

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), formerly VECO Polar Resources, and your group, documenting the logistics support you will receive.

## SECTION ONE: PROJECT INFORMATION

<b>Lead Principal Investigator</b>	Jason Briner
<b>Institute</b>	U at Buffalo, Department of Geology
<b>Project Title / Grant #</b>	The sensitivity of the Greenland Ice Sheet to climate change: Reconstructing the response of the Jakobshavn Isbrae during the Little Ice Age and Holocene thermal maximum (0752848)
<b>NSF Program and Manager</b>	US\Federal\NSF\SBE\BCS, Dr. Kenneth Young
<b>PFS Project Manager</b>	Robin Abbott

### Logistics Summary

To collect information on the Greenland ice sheet's sensitivity to temperature change, the PI will field a team of 5 in Greenland during 2008 and 2009. There, researchers will spend ~ 3 weeks/year collecting data on Holocene-era ice sheet changes in the vicinity of Jakobshavn Glacier and the town of Ilulissat, in western Greenland.

A 5-person team will begin the research in late summer, 2008. An advance team of two will arrive in late July, and, basing from Ilulissat, make day trips to their science sites. After the rest of the team arrives in Ilulissat, they will put in to their field site via helicopter and establish a tent camp. They will collect scoured bedrock samples, conduct 3D mapping activities and take lake surface cores at several research sites, moving between locations and then departing the research area via helicopter.

A 4-person team will return in spring, 2009, for additional sampling, including lake sediment coring; these study sites will be accessed via snowmachine, with the help of a local guide.

CPS will provide ANG arrangements, travel within Greenland (commercial travel to/from Ilulissat and helicopter support, the latter in year 1 only); user days in Kangerlussuaq and lodging in Ilulissat; camping equipment; snow machine rental, reimbursement for guide services (in 2009 only), an inflatable boat; fuel; and communications and safety gear. The PI will arrange all other logistics and pay for them via his grant.

For the complete CPS online project record for this grant, including science objectives, go to:  
[http://www.vecopolar.com/arlss\\_reports/arlss\\_projectsdetail.asp?cbPropNum=0752848](http://www.vecopolar.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0752848)

## SECTION TWO: SEASON FIELD PLANS

### Outstanding Actions and Notes

<b>Issue</b>	<b>Responsibility</b>	<b>Date Completed</b>
Review support plan for accuracy and distribute to all field team members	PI	
Obtain all necessary permits for fieldwork	PI	09 May 2008
Visit all hyperlinks and review all documents referred to in the support plan	Field Team Members	
Passports are required for ANG and international travel. It's a good idea to bring two IDs and to pack a copy of your passport in case the original is lost.	Field Team Members	

## Allocations and Services

### Allocations from Inventory

Quant/Unit	Item
1 ea	Boat (Inflatable boat, floor boards, 2 oars, Inflator )
1 ea	Motor (spare parts, plugs, prop)
1 ea	Fuel tank, running line
15 gal	Fuel - for boat and generator (to be purchased in Ilulissat before flying to camp)
4 ea	Gerry can for transporting fuel
Qty	Motor Oil for boat motor / generator
3 ea	Life Jackets (2 Large and 1 Medium)
3 ea	Ropes – 50 m length
1 ea	Rope – 10 m length
1 ea	REI Mtn tent - 3 person
3 ea	Big Agnes tent – 2 person
1 ea	Deep-cycle battery (also known as 'marine' battery)
1 ea	Kitchen box for 5 people
1 ea	Coleman 2-burner stove
1 ea	Whisperlite stove
1 ea	Generator, 1 kw (pick up in CPS container at helicopter hangar in Ilulissat)
Qty	Coleman fuel (pick up in CPS container at helicopter hangar in Ilulissat)
2 ea	Iridium Phone (issued from Kanger stocks)
1 ea	Medical Kit

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

### The PI will provide the following:

Quant/Unit	Item
3 ea	Commercial tickets CPH > SFJ (two researchers will fly to SFJ via ANG)
1 ea	Cook Tent
Misc	Burlap bags to fill with rocks for boat anchors
Misc	Ilulissat meals

