

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

1. **DATE:** 16-August-2023, 0000-2400hr

2. **LOCATION:**

**0000-0900 hr, 16-August-2023**

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

**Last Drill/Core depth: 7505 ft RKB**

RKB to Mud line: 6506 ft on Drill pipe measurements

Water depth: 6454 ft (updated 05-AUG-2023)

Per Datum: 52 ft

Lat 26°39'45.4451"N, Long 091°40'33.5852"W NAD27 BLM15 Feet (updated 16-AUG-2023)

**0900-2400 hr, 16-August-2023**

**Hole: *Helix D/V Q4000* was located over Hole UT-GOM2-2-H002**

**Last Drill/Core depth: NA**

RKB to Mud line: NA ft on Drill pipe measurements

Water depth: NA

Per Datum: 52 ft

Lat 26°39'44.2229"N, Long 091°40'33.8972"W NAD27 BLM15 Feet

3. **DESCRIPTION OF OPERATIONS:**

**0000-0900 At Hole UT-GOM2-2-H003**

0000-0030 M/U to TDS POOH F/ 6491 to T/ 6455 ft RKB, flush drill sting with 200 bbls of seawater at 8 bpm and 1100 psi.

0030-0900 POOH F/ 6455 to T/ 203 ft RKB while laying down doubles of 5 7/8" XT57 drill pipe.

0900 End of Hole UT WR313 H003 and start of Hole UT WR313 H002.

**0900-2400 At Hole UT-GOM2-2-H002**

The University of Texas at Austin submitted Rig Move Notification to move from WR313 H003 to WR H002 on 16-AUG-23 to BSEE Houma District.

0900-1000 M/U 9-7/8 inch PCTB Face Bit pressure coring tool (PCTB-FB) Bottom Hole Assemblage (BHA).

1000-1030 Install Geotek Center Bit Assembly into the PCTB-FB BHA seal bore assembly and confirm space out.

1030-2100 RIH BHA with 8.5 inch drill collar and 9-7/8 inch stabilizers to 6454 ft RKB making up doubles of 5 7/8" XT57 drill pipe, torquing to 52k ft/lbs. Drifted drill string w/ 4.125 inch drift.

2100-2400 MU TDS and pump-in sub and install testing equipment. Conducting pressure test of the drilling system internal lower blowout preventers (IBOPs) on the TDS.

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

Spud Hole UT-GOM2-2-H002 and drill to the first PCTB-FB core point at 2100 ft RKB.

## 5. DOWNHOLE LOGGING OPERATIONS:

Hole: NA

Wireline Totals (directional): NA

## 6. CORE OPERATIONS AND DATA:

Hole: UT-GOM2-2-H003

G-APC Coring Totals: NA

G-XCB Coring Totals: NA

PCTB-CS Coring Totals:

**Core UT-GOM2-2-H003-28CS:** 2.46 ft (25 % recovery), 3478 psi. *(updated 17-AUG-23)*  
*Coring F/ 7460 - T/ 7470 ft (RKB) at 60 rpm, maintaining 8-10k on bit, CMT pumping 8.6*  
*ppg seawater at 3.5 bpm and 330 psi. (updated information)*

**Core UT-GOM2-2-H003-29CS:** 8.6 ft (86 % recovery), 3480 psi. *(updated 17-AUG-23)*  
*Coring F/ 7470 - T/ 7480 ft (RKB) at 80 rpm, maintaining 8-10k on bit, CMT pumping 8.6*  
*ppg seawater at 4.0 bpm and 400 psi. (updated information)*

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

As reviewed in the 15-AUG-23 Daily Operational and Science Report for the UT-GOM2-2 Coring Expedition, after confirming the significant deviation from vertical of the **UT-GOM2-2-H003** borehole (borehole inclination of 7.765° at 7505 ft RKB), the decision was made at 2000 hr on 15-AUG-23 to terminate operations in **Hole UT-GOM2-2-H003** and move over and drill/core **Hole UT-GOM2-2-H002**. **Hole UT-GOM2-2-H003** was completed to a total depth of 7505 ft RKB (999 fbsf), with the deployment of 18 G-APCs, 1 G-XCB, and 10 PCTB-CS pressure cores (Figure 1, Table 1). The PCATS scans of **Core UT-GOM2-2-H003-27CS** (Figure 2) revealed evidence of fracture filling gas hydrate.

Operations at the location of **Hole UT-GOM2-2-H002** began at 0900 on 16-AUG-2023 with the preparation of running into the open ocean the PCTB Face Bit pressure coring tool (PCTB-FB) Bottom Hole Assemblage (BHA).

There has been no new COVID cases on the *Q4000* in the last four days. There is one person from the UT crew that is still in quarantine, they are expected to be released tomorrow.

