Daily Drilling and Scientific Report for IODP Expedition 357 Atlantis Massif Serpentinization and Life, 2015

6th Nov 00:00 - 24:00 Local Time (-2 GMT)



1. Location

30° 7.944' N 42° 7.202' W IODP-MSP M0069A Prospectus borehole AM-06A Water Depth: 849.7m

2. Science Report

RD2 coring at M0068A (proposal site AM-02) terminated early due to technical issues, and neither logging tools nor the borehole packer were run. A ~50 cm core was recovered, composed of rubble and intact pieces of coarse-grained metagabbro with strong talc-amphibole alteration. Deformation is heterogeneous but predominantly protomylonitic. Two generations of veins are identifiable: talc-amphibole veins and calcite veins. Patches of manganese crust and pelagic, foraminiferous carbonate were observed on the surface. One sample was taken for microbiological analysis, one sample was taken for OSP thin section/bulk rock analyses, and the remainder of the core was run through the Fast Track MSCL. Prior to drilling at M0068A, a water column profile for geochemistry and microbiology was collected over M0068A with the ship's CTD Niskin rosette. Niskin water bottles on the rock drill were collected at the end of active drilling for comparative geochemistry and microbiology analyses. A sensor package on the rock drill collected logs of methane, pH, dissolved oxygen and redox while drilling.

After a water column ship's CTD Niskin cast at M0069A (proposal site AM-06), followed by an aborted deployment of the MeBo, the RD2 began drilling at M0069A and continued for the rest of the day.

3. Core Recovery Details

Hole	M0068A
Cores recovered	1
Drilled length (Coring, m)	1.965m
Drilled length (Open hole, m)	0
Recovered length (m)	0.47m
Recovery (%)	23.9
Depth at midnight (mbsf)	1.965m

4. Weather

Generally sunny with good visibility although showers visible in the distance. Maximum temperature of 24° C with an average swell of 1.5-2.5m. Winds NW swinging N 8-18 knots.

Next 24 hours: Winds holding W-NW with increasing sea swell. Rain showers possible.

5. Planned Activity for the next 24 hours

Continue coring operations at M0069A (AM-06A).

6. Photo of the day



First core piece on deck. DaveSmith@ECORD IODP