HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P4-078

MISSION STATUS

Location: Just west of South Point, Marker 4

Mission Date: Sunday, November 17, 2002

Maximum Depth: 1201 m

Project Title: Microbially Mediated Glass Alteration

Principal Investigator: Dr. Hubert Staudigel

Address: UCSD/SIO M/S 0225
La Jolla, CA 92093

Phone: 858.534.8415

Observer 1: Dan Rogers

Address:

Observer 2: Brad Bailey

Address: UCSD/SIO M/S 0225
La Jolla, CA 92093

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

Our day started at South Point off the big island where we first wanted to try and do a pick up dive of previously deployed exposure samples on Loihi. Unfortunately, the weather was uncooperative and we turned back for the leeward side of South Point. We attempted to dive on a small mount with peak around 900m and establish a new sample deployment site and collect glassy pillow margins for study.

We started our dive at 8:23 a.m. and hit bottom at 1117m at 9:06 a.m. We landed on a very shallow slope covered in black/gray silt with lighter material beneath it. We took a slurp gun sample (bottle 1) and a scoop sample (scoop 13). The seafloor was coated with yellow, pink and orange crinoids, approx. 1 crinoid/m^2. We began moving upslope on 030 heading towards the summit. Several very shallow channels were present with rocky ledges. Only rocks that were present were along these channels. Crinoids were prevalent along these ledges. Picked up rock from ledge. Continued upslope at about 25°. Reached top at 847m and continued over side back down slope to the N/NW. All ground features remain same: black/gray silt, no rocks larger than about 5cm present. Dropped down to 962m and encountered a **small** rubble field about 10m across. Collected rock sample. Climbed north wall straight up to peak of feature at 832m (18°58.520 155°53.797). Top of feature was a plateau about 15m in diameter and had same floor sediments as the rest. Took scoop sample #8 at 832m. Headed due east off of plateau and encountered pillows (yay!) at 911m. We triggered niskin bottle and picked up pillow rock. Base of wall at 917m. We climbed back up the wall to the north east a bit and found the top of the pillow section. Here we established a new sample site and deployed marker #4. We also deployed SIO 25, 28, 29, 30 at Marker #4 (18°58.517 155°53.703). Headed E/NE from

there and encountered several more large pillow walls with sediment covered pillows on the shallower slopes. Found bottom of pillow section at 1065 and collected rock sample. Saw octopus!! Cool! Continued downslope to East where bottom went back to black/gray sediment. Left bottom at 15:30 at 1201m.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:
None.

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.

Yes, this mission was successful. We were able to establish a new sample site and deploy/collect our own samples. It did take a while to determine that we were indeed on the feature we wished to explore. Once we were able to find the pillow basalts we were looking for, we were able to accomplish our mission.

List specimens or samples collected on the mission.

Deployments:
Marker 4: SIO # 25, 28, 29, 30

Sample pickups:
Slurp Gun: bottle 1
Whole rock samples: one from channel ledge, several over the pillow walls, some from Marker #4
SIO scoop samples: scoop #8 at top of feature, scoop #13 at landing site
Niskin bottle: Marker 4

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

_____(project title)

held on November 17, 2002 (date) in the following way:

a. CTD data by_____(date)

b. voice transcripts, video, and still camera film by November 2004 (date)

c. other_____(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).

_____Principal Investigator