**Okeanos Explorer ROV Dive Summary**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Site Name** | | | Enrique Guyot | | | | | | |  | |
| **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 15 |
| **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** | | | There was a problem with a fiberoptic cable in the ROV tether, which delayed the dive by about 2 hours. | | | | | | | | |
| **ROV Dive Summary**  **(From processed ROV data)** | | | Dive Summary: EX1605L1\_DIVE15  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  In Water: 2016-05-05T23:01:59.884000  15°, 00.226' N ; 148°, 31.069' E  Out Water: 2016-05-06T04:42:59.972000  15°, 00.334' N ; 148°, 31.292' E  Off Bottom: 2016-05-06T03:23:25.790000  15°, 00.205' N ; 148°, 30.967' E  On Bottom: 2016-05-06T00:27:13.528000  15°, 00.283' N ; 148°, 31.102' E  Dive duration: 5:41:0  Bottom Time: 2:56:12  Max. depth: 2269.4 m | | | | | | | | |
| **Special Notes** | | |  | | | | | | | | |
| **Scientists Involved**  ***(please provide name / location / affiliation / email)*** | | | Patty Fryer, UH; [pfryer@soest.hawaii.edu](mailto:pfryer@soest.hawaii.edu)  Mackenzie Gerringer, UH; [mgerring@hawaii.edu](mailto:mgerring@hawaii.edu)  Tara Harmer Luke, Stockton University; Tara.Luke@stockton.edu  Chris Kelley, UH; [ckelley@hawaii.edu](mailto:ckelley@hawaii.edu)  Scott France, UL Lafayette; france@louisiana.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](mailto:bruce.mundy@noaa.gov)  Shirley Pomponi, FAU/HBOI; [spomponi@fau.edu](mailto:spomponi@fau.edu) | | | | | | | | |
| **Purpose of the Dive**  This dive was on Enrique Guyot, a Cretaceous seamount just to the east of the trench. The dive had objectives that included exploring for high-density communities of deep-sea corals and sponges and doing an initial characterization of Mn-crust habitats on one of the presumed oldest seamounts on the Pacific plate. The dive was planned to begin at a depth of 2360 m and to move up along the ridge to the S-SW for ~725 m, to a depth of 2010 m. | | | | | | | | | | | |
| **Description of the Dive:** | | | | | | | | | | | |
| This dive began at a depth of 2260 m along a ridge on Enrique Guyot. We landed in an area of Mn-crusted volcanic rocks with light sediment. While most of the rocks looked intact, we were able to collect one quite early in the dive (D2\_DIVE15\_SPEC01GEO). As we slowly moved up the ridge, the rocks were quite blocky and looked intact, including a possible dike. However, many of the angular edges were rounded by Mn-crust, some of which had botryoidal texture. At about 2220 m depth, we encountered a tilted pillow lava ridge, and then several other faulted/fractured blocks with pillow lavas either flowing down the side or emplaced on top. The terrain was much steeper and more fractured than we had expected based on the 100-m and 50-m multibeam grids and this resulted in a slow-going dive to maximize the safety of the vehicles. Towards the end of the dive, we ended up on a pillow ridge that was a local high over 25 m high – much higher than the surrounding area. We flew over to another, lower plateau in an attempt to find the “main” ridge. While we did end up on a lower ridge, it was unclear whether we were actually on the ridge we had hoped to attain.  This dive had a high diversity of sponges and corals. Interestingly, the community had a high abundance of antipatharians. Octocorals such as *Hemicorallium* sp. and *Pleurogorgia miltaris* were also observed. Sponges included *Poliopogon* sp., *Tretopleura* sp., and others from the family Euretidae. Midway through the dive, a colony of small sponges with unidentified ‘white dots’ on their surfaces were observed. Three of these were collected (D2\_DIVE15\_SPEC01GEO). | | | | | | | | | | | |
| **Map of ROV Dive Area** | | | | | | | | |  | | |
|  | | | | | | | | | PublicData:cruises:EX1605L1:Dive Summaries:Hypack screengrabs:Dive15:Dive15_Hypack_zoom.JPG | | |
| Fledermaus map of planned dive EX1605L1-DIVE15 track. | | | | | | | | | Hypack screengrab of actual dive EX1605L1-DIVE15 track. | | |
| **Representative Photos of the Dive** | | | | | | | | | | | |
| **CruiseData:EX1605L1:Imagery:EX1605L1_DIVE15_20160505:EX1605L1_IMG_20160506T022203Z_ROVHD_CLI.jpg** | | | | | | | | CruiseData:EX1605L1:Imagery:EX1605L1_DIVE15_20160505:EX1605L1_IMG_20160506T012234Z_ROVHD_PIL.jpg | | | |
| Most of the terrain during Dive 15 was comprised of sheer cliffs of tilted pillow lavas. | | | | | | | | There were many sponge and coral aggregations that followed the ridges. | | | |
| **Samples Collected** | | | | | | | | | | | |
| **Sample ID** | D2\_DIVE15\_SPEC01GEO | | | | | **:Dive 15:IMG_1301.JPG** | | | | | |
| **Date (UTC)** | 20160506 | | | | |  | | | | | |
| **Time (UTC)** | 00:37:24 | | | | |  | | | | | |
| **Depth (m)** | 2266.41 | | | | |  | | | | | |
| **Temperature (oC)** | 1.909 | | | | |  | | | | | |
| **Field ID(s)** | Mn-crusted rock | | | | |  | | | | | |
| **Comments** | No commensals. | | | | | | | | | | |
| **Sample ID** | | D2\_DIVE15\_SPEC02BIO | | | | | **:Dive 15:IMG_1293.JPG** | | | | |
| **Date (UTC)** | | 20160506 | | | | |  | | | | |
| **Time (UTC)** | | 01:41:53 | | | | |  | | | | |
| **Depth (m)** | | 2190.92 | | | | |  | | | | |
| **Temperature (oC)** | | 1.952 | | | | |  | | | | |
| **Field ID(s)** | | Porifera sp. | | | | |  | | | | |
| **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 | | | | | | | |