The Scientific Party is working on finalizing the “Methods” section of the Expedition Report and processing samples and data that has been collected during the expedition. The UT Science Party also convened a project review science meeting at midnight on 16-AUG-23 to review the ongoing pressure core sampling program.

## 9. ACRONYMS

bpm	Barrels per minute
Fish	The object to be recovered from the borehole/BHA
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

RIH Run in hole  
RKB Depth measured from the rig floor  
SLB Schlumberger  
Slickline Wireline used to deploy and recover core, etc.  
TD Total depth  
TDS Top drive system

*Table 1: PCTB-CS pressure core performance in Hole UT-GOM2-2-H003 through 16-AUG-2023 (End of Hole).*

CORE System	Core Number	Bottom of Hole (RKB ft)	Start Coring Bit Depth (RKB ft)	CORE Top (fbsf)	CORE Bottom (fbsf)	CORE Advance (ft)	Curated length (ft)	Recovery (%)	In situ Pressure (psi)	Tool Boost Set Pressure (psi)	Recovery Pressure (psi)	Date	Time, Core on Deck
PCTB-CS	4	6595	6595	89	99	10	10.63	106%	2920	3500	0	5-Aug	8:15
PCTB-CS	5	6605	6605	99	106	7	7.51	107%	2925	3500	3475	5-Aug	13:38
PCTB-CS	8	6659	6659	153	163	10	8.07	81%	2949	3500	2075	7-Aug	15:56
PCTB-CS	13	6761	6761	255	265	10	3.94	39%	2994	3500	3531	8-Aug	16:23
PCTB-CS	15	6796	6796	290	300	10	11.52	115%	3009	3500	0	9-Aug	1:48
PCTB-CS	19	6870	6870	364	374	10	11.35	114%	3042	3500	3042	9-Aug	15:27
PCTB-CS	24	6980	6980	474	484	10	11.35	114%	3091	3500	3091	10-Aug	8:16
PCTB-CS	27	7448	7448	942	954	12	11.06	92%	3299	3500	3531	14-Aug	21:50
PCTB-CS	28	7460	7460	954	964	10	2.46	25%	3304	3500	3478	15-Aug	6:33
PCTB-CS	29	7470	7470	964	974	10	8.60	86%	3309	3500	3480	15-Aug	9:31

