

4th Dec 00:00 – 10th Dec 24:00 EET Eastern European Time (UTC+2)

1. Operations

Coring continued at Site M0080 throughout Monday 4th, with a short interruption for a second CPT measurement (in-situ temperature and strength) taken at ~213 mbsf. The day finished with an advance of 82.70 m.

For the remainder of the week, coring progressed continuously with a reduced rate of advance (between 20.00 – 31.40 m per day) due to highly challenging ground conditions, including increasingly strong and variable lithologies.

2. Hole summary

Hole	M0080A
Latitude	38° 7' 12.1467" N
Longitude	23° 5' 10.6138" E
First core	47R
Last core	112R
Cores recovered	66
Drilled length (Coring)	239.00
Drilled Length (Open Hole)	0
Recovered length	186.82
Depth in hole	403.00
Hole recovery	78%

Table 1: Hole M0080A progress (4th Nov 00:00 – 10th Dec 24:00)

Hole	M0078A	M0078B	M0079A	M0080A
Status	Complete	Complete	Complete	Current
Cores recovered	176	15	163	112
Drilled length (Coring, m)	610.43	55.85	704.90	403.00
Drilled length (Open hole, m)	0	0	0	0
Recovered length (m)	533.99	52.17	610.80	346.01
Recovery (%)	87%	93%	87%	86%
Final depth / Depth at midnight (mbsf)	610.43	55.85	704.90	403.00
Proposed site depth (mbsf)	750.00	N/A	750.00	479.00

Table 2 - Expedition 381 progress update

3. Science

During this week, cores collected from the middle to deep section of Hole M0080A have been described and analysed.

The middle section, representing part of Seismic Unit 2 (the most recent phase of rifting), includes intervals of marine and non-marine deposition that appear to be marked by changes in core colour. There are also some intervals with shallow marine assemblages. In the deeper section, the cores included intervals with gravels and pebbly muds/sands as well as fine-grained sediments. The core material becomes highly indurated below a depth of ~330 mbsf. These lithologies are interpreted as representing a terrestrial depositional environment.

The Multi-Sensor Core Logger (physical properties) data show marked changes with depth, reflecting both changes in composition of the materials and degree of induration.

The geochemists have continued to extract pore water from whole rounds even within highly indurated siltstone/mudstone/sandstone. Salinity, alkalinity and ammonium show complex trends with depth at this site. Surface water samples were also taken at M0080A for comparison with pore waters extracted from the cores at this site.

Correlation with the seismic reflection data and generation of synthetic seismograms has been possible, with changes in density of different intervals correlatable between the borehole and the seismic data.

A meeting was held to discuss logging plans in Hole M0080A based on experiences at the previous two sites and data from Hole M0079A.

A ship-to-ship link up took place between Expedition 381 on the *Fugro Synergy* and Expedition 372 on the *JOIDES Resolution*, currently in transit between Australia and New Zealand. Both science parties enjoyed the chance to share expedition objectives and to see the differences in operations and setup between a *JOIDES Resolution* and Mission Specific Platform expedition.

Members of the science party were given a tour of the ship by Fugro crew, including the mud pumps, engine room and rig floor.

4. HSE Activity

N/A

5. Outreach Activity

During the week, two blogs were published to the WordPress blog page. Six posts were made to the Facebook page - a mixture of photo galleries, videos and links to the blog posts. One video was posted to the YouTube site, however technical issues prevented several other posts being made.

Between the 4th and 10th of December, the Expedition blog-site received 930 views, 344 visitors, and is being followed in 30 countries. The Facebook posts reached 2707 users and the YouTube videos were watched 125 times.

A ship-to-ship link up took place between Expedition staff on the *Synergy* and Expedition 372 staff on the *Joides Resolution*, which is currently in transit between Australia and New Zealand. The scientists shared information about the objectives of their expeditions and those onboard the JR saw the MSP drilling and core handling setup onboard the *Synergy*.

