2005 Science Project Logistics Support Plan

POLAR RESOURCES

Please review all of the following information, including the gear allocations and field team members, 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	Christophe Ferrari
Institute	Universite Joseph Fourier, Environmental Glaciology and Geophysics Laboratory
Project Title / Grant #	Mercury transfer processes between the lower atmosphere, snow, firn and ice of the last 150 000 years at Summit, Greenland (FRMercury)
NSF Program and Manager	Intl - Fourier, Simon Stephenson
VPR Project Manager	Robin Abbott

• Logistics Summary •

For this study of mercury transfer functions, one researcher (Xavier Fain) will travel to Summit Greenland for several weeks in July/August of 2005 and 2006. During 2005 summer campaign at Summit, the researcher will analyze interstitial air in the snowpack for gaseous mercury with GAMAS probes. He will also collect frozen samples from 2 meter pits in the snow for further mercury studies at their home institute.

VPR will support the project via ANG coordination, access to Summit Station infrastructure, and provision of Argon gas for the project's experiments. In addition, VPR will coordinate safe storage of the project's 'keep frozen' samples while in transit from Summit to Scotia, NY.

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=FRMercury

• Outstanding Issues •

Issue	Responsibility	Date Completed
Review support plan for accuracy and distribute to all field team members	PI	1 April, 2005
Obtain all necessary permits for fieldwork	PI	9 April, 2005 Permit # 522-234
Medical examination completed	Fain	13 June, 2005
Contact the Greenland Environmental Observatory -Summit (GEO-Summit) Science Coordination Office (SCO) mailto:sco@geosummit.org regarding your project's plans for the season	PI	4 April 2005
Coordinate with VPR Cargo Coordinator Earl Vaughn regarding the shipment and customs into and out of the country (see Project Contacts for contact information)	Brion, IN2P3 Logistics	
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!	Fain	

• Allocations & Services •

Allocations from VPR Inventory

Quant/Unit	Item
1 ea	Tent, Arctic Oven 8 x 8, or REI GEO Mountain - for sleeping accommodation (see note)
1 ea	Sleeping Pads for the tent
1 ea	Wireless PC Access Card
Misc	Basic tools will be provided at Summit Station
2 ea	Argon cylinders (MESSER MG 5.5 RESEARCH Min purity 99.9995%, approximately 100 bar)

- Due to the high population at Summit during the duration of your stay, tents may need to be shared

Other Allocations

Quant/Unit	Item	Comment
1 ea	"2 stage regulator"	Collaborator Steve Brooks will supply several regulators with CGA-580 fittings that connect to the 1/8" tubing/swaglock for the tekran 2537a. It will be sent to Summit and left there.
2 sq meter requested	Workspace in cleanroom	A number of projects and the station science techs will share the small Greenhouse clean room during your deployment. Upon your arrival, a 'facilities use schedule' will be worked out. We need everyone's cooperation to ensure that all projects can meet their projected goals. Room is available in the science trench and VPR is encouraging teams to work there if possible. The average trench temperature is ~40F.
4 sq meter requested	Workspace in a room at 20-25C	Limited space will be available in the Greenhouse.

Services

Item	Comment
Frozen storage	Storage of keep frozen samples will be provided by VPR in Kangerlussuaq and in Scotia until shipment on to France.

• 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 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 this project should arrive in Scotia, NY no later than 01 July, 2005. It is VPR's understanding that shipment was arranged to depart France on 24 June by Mr Brion of IN2P3 Logistics and that the same company will arrange for the shipment to return to France, including temperature management of keep frozen cargo once it departs Scotia, NY.

- For the most current ANG flight schedule go to http://www.vecopolar.com and navigate to Greenland > Calendars/Schedules.
- 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

4 boxes :132 kg, 0.64 m^3
All the equipment was made at the lab, except the mercury analyser which cost 50 000 euros. All four boxes will leave Summit at the end of the campaign. Box #3 will be heavier upon return due to it consisting of frozen samples that need to remain frozen during the trip back to France.

Box 1 (32 kg exactly –0.75*0.60*0.40 = 0.18 m^3)
- Mercury Analyser Tekran 2537 (50 000 euros)

Box 2 (10 kg – 2.20*.15*15 = 0.05 m^3)
- 10 Snow probes GAMAS

Box 3 (35 kg – 1.14*0.45*0.35 = 0.18 m^3)
Sample box : sample bottles, sample bags, ice packs
- 10 kg for NY => Summit
- 35 kg for Summit => NY, **snow samples to keep frozen**

Box 4 (55 kg – 0.5*0.6*0.77 = 0.231 m^3)
- 2 Data acquisition units
- Acquisition wires
- 1 laptop
- Sampling materials (gloves …)
- Polar clothes
- Teflon lines + unions
- Teflon valve unit
- Pyranometer
- Decontamination material

• Support Schedule •

Date	Location	Activity
7/7/05	Boston	Arrive US and transit to Hanover, NH to plan collaborative work with M. Albert
7/11/05	Scotia > Kanger	Depart NY on 109th C-130 to Greenland
7/12/05	Summit	Arrive Summit from Kangerlussuaq
7/28/05	Summit > Kanger	Depart Summit
7/30/05	Kanger > Scotia	Fly to US
8/01/05	Boston	Depart for France

• Field Team Information •

Name	Location	Date In	Date Out	Email
Fain, Xavier	Kangerlussuaq	7/11/2005	7/30/2005	fain@lgge.obs.ujf-grenoble.fr
Fain, Xavier	Summit	7/12/2005	7/28/2005	

• Project Contact Information •

Research Team

Role	Name	Email	Phone / Fax
Principal Investigator	Dr. Christophe Ferrari	ferrari@lgge.obs.ujf-grenoble.fr	33-476-82-4239/33-476-82-4201
Field Coordinator	Mr. Xavier Fain	fain@lgge.obs.ujf-grenoble.fr	33-476-82-4259/33-476-82-4201

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
Denver operations	Jill Ferris	jill@polarfield.com	Denver: 720.320.6155
Scotia Operations & Customs	Earl Vaughn	earl.vaughn@nyscot.ang.af.mil vprscotia@direcway.com	Scotia: 518.331.3103

VPR Offices

Denver	Kangerlussuaq	Scotia	Summit
VECO Polar Resources 8392 S. Continental Divide Rd. #104 Littleton, CO 80127-4268 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 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	N/A

• Critical Success Factors •

Please list the support 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
FOR SNOW PROBES: Define a working area (30 m^2) outside in the vicinity of the station. This working area has to be enough far from the station in order to avoid all local contaminations (take care with the main wind direction in summer), and closed: nobody, and especially skidoos, will not be allowed to cross this area
Ability to conserve frozen sample at the station.
Ability to transport back frozen samples, and to store them in Scotia waiting for the French transporter
Argon gas and power supply

• 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.