July 18, 2005

IODP EXPEDITION 309:
SUPERFAST SPREADING RATE CRUST 2
WEEK 1 REPORT

OPERATIONS

PORT CALL: The ship arrived at Puerto Cristobal, Panama and dropped anchor at 0752 on 8 July. The ship was advised that the berth at PIMPSA terminal in Balboa was not available and the port call activities were moved to Cristobal. The vessel was moved to Pier 7A and Expedition 309 began with first line ashore at 1420 hrs on 8 July. Port Call activities began at 1420 with customs and immigration formalities. The crew loaded fresh catering goods and small air freight items. IODP technical staff crossover occurred on 10 July. Aside from normal port call activities, a Liberian Flag inspection of Lifeboats #2 and #4 was carried out. Sanitation and fumigation officials performed a de-ratting renewal as well. The loading of 20 tons of Sepiolite was completed at approximately 2200 hrs on 11 July. The last freight, consisting of Expedition 308 core samples was offloaded by 1330 on 12 July. Port call was concluded with last line released at 1620 on 12 July.

PORT CALL SECURITY & SAFETY: During the Cristobal port call the ship operated under a security level of MARSEC Level 1 (Yellow) and appropriate security measures were in effect. All personnel who had not sailed within the last 6 months were given safety briefings and participated in a safety drill upon their arrival. An abandon ship drill introduced all to their assigned lifeboats. Life vests and apparel were inspected.

TRANSIT TO SITE 1256: The last line away from Berth 7A, Cristobal, Panama was at 1620 hr on 12 July. The vessel was underway to the Gatun Locks in the Panama Canal. The ship continued through the canal and exited the Miraflores Locks at ~ 0000 on 13 July. The transit of the ship through the Miraflores Locks can be viewed at http://iodp.tamu.edu/publicinfo/gallery/exp309/Panama_canal/. The ship passed under the Bridge of the Americas at ~1330 on 13 July and began the transit to Site 1256. The transit was relatively benign with the ship rolling/pitching moderately while averaging 10.1 knots over the 822 nmi distance in warm gray rainy weather. The Intertropical Convergence Zone remains over the drill site continuing the rainy weather. The funnel viscosity of one mud tank was brought up from 30 to 90 in order to remove cuttings from the hole more efficiently. A positioning beacon was attached to the VIT so that it could be dropped in a known location. Thrusters were lowered at 1030 hr 16 July. The vessel was placed in dynamic positioning (DP) mode by 1100 hr.

HOLE 1256D: A BHA consisting of a logging bit and 10 drill collars was assembled marking the beginning of operations for Expedition 309. The drill string was assembled to a depth of 2467 mbrf and the VIT was launched to monitor reentry. The reentry cone for Hole 1256D was located directly beneath the ship's position, the ship offset 50 m northwest, and the positioning beacon was dropped from the VIT at 1930 hr on 16 July. The hole was reentered at 1950 hr. The total drilled depth of Hole 1256D at the end of Leg 206 was 4397 mbrf and the target depth for the drill string was 4377 mbrf or 20 m above bottom. The drill string began taking weight at 4370 mbrf indicating about 27 m of fill at the bottom of the hole.

The drill string was raised to a depth of 4368 mbrf and the top drive picked up. The WSTP was lowered into the drill string to obtain a water sample and temperature measurement at 724.6 mbsf (4369.6 mbrf). The water sample was found to be murky and a low salinity (26 per mil) indicated the filters had become clogged with silt before the sampler was

completely purged of nanopure water. The WSTP temperature measurement gave a flat line temperature of 60 °C due to installation of the incorrect thermistor in the tool. It was decided to run the WSTP again to get a better water sample. While the WSTP was cleaned for its second run, the Adara tool was deployed to obtain accurate temperature readings above 60 °C. Temperature at 712.6 mbsf was 64.5 °C and at 724.6 mbsf was 65.8 °C. Our best estimate for temperature at the bottom of the hole (752 mbsf) is 68 °C. The second run of the WSTP, taken at 4357.6 mbrf, returned a better water sample. The drill string was raised to 3907 mbrf and preparations were made for logging. The Schlumberger logging tools were lowered into the drill string at 1200 hr on 17 July.

TECHNICAL SUPPORT

Complexities in the port call activities were introduced by the last minute change of ports from Balboa to Cristobal on the Atlantic side, primarily in lost time moving people back and forth to the hotels. Off going shipments were continued through the last day but were completed. As the ship departed for the locks, the off going airfreight remained covered on the dock. U/W watches were conducted for training. Classes were conducted for the technical staff covering hard rock procedures.

The DMT core scanner was installed on a bench in the core entry area to accommodate the added length of the device. The instrument is operational but preparations are continuing.