARINE BASED RESEARCH

NRI strongly recommends that applicants review the following documents prior to submitting an application: *Scientific Research Licencing Guidelines* and *Negotiating Research Relationships in Inuit Communities: A Guide for Researchers.*
For more information about the Nunavut Research Institute (NRI) please visit our web site www.nri.nu.ca

IMPORTANT
This application fulfills the requirements for the NIRB environmental screening.
Please be advised that your application will not be processed until the application form, project summary, and maps are received.

SECTION 1: APPLICANT INFORMATION

1a. Project Title The fate and toxicity of Arctic soil pollutants: how humans poison Arctic soils and how Arctic soils poison humans.

1b. Project Number

Please indicate if applicant has submitted any previous application(s) to NRI related to this project proposal? Yes x No
If yes, please indicate the previous NRI licence number: 10YN0015

Please indicate if applicant has submitted any previous application(s) to NIRB related to this project proposal? Yes No x
If yes, please indicate the previous NIRB project number(s):

2. Applicant's full name and mailing address:

Steven Siciliano
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Saskatchewan, Canada S7N 5A8

Phone: (306) 966-4035
Fax: (306) 966-6881
Email: steven.siciliano@usask.ca

3. Field Supervisor's name and mailing address:

Steven Siciliano
5E26 - 51 Campus Drive Saskatoon,
Saskatchewan, Canada S7N 5A8

Phone: (306) 966-4035
Fax: (306) 966-6881
Email: steven.siciliano@usask.ca

4. Other Personnel list (name, position, affiliation)

Sarah Hardy, M.Sc. Student, University of Saskatchewan
Martin Brummell, Ph.D. student, U Saskatchewan
Amanda Guy, M.Sc. student, U Saskatchewan
Mitsuaki Ota, Ph.D. student, U Saskatchewan
Nicole Mauser, student, U Saskatchewan
Ken van Rees,professor, U Saskatchewan

SECTION 2: AUTHORIZATION NEEDED

1. Indicate all authorizations associated with the project proposal:

- [ ] Regional Inuit Association (RIA)
- [ ] Nunavut Water Board (NWB)
- [ ] Nunavut Planning Commission (NPC)
- [ ] Department of Indian And Northern Development (DIAND)
- [ ] Department of Fisheries and Oceans (DFO)
- [ ] Community Government & Services (CG&S)
- [X] Nunavut Research Institute (NRI/GN)
- [ ] Department of Culture, Language, Elders, and Youth (CLEY/GN)
- [ ] Canadian Launch Safety (CLS)
- [ ] Environment Canada (EC)
- [ ] Department of Environment (GN)
- [ ] Department of National Defense (DND)
- [ ] Hamlet
- [ ] Parks Canada (PC)
- [ ] Canadian Wildlife Service (CWS)
- [ ] Other (please specify):

_____

2. List the active permits, licences, or other rights related to the project proposal and their expiry date:

_____

_____

3. Have you applied for all authorizations required to conduct the project proposal activities?

XYES ☐ **NO**

SECTION 3: PROJECT PROPOSAL DESCRIPTION

1. Indicate the activities related to the project proposal:

- [X] Temporary camp (to be removed at end of field season)
- [ ] Permanent camp (to remain for life of authorization)
- [ ] Construction of recreational or safety cabin
- [ ] Temporary fuel storage (to be removed at end of field season)
- [ ] Permanent fuel storage (to remain for life of authorization)
- [ ] Placement of structures for life of permit (other than camp or cabin – i.e. scientific instruments)
- [ ] Placement of permanent structures (other than camp or cabin – i.e. scientific instruments)
- [ ] Air surveys (i.e. geophysical, wildlife)
- [X] Use of aircraft/watercraft/land vehicle for personnel drop-off and pick-up to project location
- [ ] Use of on-site mechanized vehicles (i.e. atv, snowmobile, truck, zodiac)
- [ ] Sewage or grey water disposal via sump
- [ ] Hazardous waste storage or disposal
- [ ] Solid waste disposal
- [ ] Chemical storage
- [ ] Explosives storage
- [X] Soil testing
- [ ] Soil disposal/ soil storage
- [X] Incineration of combustible wastes and removal of non-combustible wastes
- [ ] River/ stream/ lake crossing or work/ bridge
- [ ] Drainage alteration
- [ ] Geoscientific sampling by diamond drilling
- [ ] Geoscientific sampling by soil sampling
- [ ] Geoscientific sampling by trenching
- [ ] Geoscientific sampling by borehole core
- [ ] Blasting
- [ ] Channeling
- [ ] Excavation
- [ ] Hydrological testing
- [ ] Abandonment and restoration
- [ ] Site restoration (fertilization/ grubbing/ scarification/ spraying/ recontouring)
- [X] Research
- [ ] Ecological survey
- [ ] Harvesting
- [ ] Removal of vegetation for scientific purposes
- [ ] Other:

2. Personnel

Total No. of personnel on 7 Total No. of days on-site 51

site = (A) _____ = (B) _____ **Total No. of Person days (A) × (B) = 357**

_____

3. Timing

Period of operation: **July 5th, 2013** *to* **August 25th , 2012**

Proposed term of authorization: **July 5th, 2012** *to* **August 25th , 2012**

Please outline the phases of the proposed project (construction/ operation/ decommissioning) including the timing and scheduling of each phase.

