STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER

LAND USE PERMIT APPLICATION
AS 38.05.850

Applicants must complete all sections of this application. In addition, applicants proposing:

- the use of the uplands and non marine waters must also complete the Supplemental Questionnaire for Use of Uplands and Non Marine Waters accompanying this application;
- off-road travel must also complete the Supplemental Questionnaire for Off-Road Travel accompanying this application; and/or
- the use of tide and submerged lands must also complete the Supplemental Questionnaire for Use of Marine Waters accompanying this application.

Other items that must accompany the completed application are:

- **a (non-refundable)** $100 application filing fee;
- a 1:250,000 or 1:63,360 scale USGS map showing the location of the proposed activity;
- additional items identified and required in any supplemental questionnaire(s) to this application; and
- additional pages if more space is necessary to answer the questions completely.

Completed Land Use Permit Applications should be mailed to one of the following offices:

Public Information Center
550 W. 7th Ave, Suite 1260
Anchorage, AK 99501
(907) 269-8400

Public Information Center
3700 Airport Way
Fairbanks, AK 99709
(907) 451-2705

MLW Information Office
P.O. Box 111020
Juneau, AK 99811-1020
(907) 465-3400

LAS # _____

Applicant Information:

Arctic LTER Project, Woods Hole Marine Biological Laboratory ("MBL") (CID 33740)
Applicant Name — Date of Birth

Toolik Field Station, AK — Gaius R. Shaver — 04-2104690
Doing Business As — Contact Person — EIN

MBL, 7 MBL St, Woods Hole, MA 02543 — gshaver@mbl.edu
Mailing Address with City, State and Zip — Email Address

( ) Home Phone — (508)289-7492 Work Phone — ( ) Cell Phone — (508)457-1548 FAX

If you are applying for a corporation, give the following information:

Name, address and place of incorporation: _____

Is the corporation qualified to do business in Alaska? **Yes [ ] No [ ]. If yes**, provide name, address and phone number of resident agent: _____

Type of User, Select one: [ ] Private non-commercial (personal use) [ ] Commercial Recreation or Tourism

[X] Public Non-profit including Federal, State, Municipal Government Agency [ ] Other commercial or industrial

Duration of Project: The proposed activity will require the use of state land for: **(Check one)**

[ ] a single term of less than one year. **Beginning month:** _____ **Ending month:** _____

[X] a multi year term for up to 5 years. **Beginning year:** 2016 **Ending year:** 2026

If multi year and seasonal, circle months of use in each year. **Jan., Feb., Mar., Apr., May, Jun., Jul., Aug., Sept., Oct., Nov., Dec.**

Project Location Northern Limit: 69 deg 27'N Eastern Limit: 150 deg 7'W
Southern Limit: 68 deg 51'N Western Limit 151 deg 8'W

Latitude/Longitude or UTM: _____ or

_____ Section: 11, Township: 1N, Range: 4E, Meridian: U

(The spaces below are to be used if the boundaries of the proposed project cross section lines.)

_____ Section: 10, Township: 1S, Range: 4E, Meridian: U

_____ Section: _____, Township: _____, Range: _____, Meridian: _____

Proposed project will require the use of up to Less than 5 acres within a 257,000 acre area (401 square miles) acres. (Add additional sheets as necessary)

Project Description - Describe in detail your intended use of state land. (State land also includes all tide and submerged lands beneath coastal waters and all shorelands beneath other navigable water bodies of the state.) Discuss development and activities. (Attach additional pages as necessary.)

This is a research project funded by the US National Science Foundation. The aim of the project is to describe the impacts and recovery of the 2007 Anaktuvuk River Burn, and to monitor ecological changes during recovery. The research is accomplished by occasional collection of soil, plant, and water samples, and by deploying automated samplers, data loggers, and micrometeorological towers for monitoring of carbon, water and energy exchanges. This work is a continuation of research begun in 2008 under permit #LAS6840

Should a portion of the permitted area be closed to the general public? **Yes** [ ] **No** [X] **If yes**, explain which portion and provide justification for exclusive use:

Site Description - Briefly describe the current condition of the proposed site of use, noting any trash, garbage, debris or signs of possible site contamination (If significant, we recommend you provide pictures to establish initial conditions):

The entire area (401 square miles) was burned in a wildfire in 2007. The area is otherwise pristine North Slope tundra, lakes, and streams except for some past resource exploration activities (winter trails shown on USGS topo maps) and subsistence hunting and fishing. The nearest permanent structures are at Umiat and Toolik Lake, both >20 miles away from the site.

