

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



17th Nov 00:00 - 24:00 Local Time (-2 GMT)

1. Location

30° 06.05' N 42° 01.04' W

IODP-MSP N/A - running multibeam survey whilst drills are prepared for deployment

Prospectus borehole: N/A - running multibeam survey whilst drills are prepared for deployment

Water Depth: ~4000m

2. Science Report

RD2 drilling at M0076B (proposal site AM-11) penetrated 16.31 m before encountering difficult drilling conditions that prevented further coring. Prior to returning the RD2 to the surface, the optical acoustic gamma ray logging tool was run twice through pipe to record natural gamma radiation in the formation. Due to poor hole conditions and stuck drilling pipe, the dual induction logging tool was not run, nor was a packer installed in the hole. Ten cores totalling 11.58m were recovered, with over 100% recovery in some sections. The cores consisted primarily of mylonitic serpentinite with varying density of serpentine-talc-amphibole veins and degree of drilling induced fracturing. Five whole round core samples were collected for ephemeral microbiology, geochemistry and contamination testing from cores 3R, 5R, 7R, 9R, and 10R, with the rest of the material archived for core logging and OSP sampling. 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.

Multibeam mapping over the eastern section of the Atlantis Massif and neighboring conjugate margin began in the evening.

3. Core Recovery Details

| | |
|--------------------------------------|--------|
| Hole | M0076B |
| Cores recovered | 10 |
| Drilled length (Coring, m) | 16.31 |
| Drilled length (Open hole, m) | 0 |
| Recovered length (m) | 11.58 |
| Recovery (%) | 71 |

4. Weather

Wind variable to SSE by evening, increasing from light airs to 10 knots. Fine and clear but with scattered showers in the early morning. Slight seas and long low swell. 6/8 cloud cover. Maximum temperature of 23°C. Next 24 hours: Cold front passing through with predicted rain and squalls.

5. Planned Activity for the next 24 hours

Continue running a multibeam survey over the Mid Atlantic Ridge and conjugate margin to the Atlantis Massif core complex. As soon as one of the seabed drills is made ready, deploy at Site AM-04A.

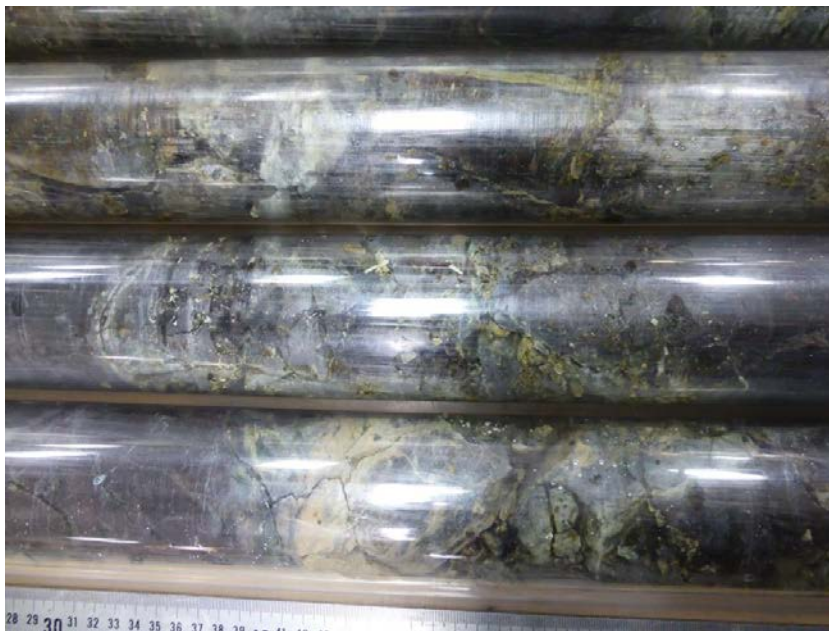
6. Health and Safety and Environmental

N/A

7. Photos of the day



Through liner descriptions of cores from M0076B. CarolCotterill@ECORD_IODP



Some of the cores recovered from M0076B (AM-11A). Apologies for the lighting!
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