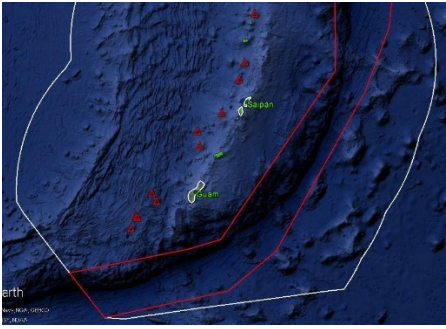


# OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	Fina Nagu Caldera C			
ROV Lead/Expedition Coordinator	Jim Newman / Kelley Elliott			
Science Team Leads	Deborah Glickson & Diva Amon			
General Area Descriptor	Southern Marianas			
ROV Dive Name	Cruise Season	Leg	Dive Number	
	EX1605	1	DIVE 06	
Equipment Deployed	ROV:	Deep Discoverer		
	Camera Platform:	Seirios		
ROV Measurements	<input checked="" type="checkbox"/> D2 CTD	<input checked="" type="checkbox"/> Depth	<input checked="" type="checkbox"/> Altitude	
	<input checked="" type="checkbox"/> Scanning Sonar	<input checked="" type="checkbox"/> USBL Position	<input checked="" type="checkbox"/> Heading	
	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> HD Camera 1	
	<input checked="" type="checkbox"/> HD Camera 2	<input checked="" type="checkbox"/> ROV HD 2	<input checked="" type="checkbox"/> Seirios CTD	
	Temperature Probe	<input checked="" type="checkbox"/> D2 DO Sensor	<input checked="" type="checkbox"/> Seirios DO sensor	
Equipment Malfunctions				
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1605L1_DIVE06			
	~~~~~			
	In Water:	2016-04-26T21:57:45.607000 12°, 48.024' N ; 143°, 46.784' E		
	Out Water:	2016-04-27T06:44:45.314000 12°, 47.691' N ; 143°, 47.883' E		
	Off Bottom:	2016-04-27T05:10:06.852000 12°, 47.738' N ; 143°, 47.326' E		
	On Bottom:	2016-04-26T23:39:58.813000 12°, 47.806' N ; 143°, 46.860' E		
	Dive duration:	8:46:59		
Bottom Time:	5:30:8			
Max. depth:	2754.9 m			
Special Notes				
Scientists Involved (please provide name / location / affiliation / email)	Stace Beaulieu, WHOI; <a href="mailto:sbeaulieu@whoi.edu">sbeaulieu@whoi.edu</a> Maryjo Brounce, CA Institute of Technology; <a href="mailto:mbrounce@gps.caltech.edu">mbrounce@gps.caltech.edu</a> Scott France, UL Lafayette; <a href="mailto:france@louisiana.edu">france@louisiana.edu</a> Patty Fryer, UH; <a href="mailto:pfryer@soest.hawaii.edu">pfryer@soest.hawaii.edu</a> Tara Harmer Luke, Stockton University; <a href="mailto:Tara.Luke@stockton.edu">Tara.Luke@stockton.edu</a> Chris Kelley, UH; <a href="mailto:ckelley@hawaii.edu">ckelley@hawaii.edu</a> Asako Matsumoto, Chiba Institute of Technology; <a href="mailto:amatsu@gorgonian.jp">amatsu@gorgonian.jp</a>			

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**Purpose of the Dive**

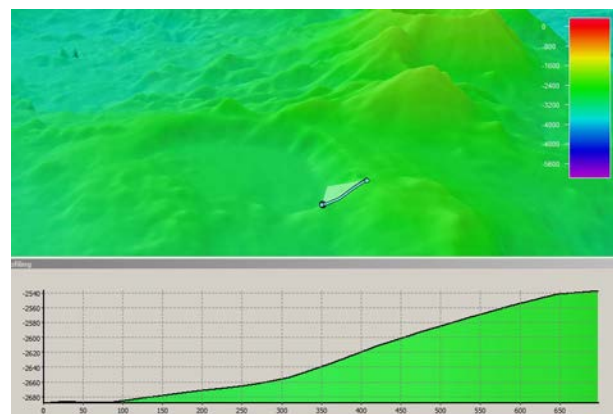
The Fina Nagu Volcanic Chain is poorly studied, and none of its calderas, until this dive, had been imaged for signs of hydrothermal activity or biological communities. Based on the location of our dive, it was hypothesized that volcanic activity would increase northward through the calderas but are unsure. Fina Nagu C was expected to have some mature biology communities, but little biology was seen. This dive began at 2689 m, and traversed 670 m upslope to the north, ending at a depth of 2637 m.