### Other Services

Project Allocations	Comments
Helicopter charters	Arranged with Air Greenland
Hotel Hvide Falk hotel arrangements	One night stay in hotel after arriving in Ilulissat. One night stay after camp pull-out
Ilulissat Hostel arrangements arranged for Stewart and Young	Double Room : 29 July – 5 Aug
Remote telemedicine services	Phone may be hand-carried to Ilulissat by Stewart and Young
User days Kangerlussuaq	
Field food	Via reimbursement – 5 people for approx 20 days

### 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 the online Cargo Tracking System as well as properly registered with Customs.

Any questions on cargo should be directed to Earl Vaughn, CPS Cargo supervisor in NY phone: 518 331 3103 email: ([earl.vaughn@gmail.com](mailto:earl.vaughn@gmail.com))

If you are a new user requiring access to the Cargo Tracking System, contact Jason Buenning ([jason@polarfield.com](mailto:jason@polarfield.com)).

### Cargo Note

Description	Contents	Weight (lbs.)
Return Samples :	-Rocks (Not bigger than one medium-sized duffle bag or box) -Lake sediment core (2.5 inch pipes 50 cm to 1.5 m long these can be packaged up in one or two ski bags)	150 lbs of rocks

### Support Schedule

Approx Date	Location	Activity
27 July	NY	109 <sup>th</sup> Flight from Scotia to Kangerlussuaq
28 July	Kanger > Ilulissat	Air GL flight # 512 departing at 14:45 from Kanger to Ilulissat for 2 people Stewart and Young. Accommodation for 1 night at the Hotel Hvide Falk.
July 29-Aug 5	Ilulissat	2 people will spend time at Hostel in Ilulissat and do short trips backpacking possibly
5 Aug	CPH > Kanger > Ilulissat	Briner arrives in Kanger via CPH and flies to Ilulissat on GL Air #582 at 11:55. Accommodations for 1 night at the Hotel Hvide Falk.
6 Aug	Ilulissat to Camp 2	Bell 222 helicopter flight - camp put- in for 3 researchers
11 Aug	CPH > Kanger > Ilulissat	Two team members (Csatho, Schenk) arrive in Greenland via CPH and fly to Ilulissat on AirGL #512 at 14:45. Accommodations for 1 night at the Hotel Hvide Falk.
12 Aug	Camp 2 to Camp 1	Bell 222 helicopter flight – 2 team members join field party at Camp 1; move team from Camp 2 to Camp 1
14 Aug	Camp 1 to Camp 3	Bell 222 helicopter flight
21 Aug	Camp 3 to Camp 4	Bell 222 helicopter flight
25 Aug	Camp 4 to Ilulissat	Camp pull-out for 5 field team members
25 Aug	Ilulissat	Accommodations for 5 people at the Hotel Hvide Falk
26 Aug	Ilulissat > Kanger	Air GL flight #571 departing at 9:25am from Ilulissat to Kangerlussuaq
28 Aug	Kanger > NY	Field team x 5 /gear / samples flight back to NY via ANG

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

### Field Team Information

Name	Location	Date In	Date Out	Email
Briner, Jason	Kangerlussuaq	8/05/2008	8/05/2008	<a href="mailto:jbriner@buffalo.edu">jbriner@buffalo.edu</a>
	Ilulissat	8/05/2008	8/06/2008	
	Jakobshavn Glacier	8/06/2008	8/25/2008	
	Ilulissat	8/25/2008	8/26/2008	
	Kangerlussuaq	8/26/2008	8/28/2008	
Csatho, Bea	Kangerlussuaq	8/11/2008	8/11/2008	<a href="mailto:bcsatho@buffalo.edu">bcsatho@buffalo.edu</a>
	Ilulissat	8/11/2008	8/12/2008	
	Jakobshavn Glacier	8/12/2008	8/25/2008	
	Ilulissat	8/25/2008	8/26/2008	
	Kangerlussuaq	8/26/2008	8/28/2008	

