

Please review all of the following information to ensure accuracy. This plan is an agreement between VPR and your group, documenting the logistics support you will receive.

• Project Information •

Lead Principal Investigator	Mary Albert
Institution	Cold Regions Research and Engineering Laboratory, Geophysical Sciences Division
Project Title / Grant #	Collaborative Research: Firn Structure, Interstitial Processes and the Composition of Firn Air at Summit, Greenland (0520445)
NSF Program and Manager	NSF/OPP ANS, Dr. Jane Dionne
VPR Project Manager	Sandra Starkweather

• Logistics Summary •

<p>For this collaborative study of firn air and structure -- 0520445 (Albert, CRREL LEAD), 0520564 (Severinghaus, Scripps) and 0520460 (Battle, Bowdoin) -- investigators will conduct 3 summers of field work at Summit Station, Greenland.</p> <p>Beginning in 2006 a field team of up to 6 researchers and Ice Coring and Drilling Services (ICDS) personnel will travel to Summit, Greenland, for a 6-week field season. In year 1 the team will collaborate with the French team led by Christophe Ferrari, and with the support of ICDS, will drill firn cores for gas sampling. The cores will be shipped to CRREL for later physical measurements. During all three years of the grant, the team will collaborate with the Swiss team lead by Atsumu Ohmura to conduct near-surface studies to measure the changes of the physical characteristics of surface snow and firn over time.</p> <p>VPR will support the project via ANG arrangements, user days in Greenland and access to Summit infrastructure. ICDS will provide drill support. All other logistics will be handled by the investigators from the grant.</p>
--

For the complete VPR online project record for this grant, including science objectives, go to:

http://www.vecopolar.com/arlss_reports/arlss_projectsdetail.asp?cbPropNum=0520445

• Outstanding Issues •

Issue	Responsibility	Date Completed
Review support plan for accuracy and distribute to all field team members	PI	4/4/06
Obtain all necessary permits for fieldwork	PI	Submitted 1/15/06
Visit all hyperlinks and review all documents referred to in the support plan	Field Team Members	4/24/06
Contact the GEOSummit Science Coordination Office (SCO) mailto:sco@geosummit.org regarding your project's plans for the season	PI	3/30/06
Medical Clearance completed 8-6 weeks before desired deployment date	Field Team Members	Courville, Battle, Engel all cleared. Tanguay still pending as of 4/27
Please note this important information for your field team: Bring 2 different forms of picture ID. Passports are now mandatory for entry into Greenland. Be sure to pack them!	Field Team Members	4/24/06
Complete Critical Success Factors	PI	4/4/06

• Allocations & Services •

Allocations from Inventory

Quant/Unit	Item
5 ea	8x8 Arctic Oven sleep tents
10 ea	Thermal sleeping pads
5 ea	Wireless network cards
2 ea	Nansen sled
2 ea	Skidoo
1 ea	10x10 Arctic Oven work tent
1 ea	Plywood floor for work tent
1 ea	2 electric space heaters for work tent
1 ea	Small microwave oven for work tent
1 ea	6 kw generator
5 ea	Folding chairs for work tent
3 ea	Folding table 2'x6' for work tent
3 ea	Plywood 4'x8'x 1/2" for snow pit
6 ea	6' blueboard
2 ea	Emergency kit (sleeping bag, stove, emergency food) for work tent
1 ea	2 periods of 2-day use of portable 3kW generator for permeameter in good weather
1 ea	1-day use of handheld GPS for locating coring site
75 gal	Gasoline for generators
2 ea	Jerry cans and funnel
2 ea	Handheld radio, VHF
2 ea	Thermoses

