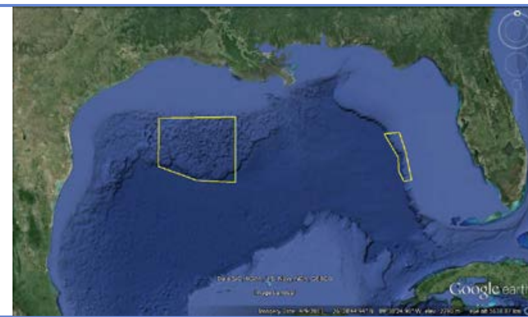
OKEANOS EXPLORER ROV DIVE SUMMARY



Site Name	NW Gulf Deep		
ROV Lead/Expedition Coordinator	Brian Bingham/ Kelley Elliott		
Science Team Leads	Jamie Austin (Geology) Stephanie Farrington (Biology)		
General Area Descriptor	Gulf of Mexico		
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1402	3	DIVE11
Equipment Deployed	ROV:	Deep Discoverer	
	Camera Platform:	Seirios	
ROV Measurements	☒ CTD	☒ Depth	☒ Altitude
	☒ Scanning Sonar	☒ USBL Position	☒ Heading
	☒ Pitch	☒ Roll	☒ HD Camera 1
	☒ HD Camera 2	☒ Low Res Cam 1	☒ Low Res Cam 2
	☒ Low Res Cam 3	☒ Low Res Cam 4	☒ Low Res Cam 2
Equipment Malfunctions	N/A		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1402L1_Dive11 ^^ In Water at: 2014-04-23T13:39:02.628000 25°, 51.097' N ; 091°, 27.954' W Out Water at: 2014-04-23T21:38:35.281000 25°, 51.678' N ; 091°, 28.717' W Off Bottom at: 2014-04-23T20:02:27.600000 25°, 51.516' N ; 091°, 28.241' W On Bottom at: 2014-04-23T15:16:25.482000 25°, 51.118' N ; 091°, 28.094' W Dive duration: 7:59:32 Bottom Time: 4:46:2 Max. depth: 2879.1 m		
Special Notes			
Scientists Involved ***(please provide name / location / affiliation / email)***	**Primary** Andrea Quattrini, Temple, andrea.quattrini@temple.edu Bill Kiene, Bill Kiene, william.kiene@noaa.gov Brian Kinlan, NOAA NMFS, Brian.Kinlan@noaa.gov Dan Warren, dan.warren@cctechnol.com Jamie Austin, UTIG, jamie@utig.ig.utexas.edu Jared Drewniak, Jared Drewniak, jared.drewniak@noaa.gov Kelley Elliott, NOAA OER, kelley.elliott@noaa.gov Kim Faulk, Kim Faulk, kim.faulk@f-e-t.com Larry Mayer, UNH, lmayer@ccom.unh.edu Morgan Kilgour, Morgan Kilgour, morgan.kilgour@gulfcouncil.org		

Robert Carney, LSU, rcarne1@lsu.edu
Stephanie Farrington, HBOI, sfarrington@hboi.fau.edu

Purpose of the Dive

The focus of this dive was part of the wall of the Sigsbee Escarpment, from water depths of ~2,900-2,700 m. This dive was nominated by Brian Kinlan (NOAA) as true exploration. The primary goal was to characterize deep-water coral habitat, but the overall objective was to observe linked geologic and biological environments in a heretofore unvisited part of the Gulf of Mexico basin.

Description of the Dive:

The vehicles landed on an unrippled, sedimented seafloor at a water depth of 2,867 m. Current estimated at the landing site was 0.18 kts, oriented ~NE. As the vehicles began to move ~N up the slope, the seafloor became stepped, characterized by ~flat-lying outcrops/ridges of layered sediments exposed at the seafloor. The stepped nature of the slope persisted throughout the dive.

At a depth of 2,834 m, the slope became more complicated, with intervals of talus above, on which a small number of solitary corals were observed (see biological summary), and layered outcrops below. One of these layers looked like a (more resistant to erosion) sandstone, which made it consistently stand out as a ridge. Concretions of various shapes associated with this ridge were observed; some were hollow with Fe-rich rims, while others appeared cylindrical (again with Fe-rich outer walls). Above and below the sandstone, finer layering at the seafloor suggests finer-grained sediments (i.e., siltstones).