# UT-GOM2-2-H003

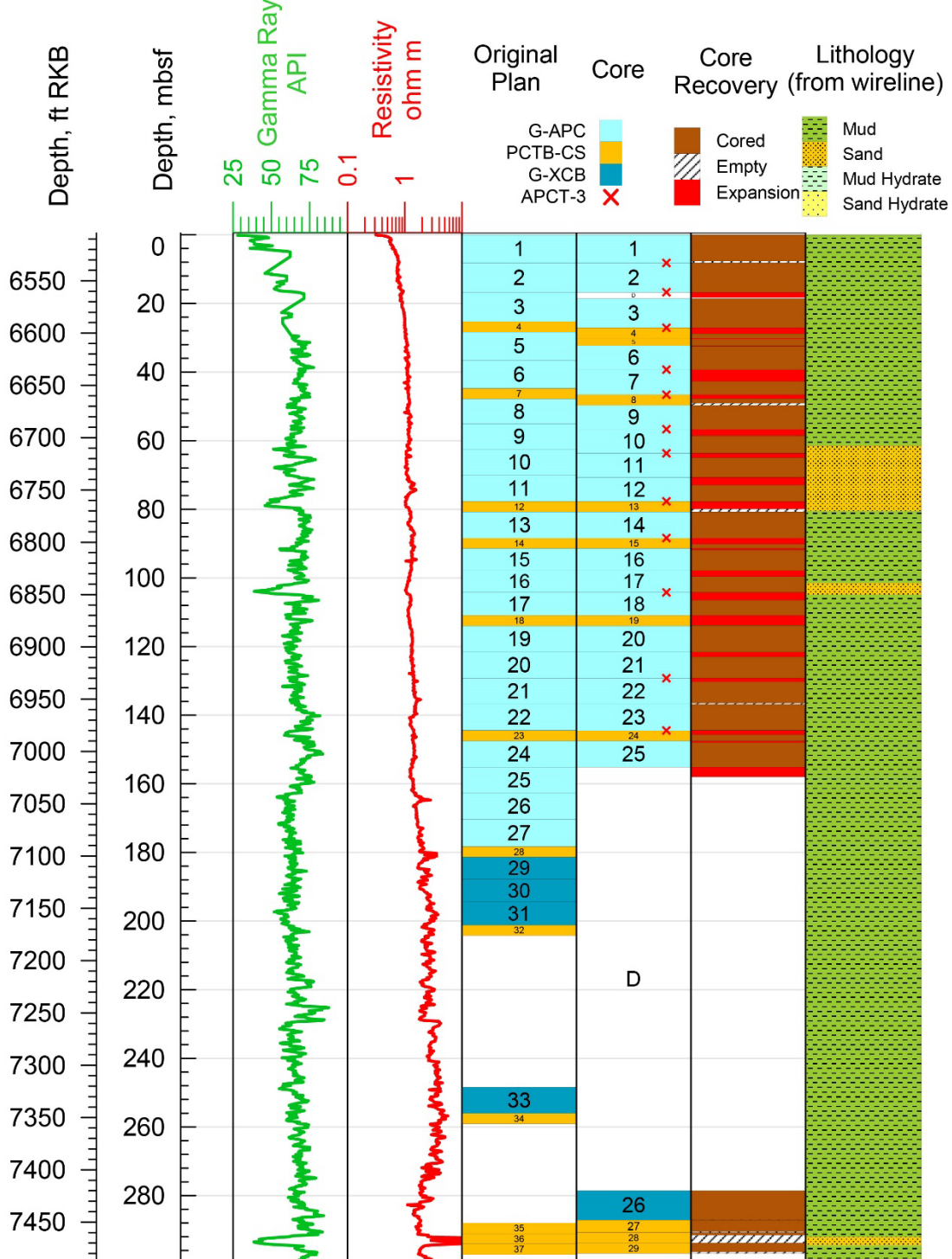


Figure 1: Core recovery plot for the UT-GOM2-2-H003 well as of 09:00 hr 16-AUG-2023 (End of Well). 'G-APC' records core recovered by the Geotek Advanced Piston Corer. 'G-XCB' records core recovered by the Geotech cutting shoe coring tool. 'PCTB-CS' records core recovered by the cutting shoe version of the Pressure Coring Tool with Ball (PCTB). 'APCT-3' records the location where temperatures were measured with a specially instrumented coring shoe.

