

IODP Expedition 329: South Pacific Gyre Microbiology

Week 1 Report (9-16 October 2010)

OPERATIONS

IODP Expedition 329, South Pacific Gyre Microbiology, began on October 9th alongside Berth EPI Nord in Papeete, Tahiti, French Polynesia. The USIO staff, Co-Chief Scientists and some members of the science party arrived on board at around 1030 hours. The rest of the scientific party arrived the following day and the Transocean crew change was completed a day after, on the October 11th, making the vessel ready to sail on the morning of October 12th, one day ahead of schedule.

Port call activities were minimized by shipping all ocean freight for the expedition to the previous port call in Victoria, BC. Activities were limited to reception of various air freight shipments and the set up of expedition specific laboratory equipment for use on Expedition 329. The ship departed Papeete, Tahiti, French Polynesia with the last line away from Berth EPI Nord at 1005. The pilot was released at 1030 hours and the sea voyage began on a SSW course to our first site. Transit speed en route to the first site averaged 11.5 knots over the 982 nm to the first site, Site U1365 (SPG-1A). On arrival at the first site, thrusters and hydrophones were lowered and the vessel was changed from cruise mode to DP mode at 0030 hours on October 16th. The bottom hole assembly (BHA) was picked up and made up and tripped into the hole in 5695.6 m of water. At 1700 hours on October 16th, the top drive was picked up, spaced out and a pilot hole was drilled from 5706.3 mbrf to 5781 mbrf (74.7 mbsf) ending Week 1 of Expedition 329.

SCIENCE RESULTS

The first week of the expedition was dominated by port call and scientists' orientation and training activities, unpacking third party instruments and supplies, and laboratory preparations. The scientists boarded the ship during the first two days of port call, with a small group arriving the first day to help initiate the set-up of the third party instruments in the ship's laboratories.

During port call, we conducted the typical orientation meetings concerning life onboard, safety, and use of laboratory and ship systems. A radio- and stable isotope use training course was provided for scientists who will work in the radioisotope van by a Texas A&M University Environmental Safety Officer who attended the port call to address TAMU regulations. An interview was held for a reporter and photographer from a local Tahitian newspaper.

Once in transit, microbiologists and geochemists spent most of the first week of the expedition completing set up and testing third party and in-house instrumentation, preparing culture media, sterilizing glassware and packing materials, discussing their sample requests and research plans and preparing their sampling strategy. Microbiologists set up a flow cytometer, a hydrogen analyzer and a cell filtration unit in the Paleontology Preparation Lab, a pair of nitrogen dispensers for flushing artificial media in the Microbiology Lab, and with the help of the laboratory support staff, equipped the core reefer as a secondary Cold Laboratory with whole round core cutting and sampling tools, an anaerobic glove box and temporal core sections' storage racks. Likewise, geochemists set up electrode and optode systems, ion chromatographs, and an alkalinity titrator in the Chemistry Lab.

Sedimentologists and petrologists received training on the descriptive data capture application, DescLogik, while the physical properties specialists and paleomagnetists learned the track systems in the Core Laboratory and practiced core flow activities. As a group, they all discussed sample requests, research plans and prepared a sampling strategy for the first site. All science groups received training on entering sample data into the ship's database using the sample registering application, SampleMaster.

On Oct. 16 a meeting was held to discuss on-site coring, drilling and logging operations. Throughout the day, expedition scientists continued preparing in their laboratories and waiting with anticipation for the ship's most celebrated announcement: "Core on Deck".

TECHNICAL SUPPORT AND HSE ACTIVITIES

The South Pacific Gyre Expedition technical staff boarded the vessel on October 9th at 1030 hrs. Crossover and training with the off coming crew was begun. Both crews attended a General Radiation Safety Course given by the Texas A&M University Department of Environmental Health and Safety. One box of airfreight was off loaded. Several airfreight shipments were received. An additional -20°C freezer was purchased in Papeete and loaded on the ship to increase sample storage capacity for isotope work.

An introduction meeting was held with the science crew on October 11th. The technical staff provided introductions to the shipboard laboratories as well as laboratory safety. Before departure, all trash was collected and offloaded and laboratory equipment and spaces secured for sea.

During the transit to the first site the technical crew continued to work with the scientists to prepare the labs for coring operations. A boat and fire drill was held for all expedition participants on October 12th.