



Taylor Heyl/ WHOI Exploration Command Center/WHOI/theyl@whoi.edu  
Lucy C. Stewart/ UMASS Amherst/lstewart@cns.umass.edu  
Mashkooor Malik/ NOAA Office of Ocean Exploration & Research/mashkooor.malik@noaa.gov  
Meme Lobecker/ NOAA Office of Ocean Exploration & Research/ Elizabeth.Lobecker@noaa.gov

**Purpose of the Dive**

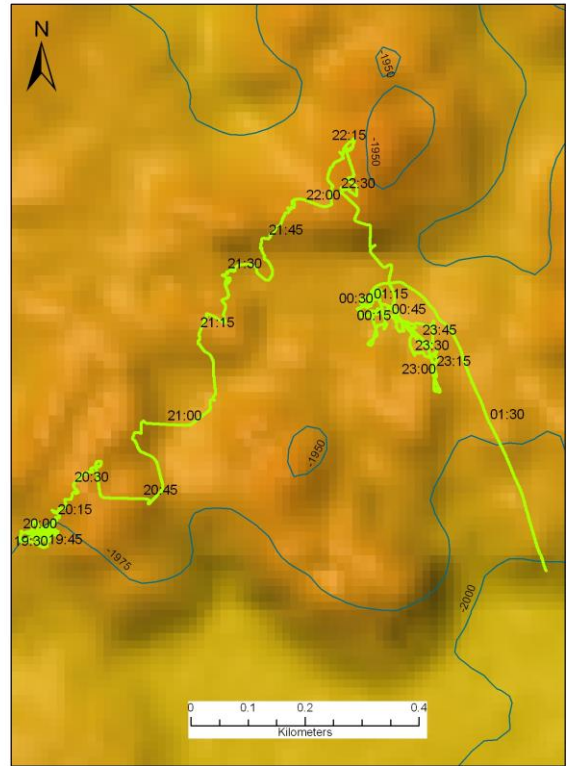
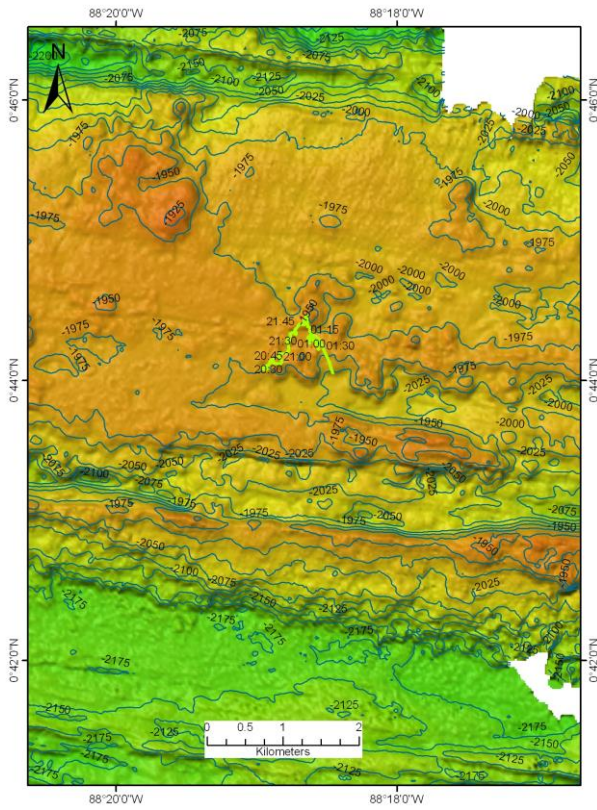
Our seafloor target was a position 100 meters SW of our active hydrothermal plume signal (called 2a) near 1970 meters. This dive continued the exploration for hydrothermal activity on the Galapagos Rift where strong hydrothermal plume signals were detected.

**Description of the Dive:**

Huge billows of vent smoke were seen as ROV *Little Hercules* and *Seirios* maneuvered approximately 20 to 80 meters above the seafloor but no expansive vent fields had yet been found. Large extinct sulfide structures with flanges and multiple diffuse vents were seen again at the start of this dive and we moved with *Little Hercules* to the SE to traverse along the active graben. The lava flow had a west/east length of over 70 meters and the graben (with fresh lava) was 83-90 meters long. We started to see contacts of fresh lava flow with older lava at the base of the wall of the graben as we traversed over the seafloor following lava contacts. We saw extensive diffuse venting through young flows with some light colored smoke in places. We continued moving on to explore targets in an area of younger lava flow at 1954 meters but lost the fresh lava flow and came into complex lobates with a fissure. Multiple large extinct sulfide structure with flanges were discovered and approximately 120 meters from active "Diffuse flow, white staining" site, we came upon a 30 m high dead tower chimney structure with ROV *Little Hercules* and this structure was imaged extensively before the end of the dive.

**Overall Map of ROV Dive Area**

**Close-up Map of Main Dive Site**



**Representative Photos of the Dive**

XXX

XXX

**Please direct inquiries to:**

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