FACILITIES AND SERVICES MANUAL

for the

1994 LAND, ATMOSPHERE, AND ICE INTERACTIONS FLUX STUDY



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I. INTRODUCTION

The Polar Ice Coring Office (PICO) at the University of Alaska Fairbanks (UAF) has been tasked by the National Science Foundation (NSF) to provide logistics support to the Land, Atmosphere, and Ice Interactions Flux Study during the 1994 summer season. Some logistics activities have already been funded and coordinated individually. PICO was tasked to establish a camp at Happy Valley, contract and coordinate helicopter services, and provide all non-funded logistics activities in Barrow and Prudhoe Bay.

This Facilities and Services Manual describes logistics support that PICO will provide during the 1994 LAII Flux Study. Updates to this manual will be made, and a new manual will be issued in 1995.

II. SUPPORT REQUESTS

The Principal Investigator (PI) is requested to provide the following information to PICO:

- 1. Principal Investigator's Name
- 2. Project Leader's Name (if other than PI)
- 3. Home Institution and Address
- 4. Phone Number and Fax Number
- 5. E-Mail Address
- 6. Roster of Project Participants
- 7. Social Security Number for Each Participant
- 8. Driver's License Number for Each Participant
- 9. Itinerary for Each Participant
- 10. User Days Requested at Each Site
- 11. Logistics Support Requirements

A Support Information Packet (SIP) will be developed for the 1995 season and will be distributed to all PIs in the fall of 1994. This SIP will provide the inquiries necessary to develop a logistics support plan and budget.

III. PERMITS

PICO will obtain all necessary federal and state permits for your project. It is critical to remember that obtaining permits is a lengthy process. Permit applications should be submitted no later than six months prior to the start date of a project. A longer lead time is desirable. New legislation has extended several of the public notice time lines, sometimes tripling the time it takes to obtain a permit. If you are aware of your permitting requirements for the 1995 summer season now, please submit the information to PICO.

Permits may be required from all or some of the following agencies:

- 1. State of Alaska, Department of Natural Resources
- 2. State of Alaska, Department of Environmental Conservation
- 3. Bureau of Land Management
- 4. North Slope Borough
- 5. State of Alaska, Department of Transportation
- 6. Alyeska Pipeline Service Company
- 7. British Petroleum (BP)
- 8. Atlantic Richfield Company (ARCO)

Land-Use Permits:

The following information should be provided to PICO within six months of the start date of the project. If you are unsure of how to prepare this information, we will be pleased to assist you.

- 1. Legal description of project work site to include township, range, section, and meridian.
- 2. Summary of the research objectives.
- 3. Detailed description of activities taking place at the site.
- 4. Summary of perceived impact to the environment.
- 5. Any drawings or specifications of equipment and/or facilities being used at the site.
- 6. Potable water plan.
- 7. Waste water plan.
- 8. Start date of project.
- 9. End date of project.
- 10. List of hazardous materials you intend to store/use/transport during research activities at the site.

Vehicle-Use Permits:

If you are traveling on the Dalton Highway in a vehicle, you are required to obtain a vehicleuse permit. You are requested to provide PICO with the following vehicle information at least seven days prior to departure:

- 1. Make
- 2. Model
- 3. Year
- 4. Color
- 5. License Plate Number

Alyeska Letter of Non-Objection:

If you are accessing property of Alyeska Pipeline Services Company, you will be required to obtain a letter of non-objection. You are requested to provide PICO within six months of the start date the same information as requested for a land-use permit. Once the letter of non-objection is received, you will be required to obtain keys for the access gates and to report to Alyeska Security as outlined in the letter of non-objection.

IV. HAPPY VALLEY CAMP

A portable camp has been established at Milepost 335.5 of the Dalton Highway for the 1994 summer season. The camp is currently capable of supporting a camp load of 20 personnel and is equipped with the following facilities:

Kitchen/Dining WeatherPort:

This building is an 18' x 25' portable structure with a shape similar to an Army Quonset hut but with straighter walls to give more headroom at the outside edges. Three meals per day will be served: hot and cold breakfast, sack lunch, and hot dinner. A sandwich bar (spike table) will be set up each morning during breakfast so that each individual can prepare a sack lunch for the day.

Lab WeatherPort:

This WeatherPort is an 18' x 25' portable heated structure equipped with six tables, several chairs, four desk lamps, four uninterrupted power supply plug-ins for computers and sensitive electronic equipment, and two protected power plug-ins (110 v AC, 20 amp).

