*Okeanos Explorer* ROV Dive Summary

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| Dive Information | | | | | |
| General Location | |  | | | |
| General Area Descriptor | | Gulf of Mexico | | | |
| Site Name | | Wreck 15725 (KC530) | | | |
| Science Team Leads | | Diva Amon and Charles Messing | | | |
| Expedition Coordinator | | Brian Kennedy | | | |
| ROV Dive Supervisor | | Dan Rogers | | | |
| Mapping Lead | | Mike White | | | |
| ROV Dive Name | | | | | |
| Cruise | | EX1711 | | | |
| Leg | | - | | | |
| Dive Number | | DIVE12 | | | |
| Equipment Deployed | | | | | |
| ROV | | Deep Discoverer | | | |
| Camera Platform | | Seirios | | | |
| ROV Measurements | | CTD | | Depth | Altitude |
|  | | Scanning Sonar | | USBL Position | Heading |
|  | | Pitch | | Roll | HD Camera 1 |
|  | | HD Camera 2 | | Low Res Cam 1 | Low Res Cam 2 |
|  | | Low Res Cam 3 | | Low Res Cam 4 | Low Res Cam 5 |
| Equipment Malfunctions | | None | | | |
| ROV Dive Summary (from processed ROV data) | | Dive Summary: EX1711\_DIVE12  ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^  In Water: 2017-12-14T14:27:04.181000  26°, 26.013' N ; 093°, 49.600' W  Out Water: 2017-12-14T22:26:09.047000  N/A ; N/A  Off Bottom: 2017-12-14T16:46:50.107000  26°, 25.958' N ; 093°, 49.780' W  On Bottom: 2017-12-14T15:28:37.806000  26°, 25.885' N ; 093°, 49.668' W  Dive duration: 7:59:4  Bottom Time: 1:18:12  Max. depth: 1567.6 m | | | |
| Special Notes | | none | | | |
| Scientists Involved  (please provide name, location, affiliation, email) | | |  |  |  | | --- | --- | --- | | **Name** | **Affiliation** | **Email** | | Alexandra Avila | Oregon State University / Nancy Foster Scholar (ONMS) | alexandra.m.avila@gmail.com | | Andrew Shuler | NOAA/JHT, inc. | andrew.shuler@noaa.gov | | Asako Matsumoto | Planetary Exploration Research Center, Chiba Institute of Technology | amatsu@gorgonian.jp | | Charles Messing | Nova Southeastern University | messingc@nova.edu | | Chris Horrell | Bureau of Safety and Environmental Enforcement | christopher.horrell@bsee.gov | | Daniel Wagner | NOAA | daniel.wagner@noaa.gov | | Diva Amon | Natural History Museum, London | divaamon@gmail.com | | Erik Cordes | Temple University | ecordes@temple.edu | | James Delgado | SEARCH, Inc. | james.delgado@searchinc.com | | Lauren Jackson | NCEI-Stennis | Lauren.Jackson@noaa.gov | | Meagan Putts | University of Hawaii | meagan.putts@noaa.gov | | Megan Cromwell | NCEI | megan.cromwell@noaa.gov | | Melanie Damour | Bureau of Ocean Energy Management | Melanie.Damour@boem.gov | | Michael Brennan | SEARCH Inc | mike.brennan@searchinc.com | | Michael Vecchione | NOAA/NMFS National Systematics Lab | vecchiom@si.edu | | Mike Ford | NOAA Fisheries | michael.ford@noaa.gov | | Nolan Barrett | Harbor Branch Oceanographic Institute at Florida Atlantic University | barrettnh@g.cofc.edu | | Robert Carney | Oceanography and Marine Sciences, LSU | rcarne1@lsu.edu | | Scott France | University of Louisiana at Lafayette | france@louisiana.edu | | Steve Auscavitch | Temple University | steven.auscavitch@temple.edu | | Tracey Sutton | Nova Southeastern University | tsutton1@nova.edu | | Daniel Warren | P&C Scientific, LLC | daniel.warren@pandcscientific.com | | Frank Cantelas | NOAA/OER | frank.cantelas@noaa.gov | | Amy Borgens | Texas Historical Commission | amy.borgens@thc.state.tx.us | | Mark Benfield | Louisiana State University | mbenfie@lsu.edu | | | | |
| Purpose of the Dive | | This dive investigated a side scan sonar target thought to represent an archaeological site and related debris. As this was the first time the site was investigated, it was expected that a visual reconnaissance would be conducted, as well as an experimental mosaic survey, and inspection of diagnostic artifacts, features, and biological inhabitants. A survey of the debris field was also expected. However, upon reaching the site of the wreck, only recent human debris was observed. As a result, it was decided that the benthic portion of this dive would be shortened to accommodate midwater exploration at depths of 1000m, 900m, 800m, 700m, 600m, 500m, 400m and 300m. | | | |
