

Daily Operational and Science Report
UT-GOM2-2 Coring Expedition
Terrebonne Basin, Gulf of Mexico Outer Continental Slope

1. **DATE:** 06-August-2023, 0000-2400hr

2. **LOCATION:**

2400 hr, 06-August-2023

Hole: *Helix D/V Q4000* was located over the location of Hole UT-GOM2-2-H003

• **Total Depth:**

- Last Drill/ Core depth 6,659'RKB
RKB to Mud line 6,506' on Drill pipe measurements.
Water depth: 6454 ft (updated 05-AUG-2023)
Per Datum: 52 ft
Lat 26°39'46.50488"N, Long 091°40'33.82464"W

3. **DESCRIPTION OF OPERATIONS:**

0000-2400 At Hole UT-GOM2-2-H003
0000-0330 Prepare to run Core UT-GOM2-2-H003-08CS, 153-163 fbsf
0330 SLB Slickline line parted while resetting zero at surface after installing PCTB-CS retrieval tool
0415 SLB conducted slip/cut of the core retrieval Slickline, M/U new rope socket and fishing assembly
0900 RIH the pulling tool to depth and set down on Fish and POOH to the surface
1145 RIH Geotek Emergency core barrel pulling tool
1200-1230 Pulling tool latched into the PCTB-CS. However, the PCTB-CS could not be removed from the BHA. It was interpreted that the PTCB was 'mud/sand jammed' in BHA.
1330-1430 M/U TDS to drill string then POOH from 6618 ft RKB. No over pull noted
1430 Decision made to POOH with drill string
1515 POOH from 6616 to 6176 ft RKB while laying down the 7th double it was noted that the string was no longer wet. This indicates that there was, once again, circulation inside the pipe.
1600-1730 M/U TDS to the drill string then pumped at 8 bpm with 300 psi down drill string with noticeable dirty fluid coming out PCTB cutting shoe.
1830-2000 Geotek Emergency core barrel pulling tool was RIH and latched into PCTB tool. PCTB tool was easily POOH.
2000-2100 TDS was connected to the drill string then pumped at 7 bpm with 60 psi to clean up the out PCTB cutting shoe
2218 In preparation to re-enter Hole UT-GOM2-2-H003, Geotek center bit was deployed
2315-2400 Ran the cement pump at 10 bpm (100 psi) attempting to seat center bit in the PCTB cutting shoe

4. **OPERATIONAL PLAN (Next 24 Hours):**

Continue conventional and pressure coring operations in Hole UT-GOM2-2-H003 from the current hole depth of 153.00 fbsf with the following planned core runs:
Core UT-GOM2-2-H003-08CS, 153.0 to 163.0 fbsf
Core UT-GOM2-2-H003-09H, 163.0 to 186.0 fbsf
Core UT-GOM2-2-H003-010H, 186.0 to 209.0 fbsf

Core UT-GOM2-2-H003-011H, 209.0 to 232.0 fbsf
Core UT-GOM2-2-H003-012H, 232.0 to 255.0 fbsf

5. DOWNHOLE LOGGING OPERATIONS:

Hole: NA

Wireline Totals (directional): NA

6. CORE OPERATIONS AND DATA:

Hole: UT-GOM2-2-H003

G-APC Coring Totals:

G-XCB Coring Totals: NA

G-PCTB-CS Coring Totals:

Core UT-GOM2-2-H003-08CS: Failed deployment of G-PCTB coring tool

G-PCTB-FB Coring Totals: NA

7. DOWNHOLE MEASUREMENTS

Hole: UT-GOM2-2-H003

Pressure and Temperature Tool Deployment (T2P): NA

Temperature Tool Deployment (APCT-3): NA

8. SCIENCE ACTIVITIES

Core UT-GOM2-2-H003-05CS was scanned in the Geotek Pressure Core Analysis and Transfer System (PCATS) and cut into two sections for onboard quantitative degassing. PCATS allows the full core to be transferred from the PCTB, and then X-ray imaged and scanned for bulk density (gamma ray attenuation) and compressional wave (P-wave) velocity. The scanned core can then be cut into sections and transferred into 35 or 120 cm long pressurized storage chambers. The Science Party and Geotek will develop a cut plan for each scanned pressure core to decide sections to be cut for onboard depressurization or storage for onshore analysis.

Processing of the APCT-3 temperature response from Cores UT-GOM2-2-H003-03H, UT-GOM2-2-H003-06H, and UT-GOM2-2-H003-7H resulted in the first three temperature profile points. The G-APC tool can be fitted with an instrumented coring shoe, called the APCT-3, that measures temperature. During the piston coring stroke, the APCT-3 remains in the sediment for ~10 mins, and the measured temperature response is used to calculate the formation temperature. A profile of temperature measurements will allow for the calculation of the geothermal gradient at the site.

Processing of pore water and microbiology samples from conventional cores continued in the Pore Water and Core Processing Labs. These labs also processed contamination control samples from drilling fluid and PCATS.

9. ACRONYMS

bpm	Barrels per minute
Fish	The object to be recovered from the borehole/BHA
M/U	Make up
PCTB-CS	Pressure Coring Tool with Ball-cutting shoe version.
POOH	Pull out of hole
psi	Pounds per square inch
RIH	Run in hole
RKB	Depth measured from the rig floor
SLB	Schlumberger
Slickline	wireline used to deploy and recover core, etc.

TDS

Top Drive System



Camila Van Der Maal (UT Austin) and Kelly Shannon (Oregon State) in the microbiology lab.