Are there improvements or materials on the site now? **Yes** [ ] **No** [ ] **If yes**, briefly describe the improvements, their approximate value, and who owns them (We recommend you provide pictures of improvements):

Three meteorological stations have been on the site year-round since June 2008, and 2-4 data loggers and other environmental monitoring equipment are left over winter each year. Additional hand-held and battery- or human-powered monitoring and sampling equipment operated at 3-5 sites during each summer.

Site Description continued - Describe the natural vegetation --- ground cover, trees, shrubs --- and any proposed changes. Describe the location of any estuarine, riparian, or wetlands and any noticeable animal use of area.

Natural vegetation is moist, wet, and dry tundra typical of the North Slope of Alaska. The area is bordered on the E and W sides by the Nanushuk and Itkillik Rivers and includes several 1st- 3rd order catchments as well as several dozen lakes and ponds of varying areas.

Site Access - Describe how you plan to access the site, and your mode of transportation.

Access will be by helicopter, usually from the University of Alaska's Toolik Field Station and occasionally from Umiat. Small planes equipped with skis or floats may also be used (there are no improved landing sites in the area).

If your access is by aircraft, specify the type and size of aircraft: _____

To access the site, the aircraft is equipped with **floats [ ] wheels [ ] skis [ ]**.

Number of people

1. Indicate the number of employees and supervisors who will be working on the site. 2-12 daily in summer months
2. Indicate the number of customers who will be using the site per year or season. none; NO commercial activity
3. Indicate the number of days the site will be used per year or season. Approximately 20-50 days/year, April-October

Environmental Risk / Hazardous Substances - In the course of your proposed activity will you generate, use, store, transport, dispose of, or otherwise come in contact with toxic and/or hazardous materials, and/or hydrocarbons? **Yes[ ] No[ ]. If yes,** please describe:

Lead-acid car batteries may be used to power met stations when solar panels are insufficient; batteries will be stored in plastic dishpans to contain acid spills.

The types and volumes of fuel or other hazardous substances present or proposed: _____

NO fuel storage on site

The specific storage location(s): Helicopter will refuel at Toolik Lake, Galbraith Lake, or Umiat; batteries will be stored in plastic dishpans on wooden pallets on site and removed at end of summer

The spill plan and prevention methods: Battery spill cleanup kits will be kept with batteries; any used cleanup materials will be removed by helicopter to Toolik Field Station for disposal

Environmental Risk/Hazardous Substances (continued) - If you plan to use either above or below ground storage containers (like tanks, drums, or other containers) for hazardous material storage, answer the following questions for each container:

Where will the container be located? All hazardous waste will be removed immediately for disposal at Toolik Field Station; NO onsite storage.

What will be stored in the container? _____

What will be the container's size in gallons? _____

Give a description of any secondary containment structure, including volume in gallons, the type of lining material, and configuration:

Will the container be tested for leaks? **Yes[ ] No[ ]**

Will the container be equipped with leak detection devices? **Yes[ ] No[ ]. If no**, describe: _____

Do you have any reason to suspect, or do you know if the site may have been previously contaminated? **Yes[ ] No[ ]. If yes**, please explain:

Date Stamp: 21 Apr 2016

Gaius R Shaver Senior Scientist, MBL

Signature of Applicant or Authorized Representative Title

AS 38.05.035(a) authorizes the director to decide what information is needed to process an application for the sale or use of state land and resources. This information is made part of the state public record and becomes public information under AS 09.25.110 and 09.25.120 (unless the information qualifies for confidentiality under AS 38.05.035(a)(9) and confidentiality is requested.) Public information is open to inspection by you or any member of the public. A person who is the subject of the information may challenge its accuracy or completeness under AS 44.99.310, by giving a written description of the challenged information, the changes needed to correct it, and a name and address where the person can be reached. False statements made in an application for a benefit is punishable under AS 11.56.210.