Berthing:

Sleeping quarters consist of 8' x 8' arctic oven tents with two people per tent during peak camp loads. Cots will be provided. It is the user's responsibility to provide a sleeping bag and pillow. Additional provisions are available for any personnel staying longer than 30 consecutive days.

Bath House:

This is an 8' x 8' structure with one shower and two sinks. Organic soaps and shampoos are provided for all users and must be used due to permit requirements. Personnel may shower every three days. During peak camp loads, a schedule for showers will be posted daily.

Camp Power Supply:

The camp will be powered during the day and will be shut off in the evening depending on users' needs. A 12 kW Lister generator will be the main source of power at camp during the peak camp load periods. A 6.5 kW Onan generator will be used as a backup and during the low-use periods at camp.

Helicopter Landing Pad:

A helicopter will be stationed at the camp from June 20 to August 4. See Section VII for further information.

Fuel Storage Site:

A fuel storage site containing diesel, gasoline, and jet-A will be present at the camp and available for use.

Firearms:

The camp is equipped with a Remington 12-gauge shotgun for emergency bear protection. It is stored in a central location under the direction of PICO camp staff. Residents are required to inform the Camp Coordinator of all firearms brought to the camp and their storage location.

Bear Protection:

Pepper spray will be provided to each camp member upon request. This spray should remain with you at all times. All garbage and food must be kept in the kitchen/dining WeatherPort until burned in the burn barrel. No food is allowed in your tent.

Remember:

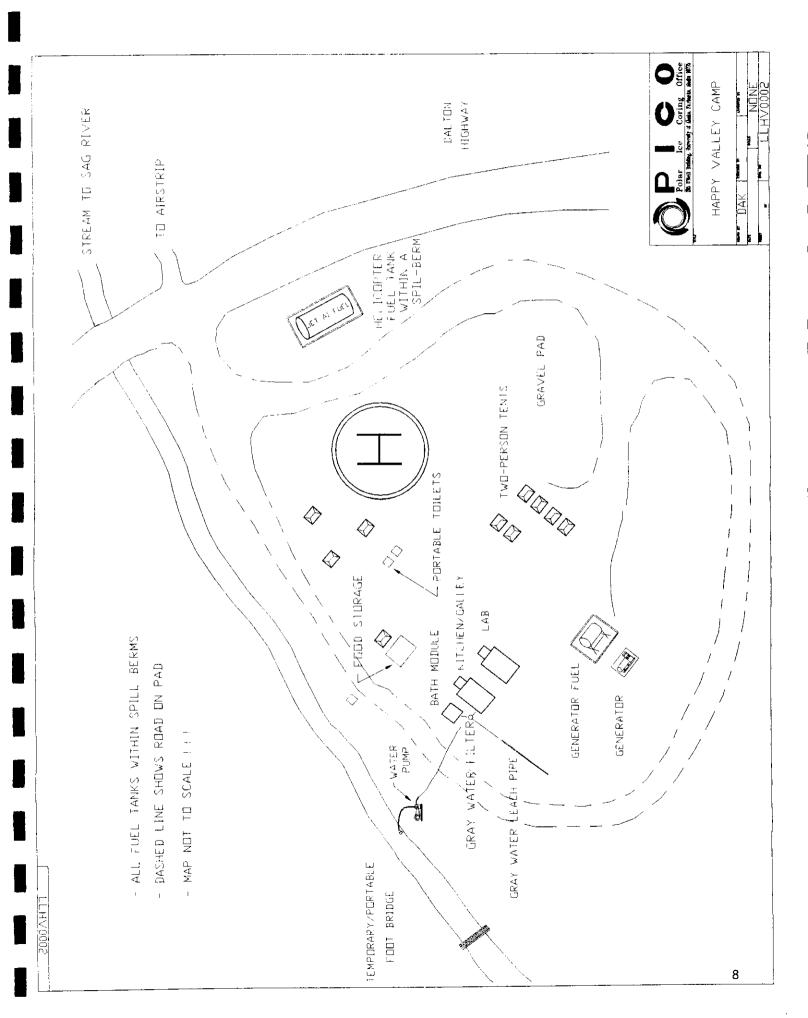
- Bears are attracted to food odors. Do not leave food or garbage around; it may attract bears or other wildlife.
- Never feed wildlife.
- Watch for bears when working outside.
- Scan the surrounding area upon leaving facilities or vehicles. Check the area for signs of bear (i.e., paw prints, fecal matter).
- The best response when you see a bear is to move to a safe location as calmly and quickly as possible.
- Never approach a bear. Report any sightings of bears to the Camp Coordinator.

