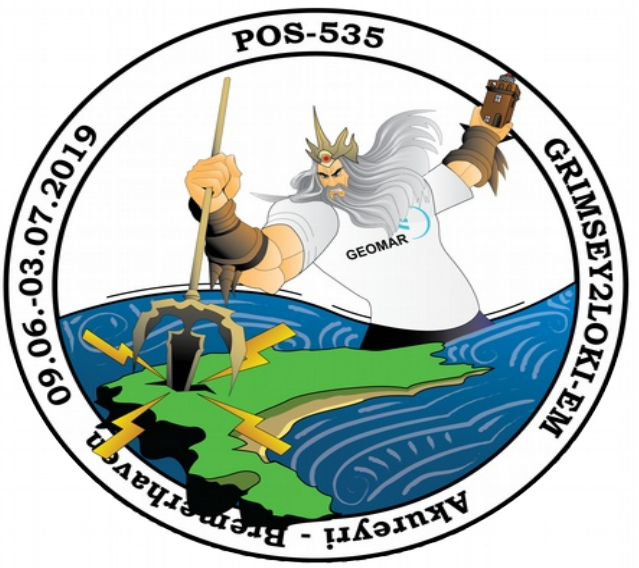
POS535 – Loki2GrimseyEM – Grimsey Vent Field, Island – 26.6.2019

2. Weekly Report



After reporting last week on June 17th from Grimsey Island, we are now on our way back from the second main working area located at approximately 73° 30‘ N, where we studied two further hydrothermal systems (Loki‘s Castle and Mohn‘s Treasure). Upon our arrival here on June 22nd after 3.5 days of transit, we were greeted with extremely poor weather conditions, which prevented us from conducting any tasks of our scientific work plan.

On the following day, conditions improved and we were able to commence with out experiments at Loki‘s Castle. Our targeted goal of deploying 6 OBEM stations, retrieving 3 gravity cores and measuring three profiles (~12 km) with the MARTEMIS coil system until the evening of the 24th was ambitious, however successful. The demanding work plan proceeded in the following days and included:

- Measurements with the CAGEM dual-polarization antenna on approximately 5 km of profile.
- Successfully retrieving all 6 OBEM stations
- Transit to Mohn‘s treasure and one further gravity core measurement

Although we were unable to retrieve a full core sample from Mohn’s Treasure, a small fragment of massive sulphide was found within the core catcher (Pyrrhotite!?). First analysis of the sample could potentially be associated with a positive magnetic field anomaly measured by our Norwegian colleagues prior to this cruise.

The scientific program of POS535 was successfully completed this afternoon (26.6) with a final MARTEMIS measurement on Mohn‘s Treasure. The acquired data will hopefully deliver insights regarding the buried and presently still unknown inactive system. At the end of the profile at approximately 3:30 PM, we were able to use the complete length of the available winch cable (2625 m) marking the deepest site that we are currently able to measure using the installed infrastructure on RV Poseidon. Shortly after 5 PM, the device was safely manoeuvred onto the aft deck with several bumps and bruises signalling the end of the scientific program for POS535.

The crew, technicians and scientists onboard the Poseidon are all exhausted from a demanding work plan, but are healthy and anxious to return to Bremerhaven. We are all looking forward to double-digit temperatures!

Sebastian Hölz

(Fahrtleiter)