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.*

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.
All documents should be uploaded in the following formats: MS Word, Adobe PDF or jpeg.

SECTION 1: APPLICANT INFORMATION

1a. Project Title HAUGHTON-MARS PROJECT (HMP)

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: 0203209R-M

Please indicate if applicant has submitted any previous application(s) to NIRB related to this project proposal? Yes (x) No ( )

If yes, please indicate the previous NIRB licence number(s): via NRI Application

2. Applicant's full name and mailing address:

Dr Pascal Clayton-Clyde LEE
Mars Institute, NASA ARC, MS 245-3
Moffett Field, CA 94035-1000, USA

Phone: 408-687-7103
Fax: 650-604-6779
Email: pascal.lee@marsinstitute.net

3. Field Supervisor's name and mailing address:

Dr Pascal Clayton-Clyde LEE
Mars Institute, NASA ARC, MS 245-3
Moffett Field, CA 94035-1000, USA

Phone: 408-687-7103
Fax: 650-604-6779
Email: pascal.lee@marsinstitute.net

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

Ms. Kira Lorber, HMP Logistics Manager
Mr. John Schutt, HMP Base Camp Manager
Mr. Marc Boucher, CEO, Mars Institute
Dr Steve Braham, HMP Chief Field Engineer

SECTION 2: AUTHORIZATION NEEDED

1. Indicate all authorizations associated with the project proposal:

[ ]	Regional Inuit Association (RIA)	[ ]	Canadian Launch Safety (CLS)
[x]	Nunavut Water Board (NWB)	[ ]	Environment Canada (EC)
[x]	Nunavut Planning Commission (NPC)	[ ]	Department of Environment (GN)
[x]	Department of Indian And Northern Development (DIAND)	[ ]	Department of National Defense (DND)

[ ]	Department of Fisheries and Oceans (DFO)	[ ]	Hamlet
[ ]	Community Government & Services (CG&S)	[ ]	Parks Canada (PC)
[x]	Nunavut Research Institute (NRI/GN)	[ ]	Canadian Wildlife Service (CWS)
[ ]	Department of Culture, Language, Elders, and Youth (CLEY/GN)	[ ]	Other (please specify): ____

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

Permit:	Expiry Date
INAC Nunavut Land Lease 58H/7-1-2	31 May 2018
____	____

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

(x) Yes ( ) No

SECTION 3: PROJECT PROPOSAL DESCRIPTION

1. Indicate the activities related to the project proposal:

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

[ ] Other: ____

2. Personnel

Total No. of personnel on site = (A)	Total No. of days on-site = (B)	Total No. of Person days (A) Ã— (B) =
Average: 25 (Max 39)	40 days	1000 person-days

3. Timing

Period of operation:	1 July	to 31 August
Proposed term of authorization:	2010	to 2013

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

Annual research project with no phasing.
Existing Haughton-Mars Proejct Research Station (HMPRS) not expected to grow significantly in size.

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 Nr.	Land Status Crown, Commissionersâ€™, Inuit Owned
Haughton Crater	Devon Island, N. Baffin	75 26 N, 089 52 W	58H/7	Crown (IOL GF-64 nearby)
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

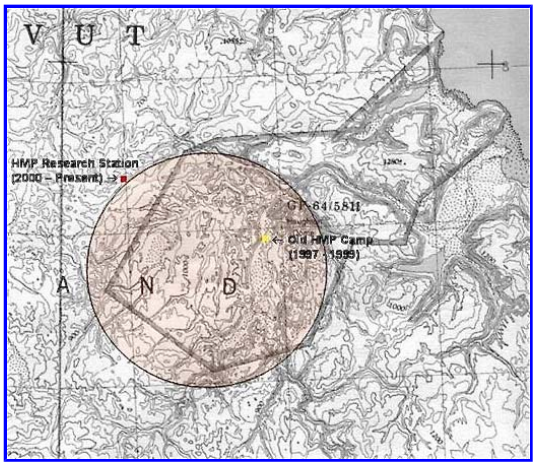
If the project proposal includes a **camp**, please provide the coordinates of the camp location

Lat (degree/minute) 75 25.946 N **Long** (degree/minute) 089 51.774 W

NTS Map Sheet Nr. (if different from above) Same as above

Please attach maps (preferably 1:250,000 scale) which clearly indicate camp sites and research sites. PDF, jpeg or tiff versions are requested.