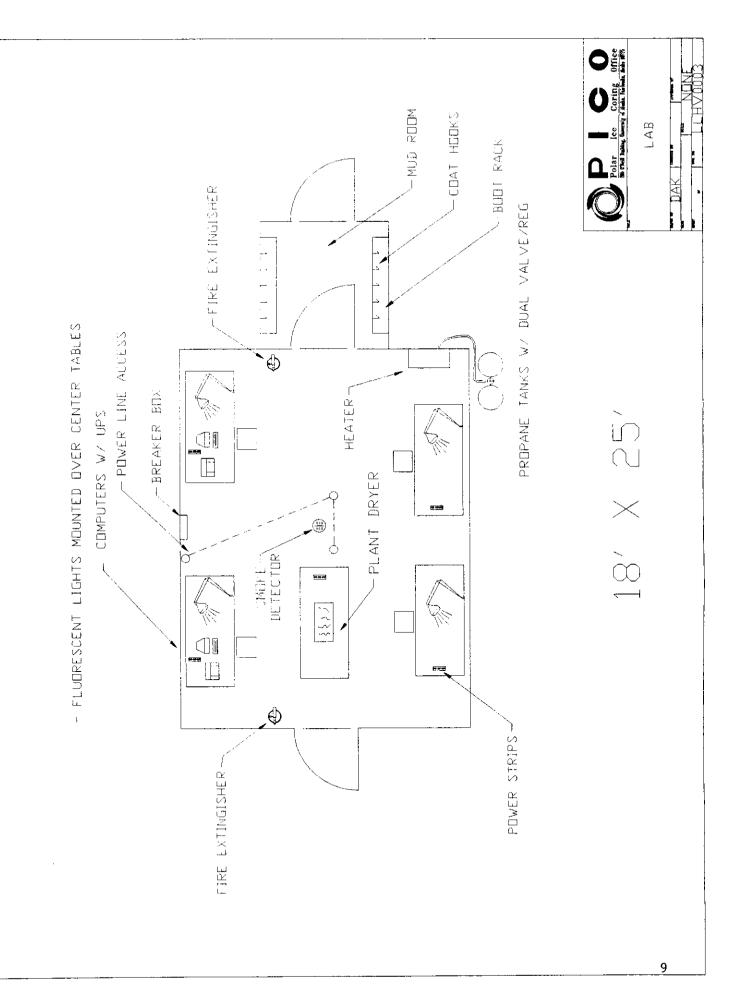
Drug-Free Workplace:

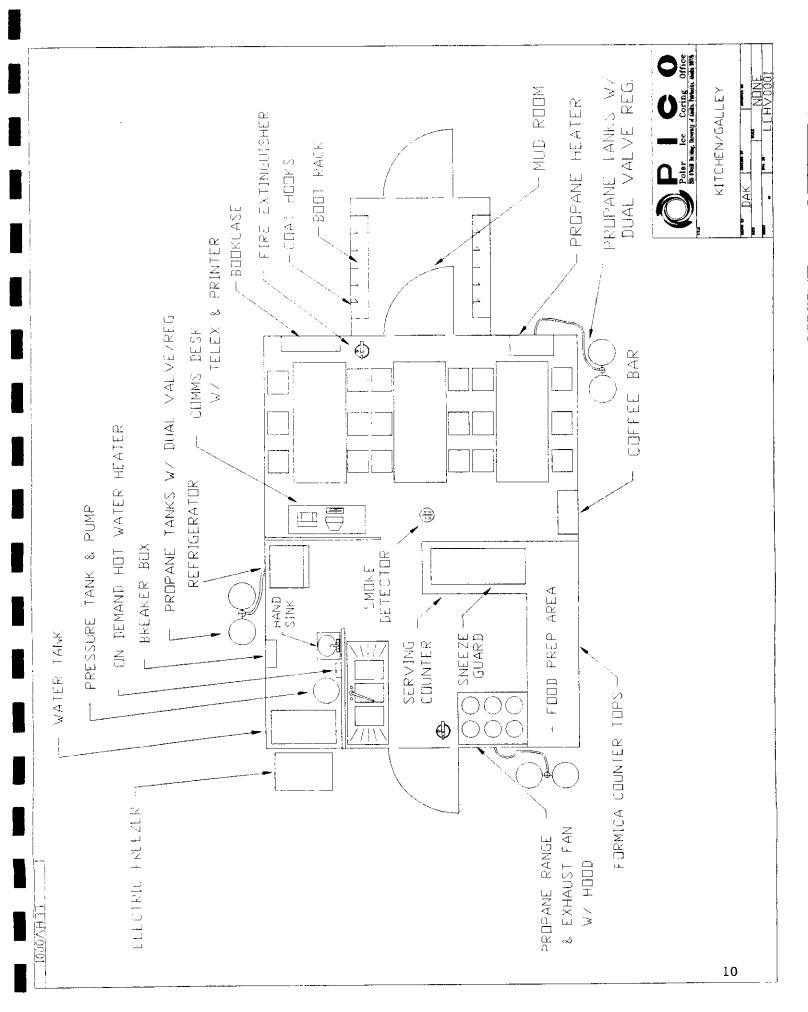
Happy Valley Camp is a dry camp, and no alcohol or drugs will be permitted. The University of Alaska Regents' Policy 04.10.09 is currently being reviewed, and the alcohol policy will be forwarded in the future.