6. Figures

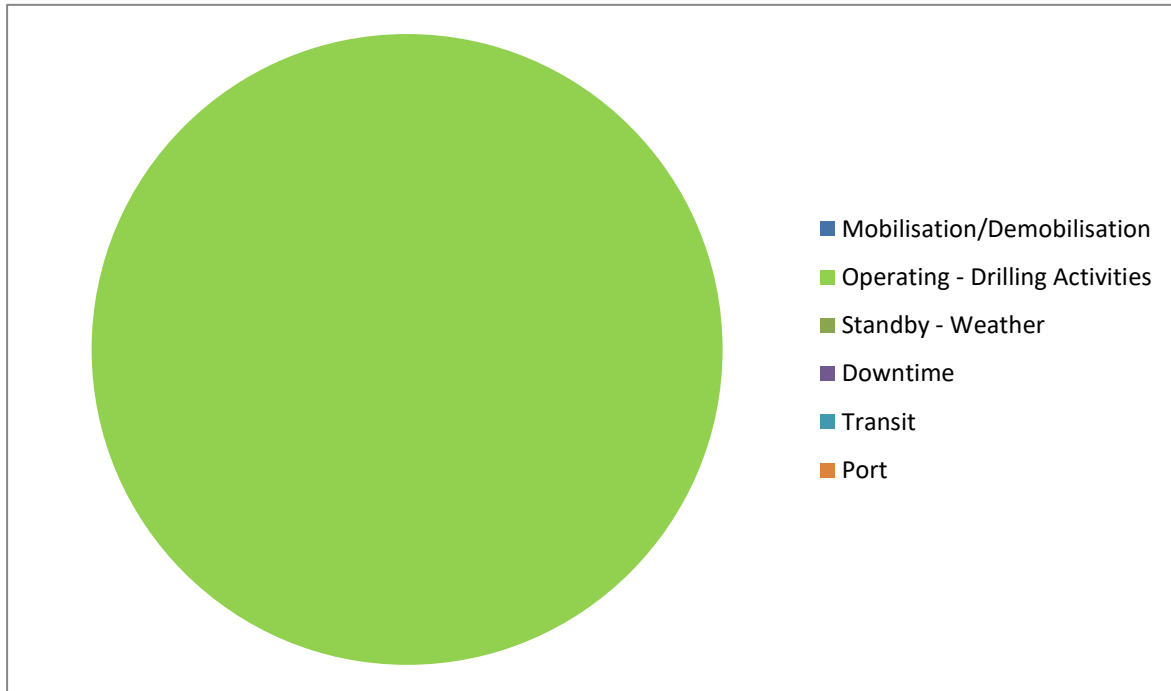


Figure 1: Breakdown of hours from 00:00 December 4th to 24:00 December 10th 2017.

