

Please review all of the following information, including the gear allocations and field team information, to ensure accuracy. This plan is an agreement between CH2M HILL Polar Services (CPS) and your group, documenting the logistics support you will receive.

**PROJECT INFORMATION**

<b>Lead Principal Investigator</b>	Genevieve LeMoine
<b>Institute</b>	Bowdoin College, The Peary-MacMillan Arctic Museum
<b>Project Title / Grant #</b>	Collaborative Research: Inglefield Land Archaeology Project IPY initiative: Dynamic social systems at the entrance to Greenland (0732620)
<b>NSF Program and Manager</b>	NSF\OD\OPP\ARC\ASSP, Dr. Anna Kerttula
<b>PFS Project Manager</b>	Robin Abbott

**LOGISTICS SUMMARY**

For this collaborative project between 0732620 (LeMoine, Bowdoin, Lead) and 0732850 (Darwent, UC Davis), researchers will excavate selected late prehistoric and early historic Thule/Inughuit sites to more closely examine the period when Inughuit, Baffin Inuit, Europeans, and Americans all commingled in the area. The work, to be carried out in 2008 and 2009, builds on earlier studies made by the PIs (cf grant 0330981).

A team of up to 12 researchers will return to Inglefield Land, Greenland, for 6 weeks from late June through early August of 2008 and 2009 to continue archaeological investigations. Each year, the US team members will travel to Thule Air Base and on to Qaanaaq from their respective institutes. From there they will put in to their remote field sites via helicopter.

In 2008 a team of researchers assembled in Kangerlussuaq and then traveled to Thule, Qaanaaq, and to Inglefield Land from there. The researchers (an international team from the US and Greenland) operated from a base at Cape Grinnell and worked primarily in that area. Approximately 9-10 people were in the field at any one time, with a mid-season crew change/resupply flight (these researchers came from Qaanaaq.) In the field, the team members travelled to study sites on foot and via an inflatable boat when possible.

For the 2009 season eight team members will deploy from the Thule Air Base, six coming from the US via AMC flight and 2 coming from Nuuk. They will put in to camp at Paris Fjord on the far northern coast of Inglefield Land. Due to the distance from Qaanaaq, a Twin Otter has put in a fuel cache on the Hiawatha Glacier for the helicopter's use.

Mid-way through the 2009 season (mid July), the researchers will split in to two teams. While one continues working at Paris Fjord, the other will transfer to a second field site at Glacier Bay via helicopter. After the field team puts in to the Glacier Bay camp, researchers will make helicopter-supported surveys of the mouth of the fjord at Marshall Bay as well as of Kap Inglefield to the south. On the return to Glacier Bay the researchers will survey Cape Taney before being dropped off. The helicopter will then return to Thule.

CPS will provide AMC clearances, Air Greenland helicopter charters, transport between Kangerlussuaq or Nuuk and the Thule Air Base (for Greenlandic participants) and Baltimore and the Thule Air Base (for US participants), en-route lodging, rental truck in Thule, camping/safety equipment, fuel, freight, and reimbursement for field food. All other logistics, including the costs associated with travel from Nuuk to Kangerlussuaq for one team member, will be arranged/paid by the researchers.

For the complete CPS online project record for this grant, including science objectives, go to:  
[http://www.polar.ch2m.com/arlss\\_reports/arlss\\_projectsdetail.asp?cbPropNum=0732620](http://www.polar.ch2m.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0732620)

For up-to-date information on the project's schedule, please view the online Greenland calendar (<http://www.polar.ch2m.com/> > Greenland > Calendars/Schedules).

## OUTSTANDING ACTIONS AND NOTES

Issue	Responsibility	Date Completed
Review support plan for accuracy and distribute to all field team members	PI	
Obtain all necessary permits for fieldwork	PI	
Visit all hyperlinks and review all documents referred to in the support plan	Entire field team	
<b>Note: Passports are required for international travel. It is a good idea to bring two IDs and to pack a copy of your passport in case the original is lost.</b>	Entire field team	

## ALLOCATIONS AND SERVICES

Allocations from Inventory – the items below were sent to Thule on 30 April 2009 via a 109<sup>th</sup> ANG flight.