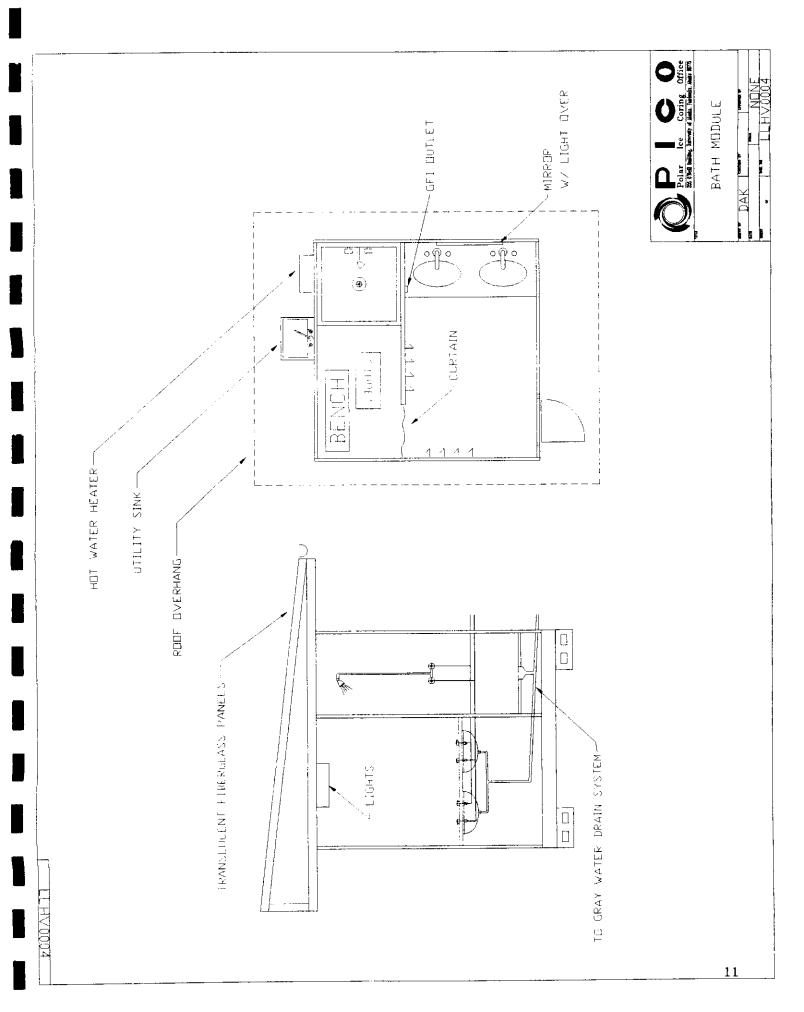
Hazardous Materials:

Anyone bringing hazardous materials to camp must notify PICO at UAF and provide the Camp Coordinator with a materials safety data sheet (MSDS) for each hazardous material.









V. PRUDHOE BAY

Lodging:

A contract has been established with the North Slope Borough Service Area 10 to provide all meals and lodging for LAII Flux Study participants. Any overflow will be housed at the Prudhoe Bay Hotel. The North Star Inn is no longer operating.

Service Area 10

Phone: (907) 659-0102 Fax: (907) 659-2454

PICO will handle all reservations and billings. Upon check-in, the user will advise the receptionist that invoicing should be sent to PICO. Once you are checked in, and if changes need to be made with your reservations, make all necessary changes with Service Area 10 and notify PICO of any such changes.