Other Services

Project Allocations	Comments
12' of table/desk space in the GH or at the Sat Camp	There is a new office space opening in the GH where this group could potentially be accommodated. If this space is not yet available or over committed, the group will be accommodated at the Sat Camp.
ICDS drillers and 4" drill	Provided by ICDS.
Core boxes and sleeves	Provided by ICDS.
Frozen samples	The firm core needs to be stored in cold (- 15 to -20 C) conditions from the time it is drilled at Summit throughout its stay in Kanger, put on a cold deck flight from Kanger to Scotia. The transfer to CRREL- transport in Scotia NY should be well coordinated with Mary Albert at CRREL at least two weeks in advance. VPR is responsible for maintaining the samples at required temperatures and shipping samples from Summit to Scotia, via Kanger. CRREL is responsible for transferring the samples from Scotia to CRREL. VECO is responsible for sending one core box of ice samples to UCSD/Severinghaus, using UCSD FEDEX info provided by Severinghaus. VECO will store 1 cooler of ice samples in Kanger for hand carry to LGGE by Xavier Fain.
Drilling Location	After correspondence with the SCO, a candidate location was selected for this project: "The site we're discussing is about 5-6 km southeast of camp. It's the location where the Summit 99 core (aka JohnnyPort core) was drilled. It's also where Joe McConnell collected several firm cores in 2002 with Bob Hawley. I believe NOAA did some firm sampling there as well. At that time it was named Sandy site." John Burkhart.
24-Hour Schedule	This project might require shift work, 24-hour operations for completion. The field team POC should coordinate with the camp manager and cooks to accommodate this schedule.

• Location Information •

Please visit <http://www.vecopolar.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* and, if traveling to Summit, with the guidelines provided in the *Summit Users' Guide*. Both are 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.

- ✓ For the most current ANG flight schedule go to <http://www.vecopolar.com> and navigate to Greenland > Calendars/Schedules.
- ✓ If you are a new user requiring access to the Cargo Tracking System, contact Robin Abbott (robin@polarfield.com).
- ✓ Customs instructions are available on our website at <http://www.vecopolar.com> (go to Greenland > Customs)
- ✓ For Customs requirements please refer to the *Greenland Guide*, also available at <http://www.vecopolar.com> under Greenland.

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

Cargo List

Items	Weight/Cube
CRREL cargo (permeameter, snow kits, cold weather gear ,etc)	700 lb / 50 ft3
Bowdoin cargo	900 lb / 75 ft3
Scripps (Severinghaus) firn air flasks	30 lb/ 2.6 ft3
Penn State (Sowers) firn air flasks	65 lb/ 10 ft3
NOAA (Montzka) firn air flasks	65 lb/ 10 ft3 - guessed MA
UCI (Saltzman & Aydin) firn air flasks	130 lb/ 20 ft3 -guessed MA
30 core boxes (ICDS)	1200 lb/ 360 ft3
4" Drill (ICDS)	1500 lb/100 ft3

Additional info on flask shipping in the Appendices.

• Support Schedule •

Date	Location	Activity
5/20	Scotia, NY	Field team members arrive in NY
5/21	Kangerlussuaq	Field team members arrive in Kangerlussuaq via ANG
5/22	Summit	Field team members arrive at Summit
5/22 to 6/7	Summit	Field team members operate at firn-core site, GH and/or Sat Camp
6/7	Summit	Field team members leave Summit
6/10	Kangerlussuaq	Field team members leave Kangerlussuaq

• Field Team Information •

Name	Location	Date In	Date Out	Email
Battle, Mark	Kangerlussuaq	05/21/06	06/10/06	mbattle@bowdoin.edu
Battle, Mark	Summit	05/22/06	06/07/06	
Courville, Zoe	Kangerlussuaq	05/21/06	06/10/06	zoe.courville@dartmouth.edu
Courville, Zoe	Summit	05/22/06	06/07/06	
Engel, Chandler	Kangerlussuaq	05/21/06	06/10/06	cengel@uvm.edu
Engel, Chandler	Summit	05/22/06	06/07/06	
Tanguay, Meaghan	Kangerlussuaq	05/21/06	06/10/06	mtanguay@bowdoin.edu
Tanguay, Meaghan	Summit	05/22/06	06/07/06	
Gacke, Terry	Kangerlussuaq	05/21/06	06/10/06	tlgontheice@hotmail.com
Gacke, Terry	Summit	05/22/06	06/07/06	
Waszkiewics, Mike	Kangerlussuaq	05/21/06	06/10/06	datnorth@primus.ca
Waszkiewics, Mike	Summit	05/22/06	06/07/06	

• Project Contact Information •

Research Team

Role	Name	Email	Phone / Fax
Principal Investigator	Mary Albert	mary.r.albert@erdc.usace.army.mil	603 646-4422 / 603 646-4278
Collaborator	Mark Battle	mbattle@bowdoin.edu	207 725-3410 /
Collaborator	Jeffrey Severinghaus	jseveringhaus@ucsd.edu	858 822-2483 / 858 822-3310

