November 21, 2005

IODP EXPEDITION 312:
SUPERFAST SPREADING RATE CRUST 3
WEEK 3 REPORT

OPERATIONS

During this week, the vessel completed the 763 nmi transit from Acapulco, Mexico to Hole 1256D at an average speed of 11.1 knots. The 3361 nmi trek from Victoria, B.C. to Acapulco to the site was accomplished at an average speed of 10.9 knots.

Shortly after positioning on site using the GPS data, the first piece of coring equipment was placed in the water at 0730 hr on 15 November. Prior to the deployment of the drill string, the connections of the rotary bottom hole assembly (BHA) were subjected to a magnetic particle inspection. As the 10-drill collar BHA was being deployed, all tubulars were measured and the through-bore inspected in accordance with the routine accorded the initial drill string deployment of the expedition. A beacon was deployed from the VIT at 2014 hr and placed approximately 30 m north of the reentry cone.

The bit entered the reentry cone for the first time at 2030 hr on 15 November. The drill string advanced without incident until it contacted resistance at 927 mbsf. The bit was pulled back to 905 mbsf, the top drive picked up, and the center bit dropped. The hole was then washed and reamed intensively from 927 mbsf to a depth of 1051 mbsf where an obstruction prevented further progress. The region of the hole from 927 mbsf to 944 mbsf was very tight and received most of the attention during this time. The remedial hole conditioning was augmented with generous mud flushes and a wireline roundtrip to change from a center bit to a wash barrel. The total operating time expended in this episode of hole conditioning was 38 hours.

At this juncture, it was decided that a more aggressive cutting structure was required to clean the hole than the C-9 coring bit presently deployed. The rotary BHA was recovered at 2100 hr on 17 November and replaced with an F-2 Smith tricone drilling assembly. At 0435 hr on 18 November, the second reentry of the expedition was made and the drill string quickly lowered to 903 mbsf where washing and reaming of the hole resumed. The hole was then successfully washed and reamed from 903 mbsf to 1255 mbsf (the bottom of the hole) in 40 hours. The bit stuck at 1198 mbsf for 45 minutes before the drill string was worked free.

At 0650 hr on 20 November, the bit cleared the reentry cone and was on deck at 1215 hr. The BHA was made up with a new C-9 RCB bit and deployed. Hole 1256D was reentered for the third time on the expedition. The bit was tripped down to 1161 mbsf, the top drive was picked up, the hole was washed and reamed to bottom. RCB coring was initiated at 0715 hr on 21 November.

SCIENCE UPDATE

Hole conditions have prevented coring this week with recovery of only a 49 cm ghost core from the interval between 925 and 1051 mbsf. The recovered material consists of 5 basaltic cobbles, with associated basaltic gravel, sand, and silt. The cobbles are aphyric cryptocrystalline to microcrystalline dark gray slightly altered basalt. The cobbles are being prepped to be used as an internal laboratory geochemical standard (BAS-312). A similar standard was prepared from a ghost core on Leg 206 (BAS-206) in Hole 1256D.

TECHNICAL SUPPORT ACTIVITIES

Scientist ID photos were posted on the transit to Site 1256 and the labs were once again prepared to receive core. Hole conditions so far have limited recovery to one ghost core. The effort preparing the WSTP with ADARA for deployment has been shelved for now. Logging and VSP plans have been deferred to the weeks ahead.

As we are now fully committed to a complete demobilization of the ship in Galveston efforts are being made to determine what preparations can be made during this expedition. Equipment and supplies that will not be used will be evaluated for packaging and inventory purposes. The paleo and microbio labs are being inventoried and ancillary equipment packaged. Plans to efficiently clear the gym equipment, core boxes and racks of gas bottles are being reviewed for action during port call. Chemicals in the labs and in stores were inventoried for eventual disposal or return to TAMU.

HSE: A safety presentation for the marine specialists and scientists is being prepared.