HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO.P5-156

MISSION STATUS

Location:	Loihi Seamount
Mission Date:	9-29-90
Maximum Depth:	1270 m.
Project Title:	Spatial Distribution of Loihi Rock Types
Project Leader:	Dr. Mike Garcia
Address:	Geology and Geophysics Department University of Hawaii 2525 Correa Road Honolulu, Hi. 96822
Phone:	956-6641
Observers:	Beth Jorgenson & John Mahoney
Address:	Same as project leader

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

Our objectives were to collect samples of rock from previously unsampled N. summit pit craters and peaks. The purpose of the dives are to evaluate the previously observed spatial distribution pattern of rock types. Tholeiites are only sampled at the summit and upper S. Rift, whereas alkalics are sampled at all depths. By careful observation and sampling, we hope to find the transition zones between the two rock types. The 12 samples collected yesterday were found in cindery sedimented regions of the volcano - few pillow outcroppings were observed. One dike wall exposed in the northernmost pit was sampled. Several fields of small hydrothermal chimneys were discovered in our ascent of the west flank to the summit - none appeared to be active. Our samples will be stripped of any glass and analyzed for major element chemistry by microprobe. Thin sections will be prepared to characterize mineralogy and to select a sample subset for further study.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

(Outside camera failed and hand held video camera does not have as good imaging.)

Recommendations for corrective action or improvement:

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

The mission was highly successful - we covered all the territory desired, got excellent sample coverage, and saw some very interesting country.

List specimens or samples collected on the mission.

1. Pillow fragment in cindery plain
2. Friable glassy and irregular spatter - type product from a field of unconsolidated material
3. Platey basalt with drip marks on underside from pillow islands

4a. Platey basalt/ 4b. Blocky pillow fragment. From peak of steep pillow wall

5. Cindery clod from sediment field
6. Large irregularly shaped basalt fragment from cindery field
7. Cindery clod from pillow islands in sediment
8. Big irregular basalt fragment from pillows a few meters beyond #7
9. Molar shaped basalt fragment
10. Dike sample
11. Breecia at plateau of sediment peak

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 Spatial Distribution of Loihi Rock Types (project title) held on 9-29-90 (date) in the following way:

a. CTD data by 9-92 (date)

b. voice transcripts, video, and still camera film by 9-92 (date)

c. other 9-92 (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).

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Project Leader