CATEGORY	ITEM	NEED FROM KANGER	Comments
SHELTER	14' diameter Western Shelter Tent	1	
	6x8 Arctic Oven Tent	1	
	Tent pegs, additional	~50	
	Plywood Toilet Box	1	
	Hard Plastic Toilet seat	1	
KITCHEN: FURNITURE AND STOVES	Folding camping table	1	
	Coleman Stove Platform Table	1	
	Coleman Stove, 2 burner	2	
	Whisper light stove	3	
	MSR fuel bottles	10	
	Wand Style Lighters	5	
	Coleman Fuel, gallon	15	
KITCHEN: COOKING PANS AND IMPLEMENTS	Substantial non-stick frying pans	2	
	Non-stick Coleman Griddle	1	
	Coleman drip coffee maker	1	
	10-Quart stock pan	1	
	Cheese grater	1	
	Plastic cutting board	2	
	Can opener	1	
	Pasta straining solution	2	
KITCHEN: DISHES	Insulated mugs	8	
	Nalgene 1 quart water bottles	12	

	Plastic food storage containers, assorted sizes	16	
	Wash tubs	3	
	Abrasive sponges	18	
	24 x 18 dish drying cloths	20	
	Five-gallon pails	5	
	Water jugs, 5 gallon capacity, all parts	6	
<b>POWER</b>			
	Honda electrical generators	3	Units purchased for project's use, one of which will be held in Thule as a backup
	Oil for generators, 1 quart bottles	4	
	Backup solar charger	2	
	100' extension cords	2	
<b>SAFETY</b>			
	Iridium satellite phones	4	
	Field Medical Kits	2	
	Backpack size medical kits	3	
	Fire extinguisher	1	
<b>MISC.</b>			
	Round Nose long handle shovels	4	
	8 x 12 tarps	12	
	Rubber mallets	1	
	Clothes pegs	100	
	Duct Tape, Rolls	3	
	Insulated work gloves (various sizes) pairs	8	
	CONTICO Boxes	4	
	Toilet paper, roll	120	
	Paper towel, roll	10	

Allocations from Inventory – the items below were left in Thule Bldg 628 last season by the field team.

CATEGORY	ITEM	IN THULE Bldg 538	Comments
<b>SHELTER</b>			
	REI 3-person Mtn Tent	9	
	Tent pegs	~50	
	Crazy Creek Chairs	~8	
	Western Relief Shelter	1	
<b>KITCHEN: FURNITURE AND STOVES</b>			
	Aluminum camping table	1	
	Coleman Stove, 2 burner	1	
	Whisper light stove	2	
	Coleman Fuel, gallon	5	
<b>KITCHEN: COOKING PANS AND</b>			

IMPLEMENTS			
	Substantial non-stick frying pans	1	
	Non-stick Coleman Griddle	1	
	Coleman drip coffee maker	1	
	4 qt pans	2	
	2 qt pans	2	
	Cheese grater	1	
	Plastic cutting board	2	
	Hard plastic spatulas	2	
	Hard plastic ladles	2	
	Hard plastic serving spoons	2	
	Can opener	1	
	Sharp cutting knives (eg chef's knives)	2	
	Wooden spoons	2	
KITCHEN: DISHES			
	Insulated mugs	8	
	Hard plastic/enamel plates	16	
	Hard plastic/enamel bowls	16	
	Hard plastic cups	16	
	Metal forks	16	
	Metal spoons	16	
	Metal knives	16	
	Plastic food storage containers, assorted sizes	16	
	Wash tubs	1	
	Five-gallon pails	11	
	Water jugs, 5 gallon capacity, all parts	2	
POWER			
	Honda electrical generators	2	
	5-gal Gerry cans for fuel for generator	4	
	100' extension cords	2	
SAFETY			
	Iridium satellite phones NSF 1845, phone number : 88 162 145 1027 NSF 1670, ph #: 88 163 145 9735 NSF 1844, ph #: 88 162 145 1026 NSF 1153, ph # ; 88 162 144 9310 10 batteries	4	These phones have new batteries
	Backpack size medical kits	3	
	Fire extinguisher	3	
MISC.			
	Round Nose short handle shovels	4	
	Roll of parachute cord	1	
	Rubber mallets	1	
	Clothes pegs	100	
	Duct Tape, Rolls	3	

	Insulated work gloves (various sizes) pairs	4	
	Battery charger	1	
	Rechargeable batteries	27	
<b>BOAT</b>			
	Five-gallon jerry cans	5	
	2 cycle engine oil	5	
	Life Jackets (asst sizes)	6	XXL included
	Rubber boat	1	
	Boat engine	1	

For more information on satellite phones, radios, manuals and other field communications support, please visit the CPS communications website at <http://vpr.sri.com>.

