HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-288

MISSION STATUS

Location: Submarine north flank of Molokai

Mission Date: Aug. 29, 1996

Maximum Depth: ~1950 m

Project Title: Extent & depth of landsliding, north flank of Molokai

Principal Investigator: Robin T. Holcomb

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Observer 1: Stbd: Robin Holcomb **Observer 2:** Brian West

Address: same **Address:** same

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

Principal objective was to calibrate and develop procedures for operating a 2-axis, externally-mounted magnetometer in order to determine magnetic polarity of lava flows *in-situ*.

Secondary objective was to collect several samples for chemical analysis. We succeeded in collecting six samples from the wall of a submarine canyon, one sample each from six different lava flows.

We also succeeded in making a water-column calibration of the mounted magnetometer, measure 2 horizontal components of the ambient magnetic field as we rotated through 360° twice while descending, and we also ran a ~4oom magnetic traverse along a magnetic heading of 180°.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

We found that the magnetometer should not be mounted on the sample basket, because while bumping against the cliff face in collecting a sample, the magnetometer was dislodged from its mount. The magnetometer should be mounted in a location isolated from the sampling activities.

We encountered problems in synchronizing the various clocks used on the *Kaimikai-O-Kanaloa* for navigation, within *Pisces* for recording visual observations, and in the *Pisces* video data logging system.

Recommendations for corrective action or improvement:

We will try mounting the magnetometer on the upper deck area of the outer shell of *Pisces*.

We will adjust clock of the *Kaimikai-O-Kanaloa* navigation recording system, and put time references on the video record by flashing the strobe at known times.

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

Yes, we found that the magnetometer gives stable, reproducible readings at different orientations, and these readings are consistent with the known ambient field. It appears also that we were able to determine that the lavas at our set-down point have normal (+) polarity, distinctly different than the reversed (-) lavas comprising the upper ~250 m of the stratigraphic section on Molokai.

We also collected more samples than expected from this dive.

List specimens or samples collected on the mission.

Six samples of basaltic lava: PV288-1
PV288-2
PV288-3
PV288-4
PV288-5

Dive P5-288

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

Extent and depth of landsliding on the north flank of Molokai (project title)

held on Aug. 29, 1996 (date) in the following way:

a. CTD data by 8-30-96 (date) (None collected)

b. voice transcripts, video, and still camera film by 9-30-97 (date)

c. other 9-30-97 (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).

Robin Holcomb Principal Investigator