Please review all of the following information, including the gear allocations and field team 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
Institute	Cold Regions Research and Engineering Laboratory, Terrestrial and Cryospheric 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 •

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. During all three years of the grant, the team will conduct near-surface studies to measure the changes of the physical characteristics of surface snow and firn over time.

In 2006 a field team of researchers and Ice Coring and Drilling Services (ICDS) personnel traveled to Summit, Greenland, for a 3-week field season. In collaboration with the French team led by Cristophe Ferrari, and with ICDS support, the team drilled firn cores for gas sampling. The cores and samples were shipped to CRREL and SIO for later measurements.

The firn core shipment was delayed in Scotia. As a consequence, the ice microstructure was compromised, making the core unsuitable for study. Also, the ice sample shipment to SIO melted. Thus, the researchers need to drill another firn core in 2007 and repeat the firn air sampling, which will increase the scope of their plans for 2007. PolarTREC teacher Jo Dodds (0632401JD) will work with the field team at Summit Station as well.

VPR will support the project via ANG arrangements, user days in Greenland, access to Summit infrastructure, and transport of the core from Summit to CRREL in Hanover, NH, and of the ice samples to Scripps Institute of Oceanography in La Jolla, California. ICDS will provide drill support. All other logistics will be handled by the investigators from the grant.

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	3/28/2007
Obtain all necessary permits for fieldwork	PI	3/27/2007
Visit all hyperlinks and review all documents referred to in the support plan	Field Team Members	
Contact the GEOSummit Science Coordination Office (SCO) **sco@summitcamp.org** regarding your project's plans for the season	PI	3/28/2007
Medical Clearance completed 8-6 weeks before desired deployment date. As of 4.19.2007, the following had completed this process: Jeff Severginhaus (3/27/07), Vasily Petrenko (3/30/07), Elyse Williamson (3/20/07)	Mary Albert, Zoe Courville, Jo Dodds	Initiated January
Please note this important information for your field team: Bring 2 different forms of picture ID. Passports are mandatory for entry into Greenland.	Field Team Members	
Complete Critical Success Factors	PI	4/3/2007
Make final determination regarding drill site	PI/VPR	

• Allocations & Services •

Requested by	Quant/Unit	Item
Combined	8 ea	8x8 Arctic Oven sleep tents
	16 ea	Thermal sleeping pads
ICDS	2 ea	Sleep kits – sleeping bag, pad, liner
	2 ea	Crazy Creek chair
	1 ea	Simple "floorless" tent & field latrine
	1 ea	1 qt funnel
	2 ea	5 gal gery cans for gasoline
	60 gal	Gas for Geni and snow machine
	1 ea	Snow machine
	1 ea	Nansen/polar associate sled for the entire time
	2 ea	Long handled square nose shovels
	1 ea	Short handled spate tip shovel
	1 ea	Steel grain scoop
	16 ea	1.5" x 12 bamboo
	10 ea	1.5"x8" bamboo
	3 ea	Sheets 5/8 plywood
	3 cases	Eutectics (blue ice)
Researchers	2 ea	Nansen sled
	2 ea	Skidoo
	1 ea	10x20 Arctic Oven work tent
	1 ea	Plywood floor for work tent

	2 ea	Electric space heaters for work tent
	1 ea	Small microwave oven for work tent
	2 ea	5 kW generator
	8 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
	8 ea	6' blueboard
	2 ea	Survival bags for transit to work site
	1 ea	Emergency kit(sleeping bag, stove, emergency food) for work tent
	1 ea	1-day use of handheld GPS for locating coring site
	~200 gal	Gasoline for generators for firn air sampling – quantity needed is uncertain
	2 ea	Jerry cans and funnel
	2 ea	Handheld radio, VHF
	8 ea	Wireless network cards
	8 ea	2 Qt Thermoses

Other Services

Project Allocations	Comments
16' of table/desk space in the GH	This group will be accommodated in the GH summer office.
ICDS drillers and Eclipse drill	Provided by ICDS.
Core boxes and sleeves	Provided by the PI from last year's stock.
Frozen sample handling / shipment	The firn core and ice samples need to be stored in cold (appx. -20° C) conditions. VPR will ship the core from Summit to Hanover, N.H., and arrange a truck and driver with robust back-up plan for transporting ice core boxes from Scotia to CRREL. VPR will email and phone (603-646-4422) M. Albert well ahead of time to arrange delivery so that personnel will be ready at CRREL to receive the cores, and to ensure that the truck will have security clearance to enter the CRREL property. VPR will send one core box of ice samples to UCSD/Severinghaus, using UCSD FEDEX info provided by Severinghaus, with next-day delivery. VPR will phone the Severinghaus lab (858-822-2483 or 858-822-3161) to arrange delivery so that it arrives Mon-Thurs in a box clearly labeled "Keep Frozen."
Drilling Location	To be resolved. VPR is requesting that this group relocate to the North of the skiway this year, but awaits PI confirmation
Kovacs hand coring auger	Provided by ICDS.