VPR Team Members

Contact for	Name	Email	Primary Phone(s)
Greenland operations	Robin Abbott	robin@polarfield.com	Denver: 303.748.8507 Greenland: 011.299.524218
Greenland operations	Mark Begnaud	mark@polarfield.com	Denver: 720.320.6160 Greenland: 011.299.524281
Summit operations	Sandy Starkweather	sandy@polarfield.com	Denver: 303.518.8714
Denver operations	Jill Ferris	jill@polarfield.com	Denver: 720.320.6155
Scotia Operations & Customs	Earl Vaughn	earl.vaughn@nyscot.ang.af.mil vrscotia@hughes.net	Scotia: 518.331.3103

VPR Offices

Denver	Kangerlussuaq	Scotia	Summit
VECO Polar Resources Western Office 8110 Shaffer Parkway Suite 150 Littleton, CO 80127 Tel: 303.984.1450/1439 Fax: 303.984.1445	VECO Polar Resources Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Kangerlussuaq, Greenland Tel: 011.299.841598 Fax: 011.299.841599	Earl Vaughn C/O 109 th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Fax: 518.884.2904	VECO Polar Resources Attn: Name of Employee/Researcher Postboks 1015 DK-3910 Tel: 321.953.9650 Fax: 321.953.9651

Other

Organization	Internet	Phone
Summit Science Coordination Office	http://www.geosummit.org sco@geosummit.org	John Burkhart 209.658.7142

• Safety, Environment, Health, and Permitting •

Permits

Please refer to VPR's *Greenland Guide*, available at <http://www.vecopolar.com> under Greenland, for information about permits required to conduct fieldwork in Greenland.

Medical Clearance

Arctic Program participants traveling into the Greenland field are generally required to pass a National Science Foundation (NSF) mandated physical exam. All field team members should plan to complete their medical clearance process 8-6 weeks prior to their travel to Greenland. For more information refer to VPR's *Greenland Guide*, available at <http://www.vecopolar.com> under Greenland.

• 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 VPR's support. Examples might be the availability of the helicopter or camp gear.

Factors
Availability of sleep tents, work tent/hut, snowmobiles, desk space
Ability for our shifts to work round the clock at firm air site to get the work done in this time frame.
Availability of functional generators for permeability & firm air sampling.
Firm cores stored in cold storage (appx -20 C) at Summit, Kanger, and cold deck flight home. Transport of firm/ice core needs to be well coordinated ahead of time between Kanger and home institutions.

• Government Performance and 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 VPR's performance is a "facility-performance metric" which counts the number of productive days your project has in the field while relying on VPR facilities or support. Please keep track of any "lost days" and report these to us at the end of the season.

• Appendices •

Appendix I: Packing List

Appendix I

Albert Packing List

UC Irvine, Murat Aydin
1 pallet with 2 boxes strapped to it. Each box has 16
glass flasks in it, 32 flasks total.
WxLxH are 30x55x26 inches.

Cube = 24.9, Weight = 150lbs
FedEx tracking #: 097655440-1, shipped April 19.

Penn State, Todd Sowers
Number of packages: 1
Kind of packages: Hardigg
Description: 20 glass flasks with air. Not pressurized

Cube = 10, Weight = 70lbs.
Not shipped yet.

UC San Diego, Scripps, Jeff Severinghaus
three cardboard boxes, 14" x 14" x 23" each
containing a total of 12 flasks.
Total cube= 2.6 cu. ft.
Total weight= 30 lbs
(I think the weights and cubes are for one box, and I'm
not sure if these have shipped or not---Zoe)

NOAA, Molly Heller
Labeled for Mark Battle
two gray crates: 30x30x30 ~78lbs each (16 flasks each crate)
one box: 14x14x23 ~13 lbs (4 flasks)
weight: ~92 lbs, cube:
36 flasks
There is one more batch of flasks in Scotia that should be
sent for Mark Battle to use. Sorry!

from NOAA, using Andy Clarke's CTS account (halocarbon
flasks)

There are 4 crates in this shipment, 3 are for Mark Battle
(the 3 for Mark are labeled as such, the 4th crate is for
the Veco science tech up at Summit I think). The CTS
shipment ID is #725, and the tracking codes are GS-ClarkeA-
0057 through -0060. The crates for Mark are 1 aluminum box
and 2 white plastic boxes. The fourth one not for Mark is
a white plastic box.