Nunavut Research Institute
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SCIENTIFIC RESEARCH LICENCE APPLICATION
(Land, Freshwater & Marine Based Research)

SECTION 1: APPLICANT INFORMATION

1. Applicant Information	
Applicant's full name, title, and mailing address.	Dr. Robert Zubrin Mars Society Box 273 Indian Hills, CO 80454
Fax:	303-980-0753
Phone:	303-980-0890
Email:	zubrin@aol.com
2. Supervisor Information	
Field Supervisor (address, if different from above)	Robert Zubrin
Phone, (radio or otherwise)	303-980-0890
3. Other Personnel	
List name and position.	Tony Muscatello engineer Shannon Rupert Robles biologist Jen Heldman geologist Jan Osberg engineer Markus Landgraf physicist Mark Berggren geologist
Total # of personnel:	7
Total # of person days:	210

SECTION 2: AUTHORIZATION NEEDED

4. Authorization Contacts	
List the organizations you will contact for necessary authorizations associated with the project:	Land administration, for Land Use permit Qikiqtani Inuit Association (QIA) Lands Administration for Inuit owned Land access. Nunavut water board
5. Authorization	
List the active permits, licences, or rights related to the project and their expiry date:	Land Use Permit # N2003J0001 expires June 21, 2005. We have applied for an extension. Scientific Research License # 0201604R-M. Expires Dec. 31, 2004. This is our application for a new permit. Nunavut Water Board License No. NWB6MAR0305. Expires Dec. 31, 2005.

SECTION 3: PROJECT PROPOSAL DESCRIPTION

6. Project Duration:	July 1st
Period of operation:	June 1, 2005 - August 30, 2006
Proposed term of permit:	~~June~~ July 1, 2005 - May 31, 2006
Project Title:	Flashline Mars Arctic Research Station

7. Location(s) of data collection:

Location Name	Region	Latitude	Longitude	NTS Map	Land Status
Haughton Crater	Devon Island	75 deg, 26'	89 deg, 50'	58H	Crown land

NON-TECHNICAL PROJECT PROPOSAL SUMMARY

8. Non-Technical Project Proposal Summary	

SECTION 4: MATERIAL USE

9. List

equipment (including drills, pumps, aircrafts, etc.)

Equipment Type and Number	Size-dimensions	Proposed Use
Chartered airplane flights ~10	Twin Otter	passenger & cargo transport (Resolute Bay to Devon)
1 person All Terrain Vehicles ~5	250 cc ATVs	transportation on Devon Island
Generators (3)	(2) 5 kW diesel, (1) 2 kW gasoline	power supplies
-	-	
-	-	-
-	-	-

10. Detail fuel and hazardous materials use

Fuels	Number of Containers	Capacity (gal/litres)
Diesel	8 drums	55 gallon
Gasoline	6 drums	55 gallons
Aviation Fuel	-	-
Propane	5 bottles	10 gallon
Other	-	-
Hazardous Materials	**Number of Containers**	**Capacity (gal/litres)**
-	-	-
		-
-	-	-
Describe method of fuel transfer	Hand operated pumps for ATV and generator fueling (gasoline and diesel) Funnels, spouts, and/or direct lines are used in all fuel transfer to avoid any spills.	

11. Spill Contingency Plan

Describe any procedures and materials in place to handle	

accidental spills. Please fax or mail your spill contingency plan and other appropriate information about the hazardous materials associated with the proposed project.	Two portable spill kits will be available at all times. All fueling operations will take place over impermeable fuel spill mats. We will stock less than 15 fuel drums on the site at any given time. As in previous years, we plan to fly in new drums only as needed and to fly out empty drums back to Resolute Bay for proper disposal.

SECTION 5: WASTE DISPOSAL AND TREATMENT FACILITIES

12. Describe amount and methods of disposal:

Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Sewage	~70 gallons	Incineration	Residue flown out to Resolute
Grey Water	~500 gallons	Filtering and Summping	Filtered residue incinerated
Garbage	~200 lbs	Incineration	Residue flown out to Resolute
Overburden	N/A		-
Hazardous Waste	N/A	-	-
Other	-	-	-

SECTION 6: RESTORATION AND ABANDONMENT PLANS

13. Site Restoration

Describe the proposed procedure for site restoration upon abandonment of any area associated with the project.	All project equipment and supplies of expired use will be flown out of the field site upon completion of the summer field season. The FMARS itself, project support gear, and some supplies will be left in place in anticipation of the following field season provided the winter over on Devon Island does not pose any hazard to the environment. A few safely sealed fuel drums will also be left in place in anticipation of the following field season.