**Other Services**

Project Allocations	Comments
Flight Arrangements for 6 people flying to/from Thule via Baltimore on AMC flights	Arrival date in Thule: 18 June Departure date from Thule: 07 Aug
Flight arrangements for 1 person (Lange) flying Kangerlussuaq >< Thule	Arrival date in Thule: 06 July Departure date from Thule: 10 Aug
Flight arrangements made for 1 person (Lennert) flying RT Nuuk – Thule via Kangerlussuaq	Arrival date in Thule: 06 July Departure date from Thule: 10 Aug
Room bookings made for the North Star Hotel, Thule	
Helicopter support	Field camp put-in, move, survey, take-out
Truck rental at Thule for 1 day prior to put-in and pull-out	
Daily field camp check-ins	With CPS staff in Kangerlussuaq Field team needs to call CPS office to set up a time.
Freight	The team will handcarry samples on return
Field food reimbursement	

**LOCATION INFORMATION**

Please visit <http://www.polar.ch2m.com/> and navigate to the Greenland menu for en route and location-specific Greenland information. Prior to deployment, your entire field team should be familiar with the content of the *Greenland Guide*, available electronically via our Web site’s Greenland menu.

**CARGO AND CUSTOMS**

All cargo required for your project should arrive in Scotia, NY, **no later than 2 weeks prior** to the desired northbound Air National Guard (ANG) flight, must be entered into our online Cargo Tracking System, and must be properly registered with Customs.

Customs instructions are available on our Web site at <http://www.polar.ch2m.com/> (go to Greenland > Customs). More information is available via the *Greenland Guide*, under Greenland on the CPS site.

The following is our current understanding of your overall cargo requirements:

**Cargo List**

Items	Weight/Cube
Field food will be flown from NY to Greenland at the end of April to be flown to Thule on already scheduled Switchyard flight	
Gear allocated from Kangerlussuaq was prepared and sent to Thule on Switchyard flight at the end of April.	

**SUPPORT SCHEDULE**

Approx Date	Location	Activity
18 June	BWI > Thule	AMC flight arrives from Baltimore with 6 pax
20 June	Thule > Paris Fjord	Two helicopter flights to deploy eight researchers to Paris Fjord
6 July	Nuuk > Kanger > Thule	Two team members from Greenland National Museum arrive in Thule via Air Greenland
7 July	Thule > Field sites	One flight to move four researchers (H. Lange and J. Darwent plus Hans Lennert and Jeremy Foin) from Paris Fjord to Glacier Bay and one Survey flight from Glacier Bay to Cape Inglefield return to Glacier Bay (charter the helicopter for all day). Flight includes participants from Greenland National Museum.
04Aug	Field sites > Thule	The field team crews pulled-out from Paris Fjord and Glacier Bay to Thule AFB (two flights—one for each camp, 8 persons total)
07 Aug	Thule > BWI	AMC flight departs from Thule to Baltimore with 6 pax
10 Aug	Thule > Kanger> Nuuk	Two people depart Thule

For the most up-to-date information on the project's schedule, please view the online Greenland calendar (<http://www.polar.ch2m.com/> > Greenland > Calendars/Schedules).

