IODP Expedition 368X: Return to Hole U1503A (South China Sea)

Week 1 Report (15–17 November 2018)

Operations

Port Call Activities

IODP Expedition 368X began in Hong Kong at China Merchants Wharf at 0800 h on 15 November 2018. The IODP JRSO technical staff, Expedition Project Manager, and seven of nine scientists boarded the vessel on 15 November. The remainder of the science party moved aboard on 16 November.

During the two-day port call, potable water, drill water, and fuel were loaded onto the vessel. The Schlumberger wireline active heave compensator was repaired and core barrels were assembled and spaced out. A reentry funnel extension was prepared to extend the reentry system on Hole U1503A.

On 17 November at 0500 h, immigration personnel arrived on board and cleared the vessel for departure. The pilot came aboard at 0754 h, and the last line was released at 0824 h to start the transit to Hole U1503A. At the end of Week 1, the vessel had completed 175 nmi of the 284 nmi transit.

Science Results

The Expedition 368X science party is composed of eight scientists who previously participated on Expeditions 367 or 368 and one observer/scientist. The first 3 d of the expedition consisted of the science party and technicians moving onto the ship, safety orientations, and meetings about the expedition science objectives, what we need to accomplish on board, computing resources, and core flow and sampling procedures.

Expedition Scientific Objectives

The aim of Expedition 368X is to reoccupy a site started by IODP Expedition 368 (South China Sea Rifted Margin program, Expeditions 367/368). Due to rig floor equipment failure, Hole U1503A was abandoned after a casing installation to 991.5 m below seafloor. Despite this setback to Expedition 368 and the South China Sea Rifted Margin program, Hole U1503A will now be completed by Expedition 368X. The overarching scientific goal of IODP Expeditions 367/368 was unveiling the mechanisms of continental breakup at the northern South China Sea (SCS) margin from rifting through steady state spreading. A key operational objective of Site

U1503 was to sample the lowermost ~300 m of sediments on top of basement to constrain the age and subsidence history of the crust at this location, the timing of normal faulting, and the environment of the early half-graben fill. The other critical goal at Site U1503 was to sample the igneous stratigraphy to at least 100 m below the basement. Deep, representative sampling of the basaltic material at this site will provide an important reference frame for the modeling of breakup.

Technical Support and HSE Activities

The following technical support activities took place during Week 1.

Laboratory Activities

- Restarted laboratory systems that were shut down and isolated in dry dock. Only minor issues were encountered, and they were fixed quickly.
- Power supply for the Bruker D4 XRD was received and installed. The instrument is now functioning normally.
- Repaired minor issues with the Gantry station and JR6 Spinner Magnetometers.
- A new version of the natural gamma radiation (NGR) system software is being tested.

Application Support Activities

- Fixed a problem with file upload on the Section Half Imaging Logger (SHIL) station.
- Fixed NGR file extension, timestamp format, and uploader problems.
- Fixed MUT uploader problems on multiple workstations.

IT Support Activities

- Continued troubleshooting of varying noise levels in satellite communications.
- Assisted scientists with connecting their laptops to the network, servers, and printers.
- Created email distribution lists for the current expedition.

HSE Activities

- Safety inductions and tours were given to the science party and new JRSO staff.
- The weekly fire and abandon ship drill was conducted.
- IODP JRSO technical staff participated in a simulated chemical spill and fire in the Chemistry Laboratory.
- Safety showers and eyewash stations were tested.