**Okeanos Explorer ROV Dive Summary**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Site Name** | | | Fina Nagu Caldera D | | | | | | | | |  | |
| **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 05 |
| **Equipment Deployed** | | | ROV: | | Deep Discoverer | | | | | | | | |
|  | | | Camera Platform: | | Seirios | | | | | | | | |
| **ROV Measurements** | | | D2 CTD | | Depth | | | | | | | | Altitude |
|  | | | Scanning Sonar | | USBL Position | | | | | | | | Heading |
|  | | | Pitch | | Roll | | | | | | | | HD Camera 1 |
|  | | | HD Camera 2 | | ROV HD 2 | | | | | | | | Seirios CTD |
|  | | | Temperature Probe | | D2 DO Sensor | | | | | | | | Seirios DO sensor |
| **Equipment Malfunctions** | | |  | | | | | | | | | | |
| **ROV Dive Summary**  **(From processed ROV data)** | | | Dive Summary: EX1605L1\_DIVE05  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  In Water: 2016-04-25T21:49:57.964000  12°, 41.464' N ; 143°, 44.848' E  Out Water: 2016-04-26T06:36:57.110000  12°, 41.977' N ; 143°, 45.322' E  Off Bottom: 2016-04-26T05:09:05.212000  12°, 42.002' N ; 143°, 44.849' E  On Bottom: 2016-04-25T23:39:13.086000  12°, 41.605' N ; 143°, 44.975' E  Dive duration: 8:46:59  Bottom Time: 5:29:52  Max. depth: 2973.7 m | | | | | | | | | | |
| **Special Notes** | | |  | | | | | | | | | | |
| **Scientists Involved**  ***(please provide name / location / affiliation / email)*** | | | Stace Beaulieu, WHOI; [sbeaulieu@whoi.edu](mailto:sbeaulieu@whoi.edu)  Scott France, UL Lafayette; [france@louisiana.edu](mailto:france@louisiana.edu)  Patty Fryer, UH; [pfryer@soest.hawaii.edu](mailto:pfryer@soest.hawaii.edu)  Tara Harmer Luke, Stockton University; [Tara.Luke@stockton.edu](mailto:Tara.Luke@stockton.edu)  Chris Kelley, UH; [ckelley@hawaii.edu](mailto:ckelley@hawaii.edu)  Alexander Kerr, University of Guam; [alexander.kerr@aya.yale.edu](mailto:alexander.kerr@aya.yale.edu)  Asako Matsumoto, Chiba Institute of Technology; [amatsu@gorgonian.jp](mailto:amatsu@gorgonian.jp)  Tina Molodtsova, Shirshov Institute of Oceanology; [tina@ocean.ru](mailto:tina@ocean.ru)  Bruce Mundy, NOAA PIFSC; bruce.mundy@noaa.gov  Shirley Pomponi, FAU/HBOI; [spomponi@fau.edu](mailto:spomponi@fau.edu)  Sonia Rowley, UH; srowley@hawaii.edu  Tim Shank, WHOI; tshank@whoi.edu  Daniel Wagner, NOAA; [daniel.wagner@noaa.gov](mailto:daniel.wagner@noaa.gov)  Les Watling, UH; watling@hawaii.edu | | | | | | | | | | |
| **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, we think that volcanic activity would increases northward through the calderas but are unsure. Fina Nagu D was expected to have some mature biology communities, but little biology was seen. This dive began at 3029 m, and traversed 750 m upslope to the north, ending at a depth of 2692 m. | | | | | | | | | | | | | |
| **Description of the Dive:** | | | | | | | | | | | | | |
| The dive began at 2970 m and moved NNW up a ridge of the Fina Nagu D caldera wall.  The ROV touched down in fairly fresh-looking volcanics, with low MN-crust coatings and little sediment. We saw many lava morphologies on this dive, including pillows, ropy lava, blocky talus, and sheet flows. In one area we saw what looked like dikes also. As we moved up the slope, we saw many scree slopes with moderate to heavy sediment, and talus. There were isolated small outcrops, but it was not until about 2700 m that we transitioned almost entirely to outcrops, with less talus and less sediment. When we reached the local high (Waypoint 2), it was an enormous pile of blocky talus that looked fresh and mostly unsedimented. Geological samples were collected near the beginning of the dive (D2\_DIVE05\_SPEC02GEO), at the dike feature (D2\_DIVE05\_SPEC02GEO), and in the outcrops just before we reached the talus slope (D2\_DIVE05\_SPEC05GEO).  The biology tended to be comprised of mostly suspension-feeding organisms e.g. crinoids, sponges, isidids and stylasterids. Interesting animals of note included three possible new species of sponge, likely all *Hyalonema* spp. Two of these were collected (D2\_DIVE05\_SPEC03GEO and D2\_DIVE05\_SPEC04GEO). We also encountered a benthic siphonophore (dandelion), two swimming cf. *Paleopatides* sp., a mating pair of amphipods, a benthic ctenophore, and a predatory tunicate, *Megalodicopia* sp. | | | | | | | | | | | | | |