**FIELD TEAM INFORMATION**

Name	Location	Date In	Date Out	Email/Notes
Darwent, Christyann	Thule	18 June	7 Aug	<a href="mailto:cmdarwent@ucdavis.edu">cmdarwent@ucdavis.edu</a>
	Paris Fjord	20 June	4 Aug	
Sakrison, Erika	Thule	18 June	7 Aug	
	Paris Fjord	20 June	4 Aug	
Frederic Dussault,	Thule	18 June	7 Aug	<a href="mailto:dussault.fred@gmail.com">dussault.fred@gmail.com</a>
	Paris Fjord	20 June	4 Aug	
Alison Weisburger	Thule	18 June	7 Aug	<a href="mailto:aweisbur@bowdoin.edu">aweisbur@bowdoin.edu</a>
	Paris Fjord	20 June	4 Aug	
Darwent, John	Thule	18 June	7 Aug	<a href="mailto:jadarwent@ucdavis.edu">jadarwent@ucdavis.edu</a>
	Paris Fjord	20 June	7July	
	Glacier Bay	7 July	4 Aug	
Foin, Jeremy	Thule	18 June	7 Aug	<a href="mailto:jcfoin@ucdavis.edu">jcfoin@ucdavis.edu</a>
	Paris Fjord	20 June	7July	
	Glacier Bay	7 July	4 Aug	
Lange, Hans	Nuuk > Thule	06 July	10 Aug	<a href="mailto:hans.lange@natmus.gl">hans.lange@natmus.gl</a>
	Glacier Bay	07 July	4 Aug	CPS pays SFJ><THU only
Lennert, Hans Kristian	Nuuk > Kanger > Thule	06 July	10 Aug	CPS pays for all legs of NUK>SFJ>THU>SFJ>NUK travel
	Glacier Bay	07 July	4 Aug	

## PROJECT CONTACT INFORMATION

### Research Team

Role	Name	Email	Phone / Fax
Collaborator	Christyann Darwent	<a href="mailto:cmdarwent@ucdavis.edu">cmdarwent at ucdavis.edu</a>	530.752.2075 /530.752.8885
Principal Investigator	Genevieve LeMoine	<a href="mailto:glemoine@bowdoin.edu">glemoine at bowdoin.edu</a>	207.725.3304 /207.725.3499

### CPS Team Members

Contact for	Name	Email	Primary Phone(s)
Greenland planning and project support	Robin Abbott	<a href="mailto:Robin@polarfield.com">Robin at polarfield.com</a>	Denver: 303.748.8507
Greenland on-island support	Mark Begnaud	<a href="mailto:Mark@polarfield.com">Mark at polarfield.com</a>	Denver: 720.320.6160 Greenland: 011.299.524218
Greenland on-island support, Cargo	Ed Stockard	<a href="mailto:Ed@polarfield.com">Ed at polarfield.com</a>	Greenland: 011.299.524281
Scotia operations & customs	Earl Vaughn	<a href="mailto:Earl.Vaughn@gmail.com">Earl Vaughn at gmail.com</a>	Scotia: 518.331.3103
Thule operations	Susan Zager	<a href="mailto:Susan@polarfield.com">Susan at polarfield.com</a>	Denver: 720.320.6159
Sat phones & comms	Roy Stehle	<a href="mailto:Roy.Stehle@sri.com">Roy Stehle at sri.com</a>	Menlo Park: 650.859.2552
RMI	Kyli Olson	<a href="mailto:Kyli@polarfield.com">Kyli at polarfield.com</a>	Denver: 303.489.2151
Denver operations	Jill Ferris	<a href="mailto:Jill@polarfield.com">Jill at polarfield.com</a>	Denver: 720.320.6155

### CPS Offices

Denver	Kangerlussuaq	Scotia
CH2M HILL Polar Services Western Office 8110 Shaffer Parkway Suite 150 Littleton, CO 80127 Tel: 303.984.1450/1439 Fax: 303.984.1445	CH2M HILL Polar Services Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Kangerlussuaq, Greenland Tel: 011.299.841598 Fax: 011.299.841599	Earl Vaughn C/O 109 <sup>th</sup> Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.344.2635 Cell: 518.331.3103 Fax: 518.344.2537

### Other

Organization	Internet	Phone
Remote Medical International (RMI) (see below for Remote Telemed #)	<a href="http://www.remotemedical.com/">http://www.remotemedical.com/</a>	Office: 800.597.4911

## SAFETY, ENVIRONMENT, HEALTH and PERMITS

If you need medical advice/assistance, do not hesitate to contact Remote Medical International (RMI) using the card included with the medical kit or the information below. Be sure that each team member knows where the kit is located and understands how to use the RMI service in the field. For further information on RMI, please visit our Web site <http://www.polar.ch2m.com/> and navigate to Medical>Remote Medical Services/Kits.