Security:

If you are participating at sites in the Prudhoe Bay area, you will be required to obtain a security badge from British Petroleum (BP) and the Atlantic Richfield Company (ARCO). You are required to provide PICO with the following information on each participant prior to arrival at Prudhoe Bay:

- 1. Name
- 2. Social security number
- 3. Driver's license number
- 4. Duration of stay

Each participant is required to follow the check-in/check-out procedures on a daily basis. PICO will supply BP and ARCO with the names, social security numbers, and driver's license numbers of all Prudhoe Bay site participants.

Each PI will need to provide a work plan to include the dates and location of activity in the Prudhoe Bay area. The work plan should contain an objective, initial setup plan, time frame, explanation of type of measurements being done, and cleanup plan. It should also be of sufficient detail so that BP and/or ARCO can determine how and when you will interface with other researchers on the LAII project and can meet your need for a radio and H2S monitor. An effort should be made to coordinate your activities to consolidate trips and vehicles entering the field when possible. However, a separate radio and H2S monitor will be required for each vehicle.

In addition to PICO, the above information should be provided to:

Ms. Ki Bradley

BP Environmental Summer Logistics

Phone: (907) 659-4813

Beeper: (907) 659-4236; enter 595 when prompted

Fax: (907) 659-4163

Ki Bradley will arrange for you to pass through the BP checkpoint. You should then proceed to Base Operations Camp (BOC) to obtain your security badge and arrange for a radio and H2S monitor if necessary.

If you are in the Prudhoe Bay industrial area for OVER SIX DAYS: The first Saturday that you are at Prudhoe Bay, you are required to attend a mandatory safety seminar at BOC from 7:00 a.m. until 3:30 p.m. If this is not done, your badge will be confiscated at the security checkpoint.

If you are in the Prudhoe Bay industrial area for SIX DAYS OR LESS: You are not required to obtain a security badge or attend the safety seminar. However, you will need to check in with Prudhoe Bay Security on a daily basis and must have picture identification for each check-in. Make sure you let Prudhoe Bay Security know that you are a short-term visitor (six days or less) and that you do not require a badge.

If for some reason you are issued a badge and you are there over a Saturday (when the safety seminar is given), you will be expected to attend the safety seminar. If you do not, your badge will be immediately confiscated and you will be denied access. In summary, if you plan to be in Prudhoe Bay for six days or less, have a picture ID with you at all times and do not obtain a badge.

Procedures for Entering the Field:

Between 5:30 a.m. and 7:00 p.m., stop by the Field Operations Center (FOC) and fill out the requisite form with Mike Suttles or Greg Nore (659-4678). This form will cover you and all those you indicate in that day's work plan for a 24-hour period. All arrivals and departures from the U-Pad test site for that particular day are then to be radioed to FOC using an operations radio.

Note: FOC is particularly busy in the morning from 6:00 until 8:30, so anticipate having to wait if you arrive during this time period.

Communications:

Two cellular phones are available for communications between parties at research sites and Service Area 10. These telephones are available for local calls only. Any long-distance calls must be made through the operator using a phone card. These phones have been issued to Dr. Oechel's group for the use of all LAII Flux PIs in Prudhoe Bay.

Vehicles:

You will need to report any personal or rental vehicles that will be on site. Provide Ki Bradley of BP with your vehicle description and plate number. She will then provide you with a placard to place inside of the vehicle.

Ms. Ki Bradley

BP Environmental Summer Logistics

Phone: (907) 659-4813

Beeper: (907) 659-4236; enter 595 when prompted

Fax: (907) 659-4163

PICO has provided a Suburban for use by all LAII Flux PIs. This vehicle has been issued to Dr. Oechel's group, and all arrangements for use of this vehicle should be made with his representative.

Traffic Safety Rules:

- Observe all posted speed limits and regulatory signs.
- All passengers and drivers are required to wear seat belts and safety glasses.
- Drive with headlights on at all times.
- Yield right-of-way to emergency vehicles and over-width/height vehicles.
- The following speed limits have been established:
 - a. 45 mph on Spine Road.
 - b. 30 mph from BOC to the west side of the Main Construction Camp.

c. 15 mph on drill sites, warehouse pad, camps, parking lots, and when passing crews working on roadways and road maintenance equipment.

Note: Other speed limits may be posted and will take precedence over the above general limits.

- Citations will be issued for speeding and other traffic violations. The violator's supervisor will be notified by Prudhoe Bay Security, and disciplinary action may result.
- All vehicle accidents will be investigated by Prudhoe Bay Security. The
 person or persons involved in an accident will notify their supervisor or
 Prudhoe Bay Security prior to moving the vehicle.
- A valid driver's license is required to be in the driver's possession while operating vehicles and equipment.