• 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 Jason Buenning (Jason@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	200 lb / 54 ft3
Scripps (Severinghaus) firn air flasks	200 lb/ 54 ft3
18 core boxes from CRREL	700 lb / 210 ft3
3" Eclipse/Badger Drill (ICDS)	1500 lb/100 ft3

• Field Team Information •

Affiliation	Name	Location	Date In	Date Out	Email
CRREL/ Dartmouth	Mary Albert	Kangerlussuaq	5/14/2007	6/8/2007	mary.r.albert@erdc.usace.army.mil
	Mary Albert	Summit	5/17/2007	6/7/2007	
UCSD	Jeff Severinghaus	Kangerlussuaq	5/14/2007	6/8/2007	jseveringhaus@ucsd.edu
	Jeff Severinghaus	Summit	5/17/2007	6/7/2007	
CRREL/ Dartmouth	Zoe Courville	Kangerlussuaq	5/14/2007	6/8/2007	zoe.courville@dartmouth.edu
	Zoe Courville	Summit	5/17/2007	6/7/2007	
UCSD	Vasilii Petrenko	Kangerlussuaq	5/14/2007	6/8/2007	vpetrenko@ucsd.edu
	Vasilii Petrenko	Summit	5/17/2007	6/7/2007	
CRREL/ Dartmouth	Elyse Williamson	Kangerlussuaq	5/14/2007	6/8/2007	ekwillia@hamilton.edu
	Elyse Williamson	Summit	5/17/2007	6/7/2007	
ICDS	Jay Kyne	Kangerlussuaq	5/14/2007	6/8/2007	jay.kyne@ssec.wisc.edu
	Jay Kyne	Summit	5/17/2007	6/7/2007	
ICDS	Lou Albeshardt	Kangerlussuaq	5/14/2007	6/8/2007	bgrndye2@yahoo.com
	Lou Albeshardt	Summit	5/17/2007	6/7/2007	
TREC	Jo Dodds	Kangerlussuaq	5/14/2007	6/8/2007	doddsjo@tfsd.k12.id.us
	Jo Dodds	Summit	5/17/2007	6/7/2007	

• 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	Jason Buenning	jason@polarfield.com	Denver: 303-638-6669 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
Sat phones & comms	Roy Stehle	roy.stehle@sri.com	Menlo Park: 650.859.2552
Medical & MAS	Kyli Olson	kyli@polarfield.com	Denver: 303.489.2151
Denver operations	Jill Ferris	jill@polarfield.com	Denver: 720.320.6155
Scotia Operations & Customs	Earl Vaughn	earl.vaughn@gmail.com vprscotia@hughes.net	Scotia: 518.331.3103

VPR Offices

Denver	Kangerlussuaq	Scotia
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 109th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.331.3103 Fax: 518.334.2537

Summit Station

Summer
VECO Polar Resources Attn: Name of Employee/Researcher - Summit Station C/O Earl Vaughn 109th Aerial Port Bldg. 20 Stratton Air Base Scotia, NY 12302-9752 Tel: 518.331.3103 Fax: 518.334.2537

Other

Organization	Internet	Phone
Medical Advisory Services	http://www.mas1.com	410.257.9504 / 410.257.9505 / 410.257.9506
Summit Science Coordination Office	http://www.geosummit.org sco@summitcamp.org	John Burkhart 47 96 82 50 11 (Norway) 1 209 658 7142 (USA, messages checked weekly)

• Safety, Environment, Health, and Permitting •

Permits
All science teams planning to conduct research in Greenland must complete an **annual application** in order to obtain approval from the Danish Polar Center (DPC). The application forms are available from the DPC at http://www.dpc.dk. Applications are submitted directly through the DPC, rather than through the U.S. State Department. For assistance with the application process, contact:
Poul Henrik Sorensen
E-mail: phs@dpc.dk
Telephone: +45 3288 0100

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.
Availability of functional generators for permeability & firn air sampling.
Firn cores and ice samples stored in cold storage (appx -20° C) at Summit, Kanger, Scotia, and shipment to CRREL & UCSD.
FEDEX shipment of ice to UCSD from Scotia must be next-day service, so box is not out of –20° C (-5° F) freezer for more than 36 hours. Shipment may be done on Monday through Thursday but not on Friday, as there will not be anyone at the lab to accept the ice on Saturday. VPR shipper must phone the Severinghaus lab (858-822-2483 or 858-822-3161) prior to shipping the ice to make sure someone will be there to receive the ice and put it into the freezer immediately. The box must be labeled "Keep Frozen."

• 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.