**Description of the Dive:**

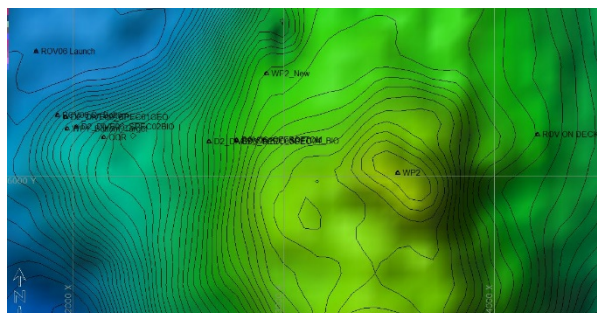
The dive began at 2575 m on a ridge/caldera wall between Fina Nagu B and C. After landing, we traversed the ridge upslope to the east to a depth of 2522 m. The ROV landed in an outcrop of lightly-sedimented pillow basalts. The pillows were striated and were mostly intact, and were emplaced on top of a ropy flow. We picked up a rock near this location, slightly upslope (D2\_DIVE06\_SPEC01GEO). As we continued to move upslope, the terrain remained mainly pillow basalts with some ropy and sheet flows. About 2 hours into the dive, we entered an area of shallow slopes covered in volcanoclastic sediment. It had widespread coverage, and in some instances there were ripple marks from the current. As we continued upslope there were isolated pillow outcrops partially covered by volcanoclastics. Eventually, as the slope steepened, we were again in large pillow outcrops. We collected our second rock sample in this area (D2\_DIVE06\_SPEC03GEO).

Biology was very sparse during the dive. Fauna observed included isidid bamboo corals, many *Coleolus* ascidians, a benthic ctenophore living on a sponge, a few holothurians, sponges, and crinoids. There were also some fish observed including a *Aldrovandia* halosaur and *Kumba* macrourid (D2\_DIVE06\_SPEC02BIO and D2\_DIVE06\_SPEC04BIO).

**Map of ROV Dive Area**



Fledermaus map of planned dive EX1605L1-DIVE06 track.

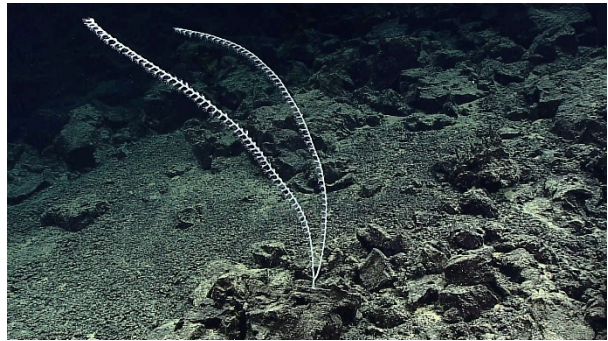


Hypack screengrab of actual dive EX1605L1-DIVE06 track

**Representative Photos of the Dive**




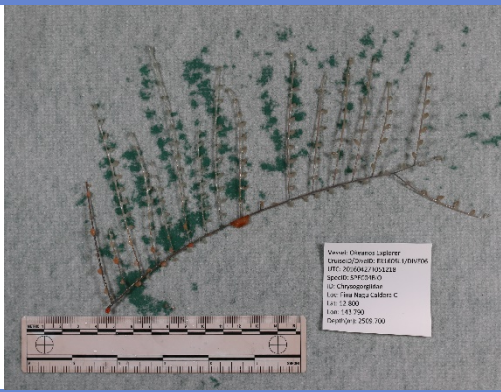
Pillow basalts during DIVE 06.



An isidid coral observed during DIVE 06.

**Samples Collected**

<b>Sample ID</b>	D2_DIVE06_SPEC01GEO	
<b>Date (UTC)</b>	20160427	
<b>Time (UTC)</b>	00:08:04	
<b>Depth (m)</b>	2737	
<b>Temperature (°C)</b>	1.747	
<b>Field ID(s)</b>	Mn-encrusted vesicular pillow basalt w/ropy flow structure	
<b>Comments</b>	No commensals.	
<b>Sample ID</b>	D2_DIVE06_SPEC02BIO	
<b>Date (UTC)</b>	20160427	
<b>Time (UTC)</b>	00:51:58	
<b>Depth (m)</b>	2712	
<b>Temperature (°C)</b>	1.741	
<b>Field ID(s)</b>	Isididae sp.	
<b>Comments</b>	No commensals.	

<b>Sample ID</b>	D2_DIVE06_SPEC03GEO	
<b>Date (UTC)</b>	20160427	
<b>Time (UTC)</b>	04:06:39	
<b>Depth (m)</b>	2578	
<b>Temperature (°C)</b>	1.746	
<b>Field ID(s)</b>	Mn-encrusted pillow basalt with glassy flow structure on bottom	
<b>Comments</b>	No commensals.	
<b>Sample ID</b>	D2_DIVE06_SPEC04BIO	
<b>Date (UTC)</b>	20160427	
<b>Time (UTC)</b>	05:12:18	
<b>Depth (m)</b>	2509	
<b>Temperature (°C)</b>	1.798	
<b>Field ID(s)</b>	Chrysogorgiidae ( <i>Pleurogorgia</i> ) sp.	
<b>Comments</b>	20 anemones (some were stored in 4% formalin and 95% ETOH)	
<b>Please direct inquiries to:</b>	NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10 <sup>th</sup> Floor) Silver Spring, MD 20910 (301) 734-1014	