SECTION 7. ENVIRONMENTAL IMPACT

14.

Indicate and describe the components of the environment that are near the project area, as applicable. Fax or mail any relevant maps or information.

Type of Species		Important Habitat Area	Critical Time Periods
Fish:	-	-	-
Caribou:	-	Lowell Oasis, 1 individual seen In 1998	-
Muskox:	-	Lowell Oasis, 3 *indiciduals seen in* 1998, 4 in 1999, 4 in 2000, non c since	-
Raptor:	-	-	-
Migratory Birds:	-	-	-
Waterfowl:	seagulls	2 live in Devo canyon	-
Seals:	-	-	-
Whales:	-	-	-
Narwhals:	-	-	-
Canid Family:	-	2 foxes observed in 2002	-
Bears:	-	1 polar bear seen 4 km east of the crater in 1999. It was not approached.	-
Eskers:	-	-	-
Communities:	-	-	-
Sites:	-	-	-

15.

Indicate and describe other known uses of the area such as local development, traditional use (hunting/fishing/spiritual), outfitting, tourism, mineral development, research, etc.	The same research area id being used by the Haughton mars project (HMP). All research activities will be conducted in a manner so as not to interfere with the research of others.

16.

Describe the impact of the proposed project activity on the environmental components and uses, in the area listed above.	The proposed project is not anticipated to adversely impact the field site or environment in any significant way. We will do not hunting. Note: It is in the central interest of the proposed research program that the field site and surrounding environment be preserved in their original "Mars-like" state.

17.

What are some suggested mitigation measures for these impacts?	Urine and the residue of incineration of garbage and human waste will be collected and flown back to Resolute Bay for proper disposal.

SECTION 8: COMMUNITY INVOLVEMENT AND REGIONAL BENEFITS

18.
Community Representatives

List the community representatives that you have contacted about this proposed project.

Community	Name	Organization	Date contacted	Means	Telephone	Fax
Resolute Bay	Aziz Kheraj	Mayor	July 2000, 2001, 2002, 2003, 2004	In person and by phone	867-252-3737	
Resolute Bay	George Eckalook, Paul Amarualik, Ralph Alexander, Mr. Kalluk	former mayor, Deputy Mayor, SAO, HTO	May-July 2000, phone discussions	Hamlet Council and HTO meeting in resolute Bay, c. 23 June 2000	867-252-3616, 867-252-3929	
Resolute Bay	George Eckalook, Paul Amarualik, Mr. and Mrs. Pudluk, Mr. Salluviniq, Simon idlout	former Mayor, Deputy Mayor, QIA rep.	May0.July 2000, phone contacts	One day visit to Haughton Crater in late July 2000	867-252-2616, 867-252-3929	
				Hamlet		

Grise Fiord	Lisa Ningiuk, Levi Killitki, Mardy Kuluguktuq	Mayor, SAO, HTO	May-July 2000, phone contacts	Council and HTO meetings in Grise Fiord on 26 and 27 June, 2000. Public meeting.	867-980-9959	-
Nunavut Communities	Salomonie Shu	QIA Lands Administrator	April-June 2003	phone	867-979-5391	-
Nunavut Communities	Joe Amarualik	QIA Lands Administrator	April-June 2004	phone	867-979-5391	-

10. Local Involvement	
Describe the level of involvement that the residents of Nunant have had with respect to the proposed project. Elaborate on local employment opportunity, local benefits, training programs (if applicable)	

11. Community Support	
Describe, and fax or mail documentation regarding community concerns or support for the proposed project.	Two portable spill kits will be available at all times. All fueling operations will take place over impermeable fuel spill mats. We will stock less than 15 fuel drums on the site at any given time. As in previous years, we plan to fly in new drums only as needed and to fly out empty drums back to Resolute Bay for proper disposal.

12. Traditional Knowledge	
Is there a Traditional Knowledge (TK) component to this research project?	

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