# OKEANOS EXPLORER ROV DIVE FORM

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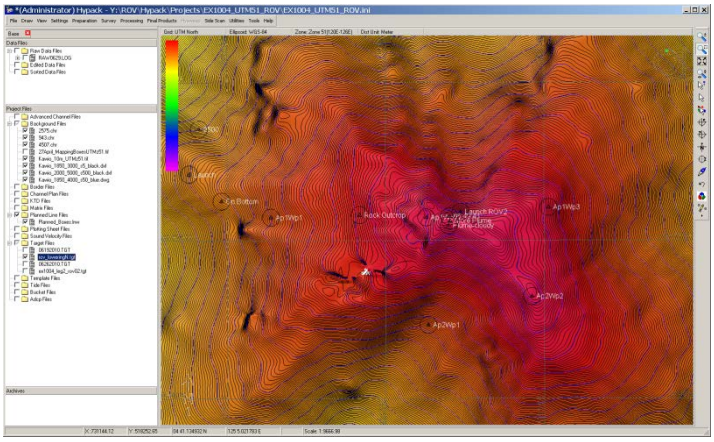
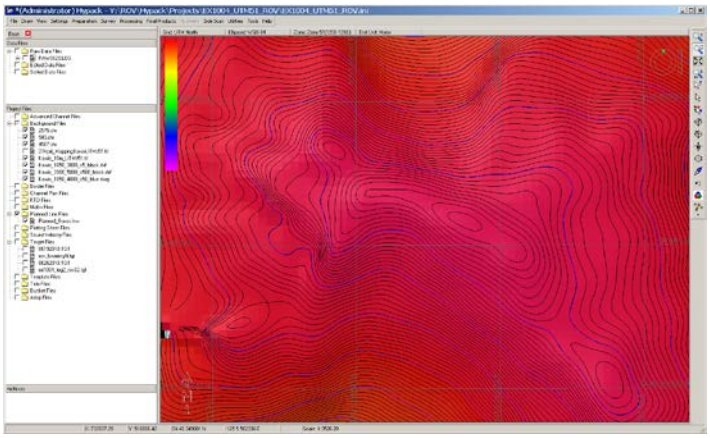
|---|---|---|---|---|---|---|---|---|
| **Site Name** | Kawio Barat | | | | | | | |
| **ROV Lead** | Dave Lovalvo | | | | | | | |
| **General Area Descriptor** | 365 km North of Bitung, Indonesia | | | | | | | |
| **UTC Date & Time** | Deployment | 6/30/2010 12:22 AM | | | | | | |
| | Recovery | 6/30/2010 8:59 AM | | | | | | |
| **Bottom Time [HH:MM]** | [04:55] | | | | | | | |
| **Landing Time & Location** | UTC Time | 02:19 | | | Depth [m] | 1880 | | |
| | Latitude | 4 | º | 40.559 | ‘ | N | | |
| | Longitude | 125 | º | 5.266 | ‘ | E | | |
| **Off Bottom Time & Location** | UTC Time | 07:14 | | | Depth [m] | 1920 | | |
| | Latitude | 4 | º | 40.489 | ‘ | N | | |
| | Longitude | 125 | º | 5.159 | ‘ | E | | |
| **ROV Dive Name** | Cruise Season | Leg | Dive Number | | | | | |
| | EX1004 | LEG02 | ROV02 | | | | | |
| **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<br>Verena Tunnicliffe/Seattle ECC/UVIC<br>Tim Shank/WHOI/WHOI<br>Santiago Herrera(student)/WHOI/WOI<br>Jill McDermott (student)/WHOI/WOI<br>Catriona Munro (student)/WHOI/WOI<br>Elizabeth Silbert (student)/WHOI/WOI<br>Kristine Konsinski (student)/Seattle ECC/UH<br>Ellie Bors (student)/Seattle ECC/WHOI<br>Jim Holden/Jakarta ECC/UMASS<br>John Sherrin (student) – EX Control Room/U of Victoria<br>Xerandy – EX Control Room/Indonesia | | | | | | | |

**Purpose of the Dive: To explore Kawio Barat**

**Description of the Dive:**

After detecting a plume at the end of EX-1004-Leg II_ROV002 on Kawio Barat, we hoped to find its source during today's dive. Today's initial bottom target was 04° 40.590'N 125° 05.236' E. We found the source of the plume almost immediately after reaching the bottom. At a depth of about 1850m we encountered a sulfur vent with a number of point sources. Surrounding the vent was a large amount of yellow and black molten sulfur, multiple species of hot-vent shrimp, a 10cm scale worm, and a small patch of stalked barnacles. After departing from the vent, the ROV ascended the summit ridge and encountered fields of sulfide chimneys with vast aggregations of stalked barnacles at their base. The chimneys varied in terms of age and venting characteristics. Some chimneys were fairly oxidized and others covered in white sulfide. Some chimneys were venting clear fluid while others were venting black smoke. After extensive exploration of the chimney field we moved on in search of other vents but did not find any more. Though there is plenty more to discover on Kawio Barat, we are moving to other targets for subsequent dives.

| **Overall Map of ROV Dive Area** | Close-up Map of Main Dive Site |
|---|---|
|  |  |
| **Fledermaus view of overall dive site at KB** | **Hypack screen grab of dive Track** |

**Representative Photos of the Dive**

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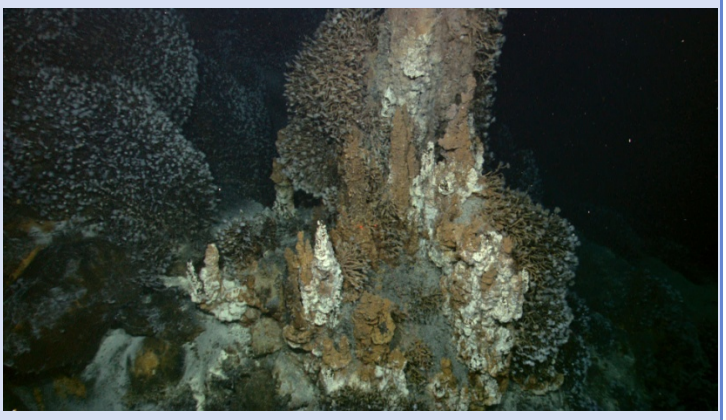
|---|---|
|  |  |
| 20100630_02h24m02s08_ROVHD_SHRIMP_ZOOM_LAS<br>A sulfur vent with a number of point sources was explored during the dive. Large amounts of frozen yellow and black molten sulfur, multiple species of hot-vent shrimp, and other critters including scale worms and crabs surrounded the vents. | 20100630_05h01m50s06_ROVHD_CHIMNEY_ZOOM<br>Fields of sulfide chimneys covered with dense aggregations of stalked barnacles were revealed as the ROV ascended the summit ridge. The chimneys varied in terms of age and venting characteristics. |

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| **Please direct inquiries to:** | NOAA Office of Ocean Exploration & Research<br>1315 East-West Highway (SSMC3 10th Floor)<br>Silver Spring, MD 20910<br>(301) 734-1014 |