

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



10th Nov 00:00 - 24:00 Local Time (-2 GMT)

1. Location

30° 7.792' N 42° 7.327' W
IODP-MSP M0072B
Prospectus borehole AM-01A
Water Depth: 820m

2. Science Report

MeBo drilling at M0071A penetrated 5.22m and recovered 2.85 m in two cores. Cored material consisted predominantly of porphyroclastic, moderately foliated serpentinite with prominent mesh texture overlying gabbro. Video records during drilling indicated a release of gas bubbles during drilling, which corresponded to a change in the rock drill chemical sensors. As the hole was terminated prematurely after snapping the rock drill overshot tool, no logging or borehole plug installation occurred. Rock drill Niskins collected bottom water at the end of drilling. Two whole round core samples were taken for microbiological and geochemical analyses, with the remainder retained for the OSP following full MSCL characterization.

Operations began at site M0072A (proposal site AM-01) in the late morning with a pre-drilling cast of the ship's CTD to collect water for microbiology and geochemistry. Drilling at Hole M0072A ended prematurely after 2.23m of penetration due to needing to recover the rock drill to load a forgotten packer rod. During drilling, a large spike in methane concentration was observed with the rock drill sensor package. Rock drill Niskins collected bottom water at the end of drilling. Two cores totalling 0.87m in length consisted of serpentinized peridotite underlying unconsolidated sediment. Two whole round core samples were taken for microbiological and geochemical analyses, with the remainder retained for the OSP following full MSCL characterization.

RD2 was redeployed at Site M0072B and began drilling roughly 2m away from M0072A. By the end of the day, drilling had penetrated roughly 5m.

3. Core Recovery Details

Hole	M0071A	M0072A
Cores recovered	2	2
Drilled length (Coring, m)	5.22	2.23
Drilled length (Open hole, m)	0	0
Recovered length (m)	2.85	0.87
Recovery (%)	54.6	39.1

4. Weather

Fine and clear with 5/8 cloud cover. Low swell and slight seas. Maximum temperature of 24.5°C. Winds variable and light.

Next 24 hours: Possible front coming through bringing rain and winds of 15 – 20 knots.

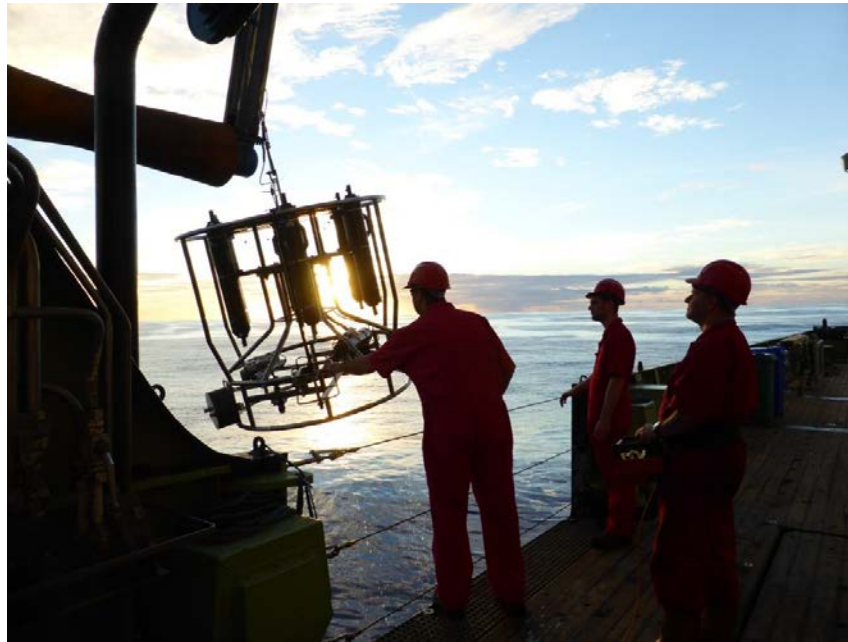
5. Planned Activity for the next 24 hours

Continue coring operations at M0072B (AM-01A).

6. Health and Safety and Environmental

N/A

7. Photos of the day



Sunrise CTD cast. CarolCotterill@ECORD_IODP



Sampling the drill liner fluid for PFC Tracer analysis. DaveSmith@ECORD_IODP