

HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-647

MISSION STATUS

Location: West Rift, Vailulu'u Volcano (169° 04.091W 14°13.151S)

Mission Date: Friday, July 1, 2005

Maximum Depth: 1702 m

Project Title: Bio-Hydro-Lithosphere Interactions at Vailulu'u Seamount

Principal Investigator: Dr. Craig M. Young & Dr. Hubert Staudigel

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Observer 1: Adele J Pile
Address: University of Sydney
School of Biological Sciences (A08)
Sydney, NSW 2006
Australia

Observer 2:
Address:

Scientific Data Acquired: Prepare an abstract outlining your objectives, techniques, findings, etc.

Dive P5-642 traversed up the west rift of Vailulu'u from 1702 to 600m. We dropped onto marker 6 and collected a charger and temperature logger and deployed a new charger. We then moved up slope through the water column, which took over an hour and a half, to marker 7 to do the same thing. Following that we conducted a transect up slope from 1183 to 824 m which took an hour and a half. Between 824 and 795 m we collected megafauna that was below the particulate halo. We then conducted a transect to 732 m. A notable feature was an extinct field of finger chimneys at 761 m (169° 04.339 W 14°13.230 S). At 732 m, a site within the particulate halo, we collected more megafauna before transversing to 642 m for a final collection of megafauna. A notable feature on the transect was an active field of finger chimneys with bacterial mat. Ambient temperature was 5.1 and within the sediment/mat up to 10.1. We were unable to complete the final objective of returning to Nafanua to collect eels owing to time constraints.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

All equipment operated properly and the pilot used every system expertly and efficiently. A new pump had been placed on the rosette sampler and this increased power greatly enhanced our ability to collect megafauna.

Recommendations for corrective action or improvement:

No recommendations.

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished.

We achieved all of the main goals of the dive.

List specimens or samples collected on the mission.

1. 10:10: at marker 6. Collected temperature logger 32 and charger 108, and piece of pillow. Deployed charger 122 and left 106 on the bottom. Lots of bacterial mat pieces in the water column and slurring out of small holes with forceful ejection of bacterial mat from vents.
2. 12:02: at marker 7. Collected temperature logger 85 and charger 109; deployed charger 126 and left 110 on the bottom.
3. Conducted video transect from marker 7 to 827 m (14 13.199 169 04.646); 795 m (14 13.172 169 04.410) and 761 m (14 13.230 169 04.339); 761 m (14 13.230 169 04.339) and 732 m (14 13.196 169 04.317); 732 m (14 13.196 169 04.317) and 715 m (14 13.171 169 04.283); 715 m (14 13.171 169 04.283) and 642 m (14 13.181 169 04.199)
4. Collected:
 - a. Below particulate halo (827 m (14 13.199 169 04.646) to 795 m (14 13.172 169 04.410)): 4 brittle stars, 5 octacorals; hydroids, and venus fly trap anemone into large biobox; 2 brittle stars in to rosette 1.
 - b. Within particulate halo (732 m (14 13.196 169 04.317)): 5 octacorals; rock with Q-tip sponges into small biobox; sponges into rosette 2; venus fly trap anemone into rosette 3.
 - c. Top of particulate halo (642 m (14 13.181 169 04.199)): 8 octacorals into rosette 4.
 - d. Top of particulate halo (632 m (14 13.194 169 04.183)): 5 brittlestars into rosette 5.

DATA RELEASE

Data may be retained by the project leader for up to 2 years after the mission date with the following exception. NOAA may request to use photos for publication or publicity purposes at any time.

Fill in the appropriate statement below and sign this form.

I hereby release the data archived by HURL for public consumption following mission

Bio-Hydro-Lithosphere Interactions on Vailulu'u (project title)

held on 7 July 2005 (date) in the following way:

- a. CTD data by any (date)
- b. voice transcripts, video, and still camera film by 7 July, 2007 (date)
- c. other rock and megafauna samples by 7 July, 2007 (date)
- d. I will give my written consent to individuals wishing to use these data prior to the above dates depending on the nature of the request(s).

Craig M. Young Principal Investigator