Expedition 381
Corinth Active Rift

M0080A

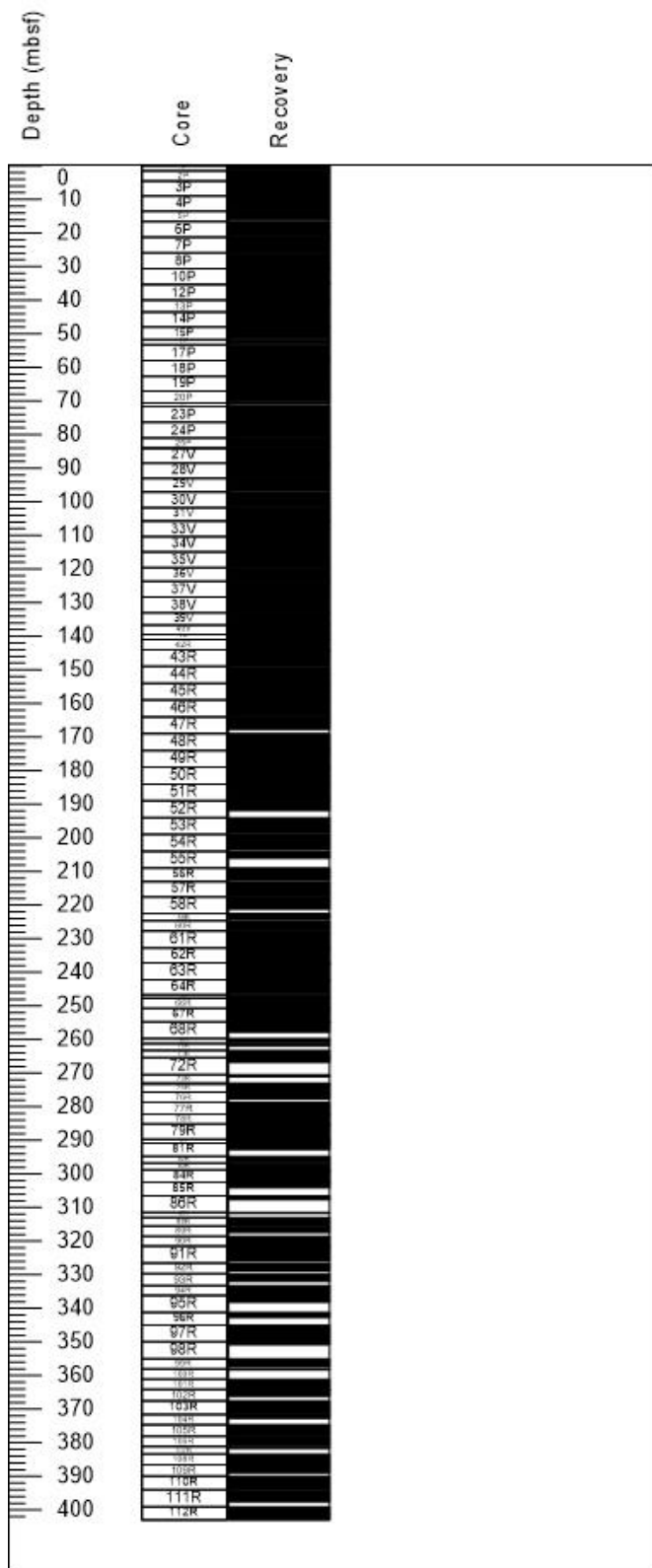


Figure 2: Core recovery for Week 7 (4th Dec to 10th Dec 2017).

Photographs

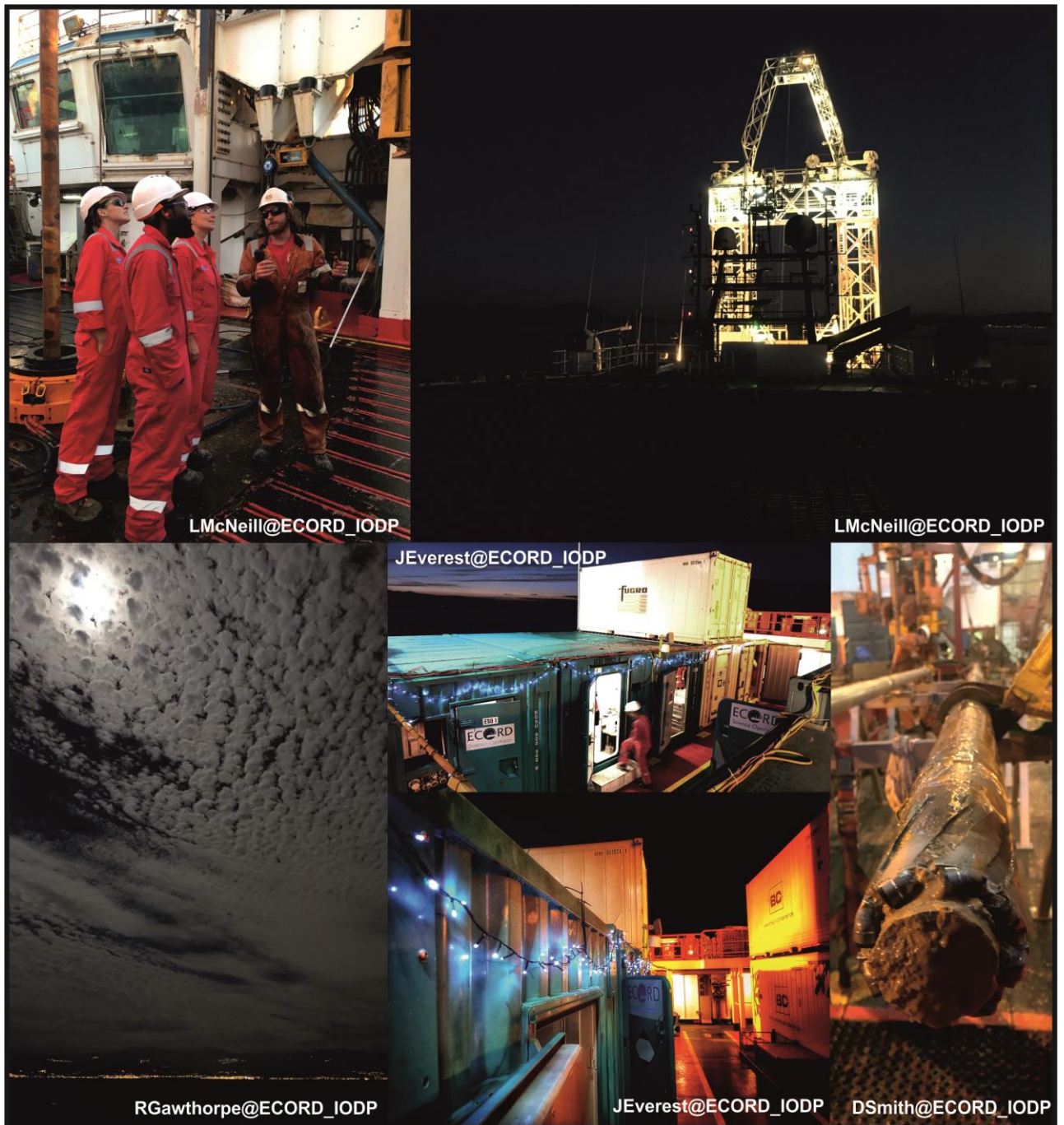


Figure 3: Photos from Week 7 of Expedition 381.