

ANT XXIII/4 Weekly Report No. 7 (to the Amundsen Sea, West Antarctica)
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Most of our scientific work program was completed this week. But before completion, the dredging program at the Marie Byrd Seamounts asked for a bit of patience from our geologists. The aim was to obtain volcanic rock samples from these seamounts in order to determine the age and kind of the magmatic and volcanic activities in this region.

On the first seamounts, it seemed as if we had to experience the same failure as others before in this area. The toothed steel frame of the dredge contained in its chain bag only so-called "drop-stones". These loose and mostly rounded rocks originate from the Antarctic mainland and have been transported first at the bottom of glaciers and later from icebergs. When the icebergs melt in the open water, these rocks fall down and have covered therefore the polar seafloors over time. As one cannot say where these rocks originate from, they have relatively little use for geological studies. Again and again, the dredge arrived on board filled with drop-stones.

But then finally, when we were on top of the largest of these seamounts, success was there: good chunks of volcanic basalt were in the dredge bag, broken off from steep flanks. And more good samples came from other seamounts. Thus, for the first time, freshly broken rock samples have now been collected from this enigmatic seamount province. This is the precondition to understand in which context this large volcanic region is in regard to the volcanoes of the West Antarctic mainland and its tectonic evolution.

After this program was completed, Polarstern set course for its long way East. The weather worsened, but we were lucky to take advantage of a good weather window of only a few hours, in order to fly to Peter I Island, where we installed a GPS station and a magnetometer at the beginning of our expedition. We needed to dismount the gear, but also checked the automatic weather station we deployed earlier. Everything worked well, and so we could continue our track along the Antarctic Peninsula in the direction of Jubany Station.

For most of the expedition into the South Polar Sea, Neptune – God of the Sea – has observed us with utmost patience. But if the 46 un-baptized intruders on board thought that they would avoid his treatment, they learnt better. Neptune and his court appeared on board on Saturday and conducted their sensational rituals of the Polar Baptism. Afterwards, the end of the scientific program and the survived Polar Baptism was celebrated with a Fest.

With very best regards and wishes from all newly and formerly baptized

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