

# SIGNAL 2009

## Weekly Newsletter #3 (Sunday, June 21)

Last Sunday we were hit by a storm that blew with 60 to 70 knots for two days straight. In the end, waves were building up to a height of 10 m and this brought life on the ship almost to a standstill. To keep the ship as stable as possible without getting too far from the seismic, we moved on a northeasterly course against the wind with a speed of 3 knots. On Tuesday morning the sea had calmed so much that we could return to line 2, some 150 miles away by then. On the way back we passed Cape Farewell at the southern tip of Greenland in beautiful sunshine. Unbelievable that a day earlier the seas were so furious out there. In the evening we could deploy the remaining three ocean bottom seismometers on line 2 that crosses the submarine Eirik Ridge.

Wednesday morning at 3 am, the ship became quite active as the airgun array was deployed with the first daylight, even though there always seems to be some twilight at these latitudes (59° N) at this time of the year. The deployment of the array took only two hours as our technicians and the ship's crew have learned the procedure and work well together. This time all 12 guns (Sercel G guns with a volume of 520 cubic inches each) worked error-free during the 27 hours of continuous shooting.

The shooting was again followed by retrieval of the 20 ocean bottom seismometers (OBS) that were deployed earlier along the line. This operation lasted until early Saturday morning and took longer than expected because seven of the instruments would not release from the seafloor after the normal waiting time of 10 minutes that it takes to corrode a burnwire that attaches the OBS to the ground anchor. However, after waiting for one to three hours, five of these instruments came back to the surface. Two OBS had to be left behind.

Saturday we were in transit to line 5. Unfortunately, the ice that still exists around southern Greenland at this time of the year moved considerably during the last week. The eastern end of the line, where we expect the continent-ocean boundary is now covered with sea-ice. For this reason, we now concentrate on the western half of the line that traverses the extinct seafloor-spreading axis in Labrador Sea. Deployment of the OBS started Saturday evening and this morning we started the shooting along the line.

Through the ARGOS satellite tracking system we also got the news that one of the two lost OBS came back to the surface through the backup time release. We are presently discussing our options and have also asked the German research vessel Maria S. Merian for assistance. The ship operates in the immediate vicinity of the OBS whereas we are 24 hours of transit away. Other positive news is that we managed to repair the three OBS that were damaged during the storm and our sonobuoy recording system can finally handle more than one buoy at a time, which we just tested by two sonobuoy deployments.

Cheers,  
Thomas



Close to Cape Farewell – heading back to line 2



Deployment of airgun array.