

Project Cornerstone

Newsletter #11:

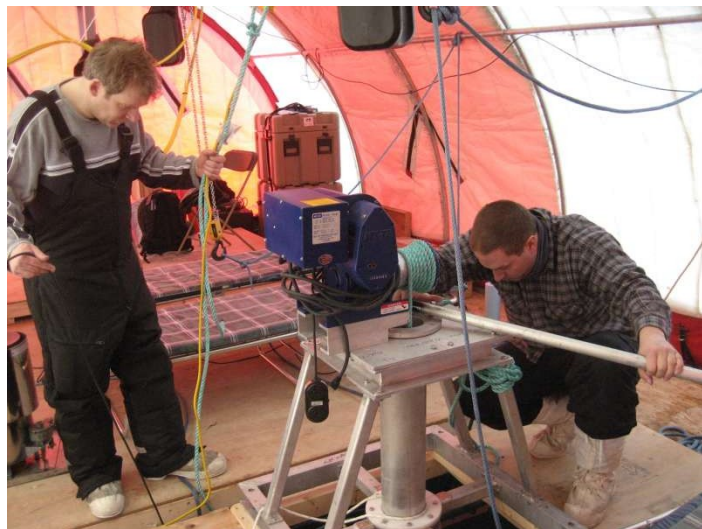
2 April, 2009 (Thursday)

The all-night test of the Inertial Navigation System went well. The unit, itself, is the little grey box just beside Ron's hand. Part of the test was to see how quickly and how well the INS determined its orientation. In other words, where is north?

The test included the operation of the Doppler sonar, which tells the vehicle how fast it is going. If the vehicle is close enough to the bottom, it gets good sonar returns and attains what is called 'bottom lock'. This velocity information is fed to the INS, which does the calculations to determine its velocity and then, by dead-reckoning, its position.

The vehicle was obviously stationary; it just changed orientation every four hours. Part of the test was to see whether the INS would recognize that the vehicle was, in fact, stationary. We didn't want the INS to tell us that it was moving or that it had changed location.

The picture on the right shows Darrell turning the vehicle by rotating the large vertical pipe of the CATCHY. He just puts a pipe between two pins and uses it as a turning bar. The bearing is good, and CATCHY turns smoothly. Chris is supervising.



Tonight the testing will continue. The philosophy is, 'the more data – the better'. I gather that they are giving the unit plenty of time and opportunity to fail.

Tomorrow, Peter King, Alban Bouchard and Alex Forrest will take the INS unit to the ice camp that is known as 'The Fuel Cache', and they will do an over-night test. It is at latitude 85 degrees and is almost due north of here. The intent is to test the unit as far north as possible. They know that if they go far enough north the INS will fail to initialize, but they don't know how far that would be. In a world of infinite resources they would keep going north until it failed, but in this world they have to live with what they get, and that will be the one location at 85 degrees. I did find out from Alban that once the INS is initialized it will maintain its heading knowledge – as long as it does not pass over the pole. Since we won't be going near the pole next year, this latter point does not concern us.

Garry and his people will be setting up tonight to start their LRAB experiment tomorrow. Since they are getting a good start tonight Garry hopes to finish it tomorrow.

For the most of us, today was a fairly slow day. For interest's sake I'll include a few pictures from other days. The one on the right shows Warren Connors and other taking down the Octagon tent yesterday at the remote camp. The picture gives you some idea of the tent's structure.



All the freight from this remote camp was brought back to the Spinnaker building today by a Positrak/Trailer load (see right) and two skidoo loads. So, that camp is cleaned up.

We leave for home next Wednesday, assuming no delays, and we have one eye on the clock and the other on all the stuff that needs to be cleaned up.



Val Shepeta in the large AUV tent.



In case you need to be told, this is not one of our guys. Ron Lewis got several pictures of Arctic Hares the other day. It is a mystery how they find enough to eat to keep themselves alive through the very long winter.



A few more suggestions for vehicle names have come in.

Snoopy and Red Baron

McClure and Rae

Monekysaw and Cameo. These were the names of two Eskimos Joseph Bernier hired to assist in his first voyage to the Arctic

Swallow and Amazon

I have a five-year-old pal whose contribution is: **Spaghetti and Meatballs**

I got some rather unfortunate information from one of the people at ISE.

"Many of these have been previously taken. There is already a Hugin AUV, Munin ROV, many Remus AUVs (which sort of excludes Romulus), Daedalus set the human power aircraft record,....no ICARUS...

"How about we get to modern times **STIMULUS** and **PACKAGE???**, and while you're digging ice-holes, how about **MELTDOWN** as an alternate."

You can download any newsletters you may have missed from the site

http://a76.dk/lang_uk/main.html

or Google 'arctic field trips 2009'

Today's pictures were contributed by Richard Pederson, Don Mosher and Ron Lewis.

Best Wishes, Ron Verrall

We'd like to hear from you. (ronverrall@gmail.com)