

5. Weekly report of expedition MSM127 with MARIA S. MERIAN Las Palmas - Las Palmas (Gran Canaria) 18.03. – 20.04. 2024

In the last three working days of MSM127, the remaining tasks in area A were tackled, which had to be disrupted in the second week due to bad weather conditions and high waves. The second MeBo borehole above the headwall of a landslide southwest of Cape Blanc resulted in a 67.80 m deep borehole with a core recovery of 69%. Together with the drill core below the headwall, which reached a maximum depth of 37.70 mbsf, the new cores can be assembled using the Parasound profile to form a combined sequence of >75 mbsf, an important shallow water counterpart to the old ODP site 658 west at 2273 m water depth. The newly drilled sediments at a water depth of 971 m - in the today's core of Antarctic Intermediate Water off NW Africa - are intended to help to narrow down the spatial extent of the diatom layers at late Pleistocene terminations more precisely and to better understand their causes and effects.

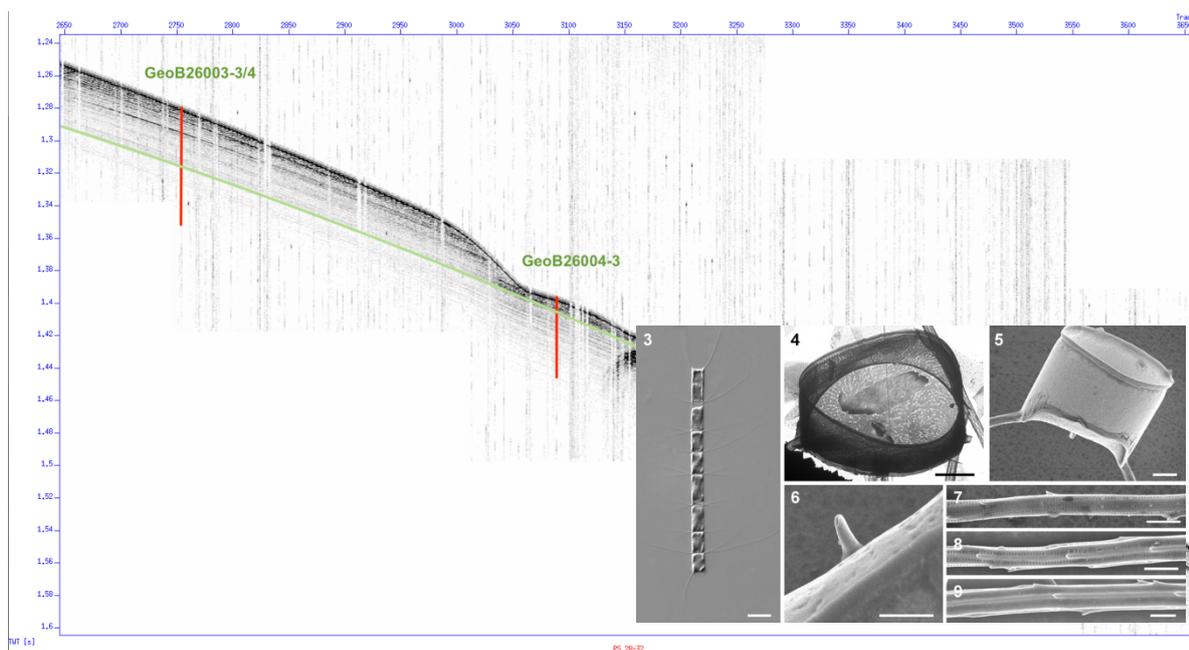


Fig. : Parasound profile MSM127-PS28-32 showing the headwall of a landslide SW of Cape Blanc. The potential base of the landslide is marked in green, the inset shows the diatom *Chaetoceros affinis* (Kooistra et al. 2010, Phycologia, Figs 3-9), common in these layers.

The scientific work of MSM 127 is completed with a final multibeam and parasound survey, which was intended to connect our working area to a seismic profile of the MERIAN cruise MSM11-2 (GeoB09-046). The two days of transit back to Las Palmas will be used to process the last drill cores, pack up the laboratory equipment and dismantle MeBo70, as far as this is possible at sea with on-board cranes. MARIA S. MERIAN will arrive on schedule in Las Palmas on April 20, 2024 at 8:00 a.m..

With a total of 8 MeBo70 boreholes and a core recovery of 342 m, plus a further 145 m of sediment sequences from gravity cores, 19 multicorer stations, 9 deployments of in-situ pumps and 10 water sampling profiles combined with CTD measurements, a satisfying amount of sample and data material can be brought to Bremen for the many follow-up studies that are planned on this material. In addition, with detailed multibeam and parasound surveys during the transit between the work areas, the cold-water coral province off Mauritania was almost completely mapped out, providing a precise basis for interpreting the sediment cores obtained.

On behalf of the scientific team of MSM 127, I would like to thank Captain Maaß and his crew for their comprehensive support over the last five weeks, for the perfect working environment on board and for the pleasant time on the MARIA S. MERIAN!

Last greetings from on board Maria S. Merian,

Torsten Bickert

20. April 2024