| Description of the Dive | | As with most dives during EX1711 so far, the ROV touched down in a sedimented area with many *Benthothuria funebris*, Hexactinellidae spp., and *Anthoptilum* sp. Instead of a shipwreck, we discovered a 40-foot freight-shipping container with one corner ripped open to reveal a cargo of ‘white goods’ – washing machines, dryers, chest freezers, dishwashers and refridgerators. Other appliances were scattered nearby as well as further afield, forming what we had assumed was a ‘debris field’. The container ID number was ITLU733016 [0], with a series of other identifying markings. The cargo appeared to include a variety of brands (RCA, GE, etc.) and was without packaging, suggesting that the cargo was going to be recycled. Hydroids and stoloniferans colonized the container, and a number of fish sheltered in and under it. An Isididae sp. was observed growing on one washing machine.  While this was not the anticipated shipwreck, the benthic portion of this dive was important for several reasons: 1) The identification markings on the container should permit tracking of a date of arrival on the seafloor. This would provide a maximum date for colonization by colonising organisms and allow an estimation of their growth rates. 2) The public was able to contextualize marine debris and anthropogenic impacts, and link it with shipping and the movement of the majority of goods on the planet. 3) It provided a great example of the public utilizing telepresence, i.e., ROV pilot Levi Unema’s mother, having owned a Laundromat, was able to look up the serial number of some of the washing machines to provide a date of earliest manufacture: February 1993.  ROV D2 rose into the water column to conduct midwater transects at eight depths from 1000 m to 300 m in 100-m increments. Temperatures ranged from approximately 4°C at 1000 m to over 13°C at 300 m. A diverse assemblage of midwater organisms included ctenophores, siphonophores (including a possibly new physonect with tentacles emerging from between its nectophores), protists (including numerous coelodendrid and tuscarorid phaeodareans), medusae, fishes, and shrimp. Fishes encountered included several *Cyclothone* sp. (bristlemouths), some myctophids (lanternfish), and a few sternoptychids (hatchetfish). A pairing of several halicreatid medusae with *Solmissus* narcomedusae, previously observed in the Pacific, added to the suggestion of a possible ecological relationship. A *Kiyohimea* (possibly *Kiyohimea usagi*) ctenophore was seen at the end of the 300-m transect in perhaps the warmest water (over 13.8 C) observed for this species. It was remarkable how the large ROV can so smoothly come up on animals in the midwater, as the lights revealed a calycophoran siphonophore with its delicate siphosome arranged in a precise coil, possibly for feeding. Considering the volume explored and the number of encounters, this midwater environment seemed to be densely populated with an excellent diversity of organisms. | | | |
| Overall Map of the ROV Dive Area | | | Close-up Map of Main Dive Site | | |
|  | | | /Volumes/PublicData/cruises/EX1711/DiveSummaries/HypackScreenGrabs/DIVE12_Hypack_zoom.JPG | | |
| Representative Photos of the Dive | | | | | |
|  | | |  | | |
| A shipping container partly filled with household appliances, including washing machines, refrigerators, and chest freezers, which also formed an extensive debris field. Depth: 1,564 m. | | | The viviparous brotula (Bythitidae), *Cataetyx laticeps*, sheltering along edge of the shipping container. Depth: 1,566 m. | | |
|  | | |  | | |
| Colonial tuscarorid phaeodarean, a relative of radiolarians and foraminiferans, feeding on a filament of marine snow. The individual cells of the colony each secrete a white silica shell, or test, with several fine radiating spines, and together they create the pale sphere composed of fine silica mesh. Depth: 701 m. | | | A delicate *Solmissus* sp. narcomedusa at a depth of 500 m. | | |
|  | | |  | | |
| Samples Collected- None | | | | | |
| Sample | | | | | |
| Sample ID |  | | No Samples were collected on this Dive | | |
| Date (UTC) |  | |  | | |
| Time (UTC) |  | |  | | |
| Depth (m) |  | |  | | |
| Temperature (°C) |  | |  | | |
| Field ID(s) |  | |  | | |
| Commensal ID and Field Identification |  | | | | |
| Comments |  | | | | |

# Please direct inquiries to:

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