

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

1. DATE: 31-July-2023, 0000-2400hr

2. LOCATION:

2400 hr, 31-July-2023

Hole: *Helix D/V Q4000* transiting from the UT-GOM2-2 Coring Expedition equipment/supplies transfer site to the surface location of Hole WR313 H003.

Water depth: NA

Per Datum: NA

Lat 26° 41.08326N, Long 091° 39.13536W

3. DESCRIPTION OF OPERATIONS:

0000-1615 Transferred drilling equipment and supplies from the *Harvey Hermes Supply Vessel* to the *Helix D/V Q4000*, including the Geotek Pressure Core Analysis and Transfer System (PCATS), drill pipe, and associated drilling equipment, and other related consumables.

1210-1325 Helicopter crew Transfer #1 from Bristow Houma Heliport (Houma, LA) to ship transfer site (5 Science staff).

1325-1400 Helicopter Transfer #2 from Bristow Houma Heliport (Houma, LA) to ship transfer site (5 Science staff).

1615-2400 The *Helix D/V Q4000* transited in DP mode (while ballasted down) at about 3 nm/hr toward Hole WR313 H003 from the UT-GOM2-2 Coring Expedition equipment/supplies transfer site which was located approximately 21 nm north of the proposed location of Hole WR313 H003.

4. OPERATIONAL PLAN (Next 24 Hours):

Complete the transit of the *Helix D/V Q4000* to the proposed WR313 H003 hole location. Deploy the ship's ROV and conduct seafloor search for the 2017 drilled WR313 H001 well head and set compact. Offset the WR313 H001 well head by 60ft to the "north" (13.34 deg) with the ROV to the well head location of the proposed Hole WR313 H003 and mark the proposed well head location with a compact. Return the ROV to the 2017 drilled WR313 H001 well head and transit south (191.54 deg) to the proposed Hole WR33 H002 well head location and mark with a compact. Conduct ROV supported acoustic surveys of the proposed WR313 drill sites.

5. DOWNHOLE LOGGING OPERATIONS:

Hole: NA

Wireline Totals (directional): NA

6. CORE OPERATIONS AND DATA:

Hole: NA

G-APC Coring Totals: NA

G-XCB Coring Totals: NA

G-PCTB-CS Coring Totals: NA

G-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

The shipboard GOM2-2 Scientific Party continued to access the projected designated (1) Conventional Core Receiving Lab – G17, (2) Conventional Core Processing Lab – G19, and (3) Conventional Core Pore Water Labs – G20 in preparation of the planned spudding, coring, and operations associated with the UT-GOM2-2-H003 hole. These labs will be used to process and begin the analysis of the physical, chemical, and biological properties of the hydrate-bearing layers, associated with the occurrence of gas hydrates in the greater Terrebonne Basin, thereby revealing the processes controlling the origin, dynamic behavior, and response of this system to perturbation. As a critical project requirement, upon arrival on the *Helix D/V Q4000*, members of the Science Party participated in mandatory shipboard orientation and safety training. The Science Party also continued to work on staffing plans, berthing arrangements, and finalizing core handling and processing plans leading the coring/drilling operations in the UT-GOM2-2-H003 hole. In addition to the planned conventional sediment coring program associated with the UT-GOM2-2 Expedition, we will also acquire cores at in-situ pressure conditions that will be analyzed with Geotek's Pressure Core Analysis and Transfer System (PCATS) systems to log and X-ray the pressure cores. PCATS will also be used to subsample the recovered pressure cores at hydrate-stable conditions, and to transfer samples to pressurized storage chambers.