Okeanos Explorer ROV Dive Form

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| Site Name | Kawio Barat – I | | | | | | | globe.png | | | | | | |
| ROV Lead | Dave Lovalvo | | | | | | |  | | | | | | |
| General Area Descriptor | 400 km North of Bitung, Indonesia | | | | | | |  | | | | | | |
| UTC Date & Time | Deployment | | 6/29/2010 12:00 AM | | | | |  | | | | | | |
|  | Recovery | | 6/29/2010 9:01 AM | | | | |  | | | | | | |
| Bottom Time  [HH:MM] | [04:51] | | | | | | |  | | | | | | |
| Landing Time & Location | UTC Time | 02:20 | | | | | | | Depth [m] | | 2360 | | | |
|  | Latitude | 4 | | | º | 40.624 | | | | | | ‘ | | N |
|  | Longitude | 125 | | | º | 4.482 | | | | | | ‘ | | E |
| Off Bottom Time & Location | UTC Time | 07:13 | | | | | | | Depth [m] | | 1865 | | | |
|  | Latitude | 4 | | | º | 40.563 | | | | | | | ‘ | N |
|  | Longitude | 125 | | | º | 5.203 | | | | | | | ‘ | E |
| ROV Dive Name | Cruise Season | | | Leg | | | | | | Dive Number | | | | |
|  | EX1004 | | | LEG02 | | | | | | ROV01 | | | | |
| Equipment Deployed | ROV: | | | Little Hercules | | | | | | | | | | |
|  | Camera Platfom: | | | Phoenix Camera Platform | | | | | | | | | | |
| ROV Measurements | CTD | | | Depth | | | | | | Altitude | | | | |
|  | Scanning Sonar | | | USBL Position | | | | | | Heading | | | | |
|  | Pitch | | | Roll | | | | | | HD Camera | | | | |
|  | Low Res Cam 1 | | | Low Res Cam 2 | | | | | |  | | | | |
| Equipment Malfunctions | Click here to enter text. | | | | | | | | | | | | | |
| Special Notes | Click here to enter text. | | | | | | | | | | | | | |
| Scientists Involved  *(please provide name / location / affiliation / email)* | David Butterfield/Seattle ECC/PMEL  Verena Tunnicliffe/Seattle ECC/UVIC  Tim Shank/WHOI/WHOI  Ed Baker/Seattle ECC/PMEL  Kristine Konsinski (student)/Seattle ECC/UH  Ellie Bors (student)/Seattle ECC/WHOI  Jim Holden/Jakarta ECC/UMASS  John Sherrin – EX Control Room/U of Victoria  Xerandy – EX Control Room/Indonesia | | | | | | | | | | | | | |
| Purpose of the Dive: To explore Click here to enter text. | | | | | | | | | | | | | | |
| Description of the Dive: | | | | | | | | | | | | | | |
| EXECUTIVE SUMMARY: The first ROV dive of the expedition took place today. The landing point was at a depth of 2,350 m, approximately 450 m below the NW end of the summit crest. The ROV proceeded in an easterly direction until it reached the NW crest. Towards the summit there was an increase in the amount of fresh pyroclastic sediment and a large number of bivalves. A dense hydrothermal plume was observed along the middle portion of the crest at the end of the dive but the seafloor source was not found.  SUMMARY:  Upon arrival at the seafloor at 2350m depth, the ROV began ascent of the upper western slope toward the summit, situated about 250 meters higher than our starting depth. Working our way up the slope, scientists recognize promising signs that the area very recently contained active hydrothermal venting. The entire slope along the track was covered by dark volcaniclastic sediments. The surface of the sediments was often covered by bright white or orange coatings produced when warm fluids percolate up through the sand-like sediments and encounter cold seawater. Rocky outcrops stood above the sediments in some locations, and many of the rocks were brightly colored from hydrothermal alteration. Our ascent takes us all the way up to the summit ridge where we see live clams sitting on top of sediments. After reaching the summit ridge, we come across a point where a perpendicular ridge crosses the ridge we are traversing and are greeted by billowing clouds of light-colored particles. All of us watching in Seattle, Jakarta, and on board *Okeanos Explorer* are excited and looking forward to finding the source of these vents on the next dive. | | | | | | | | | | | | | | |
| Overall Map of ROV Dive Area | | | | | | | Close-up Map of Main Dive Site | | | | | | | |
|  | | | | | | |  | | | | | | | |
| Fledermaus view of overall dive site | | | | | | | Hypack screen grab of dive Track | | | | | | | |
| Representative Photos of the Dive | | | | | | | | | | | | | | |
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| 20100629\_05h23m58s10\_ROVHD\_STEEP\_SLOPE  The slope explored during today’s dive on Kawio Barat was covered by dark volcaniclastic sediments – fine bits of pulverized rock produced by explosive lava eruption higher up the slope | | | | | | | 20100629\_06h03m06s13\_ROVHD\_YELLOW\_SEDIMENT  The surface of the sediments is often covered by bright white or orange coatings produced when warm fluids percolate up through the sand-like sediments and encounter cold seawater. | | | | | | | |
| Please direct inquiries to: | | NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10th Floor)  Silver Spring, MD 20910  (301) 734-1014 | | | | | | | | | | | | |