

November 14, 2005

IODP EXPEDITION 312: SUPERFAST SPREADING RATE CRUST 3 WEEK 2 REPORT

OPERATIONS

During this week, the vessel completed the 2598 nmi transit to Acapulco, Mexico at an average speed of 10.9 knots. The first line was secured to Berth 2, Fiscal Wharf at 1135 hr on 11 November. During the 22.5 hour port call, the School of Rock participants were discharged and the Expedition 312 scientific party embarked. The last line was released at 0958 hr on 12 November and the vessel began the 763 nmi journey to Hole 1256D.

In accordance with routine, the new arrivals were given a safety briefing shortly after leaving port. A pre-site meeting to discuss the general strategy on site will be held on 14 November. The operational strategy for Expedition 312 is to core as deeply as possible in Hole 1256D in the time allotted. This will include complete borehole coverage with conventional wireline logging tools.

As of 1800 hr on 13 November, we have transited 343 nmi at an average speed of 10.9 knots since leaving Acapulco. The projected E.T.A. on site is ~1000 hr on 15 November.

SCHOOL OF ROCK EXPEDITION

During the second week of the School of Rock Expedition, educators were immersed in learning about the research techniques utilized onboard the *JOIDES Resolution* to document and define the characteristics of the core samples that are collected by the drilling program. The topics they covered this week included:

- The process of conducting carbonate analyses on sediment samples.
- An Introduction to paleomagnetism.
- The use of the superconducting cryogenic magnetometer.
- A lecture via videoconferencing through satellite transmission titled "CORK 101" that focused on why fluids are a critical parameter in Earth system processes.
- A recent submersible dive to view and work on the CORKs installed during Expedition 301.
- The principles of seismic reflection and acquisition, a tour of the underway geophysics lab, classroom exercises on seismic stratigraphy using ODP data from Legs 150 and 173.
- The upcoming operational portion of Expedition 312.
- Three key events that have been studied through scientific ocean drilling projects: climate change of the Cenozoic; Cretaceous/Paleogene (K/P) boundary; Eocene/Oligocene Boundary to illustrate that since 1968, scientific ocean drilling has tapped into a considerable archive of Earth history and in doing so has revealed much about the processes that drive our planet's dynamic character.
- The Milankovitch Cyclicity in climate, as documented in high-resolution ice core and marine sediment records.
- Reconstructing climatic and oceanic conditions from the marine sediment record of ODP Site 919, Irminger Basin, utilizing real sediment samples from the site. This was the final example of how scientific ocean drilling research results can be used in the classroom.

In addition to becoming familiar with the lab stack facilities, they also had opportunities to tour the ship. The group received a tour of the bridge by the vessel's Master Alex Simpson, a tour of the dynamic positioning control room by Electrical Supervisor Ray Frank, and the Catermar crew provided the group with a wonderful tour of the galley, food storage areas and laundry facilities.

On Friday afternoon, 11 November 2005, after many of the TSO and IODP-USIO staff had left the vessel for shore, as a means to express their thanks, the School of Rock Expedition educators filled the galley with photos of all the staff that had helped to make their experience so wonderful and rewarding and posted copies of the 20 career profiles the educators had written up about members of the drilling vessel staff. The educators will depart the vessel on 12 November 2005 at 0730 and will continue their workshop for two days on shore before the pilot program concludes on the evening of 13 November 2005.

TECHNICAL SUPPORT ACTIVITIES

Support continued through the week for the School of Rocks group with presentations and demonstrations. There was about a two day lapse in telephone and internet service, associated with changing satellites. The teachers and staff disembarked in Acapulco Saturday and remained a day to finish their work. The X312 scientists boarded and were directed to their quarters. Two individuals sailed without their baggage so some apparel was purchased locally for them.

HSE: A safety presentation was presented to the new personnel joining the ship on Saturday; a boat drill was conducted Sunday to acquaint them with the lifeboats and procedures.