Frm634121006565612500land-Haughton Crater Area Topo Map 58H.tiff



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?

Frm634121006565768750land-HMP Gen Project Summary - English.doc

Frm634121006565768750land-HMP Gen Project Summary - Inuktitut.doc

Frm634121006565768750land-HMP Details Appendix.docx

SECTION 5: MATERIAL USE

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

Equipment type and number	Size â€“ dimensions	Proposed use
Aircraft	Twin Otter, Helicopter	Personnel and cargo transport
Land vehicles	ATVs	Personnel and cargo transport
———	Humvee (2)	Moon/Mars Rover simulators
———	Robotic rovers	Moon/Mars rover prototypes
Drill	5 m class (no chemicals)	Moon/Mars drill prototype
Water pump	5 hp	Water supply to base camp.

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	15 drums (55 gal/ea)	~3000 litres	Sealed drums at airstrip
Gasoline	15 drums (55 gal/ea)	~3000 litres	Sealed drums at airstrip
Aviation fuel	15 drums (55 gal/ea)	~3000 litres	Sealed drums at airstrip
Propane	20 bottles (200 lbs/ea)	~4000 lbs	Propane bottles
Other	____	____	____
Hazardous Materials and Chemicals		**Total Amount of Hazardous Materials and Chemicals (in Litres)**	
None	N/A	N/A	N/A
____	____	____	____
____	____	____	____

3. Detail daily water consumption rates

Daily amount (in Litres)	Proposed water retrieval methods	Proposed water retrieval location
Less than 1000 litres/day	Water pump + 200 m water line.	____

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

(x) YES ( ) NO

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)	30 kg/day	Incineration	____
Greywater	1000 litres/day	Sump	____
Combustible wastes	10 kg/day	Incineration	____
Non-Combustible wastes	10 kg/day	Airlift	Resolute Bay landfill
Overburden (organic soil, waste material, tailings)	N/A	____	____
Hazardous waste	N/A	____	____
Other:	____	____	____

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

(x) YES ( ) 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:

Minute	____	____	____
Community	**Name**	**Organization**	**Date Contacted**
Grise Fiord	Laisa Watsko	CLARC Liaison Officer	April 2010
____	____	____	____
____	____	____	____

2. How will the proposed project benefit Nunavut? Will your project provide local employment or training opportunities? Please specify.

The HMP has received worldwide positive attention (TV documentaries, press, other media) that helps Nunavut.

The project helps understand the geologic history of Nunavut and attracts global attention on Nunavut Mars-like lands. The project employs students and adults each Summer from both Grise Fiord and Resolute Bay.

3. Please describe the nature of local services and/or logistic support that will be required from local communities, eg. Equipment, accommodations, outfitting, translations...

Participants in the HMP stay at Coop Hotels and hire services from local communities, in particular for
field safety and wildlife preservation.

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

Frm634121025591706250land-HMP Waste Disposal Res Bay Hamlet Letter.doc

The Haughton-Mars Project has received the support of Nunavut communities since its beginning in 1997.
The project consults with local communities (particularly Grise Fiord and Resolute Bay) regarding its findings and any changes.

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

Expertise from local communities on the land and its wildlife is desired. Adults hired from either Grise Fiord
or Resolute Bay provide this expertise.

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?

(x) YES ( ) NO

2. Is the proposed research associated with International Polar Year (IPY)?

( ) YES (x) NO

Applicant:

Dr Pascal Lee	Director, Haughton-Mars Project	10 June 2010
Signature	Title	Date

P.O. Box 1720 Iqaluit, NU, X0A 0H0 • PHONE: 867-979-7279 • FAX: 867-979-7109 • email mosha.cote@arcticcollege.ca