Helpful Driving Tips:

- Construction signs may change frequently and traffic patterns may have been altered.
- Do not follow too closely.
- Signal your intentions and allow the other driver time to react.
- Ensure that windows, headlights, and taillights are completely clean before departing.
- Keep your fuel tank at least half full. If you get stuck and have to wait for help, you will use approximately one gallon of fuel per hour to idle the engine and keep the heater running.
- Be alert to the restrictions imposed by heavy clothing.
- Carry clothing suitable for survival in current weather conditions. Always stay with your vehicle.
- Always perform a radio check prior to departing.

Instructions for Using Truck Radios:

Radio call sign: (### as assigned) Use in accordance with FCC rules/regulations.

Channel: #1 (only)

Standard Procedure:

- 1. Hold mike at least one inch from mouth and key to mike.
- 2. State call sign (or control room) of person you wish to reach followed by your call sign (###).
- 3. If the person responds, state your request for access.
- 4. If the person does not respond, repeat, abort, and visit operator in module control room.
- 5. When communication is complete say "### Clear."

Environmental Safety:

- Do not feed or harass animals.
- Do not disturb nesting birds.
- Do not pick flowers.
- Do not go onto the tundra without authorization.
- Do not take possession of injured wildlife.

Emergencies:

In the event of an emergency, contact the ARCO base on the radio. If a telephone is available, dial 5300 which is the emergency telephone number. If a phone or radio is not available, stop the first passing vehicle and ask the driver to relay the request to Prudhoe Bay Security by radio.

Airlines to Prudhoe Bay:

Alaska Airlines and MarkAir are the only commercial carriers that service Prudhoe Bay. These flights originate in Fairbanks and Anchorage. Because of tourist travel, reservations should be made early.

Bear and Rabid Fox Protection:

There are polar bears and foxes in the Prudhoe Bay area. Any visitor there should stay alert for their presence.

A man at the Oliktok Point DEW Line Station was badly mauled by a polar bear on November 30, 1993. The bear came through a window of the camp facility and attacked him inside the facility. The polar bear is thought to have been attracted to the area by whale meat left behind from the summer's whale hunts, but the cause of the attack is not clear.

Additionally, on January 25, 1994, one North Slope employee was bitten by a rabid fox, and another was potentially exposed to the rabies virus by handling the animal. All foxes are capable of carrying the rabies virus. A lack of obvious physical distress does not mean that a fox is rabies-free, nor is being bitten the only way to contract the rabies virus. The virus is transmitted by saliva and may enter the body through an open wound. All encounters with foxes should be avoided.

Remember:

- Bears and foxes are attracted to food odors. Do not leave food or garbage around; it may attract bears, foxes, or other wildlife.
- Never feed wildlife.
- Watch for bears and foxes when working outside.
- Scan the surrounding area upon leaving facilities or vehicles. Check the area for signs of bear and fox (i.e., paw prints, fecal matter).
- The best response when you see a bear or fox is to move to a safe location as calmly and quickly as possible.
- Never approach a bear or fox. Report any sightings of bears or foxes in your area to Security. Security is trained and authorized to haze/scare bears away from facilities.

VI. BARROW

Lodging:

A contract has been established with Ukpeagvik Inupiat Corporation, National Arctic Research Laboratory (UIC-NARL), to provide all meals and lodging for LAII Flux Study participants. Any overflow visitors will be housed at a local hotel.

PICO will handle all reservations and billings. Upon check-in, the user will advise the receptionist that invoicing should be sent to PICO. Once you are checked in, and if changes need to be made with regard to your reservations, make all necessary changes with UIC-NARL and notify PICO.

Lab Space:

A double lab has been leased from June 1, 1994, to May 31, 1996. This wet lab has two double sinks and counter tops with 110-v and 220-v electrical outlets and is available for all LAII Flux participants. To reserve lab space, please coordinate with PICO in advance of arrival at UIC-NARL.

