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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN

WATER LICENCE APPLICATION FORM

Application for: (check one)

_ _ New __ Amendment __X_Renewal ___Assignment

LICENCE NO:
(for NWB use only)

1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE

Mars Society
11111 W. 8th Ave, unit A
Lakewood, CO 80215
Attn: Dr. Robert Zubrin, President

Phone:____303-980-0890_____
Fax: ____303-980-0753_____
e-mail: _____Zubrin@aol.com_____

2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)

Phone:_____
Fax: _____
e-mail: _____

3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking)

Latitude:___75 degrees 26' N_Longitude:___89 degrees 50 ' W___NTS Map No.___58 H___ Scale____1/50,000_

4. DESCRIPTION OF UNDERTAKING (attach plans and drawings)

The Flashline Mars Arctic Research Station is an 8 m diameter, 8 m tall fiberglass cylinder which simulates the crew module that might be used on a human mars mission. It houses a crew of up to seven people. During the summer, this crew attempts to conduct geologic and microbiological field exploration of the surrounding area while operating under many of the same constraints as would be faced by a human crew on Mars. The purpose of this activity is to learn what field exploration strategies would be most effective on Mars.

5. TYPE OF UNDERTAKING (A supplementary questionnaire must be submitted with the application for undertakings listed in **"bold"**)

__ Industrial
__ **Mine Development**
__ **Advanced Exploration**
__ **Exploratory Drilling**
__ **Remote/Tourism Camps**
__ **Municipal**
__ Power
__X Other (describe): ___Scientific, see part 4. _____

6. WATER USE

_X_ To obtain water
__ To modify the bed or bank of a watercourse
__ To alter the flow of , or store, water
__ To cross a watercourse
__ To divert a watercourse
__ Flood control
__ Other (describe): _____

7. QUANTITY OF WATER INVOLVED (litres per second**,** litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

150 liters per day. This water will be taken from a creek located 300 meters northwest of the station. No water will be returned to the source. The station is located on a ridge, and our gray water is discharged under rooks on the slope southeast of the station. We have no black water waste, since all solid waste is incinerated and urine is stored and returned to Resolute Bay for proper disposal.

8. WASTE (for each type of waste describe: composition, quantity, methods of treatment and disposal, etc.)
The station is located on a ridge, and our gray water is discharged under rocks on the slope southeast of the station, which is the direction opposite the creek located 300 m to the northwest from which we draw water. We have no black water waste, since all solid waste is incinerated and urine is stored and returned to Resolute Bay for proper disposal.

__ Sewage
_X_ Solid Waste
__ Hazardous
__ Bulky Items/Scrap Metal
__ Waste oil
_X_ Greywater
__ Sludges
___ Other (describe):_____

9. PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (give name, mailing address and location; attach if necessary)

Land Use Permit

DIAND Permit N2003J0001 __X Yes __ No If no, date expected _____
Regional Inuit Association __ Yes __ No If no, date expected _____
Commissioner __ Yes __ No If no, date expected _____

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES (direct, indirect, cumulative impacts, etc.)

NIRB Screening __X Yes __ No If no, date expected _____

11. INUIT WATER RIGHTS

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement? **NO**

11. (Continued)

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

12. **CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions) **South Camp Inn Enterprises, PO Box 200, Resolute Bay, NU X0A 0V0 Arranges logistics support.**

13. **STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

V. Pletser, P. Lognonne, M. Diament, V. Ballu, V. Dehant, P. Lee, and R. Zubrin, "Subsurface Water Detection on Mars by Active Seismology: Simulation at the Mars Society Arctic research Station," Conference on the Geophysical Detection of Water on Mars, 2001.

R. Zubrin, "The Flashline Mars Arctic Research Station: Dispatches from the First Year's Mission Simulation," AIAA 2002-0993 40th AIAA Aeropace sciences Meeting and Exhibit, Reno, NV January 14-17, 2002

V. Pletser, R. Zubrin, and K. Quinn, "Simulation of Martian EVA at the Mars Society Arctic Research Station," presented to World Space Congress, Houston, Texas, October, 2002. (attached)

R. Zubrin, "Mars on Earth," Tarcher Penguin, New York, 2003 (book)

W. J. Clancey "Principles for integrating Mars Analog Science, Operations, and Technology Research," Workshop on analog Sites and Facilties for the Human Exploration of the Moon and Mars," Colorado School of Mines, Golden, CO May 21-23, 2003

L. Wynn et al, "The Geophysical Study of an Earth Impact Crater as an Analogue for Studying Martian Impact Craters," On to Mars 2, Frank Crossman and R. Zubrin editors, Apogee Publishers, Burlington, Ontario, 2005

S. Sklar and S. Rupert, "A Field Methodoloy Approach Between and Earth Based Remote Science Team and a Planetary-Based Field Crew," AAS 06-260, Mars Analog research, edited by Jonathan Clarke, Univelt, San Diego, 2006.

14. THE FOLLOWING DOCUMENTS <u>MUST</u> BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire (where applicable: see section 5) __ Yes __ No If no, date expected _____

Inuktitut/English Summary of Project _X_ Yes __ No If no, date expected _____

Application fee $30.00 (c/o of Receiver General for Canada) X__ Yes __No If no, date expected

15. PROPOSED TIME SCHEDULE

__ Annual (or) _X_ Multi Year

Start Date: April 1, 2007 Completion Date: September 30, 2009

Name (Print)	Title (Print)	Signature	Date

For Nunavut Water Board use only

APPLICATION FEE **Amount: $_____** **Receipt No.:**

WATER USE DEPOSIT **Amount: $_____** **Receipt No.:**