

Bill Shedd, BOEM, BOEM, William.Shedd@boem.gov
Mary Wicksten, Texas?, TAMU, wicksten@bio.tamu.edu

Purpose of the Dive

Examine a high-relief seamount-like feature at Sigsbee Escarpment, as this will very likely be a good place to find coral habitats. Start at the rift valley-like feature to the NNE (WP1), climb up and then down the southern wall, and move southward, traversing a low-relief area en route to WP2. From there, begin an ascent along the northern face of the seamount-like feature, looking at changes of geology and biological communities, and then finally explore the summit around WP3.

Description of the Dive:

The vehicles were in the water at ~0820 CDT and reached the seafloor a little after 0900 CDT, at a water depth of ~1130 m. After transiting a sedimented seafloor with burrows and uneven depressions (speculated to be formed by whales in search of squid near the seafloor), the vehicles began to climb the northeastern flank of a large salt dome. On the lower flank of that dome, a number of outcrops were encountered, all along a single level. A couple were characterized by small exposures of asphalt, some of which was liquid enough to form bubbles which reflected the lights of the ROV. At one outcrop, these bubbles had long stalks, and at another the bubbles were surrounded by a casing of mucus (from an unknown animal). Some bubbles were completely detached and held only by the mucus. While we observed, one bubble escaped towards the surface. One asphalt outcrop was partially encrusted with methane hydrate colonized by the ice worm *Hesiocaeca methanicola*. Other outcrops consisted of carbonate hardgrounds, inhabited by a variety of sessile animals: soft corals (gorgonians with associated ophiuroids, *Anthomastus*, bamboo corals, *Chrysogorgia*), isolated tubeworms (*Lamellibrachia*), sponges and anemones. Three frogfish and a giant isopod were associated with one cluster of carbonate hardgrounds (at the summit of the dome, see below) that was also colonized by sessile fauna (corals, sponges anemones). Occasional sea pens (isidids and pennatulacean) inhabited more sedimented areas. We also saw isolated concentrations of disarticulate bivalve (clam) shells; no living concentrations were observed. Above the lower flank, only small carbonate hardground rubble was observed for the rest of the up-hill transit. Squat lobsters were abundant around hard substrates as well, including anthropogenic debris such as a long cable tie on the seafloor. At the beginning of the dive, there seemed to be an unusually large amount of trash on the seafloor, including glass bottles, plastic trash bags filled items, and a drink carton. This became less as we climbed the slope.

The top of the dome was at a water depth of ~955-965 m. Only one significant carbonate hardground outcrop was identified in this area; this outcrop was characterized by a highly diverse encrusting biological community and several goosefish (see above).

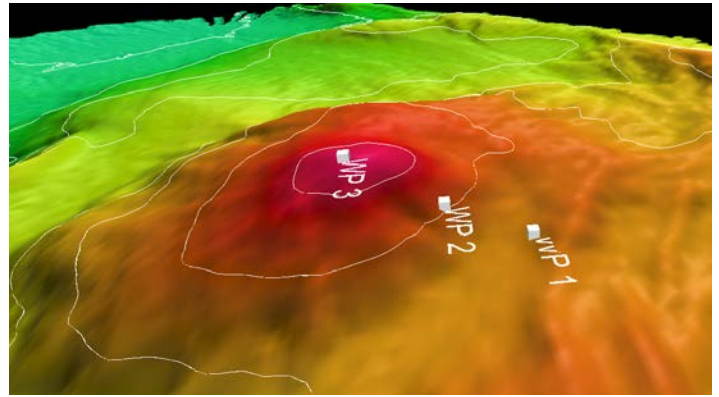
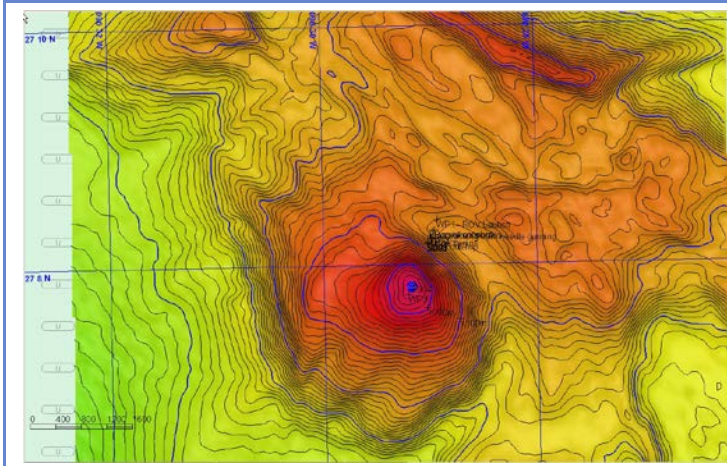
Linear furrows tens of cm deep and many meters long were also encountered on top of the dome. We speculate that these furrows were man-made, perhaps the result of seafloor-based seismic exploration (ground cable placement/movement) or fish trawling.

Among the non-seep or hardground related fauna, we saw two kinds of squids: a piglet squid and another kind that continually changed colors as we observed it. We also saw a number of fish, mostly rattails, cusk eels, halosaurs, a cutthroat eel and a skate. Further up the slope, there were also several squat lobsters not associated with carbonate outcrops, that had very large antennae and orange and white "frosted" coloration. There were a few holothurians and numerous red and pink shrimp.

The vehicles were back on deck a little after 1800 CDT.

Overall Map of ROV Dive Area

Close-up Map of Main Dive Site



Representative Photos of the Dive



Asphalt droplets emanating slowly from the seafloor. Some are suspended in a mucus casing.



Two of the three frogfish (a type of angler fish) occupying carbonate hardgrounds. These carbonates also hosted a number of different soft corals, sponges, squat lobsters, anemones, and a giant isopod.

Please direct inquiries to:

NOAA Office of Ocean Exploration & Research
 1315 East-West Highway (SSMC3 10th Floor)
 Silver Spring, MD 20910
 (301) 734-1014