| **Map of ROV Dive Area** | | | | | | | | | | |  | | |
|  | | | | | | | | | | | PublicData:cruises:EX1605L1:Dive Summaries:Hypack screengrabs:Dive05:EX1605L1_Dive05_Hypack_zoom.JPG | | |
| Fledermaus map of planned dive EX1605L1-DIVE05 track. | | | | | | | | | | | Hypack screengrab of actual dive EX1605L1-DIVE05 track | | |
| **Representative Photos of the Dive** | | | | | | | | | | | | | |
| **CruiseData:EX1605L1:Imagery:EX1605L1_DIVE05_20160425:EX1605L1_IMG_20160426T005316Z_ROVHD_ROC_HOL_AUD_HL.jpg** | | | | | | | | | | CruiseData:EX1605L1:Imagery:EX1605L1_DIVE05_20160425:EX1605L1_IMG_20160426T041211Z_ROVHD_HOL_HL.jpg | | | |
| Some of the many pillow basalts encountered during DIVE 07. | | | | | | | | | | A cf. *Paleopatides* sp. holothurian swimming. | | | |
| **Samples Collected** | | | | | | | | | | | | | |
| **Sample ID** | D2\_DIVE05\_SPEC01GEO | | | | | CruiseData:EX1605L1:UPLOAD:TOPSIDE SAMPLE IMAGES:EX1605L1_DIVE05_TOPSIDE_SAMPLE_IMAGES:IMG_1093.JPG | | | | | | | |
| **Date (UTC)** | 20160425 | | | | |  | | | | | | | |
| **Time (UTC)** | 23:51:13 | | | | |  | | | | | | | |
| **Depth (m)** | 2970 | | | | |  | | | | | | | |
| **Temperature (oC)** | 1.677 | | | | |  | | | | | | | |
| **Field ID(s)** | Mn-coated basalt | | | | |  | | | | | | | |
| **Comments** | No commensals | | | | | | | | | | | | |
| **Sample ID** | | D2\_DIVE05\_SPEC02GEO | | | | | CruiseData:EX1605L1:UPLOAD:TOPSIDE SAMPLE IMAGES:EX1605L1_DIVE05_TOPSIDE_SAMPLE_IMAGES:IMG_1096.JPG | | | | | | |
| **Date (UTC)** | | 20160426 | | | | |  | | | | | | |
| **Time (UTC)** | | 01:24:44 | | | | |  | | | | | | |
| **Depth (m)** | | 2938 | | | | |  | | | | | | |
| **Temperature (oC)** | | 1.678 | | | | |  | | | | | | |
| **Field ID(s)** | | Mn-coated basalt | | | | |  | | | | | | |
| **Comments** | | No commensals. | | | | | | | | | | | |
| **Sample ID** | | D2\_DIVE05\_SPEC03BIO | | | | | CruiseData:EX1605L1:UPLOAD:TOPSIDE SAMPLE IMAGES:EX1605L1_DIVE05_TOPSIDE_SAMPLE_IMAGES:IMG_1090.JPG | | | | | | |
| **Date (UTC)** | | 20160426 | | | | |  | | | | | | |
| **Time (UTC)** | | 02:01:51 | | | | |  | | | | | | |
| **Depth (m)** | | 2935 | | | | |  | | | | | | |
| **Temperature (oC)** | | 1.693 | | | | |  | | | | | | |
| **Field ID(s)** | | *Hyalonema* sp. | | | | |  | | | | | | |
| **Comments** | | One commensal = Scalpellidae barnacle. | | | | | | | | | | | |
| **Sample ID** | | D2\_DIVE05\_SPEC04BIO | | | | | | CruiseData:EX1605L1:UPLOAD:TOPSIDE SAMPLE IMAGES:EX1605L1_DIVE05_TOPSIDE_SAMPLE_IMAGES:IMG_1083.JPG | | | | | |
| **Date (UTC)** | | 20160426 | | | | | |  | | | | | |
| **Time (UTC)** | | 03:31:13 | | | | | |  | | | | | |
| **Depth (m)** | | 2894 | | | | | |  | | | | | |
| **Temperature (oC)** | | 1.709 | | | | | |  | | | | | |
| **Field ID(s)** | | *Hyalonema* sp. | | | | | |  | | | | | |
| **Comments** | | No commensals. | | | | | | | | | | | |
| **Sample ID** | | D2\_DIVE05\_SPEC05GEO | | | | | | | CruiseData:EX1605L1:UPLOAD:TOPSIDE SAMPLE IMAGES:EX1605L1_DIVE05_TOPSIDE_SAMPLE_IMAGES:IMG_1102.JPG | | | | |
| **Date (UTC)** | | 20160426 | | | | | | |  | | | | |
| **Time (UTC)** | | 04:51:51 | | | | | | |  | | | | |
| **Depth (m)** | | 2675 | | | | | | |  | | | | |
| **Temperature (oC)** | | 1.703 | | | | | | |  | | | | |
| **Field ID(s)** | | Basalt | | | | | | |  | | | | |
| **Comments** | | No commensals. | | | | | | | | | | | |
| **Please direct inquiries to:** | | | | NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10th Floor)  Silver Spring, MD 20910  (301) 734-1014 | | | | | | | | | |