

## HAWAII UNDERSEA RESEARCH LABORATORY

### QUICK LOOK REPORT MISSION NO. P5-642

#### MISSION STATUS

**Location:** West Summit ("Lefa"), Vailulu'u Volcano (169° 04.106W 14°13.103S)

**Mission Date:** Friday, July 1, 2005

**Maximum Depth:** 943 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  
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**Observer 2:**  
**Address:**

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

Dive P5-642 traversed the western side of Vailulu'u. We dropped into the caldera and moved up slope to the SW summit to collect the current meter and move it to the SW breach. The traverse took longer than expected but we were able to get a transect of the inside that matches one obtained on the last cruise with the ROV. We easily found a place to position the current meter once we go to the breach. We then headed for Nafanua to collect eels, bacterial mat, and water for metal analysis. We then transited down the cone to search for hydrothermal vents on the NW side of the cone. We did not find any, or could really see anything owing to the poor visibility.

## **MISSION EVALUATION:**

### **Limitations, failures, or operational problems noted:**

All equipment operated properly and the pilot used every system expertly and efficiently.

### **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. 1200: Deploy 2 long-term charges at West summit (#111, 112) and collect charger (#107). Collected brittlestars (n=5) from West summit (marker 2).
2. 1225: Collected current meter to move from the West summit to the Southwest Breach. Transit to Southwest Breach on inside of volcano, taped side wall for habitat mapping.
3. 1349: Collected Rock with Q-tip sponges S14 13.394 W 169 03.576
4. 1400: at way point 2; S14 13.392 W 169 03.674; 697 m; marker 42. Deployed current meter.
5. 1445: Recover 1 charge (# 103), MAPPER and bottle trap from Nafanua summit (marker 4). Deploy 1 passive baited eel trap. Collect bacterial mat with sucker into buckets 1 and 2. Collected water sample near eels with scooper 2 and a small piece of rock. Attempted to capture eels with sucker but unsuccessful.
6. 1536: 13 12.848 169 03.558, 723 m, collected bacterial mat from in between pillow lava into bucket 3. Ambient temp= 5.5, in mat = 9.5
7. 1631: 912 m 14 12.689 169 03.497 at the base of cone to explore region North of Nafanua, seeking hydrothermal vents. Too murky to see anything. Left bottom 1715.

## 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 June30, 2005 (date) in the following way:

- a. CTD data by any (date)
- b. voice transcripts, video, and still camera film by April 1, 2007 (date)
- c. other rock samples by April 1, 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 and Hubert Staudigel Principal Investigators