OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Site 2a		EX 1103 GALREX - SITES OF INTEREST MOOTH
ROV Lead/ Expedition Coordinator	Dave Lova Jeremy Po		Some District Control of Control
General Area Descriptor	Site 2a, <mark>X km NX of x Island</mark> , ne	ear the Galapagos Islands	SECON
ROV Dive Name	Cruise Season	Leg	Dive Number
	EX1103	2	DIVE05
Equipment Deployed	ROV: Camera Platfom:		Little Hercules Seirios
	Camera Platforn:	□ Depth □ Depth	Altitude
ROV Measurements	Scanning Sonar	USBL Position	☐ Heading
NOV Wicusurements	Pitch	Roll	HD Camera
Equipment	Low Res Cam 1	Low Res Cam 2	
Malfunctions	None		
ROV Dive Summary (From processed ROV data)	00°, Out Water at: 201 00°, Off Bottom at: 201 00°, On Bottom at: 201 00°, Dive duration: 7:54 Bottom Time: 5:41	1-07-18T15:20:49.479000 44.230' N; 088°, 18.619' \ 1-07-18T23:15:18.244000 44.281' N; 088°, 17.987' \ 1-07-18T22:35:15.791000 44.264' N; 088°, 18.004' \ 1-07-18T16:53:31.597000 44.267' N; 088°, 18.478' \ 1:28	W W W W
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		

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Purpose of the Dive

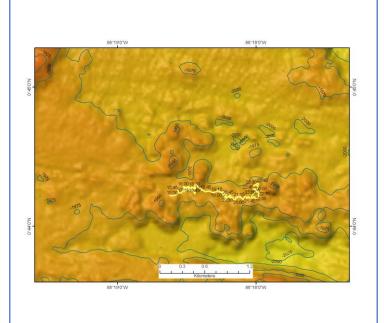
The purpose of this dive was to target a hydrothermally active area discovered during dive 04 that may have not been fully explored. From there, we plan to move east of the massive inactive sulfide towers located at the end of the dive 04 to explore to the East/Southeast in the axial graben.

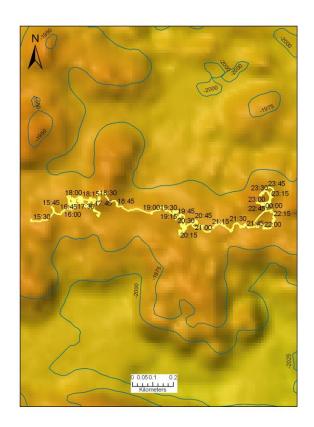
Description of the Dive:

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

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Please direct inquiries to:

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