UT-GOM2-2-**H003-27CS, 942.0 ft BSF**  
 WR313-

**APPROVED CUT PLAN**

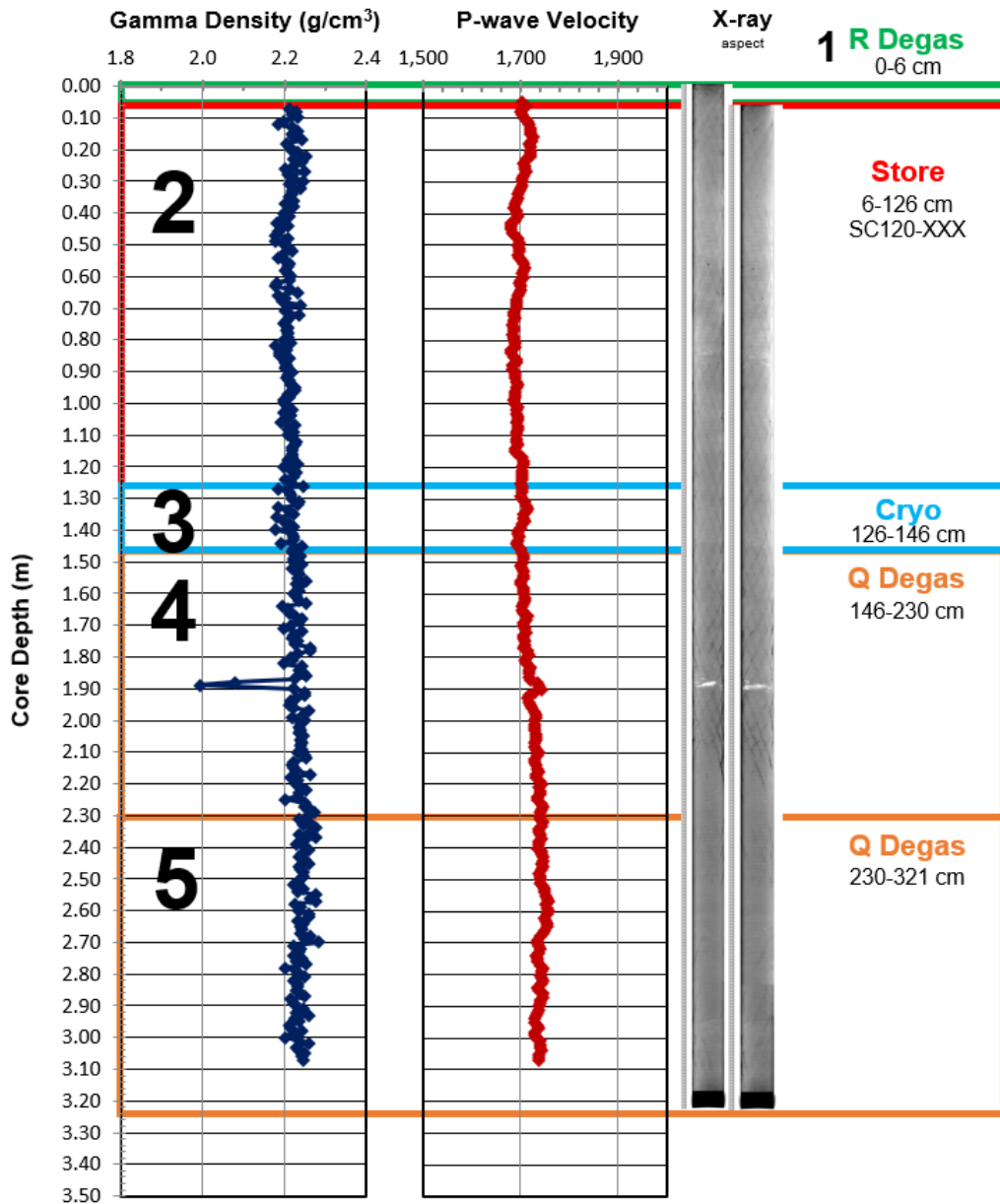
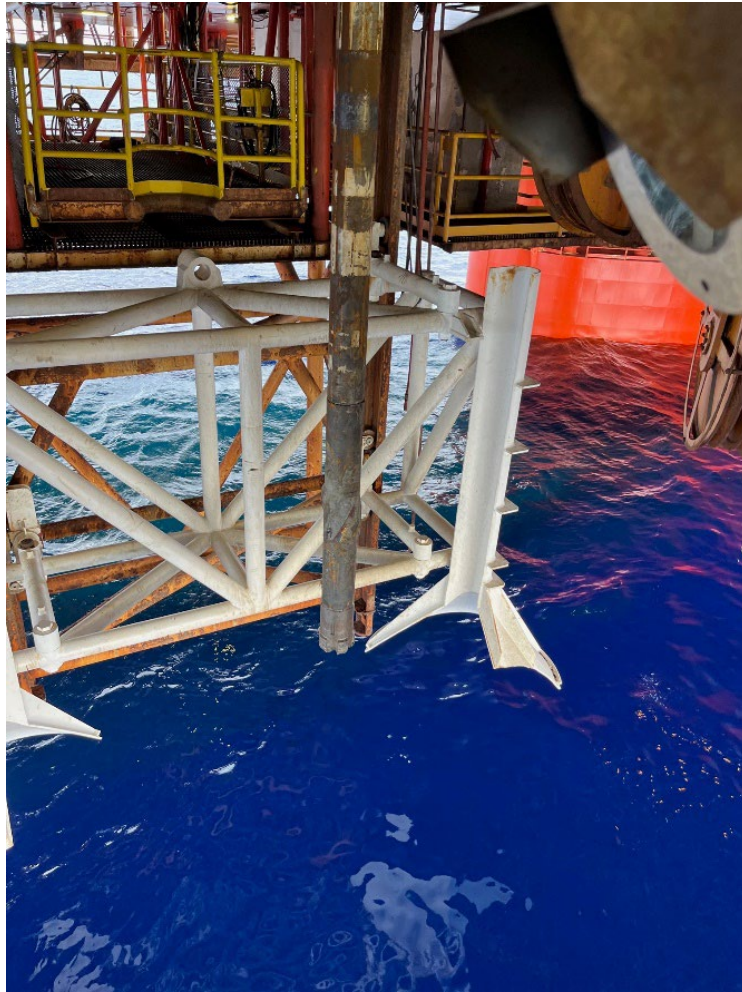


Figure 2: X-ray, P-wave velocity, and density of Core UT-GOM2-2-H003-27CS from the Geotek Pressure Core Analysis and Transfer System (PCATS). Gamma density and P-wave velocity logs along with the X-ray images reveal evidence of fracture filling gas hydrate at a depth of 1.90 m in the core

*image. This core was cut under pressure into 5 sections for quantitative degassing, cryogenic freezing in liquid nitrogen, long-term storage, or rapid degassing.*



*Figure 3: Recovery in the Moon Pool of the Q4000 D/V of the PCTB Cutting Shoe pressure coring tool (PCTB-CS) after the completion of Hole UT-GOM2-2-H003.*



*Figure 4: UT Scientists witnessing the recovery of the PCTB Cutting Shoe pressure coring tool (PCTB-CS) after the completion of **Hole UT-GOM2-2-H003**.*