### RMI 24/7 Telemed Service

Primary: 206.734.3430

Alternate: 360.754.9805

Member ID: CH2M HILL Polar Services

## CRITICAL SUCCESS FACTORS

Please list the factors that are most important for the success of your science. We track these factors in order to measure the success of CPS' support. Examples might be the availability of the helicopter or camp gear.

### Critical Success Factors for the LeMoine-Darwent Inglefield Land Archaeology Project 2009

<p><b>Factors–</b></p>
<p><b>Helicopter deployment and extraction</b> – the project's success hinges on the use of a helicopter for transportation to and from Inglefield Land. Sufficient helicopter time is necessary to deploy and extract all crew members and equipment to the field, which includes food supplies going in, and artifacts and soil samples coming out.</p>
<p><b>Crew transportation</b> – in order to maximize the number of working days in the field, there must be successful travel for the crew. We understand that weather (and the military) can play havoc with schedules, so we obviously will not hold CH2M Hill Polar Services (CPS) responsible for any such delays. However, to us "successful arrangements" can be influenced by the amount of assistance or response that CPS gives to the situation (e.g., rebooking flights and hotels). Transportation of the crew to and from Thule Air force Base should be as close to the scheduled dates as possible.</p>
<p><b>Safety Equipment</b> – in order for the crew to work effectively, it must know that sufficient precautions have been taken for their safety. This is dependent on the availability of the following items: 1) <b>Medical/First aid kit</b> – the first aid kit provided should be sufficient to handle serious injuries as well minor maladies, such as blisters, small cuts, etc.... 2) <b>requested safety equipment</b> – the safety equipment requested by the project, which includes a bear fence, fire extinguishers, and life jackets, should be available and in good repair.</p>
<p><b>Field-camp equipment</b> – in order to maximize research time it is best to minimize the amount of time needed to assemble, maintain, repair, or improvise field equipment. This maximization can be enhanced by the availability and condition of the following requested equipment: 1) <b>Tents</b> – the personnel, kitchen, and storage tents should be available and in good repair 2) <b>Kitchen equipment</b> – sufficient cook-set should be present to meet the needs of the size of the crew. Stoves provided should be in good working order and the requested amount of fuel available. 3) <b>Power requirements</b> – the two generators requested should be in good working order and have sufficient fuel for operation. If needed, there should be some procedure to replace an inoperative unit. 4) <b>Sanitation equipment</b> – for the health of the crew it is necessary for the sanitation equipment to be available and effective. In terms of water-purifying equipment, the equipment requested must be available and in good working order. For the latrine, a hard plastic seat on a firm platform is necessary so that stable facility can be effectively cleaned and moved multiple times after repository holes have been filled.</p>
<p><b>Communication equipment</b> – for crew safety the communication equipment provided should be in good working order. Minimally there needs to be a way for the crew to check in on a daily basis with an external monitor, contact emergency medical services, and communicate with the helicopter.</p>
<p><b>Shipping</b> – the food and equipment shipped by the project from Scotia (the project is responsible for the material until it gets to National Guard Air Base) needs to be available to be transported on 109<sup>th</sup> Air Guard flight to Thule AFB. Any loss of this material could seriously hamper the project in terms of time and crew comfort. Shipping is also necessary after the field season because artifacts and samples collected during the investigations will need to be shipped back to the continental US.</p>
<p><b>Rubber boat</b> – we will be bringing a rubber boat and engine to assist with surveying activities if ice conditions permit. If this is the case, for success operation of the boat there needs to be sufficient fuel and oil we requested should be available at the start of the project as well as transportation of the boat to Paris Fjord.</p>

## GOVERNMENT AND PERFORMANCE REPORTING ACT OF 1993 (GPRA)

NSF/OPP requires your help in complying with the Government Performance and Reporting Act of 1993 (GPRA). One measure of CPS' performance is a "facility-performance metric" which counts the number of productive days your project has in the field while relying on CPS facilities or support. Please keep track of any "lost days" and report these to us at the end of the season.