

Preliminary reports on the Nature of the Lower Crust and Moho at Slower Spreading Ridges (SloMo)

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IODP Expedition 360, Phase I of the Nature of the Lower Crust and Moho at Slower Spreading Ridges (SloMo) project of a Multi-Leg Drilling Project, was carried out from 1 Dec., 2015 to 31 Jan, 2016, at Atlantis Bank that is a 5 km local high along the eastern wall of the Atlantis II Transform of the Southwest Indian Ridge. Atlantis Bank has been interpreted as an oceanic core complex, where intact lower crust and the uppermost mantle are tectonically exposed by a long-lived detachment fault. We conducted all drilling operations at a single site in a single Hole U1473A and drilled 789.7 m through gabbros. This is the deepest single-leg hard-rock drilling hole in ocean crust. Expedition 360 Hole U1473 is located at 2.2 km Northeast of 1.5 km deep Hole 735B and at 1.4 km north of 158 m deep Hole 1105A. This provides us, for the first time, a unique opportunity to explore three dimensional lower crustal characteristics beneath the slow-spreading ridges. Phase II of the SloMo has proposed to drill 6 km through MOHO by the CHIKYU. In the meeting, we will introduce preliminary results of IODP Expedition 360 and the future perspective leading to Phase II of the SloMo, a mantle drilling into ultraslow-spreading ridges.

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