OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Site 2a		EX 1103 GALREX - SITES OF INTEREST SECURITY SEC
ROV Lead/ Expedition Coordinator	Dave Lovalvo/ Jeremy Potter		E Company of the Comp
General Area Descriptor	Site 2a, ~175nm northeast of the Galapagos Islands		
ROV Dive Name Equipment Deployed	Cruise Season	Leg	Dive Number
	EX1103 ROV:	2	DIVE05
	Camera Platfom:	Little Hercules Seirios	
ROV Measurements		□ Depth □ USBL Position □ Roll □ Low Res Cam 2	Altitude Heading HD Camera
Equipment Malfunctions	None		
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1103L2_DIVE05 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		
Special Notes	Click here to enter text.		
Scientists Involved (please provide name / location / affiliation / email)	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		

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Purpose of the Dive

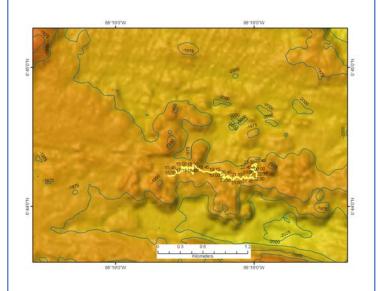
The purpose of this dive was to target a hydrothermally active area discovered during dive 04 that may have not been fully explored. From there, we plan to move east of the massive inactive sulfide towers located at the end of the dive 04 to explore to the East/Southeast in the axial graben.

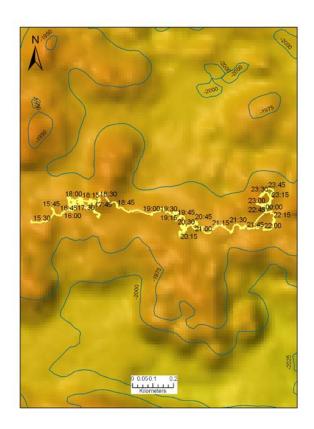
Description of the Dive:

Once on bottom, *Little Hercules* moved through murky water over pillow lavas covered with sediment slightly east of the diffuse vent site discovered on dive 04. We relocated the diffuse vent site and paused at the northern extent of the field to image clear venting and white microbial mat material between lobate lavas. We then moved East and discovered another site with diffuse vent fluid flowing from cracks between truncated lobates in a graben wall. This area north to south was about 15 meters wide, with the most vigorous flow on the south side. Both diffuse venting sites, separated by 9 meters, were characterized by young lavas and intense diffuse flow through the surrounding basaltic rock with only a few mobile species that were vent specific. A large line of inactive chimneys was seen on pillow-based promontories in the axial graben and *Little Hercules* began moving to the NE to regain the graben and then traverse E-SE along the southern wall. Just before the end of the dive, *Little Hercules* found an extensive field of young lavas with Fe staining and diffuse venting between lobate lava but there was no more time for exploration further to the East.

Overall Map of ROV Dive Area

Close-up Map of Main Dive Site





Representative Photos of the Dive



A recent lava flow showing white microbial staining on the broken basaltic rocks, caused by discharge of warm hydrothermal fluids through the seafloor. White flocculent in the water column.



Downlooking view into the graben.

Please direct inquiries to:

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