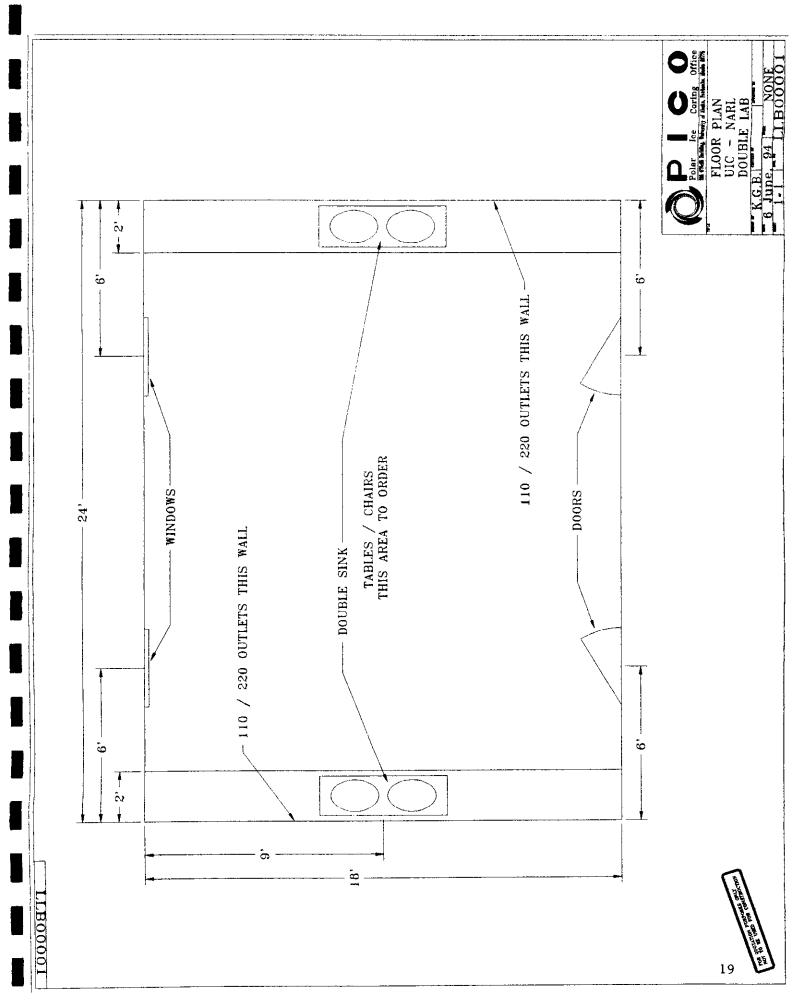
Vehicles:

A crew cab pickup is available from June 12 to August 30 for local transportation in Barrow. Prior arrangements for use of this pickup must be coordinated with PICO. Kaye Everett's group has been assigned the pickup truck throughout the summer and will coordinate any use as needed while in Barrow.

Snow machines and ATVs are available upon request pending availability of funding.

Airlines to Barrow:

MarkAir and Alaska Airlines are the only commercial carriers that service Barrow. These flights originate in Fairbanks and Anchorage. Because of tourist travel, reservations should be made early.



VII. HELICOPTER SUPPORT

A Bell 206L3 Long Ranger will be stationed at the Happy Valley Camp from June 20 through August 4. This helicopter will be used to transport funded science personnel to and from their test sites.

Helicopter time has been approved by NSF in advance on a per-PI basis. Prior to arrival at Happy Valley, all scheduling should be coordinated through the PICO office. Upon arrival at the Happy Valley Camp, all such coordination will be handled by the Camp Manager.

Bell 206L3 Long Ranger Helicopter:

Operating Characteristics:

Aircraft Empty Weight	2625 #
Maximum Gross Weight (external load)	4250 #
Maximum Gross Weight (internal load)	4150 #
Maximum Fuel Capacity (110 gallons)	715#
Average Fuel Burned Per Hour (35 gallons)	230 #
Pilot Weight	200 #
Required Survival Gear	75 #

Computed Payload Capacity:

Available Payload w/Maximum Fuel Payload Range	(2 + 40 hours) 290 Nautical Miles	535 #
Available Payload w/Fuel Payload Range	(2 hours) 220 Nautical Miles	715 #
Available Payload w/Fuel Payload Range	(1 hour) 110 Nautical Miles	945 #

Note: Payload range figures include FAA-required 20-minute fuel reserve.

Cruise Speed: 110 knots or 127 miles per hour

Passenger Seating Configuration: 6 passenger seats

Installed Equipment:

Litter Equipped
Wulfsburg 9600
Rear Intercoms
Cargo Hooks
Radar Altimeter
ELT (Emergency Locator Transmitter)
Pop-Out Floats (available)
Over-Water Survival Gear

Hazardous Materials:

Helicopter users must notify PICO at UAF of any hazardous materials being transported in the aircraft in order that proper packaging instructions may be given. A materials safety data sheet (MSDS) must be provided for each hazardous material. No more than 20 gallons of fuel may be transported per flight, and the fuel must be in metal containers encased by 1/2" plywood. PICO will provide the proper containers and wood encasements upon request at Happy Valley.