July 8th-10th – Establishment of temporary camp on the Dome at Alexandra Fjord, Ellesmere Island, NT. Scientific equipment and personal camping gear will be delivered to the Dome via helicopter and/or by foot from the base camp station at Alexandra Fjord.
July 11th – August 22nd - Research activities (primarily monitoring) will occur on the Dome. All personnel will alternate between camping at the temporary camp on the Dome and staying at the established base camp station at Alexandra Fjord.
July 28th – Removal of all scientific equipment from the Dome by helicopter and/or by foot and decommissioning of temporary camp on the Dome.

4. Location(s) of data collection:

Location Name	**Region** North Baffin, South Baffin, Kivalliq, Kitikmeot	**Co-ordinates** Lat (degree / minute), Long (degree / minute)	**NTS Map Sheet #**	**Land Status** Crown, Commissioners', Inuit Owned
Alexandra Fjord, Base camp	**North Baffin**	**78°53'N, 75°55'W**	**39 E**	**Crown**
Alexandra Fiord, Dome	**North Baffin**	**78°53'N, 75°55'W**	**39E**	**Crown**

If the project proposal includes a **camp**, please provide the coordinates of the camp location
Lat (degree/minute) 78°53'N Long (degree/minute) 75°55'W
NTS Map Sheet # (if different from above) _____

The Nunavut Impact Review Board may require additional location information in a subsequent Project Specific Information Requirement (PSIR) submission. This may take the form of a digital Geographic Information Systems (GIS) file.

SECTION 4: NON-TECHNICAL PROJECT PROPOSAL DESCRIPTION

Please attach a non-technical description of the project proposal, no more than 500 words, in English and Inuktitut (+Inuinnaqtun, if in the Kitikmeot). The project description should outline the following:

- Project Title
- Researcher's Name and Affiliation
- Project Location

- Timeframe
- Project Description
  - purpose
  - goals & objectives
  - method of transportation
  - any structures that will be erected (permanent / temporary)
  - restoration / abandonment plans
- Methodology
  - collection protocol
  - collection mechanisms
  - indicate why specific communities or individuals were selected for your research
- Data
  - short term & long term use of data
  - other uses of data
- Reporting
  - How will the research results be communicated to the individual participants, communities, regional and Nunavut organizations?
  - Will the research result in a publication?

SECTION 5: MATERIAL USE

1. List equipment **(including drills, pumps, aircrafts, vehicles etc.):**

Equipment type and number	Size – dimensions	Proposed use
Aircraft supplied by PCSP		Drop-off and pick-up personnel at the beginning and end of field work
Helicopter supplied by PCSP		Delivery and removal of scientific equipment to the Dome site at the beginning and end of field work

2. Detail fuel and hazardous material use:

Fuel	Number of Containers and Capacity of Containers	Total Amount of Fuel (in Litres)	Proposed Storage Methods
Diesel			
Gasoline			Fuel Supplied by PCSP
Aviation fuel			
Propane			
Other			
Hazardous Materials and Chemicals		**Total Amount of Hazardous**	

		Materials and Chemicals (in Litres)	

3. Detail daily water consumption rates

Daily amount (in Litres)	Proposed water retrieval methods	Proposed water retrieval location
14 L (Camp/personal use only)	From water system at base camp	Alexandra Fjord base camp station

4. Have you applied for a Class A License with the Nunavut Water Board?

☐ YES XNO

SECTION 6: WASTE DISPOSAL AND TREATMENT METHODS

1. List the types of waste:

Type of waste	Projected amount generated	Method of Disposal	Additional treatment procedures
Sewage (human waste)	Dome – 20 L Base camp- 20 L	Dome- Deposited in hole and buried in one location Base camp- outhouse with bucket disposed in ocean	
Greywater	Dome – 48 L Base camp – 48 L	Dome- disposed in sump hole and buried Base camp – disposal system to ocean	
Combustible wastes	2-3 large garbage bags	Returned to base camp and burnt	Removal of ash
Non-Combustible wastes	2-3 large garbage bags	Returned to base camp and flown out to Resolute	
Overburden (organic soil, waste material, tailings)	0		
Hazardous waste	0		
Other:			

2. Will you be incinerating combustible waste, removing all solid waste, and removing the ash generated from incineration?

XYES ☐ NO

SECTION 7: COMMUNITY INVOLVEMENT & REGIONAL BENEFITS

1. List the community representatives that have been contacted and provide the minutes of the meetings if available:

Community	Name	Organization	Date Contacted

2. How will the proposed project benefit Nunavut?

Characterizing the ecology of these Bhy soils is required for future investigations on how hydrocarbons bound to soil are transferred to humans. Our work will provide information that will allow regulators to update their models on how hydrocarbons move from soils to Arctic peoples and update environmental protection standards in Canada's Arctic.

4. Describe and attach documentation regarding community support or concerns for the proposed project:

5. Is there a traditional knowledge component to this research project? If yes, please explain:

No

SECTION 8: GENERAL QUESTIONS

1. Do you give NRI permission to publish project information in the Nunavut Research Institute Annual Compendium of Research Undertaken in Nunavut?

XYES ☐ **NO**

3. In addition to the application form, applicants are required to submit additional information in an electronic format to the Manager, Research Liaison, cfilion@nac.nu.ca. Please check that the following have been submitted to NRI:

[x] **Project Summary** -in English and Inuktitut (+Inuinnaqtun, if in the Kitikmeot)
[x] **NTS Maps** of the project

Applicant:

Signature | Professor (Title) | Feb 8, 2013 (Date)