**Okeanos Explorer ROV Dive Summary**

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| **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** | [x]  D2 CTD | [x]  Depth | [x]  Altitude |
|  | [x]  Scanning Sonar | [x]  USBL Position | [x]  Heading |
|  | [x]  Pitch | [x]  Roll | [x]  HD Camera 1 |
|  | [x]  HD Camera 2 | [x]  ROV HD 2 | [x]  Seirios CTD |
|  | Temperature Probe | [x]  D2 DO Sensor | [x]  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' EOut Water: 2016-05-06T04:42:59.972000 15°, 00.334' N ; 148°, 31.292' EOff Bottom: 2016-05-06T03:23:25.790000 15°, 00.205' N ; 148°, 30.967' EOn Bottom: 2016-05-06T00:27:13.528000 15°, 00.283' N ; 148°, 31.102' EDive duration: 5:41:0Bottom Time: 2:56:12Max. depth: 2269.4 m |
| **Special Notes** |  |
| **Scientists Involved*****(please provide name / location / affiliation / email)*** | Patty Fryer, UH; pfryer@soest.hawaii.eduMackenzie Gerringer, UH; mgerring@hawaii.eduTara Harmer Luke, Stockton University; Tara.Luke@stockton.eduChris Kelley, UH; ckelley@hawaii.eduScott France, UL Lafayette; france@louisiana.eduAsako Matsumoto, Chiba Institute of Technology; amatsu@gorgonian.jpTina Molodtsova, Shirshov Institute of Oceanology; tina@ocean.ruBruce Mundy, NOAA PIFSC; bruce.mundy@noaa.govShirley Pomponi, FAU/HBOI; 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 & Research1315 East-West Highway (SSMC3 10th Floor)Silver Spring, MD 20910(301) 734-1014 |