## OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	2a		EX 1103 GALREX - SITES OF INTEREST  SECOND S	
ROV Lead/ Expedition Coordinator	Dave Lovalvo/ Jeremy Potter		NAME .	Grang Wildows Country
General Area Descriptor	Site 2a, <mark>X km NX of x Island</mark> , Galapagos Islands		noor and a second	South South Constitution (Service)
ROV Dive Name  Equipment Deployed	Cruise Season	Leg		Dive Number
	EX1103 ROV:	2	2 DIVE04  Little Hercules	
	Camera Platfom:	Seirios		
ROV Measurements	<ul> <li></li></ul>	Depth USBL Position Roll Low Res Cam 2		
Equipment Malfunctions	None			
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1103L2_DIVE04  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^			
Special Notes  Scientists Involved (please provide name / location / affiliation / email)	Click here to enter text.  Timothy M. Shank/ Okeanos Explorer Lead Scientist/WHOI/tshank@whoi.edu Edward T. Baker/NOAA-PMEL, Washington/Edward.baker@noaa.gov Robert W. Embley/NOAA-PMEL, Oregon/Robert.w.embley@noaa.gov Stephen Hammond/ NOAA-PMEL, Oregon/Stephen.r.hammond@noaa.gov James F. Holden/ UMASS Amherst/jholden@microbio.umass.edu Scott White/University of South Carolina/swhite@geol.sc.edu Sharon L. Walker/ NOAA-PMEL, Washington/sharon.l.walker@noaa.gov Santiago Herrera/ WHOI Exploration Command Center/WHOI/sherrera@whoi.edu T. Jennifer Lin/UMASS Amherst/tjennlin@gmail.com Catriona Munro/ WHOI Exploration Command Center /WHOI/catmunro89 @gmail.com			

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

## Purpose of the Dive

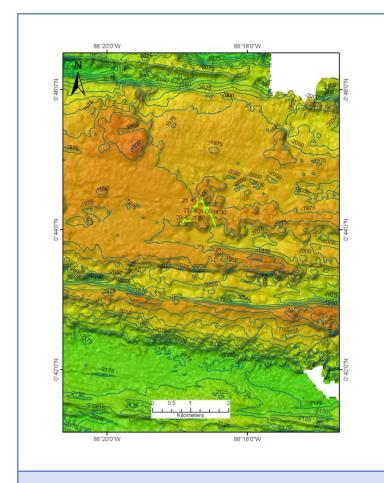
Our seafloor target was a position 100 meters SW of our active hydrothermal plume signal (called 2a) near 1970 meters. This dive continued the exploration for hydrothermal activity on the Galapagos Rift where strong hydrothermal plume signals were detected.

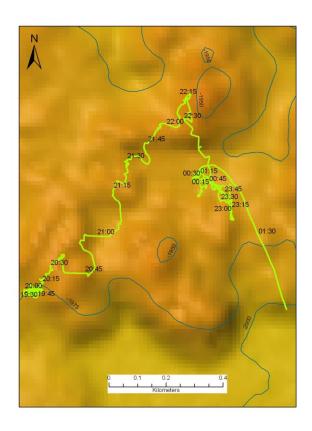
## **Description of the Dive:**

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

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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