

## HAWAII UNDERSEA RESEARCH LABORATORY

### QUICK LOOK REPORT MISSION NO. P5-610

#### MISSION STATUS

**Location:** Vailulu'u Seamount W summit (Lefaleleilagi), upper crater bench and Nafanua Volcano, NW breach.

**Mission Date:** Thursday, Mar. 31, 2005

**Maximum Depth:** 919 m

**Project Title:** Bio-Hydro and Lithosphere interactions at Vailulu'u Seamount

**Principal Investigators:** Dr. Hubert Staudigel and Dr. Craig Young

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**Observer 1:** Hubert Staudigel

**Observer 2:** co-pilot C. Wolterman

**Address:** Scripps Inst. Oceanography  
UCSD-0225  
La Jolla, CA 92037

**Address:**

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

The goal of this dive was to explore the Western Summit, the SW basin, and Nafanua shield volcano. We were to deploy a current meter on the Western-most summit, and exposure experiments, temperature loggers, and MAPRs and to take samples on sites including Lefaleleilagi, the SW upper terrace, on the recently discovered Nafanua shield in the western portion of the crater and below and at the NW breach.

We located the W summit, deployed Marker 2 and the current meter with the Titan arm and deployed an exposure experiment. We took a sediment scoop (#8), rock X1 and deployed exposure experiment # 107. We then descended into the SW basin and effectively could not find any vents because of intense "smog" that allowed us to see barely past the basket. It is likely that there are hydrothermal vents in this region but it was not possible to find them with the amount of time available. So we proceeded to a little summit at the northern edge and took rosette samples R1 and R2.

After this, we went on to the summit region of Nafanua and established Marker 3. We deployed MAPR # 16 and exposure experiment 103. During repositioning of the marker the hill collapsed and buried the marker. We established a second site right next to it

within a small hydrothermal vent, took rosette samples 3, 4, 5, a rock X2, deployed temperature probe 32. (3332), triggered the Niskin bottle, took sediment scoop # 10.

We established Marker 5 at 920m below the NW breach, and deployed charge 104 and temperature recorder 3004.

We relocated Marker 1, took Scoop 11 and deployed exposure experiment 105.

Explored a newly-developed volcano in the Western Crater.

We found an extreme abundance of eels.

**MISSION EVALUATION:**

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

Flawless dive, Titan arm worked beautifully

**Recommendations for corrective action or improvement:**

None

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

Did everything we wanted to do.

**List specimens or samples collected on the mission.**

Deployments:

See above

Samples:

See above

## 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 and Lithosphere interactions at Vailulu’u Seamount”

held on March 29-April 2005 (date) in the following way:

- a. CTD data by April 1, 2007 (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).

Hubert Staudigel Principal Investigator