VIII. COMMUNICATIONS

Mail Service:

Address mail to:

Happy Valley Camp Polar Ice Coring Office University of Alaska Fairbanks 205 O'Neill Building Fairbanks, Alaska 99775-1710 Attention:

Telephone:

A cellular phone is available at Happy Valley Camp (HVC). Users will need to drive north to Milepost 68 in order to gain access to a frequency. Credit cards/phone cards are required when using this phone.

Official, project-related urgent calls can be made from HVC via this satellite phone service. Because of the expense involved, calls will usually be limited to 5 minutes. Contact a PICO staff member for assistance in placing your call. PICO will pay for urgent calls only. It is also possible to place credit card calls out of HVC. The cost is high--\$5.50 per minute. Incoming calls will be charged at the same rate. No free personal calls will be allowed.

HVC Fax: 011-872-68-313-0852 HVC Phone: 011-872-68-313-0850

Telex:

The HVC is equipped with a telex for official business. Telex messages can be sent to PICO at UAF and forwarded to Internet using the internet link procedures. Users are encouraged to communicate from camp via fax or telex. PICO will pay for all faxes and telexes. One personal message may be sent and received per week via telex. This is limited due to the high cost of satellite transmission. Business telexes are unlimited.

Internet Link:

Messages and data can be forwarded to and from HVC through INMARSAT-C links between the HVC and PICO at UAF. Messages will be forwarded once a day, Monday through Friday, and twice per day if mail traffic warrants it. Please limit the use of this service for official business only.

Procedures for Sending Messages from the HVC:

1. Type on the first line of the message: FORWARD TO (INTERNET ADDRESS)

Example: FORWARD TO FNSAJ@AURORA.ALASKA.EDU

2. Skip one line, then type message.

Procedures for Sending Messages to the HVC:

- I. Internet users will send messages to: FYGRNLD@AURORA.ALASKA.EDU
- 2. Type on the first line of the message: FORWARD TO HVC (INDIVIDUAL'S LAST NAME)

Example: FORWARD TO HVC FOR SCOTT JACKSON

Procedures for Sending Data from the HVC:

1. If sending data, a separate message must precede the data. This message must consist of at least the following information:

Data from:

Forward to:

Point of contact/phone number at receiving station:

Name of data file including extension:

Example:

Data from: Sam Lamont

Forward to: FNSAJ@AURORA.ALASKA.EDU POC/Ph #: SCOTT JACKSON / (907) 474-5585 Name of data file: tracking.dbf (data base file) or samples.xls (excel spread sheet file), etc.

2. Once the message has been sent, the data file is sent as a separate message, with no headers, footers, or additional wording, as an 8-bit transfer.

Procedures for Sending Data to the HVC:

- 1. Internet users will send data to: FYGRNLD@AURORA.ALASKA.EDU
- 2. Type on the first line of the message: FORWARD TO HVC (INDIVIDUAL'S NAME)

Example: FORWARD TO SCOTT JACKSON

3. Attach data file to E-Mail message.

IX. CARGO HANDLING AND EXPEDITING

Cargo Handling:

PICO at UAF will arrange for all shipments to your research site from Fairbanks. Shipments will be made on a twice weekly basis to Prudhoe Bay, Toolik Lake, and Happy Valley, departing Fairbanks on Tuesdays and Fridays and arriving at the field site on Wednesdays and Saturdays.

PIs are responsible for shipping their cargo to Fairbanks. PICO will supply shipping labels to you via fax once you have provided weight, dimensions, contents, field destination, and date required on station (ROS) for each piece of cargo. PICO will assign a shipping number unique to your institution/project that will be used to track your cargo to its final destination. Once you have shipped your cargo, you will need to notify PICO of the freight carrier's name and the bill of lading number under which the cargo is being shipped.

Cargo shipments to Barrow can be made following the same procedures as above. All cargo to Barrow is shipped via air freight and normally can be done on a daily basis.

Expediting Service:

When required, PICO may be able to arrange for items (parts, supplies, etc.) to be sent to a field location on days when there is no scheduled freight service. This can be accomplished using unscheduled trucking services or by utilizing air freight to Prudhoe Bay. Items sent air freight to Prudhoe Bay may be picked up by an institution representative or, if required, by PICO personnel who will then deliver to your site.

Retro Cargo:

PIs are responsible for packing, crating, banding, etc., all retro cargo. PICO will assign shipping numbers and ensure cargo is returned to UAF. From UAF, cargo will be shipped back to your designated location utilizing the freight carrier/account number you specify. If a freight carrier/account number is not specified, cargo will be shipped freight collect using our freight carrier.