At 2,813 m, a narrow ribbon of prominently rippled sediment hugged the bottom of a small ridge. This ribbon, ~parallel to bathymetric contours, suggested the presence of intermittent contour-following currents on this slope.

Prominent furrows oriented diagonally downslope (~NE-SW), and similar to those observed along the ridge on the east side of Bryant Canyon, began to appear at 2,777 m. These furrows/rills persisted upslope almost to the end of the dive.

Near the end of the dive, extensive outcrops of sandstone/siltstone occurred, along with complex downslope drainage channels of various sizes and abundant talus.

The vehicles were recovered from a depth of 2,723 m.

Biological Summary

Octocoral present: *Sibogagorgia*? sp. (bubblegum coral) and several species of branched and unbranched bamboo corals, >10 specimens, were sighted throughout the dive. This shows corals occurring in depth ranges 300 to 400+ m more then previous records suggest.

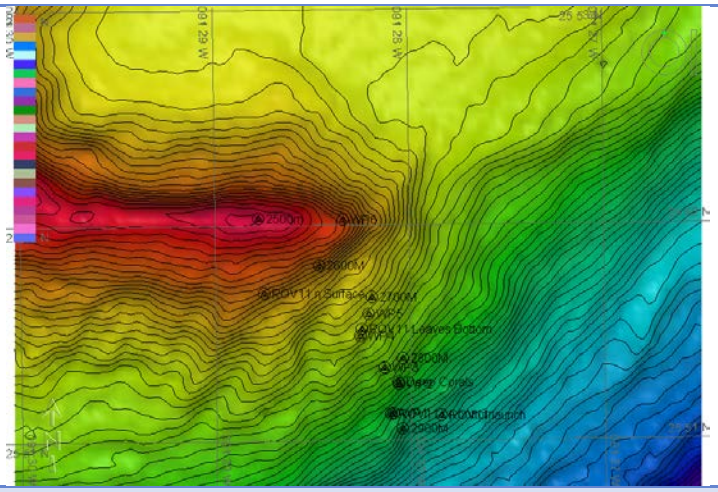
Other Cnidarians: unidentified anemones, common to abundant throughout, with a corallimorph /anemone present that is new to this expedition.

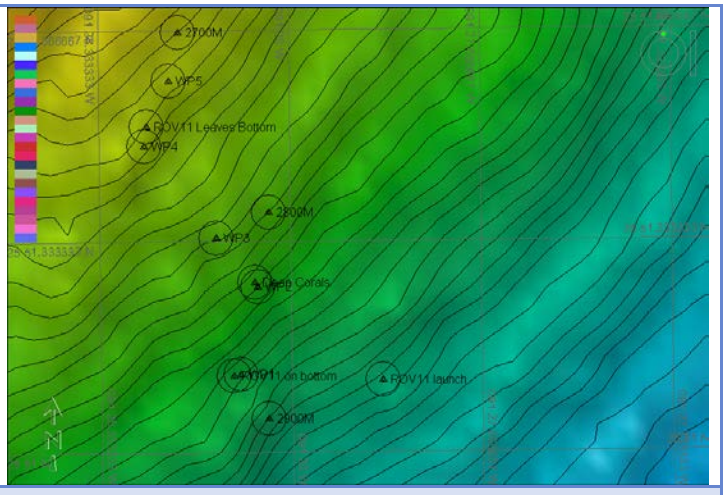
Sponges: the elephant ear - *Phycallia*? sp. become common on the mid-upper slope, *Geodia*-type ball sponges (*Geodia* sp. similar to a recently discovered species), hexactinellid - *Ferrea*-like, common with many dead individuals on the rocky outcrops throughout the dive. Hexactinellid- *Vazella*? sp., present but rare.

Echinoderms: Asteroids - 6-arms, Brisingidae (many armed stars) - common; comatulid crinoids - rare.

Other organisms observed: Serpulidae/Sabellid tube worms common throughout, a few rattail fish, one halosaurus, gastropod - *Buccina*-like and squat lobster - *Munidopsis rostrata*.

Overall Map of ROV Dive Area	**Close-up Map of Main Dive Site**





Representative Photos of the Dive

EX1402L3_IMG_20140423T170920Z_ROVHD_COR_AUDIO.jpg A single *Sibogagorgia*? sp. (bubblegum coral) sits resides on the hard ground.

EX1402L3_IMG_20140423T194009Z_ROVHD_ASR_RARE.jpg; a rare 6 arm starfish on hard bottom substrate.

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