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

1. DATE: 27-August-2023, 0000-2400hr

2. LOCATION:
   2400 hr, 27-August-2023
   Hole: Helix D/V Q4000 was located over Hole UT-GOM2-2-H002

Last Drill/Core depth: 9332 ft MD RKB

RKB to Mud line: 6506 ft on Drill pipe measurements
Water depth: 6454 ft
Per Datum: 52 ft
Lat 26°39’44.2229”N, Long 091°40’33.8972”W NAD27 BLM15 Feet

3. DESCRIPTION OF OPERATIONS:

   0000-2400  At Hole UT-GOM2-2-H002


   0000-0400  Continue to acquire Core UT-GOM2-2-H002-15CS from Hole UT-GOM2-2-H002.
   0400-0430  Acquire Core UT-GOM2-2-H002-15CS, F/9322 - T/9332 ft RKB (2816.0-2826.0 fbsf).
   0430-0548  POOH PCTB-CS coring tool and transfer to the Geotek Pressure Core Processing Van.
   0548-0800  M/U and RIH Geotek Cement Liner BHA. SLB slickline lower cement liner in to BHA noted pressured up to ~500 psi on drill string, shut pumps down then bled pressure to 0 psi. SLB slickline unable to P/U free from cement liner. Company representative and SLB slickline discuss forward plan.
   0800-1500  Cycled drill string while SLB slickline attempt to pull free, continued to try to pull the Cement Liner from the BHA.
   1500-1530  Laydown one single and cut wireline. R/D TDS wireline packoff and wireline equipment.
   1530-1900  POOH drill pipe doubles cutting wireline slip/cut on way out F/9332 to T7017 ft RKB.
   1900-2030  About 300 ft below mudline, R/U wireline and wireline equipment, splice wireline into the SLB wireline unit. SLB wireline continue to attempt to remove the Cement Liner from the BHA.
   2030-2230  M/U wireline to the bails on the TDS to enable a more straight pull from the hole. Pump seawater through the TDS in an attempt to reduce the mass of the high density mud in the drill pipe. No flow was possible. Repeated attempts to remove the Cement Liner from the BHA were unsuccessful.
   2230-2400  POOH drill pipe in doubles cutting wireline slip/cut on way out F/7017 to T/6326 (above seafloor) ft RKB.

4. OPERATIONAL PLAN (Next 24 Hours):

   Remove the Cement Liner from the BHA, re-enter Hole UT-GOM2-2-H002, RIH PCTB-CS BHA to above the Orange Sand and set a ~300 ft long cement plug.
5. DOWNHOLE LOGGING OPERATIONS:
Hole: NA
Wireline Totals (directional): NA

6. CORE OPERATIONS AND DATA:
Hole: Hole UT-GOM2-2-H002
G-APC Coring Totals: NA
G-XCB Coring Totals: NA
PCTB-CS Coring Totals:
- Core UT-GOM2-2-H002-15CS: 4.10 ft (41% recovery), 0 psi. (in core receiving)
  Coring F/ 9322 - T/ 9332 ft RKB at 80 rpm, maintaining 10-12k on bit, CMT pumping 10.5 ppg WBM at 3.0 bpm and 101 psi.
PCTB-FB Coring Totals: NA

7. DOWNHOLE MEASUREMENTS
Hole: NA
Pressure and Temperature Tool Deployment (T2P): NA
Temperature Tool Deployment (APCT-3): NA

8. SCIENCE ACTIVITIES
Coring operations in Hole UT-GOM2-2-H002 ended today with the recovery and processing of Core UT-GOM2-2-H002-15CS from the depth interval 9322-9332 ft RKB (2816-2826 fbsf), which also marked the total final depth of Hole UT-GOM2-2-H002 at 9332 ft RKB (2826 fbsf) (Figure 1, Table 1). Core UT-GOM2-2-H002-14CS and Core UT-GOM2-2-H002-15CS were also processed today as conventional core and important interstitial-water, microbiological, and headspace geochemistry samples were collected from the core. It is also important to note that Geotek has been acquiring X-ray scans of the conventionalized core using PCATS to help direct the core sub-sampling efforts.

Since 0650 hr today Geotek and the Helix D/V Q4000 rig crew have been dealing with freeing the Geotek Cement Liner BHA and regaining the ability to circulate through the drill bit and pipe. The focus of this effort has been the consideration that we may be dealing with a “pressure lock” that formed at the bottom of the BHA when the Geotek Cement Liner was landed out in the BHA during deployment. As reviewed in the above “4. DESCRIPTION OF OPERATIONS” section of this report, after making a number attempts to pull the Cement Liner from the BHA, the decision was made to cut the wireline connected to the Cement Liner and slip/cut while tripping the BHA back to near the seafloor and to try again to pull the Cement Liner from the BHA, which started near the end of today’s reporting period at midnight on 27-AUG-23.

Additional Information from the morning of 28-AUG-23: Additional attempts to pull the Cement Liner from the BHA at approximately 3000 ft RKB was unsuccessful. The decision was made to pull the BHA back to the ship for further inspection and analysis.

The Scientific Party is working on finalizing the writing assignments in support of the hole section descriptions in the Expedition Report and processing samples and data that have been collected during the expedition. In addition, the UT Scientific Party have been working with Geotek staff to further develop and refine the operational plans for the post-expedition core processing and analysis efforts to be conducted at the Geotek facilities at Salt Lake City.

There have been no new COVID cases on the Q4000 in the last thirteen days.
9. ACRONYMS

bpm  Barrels per minute
Fish The object to be recovered from the borehole/BHA
gpm  Gallons per minute
M/U  Make up
PCATS Pressure Core Analysis and Transfer System
PCTB-CS Pressure coring tool with ball-cutting shoe version.
POOH Pull out of hole
psi  Pounds per square inch
P/U  Pick up
RIH  Run in hole
RKB Depth measured from the rig floor
rpm  Revolutions per minute
R/U  Rig up
SLB  Schlumberger
Slickline Wireline used to deploy and recover core, etc.
TD  Total depth
TDS  Top drive system
WOB  Weight on bit
Figure 1: Core recovery plot for the UT-GOM2-2-H002 well as of 24:00 hr 27-AUG-2023. ‘PCTB-FB’ and ‘PCTB-CS’ records core recovered by the face bit and cutting shoe versions of the Pressure Coring Tool with Ball (PCTB). Under ‘Recovery Pressure’, areas colored pink indicate a ball valve that did not seal (End of Hole).
<table>
<thead>
<tr>
<th>CORE System</th>
<th>Core Number</th>
<th>Core top (RKB ft)</th>
<th>CORE Top (fbsf)</th>
<th>CORE Bottom (fbsf)</th>
<th>CORE Advance (ft)</th>
<th>Curated length (ft)</th>
<th>Recovery (%)</th>
<th>In situ Pressure (psi)</th>
<th>Tool Boost Set Pressure (psi)</th>
<th>Recovery Pressure (psi)</th>
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