

#### **4. Weekly Report SO271/2 (INDEX2019)**

08.01.2020

The last week of cruise SO-271/2 had only half a working day left in the study area. By Monday morning, the measurements at the SCORE sulfide field in license cluster # 4 could be completed with the CSEM coil system of the Golden Eye. This field was also completely mapped with profiles at a distance of 50 meters. In contrast to the other sulfide fields investigated, the Golden Eye was not landed on the seafloor regularly, instead the device was flown at a height of 2.5 meters above the bottom at a uniform speed of approx. 0.5 Kn along the profiles. The evaluation of the data will show whether with this time-saving measuring method comparable results can be achieved.

With the experience of past cruises and the improvements made, we were able to present a measuring system on this cruise which, despite the high complexity of the Golden Eye, could be used safely and easily with the excellent technical and navigational possibilities of the Sonne.

After the Golden Eye was back on deck on Monday at noontime, the towed magnetometer system was deployed and the more than 700 nm long return transit to Port Louis was started. At the same time, the demobilisation of all devices no longer required on deck and computers in the laboratories began. In the early morning hours of Tuesday, the magnetometer was finally retrieved for the last time shortly before reaching the EEZ in Mauritius and the scientific work was ended.

The balance of this rather short cruise with 14 working days amounts to 240 hours of use of the Golden Eye including 155 hours of biological mapping of the seabed fauna, a 12-hour deployment of the bathymetry sledge Homeside, approx. 1800 km of magnetic profiles, and the deployment of 16 ocean bottom seismometers. The implementation of this extensive program in the short time available was only possible with science and ship crew working together very professionally and effectively. We would like to thank Captain Oliver Meyer and his team for this all-round beautiful and successful cruise, for the great willingness to help with all the work involved, as well as for the friendly reception and excellent catering on board.

Everyone on board is well and looking forward to arrival in Port Louis on Thursday.

With best regards,

PD Dr. Udo Barckhausen, chief scientist

Federal Institute for Geosciences and Natural Resources



From left to right, standing: Boris Hahn, Robert Sommerfeldt, Udo Barckhausen, Katrin Schwalenberg, Ingo Heyde (all BGR), Christian Hilgenfeldt (Bremen Univ.), Hendrik Müller, Joachim Deppe, Axel Ehrhardt (all BGR). Sitting: Elisabeth Schneider (LBEG), Dennis Hagedorn (BGR), Klaas Gerdes (DZMB-INES), Katharina Kniesz (DZMB), Timo Ebert (BGR). Photo: Miriam Plöger