

IODP Expedition 390C: South Atlantic Transect Reentry Systems

Week 2 Report (11–17 October 2020)

Operations

During the second week of the International Ocean Discovery Program (IODP) Expedition 390C, South Atlantic Transect Reentry Systems, the vessel completed its transit from Kristiansand, Norway, to Las Palmas, Gran Canaria, Canary Islands, Spain, and took on fuel. We then began the transit to Site U1556 in the South Atlantic. Site U1556 will likely be proposed Site SATL-53B, on the western side of the South Atlantic Transect.

Transit Activities

At the beginning of Week 2, the *JOIDES Resolution* (JR) was at 49°59.20'N and 3°3.53'W. The JR then transited 1,177 nmi to complete the voyage from Kristiansand to Las Palmas. The total voyage took 182.85 h (7.6 d) and covered 2144 nmi at an average speed of 11.7 kt.

The ship anchored in Las Palmas at 2306 h on 14 October 2020, with the pilot boarding at 2254 h and disembarking at 2318 h. Fueling began at first light on 15 October. The ship received 1113.6 mt of fuel oil. While at anchorage, the repaired propulsion motor was recoupled and is now back online. Additionally, Siem Offshore crew tested and maintained the release hooks of the two port lifeboats, lowering them to the waterline and recovering them. The ship was underway again by 1454 h. COVID-19 risk mitigation policies were lifted upon departure, as it has now been more than 14 d since last possible exposure. By midnight on 17 October, the ship had completed 730 of the 3608 nmi transit to Site U1556 at an average speed of 12.8 kt.

On 11 October 2020, JRSO staff participated in a bomb search drill conducted by Siem Offshore crew, assisting the crew in searching the ship for fake suspicious devices. The first reentry funnel has been assembled. The electrical department powered up and tested the subsea TV system that will be used to monitor reentry system installation.

Science Results

JRSO staff used transit time to continue laboratory maintenance, upgrades, and cross-training. Imaging Specialist Sarah Kachovich demonstrated micropaleontology and microscopy techniques. Chemistry Laboratory technician Vincent Percuoco gave an overview of Chemistry Laboratory protocols for squeezing whole-round samples and geochemical analyses. Doris Piñero Lajas, Physical Properties Laboratory technician, cross-trained staff on use of the track systems and calibration of the Natural Gamma Radiation Logger (NGRL). Schlumberger Logging Engineer Clay Furman began a series of basic electrical engineering and Arduino workshops for staff. The Staff Scientist, Laboratory Officer, and Assistant Laboratory Officers discussed core flow and instrument parameters for sample analyses.

Outreach

No onboard Outreach Officer is sailing during Expedition 390C. Limited social media posts were made via the JR Facebook and Twitter accounts.

Platform	# of posts	Analytics	Notes
Facebook	16	2523 engagements (comments, shares, likes, or clicks on parts of the post)	
Twitter	18	3033 engagements (including 74 retweets, 19 comments, 526 likes), 10 new followers	Does not include retweets of other accounts

Technical Support and HSE Activities

Laboratory Transit Activities

- The 3.5 kHz echosounder is down: no chirp or signal is detected at any power/gain settings. Performed troubleshooting, including checks of the LPT, A/D boards, and cable signal. The 12 kHz channel is running with no issue.
- Winfrog crashed when the “stop event” function was used upon arrival in Las Palmas. It was restored from an older hard drive image. All devices and com ports were manually reentered in order to bring back functionality.
- Tested physical properties instruments including Whole-Round Multisensor Logger (WRMSL), thermal conductivity meter (TCON), NGRL, and Section Half Multisensor Logger (SHMSL).
- SHMSL has an issue where it does not recognize the ends of sections less than ~125 cm in length and will continue to scan to a frame on the track at about 125.4 cm. The user needs to manually enter scan length. This issue was also reported during Expedition 384.
- Fabricated jig for aligning the internal key of the Keyed End Seal Snubber of the core orientation tools.
- Superconducting rock magnetometer (SRM) field retrapped while in Las Palmas. Both Fluxgate probes were found to be magnetized, resulting in a high, noisy background. Issue was solved by demagnetizing the probes and retrapping the field.
- Testing and troubleshooting of Section Half Imaging Logger (SHIL) calibration issues continues.
- Conversion of the chlorinity program to LabView continues.
- Reorganized Chemistry Confluence page.
- Restored missing and broken links on Confluence pages.
- Analyzed X-ray diffraction (XRD) samples sent from shore.
- Development of soft-sediment mounting method for thin sections continues.
- Lab cross-training continues.

- Cleaned up various auxiliary storage area.
- Addressed AMS inventory issue with gas bottles vs racks.
- Updated AMS checkout sheets and inventory sieves.
- Inventoried and tested hot plates, pipettors, and stirrers.
- Contributed to ongoing projects: GEODESC, Catwalk sampling module, and DEI.

Application Support Activities

- Continued work on Catwalk sampling module and GEODESC.
 - Published new version of Catwalk modules with bugs fixed.
 - Published new version of geodesc-login library (v0.0.14).
- Adjusted image crop values for the SHIL, resetting to original values after it had been adjusted by a previous expedition. Imaging specialist tested and verified.
- Reset passwords for several staff members.

IT Support Activities

- Set up groups in Confluence with deletion privileges in support of Confluence reorganization efforts.
- Started a support case with Atlassian to investigate the cause of Confluence crashes.
- Completed Cumulus manual sync.
- Completed JR website content update for JRSO webmaster.
- Completed software updates and revised logon screen computer usage agreement banners per TAMU IT policy for Windows servers.
- Assisted in troubleshooting Winfrog issues.
- Mounted desk monitors in Science Office.
- Put together a plan for 32" TV rollout and distribution of stateroom TVs.

HSE Activities

- Emergency shower and eye wash stations were tested.
- We conducted a stowaway search prior to departure from Las Palmas.