Toni Schenk	Kangerlussuaq	8/11/2008	8/11/2008	<a href="mailto:schenk.2@osu.edu">schenk.2@osu.edu</a>
	Ilulissat	8/11/2008	8/12/2008	
	Jakobshavn Glacier	8/12/2008	8/25/2008	
	Ilulissat	8/25/2008	8/26/2008	
	Kangerlussuaq	8/26/2008	8/28/2008	
Nicolas Young	Kangerlussuaq	7/27/2008	8/24/2008	<a href="mailto:nyoung2@buffalo.edu">nyoung2@buffalo.edu</a>
	Ilulissat	7/28/2008	8/23/2008	
	Jakobshavn Glacier	7/28/2008	8/25/2008	
	Ilulissat	8/25/2008	8/26/2008	
	Kangerlussuaq	8/26/2008	8/28/2008	
Heather Stewart	Kangerlussuaq	7/27/2008	8/24/2008	<a href="mailto:has23@buffalo.edu">has23@buffalo.edu</a>
	Ilulissat	7/28/2008	8/23/2008	
	Jakobshavn Glacier	7/28/2008	8/25/2008	
	Ilulissat	8/25/2008	8/26/2008	
	Kangerlussuaq	8/26/2008	8/28/2008	

### Project Contact Information

#### Research Team

Role	Name	Email	Phone / Fax
Principal Investigator	Jason Briner	<a href="mailto:jbriner@buffalo.edu">jbriner@buffalo.edu</a>	716.645.6800 x 3986/ 716.645.3999
Co-PI	Bea Csatho	<a href="mailto:bcatho@buffalo.edu">bcatho@buffalo.edu</a>	716.645.6800 x 6100/ 716.645.3999
Co-PI	Yarrow Axford	<a href="mailto:yarrow.axford@colorado.edu">yarrow.axford@colorado.edu</a>	

## SECTION THREE: CPS CONTACT INFORMATION

#### CPS Team Members

Contact for	Name	Email	Primary Phone(s)
Greenland operations (On-island support)	Mark Begnaud	<a href="mailto:mark@polarfield.com">mark@polarfield.com</a>	Denver: 720.320.6160 Greenland: 011.299.524281
Greenland operations (project support)	Robin Abbott	<a href="mailto:robin@polarfield.com">robin@polarfield.com</a>	Denver: 303.748.8507
Sat phones & comms	Roy Stehle	<a href="mailto:roy.stehle@sri.com">roy.stehle@sri.com</a>	Menlo Park: 650.859.2552
Medical & RMI	Kyli Olson	<a href="mailto:kyli@polarfield.com">kyli@polarfield.com</a>	Denver: 303.489.2151
Denver operations	Jill Ferris	<a href="mailto:jill@polarfield.com">jill@polarfield.com</a>	Denver: 720.320.6155
Scotia operations & customs	Earl Vaughn	<a href="mailto:earl.vaughn@gmail.com">earl.vaughn@gmail.com</a> <a href="mailto:vprscotia@hughes.net">vprscotia@hughes.net</a>	Scotia: 518.331.3103

#### 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: 518.331.3103 Fax: 518.334.2537

**Other**

Organization	Internet	Phone
Remote Medical International (RMI)	<a href="http://www.remotemedical.com/">http://www.remotemedical.com/</a>	206.734.3430

## SECTION FOUR: SAFETY, ENVIRONMENT, HEALTH and PERMITS

### Permits

All science teams planning to conduct research in Greenland must complete an **annual application** in order to obtain approval from the Greenland Home Rule and the Danish Polar Center (DPC). If you have any questions about your permit, please contact:

Poul Henrik Sorensen

E-mail: [phs@dpc.dk](mailto:phs@dpc.dk)

Telephone: +45 3288 0100

### Medical

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 website <http://www.vecopolar.com/> and navigate to Medical>Remote Medical Services/Kits.

RMI contact information:

Phone: 206.734.3430

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.

Factors
Helicopter flight scheduling
Coordinating cargo from NY > Kangerlussuaq > Ilulissat and return.
Timely Reimbursement process for any expense reports.
Communication/ease to work with

### 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.