HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-256

MISSION STATUS

Location:	Cross Seamount	1985 m 1st site w/transponder 018 44.0 N 158 12.0 W	1285 m 2nd site 018 43.52 N 158 12.75 W

Mission Date: October 19, 1993

Maximum Depth: 1985 meters

Project Title: Microbial Geochemistry

Principal Investigator: James Cowen

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Observers: Miriam Bertram

Addresses: Same as above

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

Dive Objectives: Relocate site with transponder at 1985 meters, retrieve transponder and experimental array (2 month deployment). Deploy fresh transponder. Navigate to second site at 1285 meters, retracing original path (210). Retrieve one experimental array (2 year deployment) and deploy one experimental array. Collect rock sample at 1285 meters.

Scientific Objectives: Obtain our first samples from 1300 meters, and the short term samples from 1985 meters. Samples will be examined under Scanning Electron Microscope (SEM) for mineral - microbiota associations and compared with results obtained from 800 and 975 meter deployments. Each depth should have a time series ranging from 1-2 months to 36-42 months at the end of next dive season, completing the time series.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Few. Still camera did not work, and Schilling arm failed at the conclusion of the dive. Neither of these limited operations, and project goals were well satisfied. Transponder signal could not be picked up on surface although we picked it up in the sub. Experimental arrays should be weighted down to prevent them from bouncing out of the basket at the interface.

Recommendations for corrective action or improvement:

Science crew will weight future arrays (if there are any) with 2-5 lbs. of lead.

Unknown cause of transponder deck unit failure - because we were able to receive signal in the sub and because the surface crew had gotten fixes on the site on previous dives, we were able to recover site within an hour of landing on the bottom.

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

Yes. Experimental arrays were retrieved from both the 1985 meter and 1285 meter depths. Transponder was placed at 1985 meters and an experimental array was deployed at 1285 meters. It was remarkable to be able to recover the 1285 m site - had not succeeded on the previous two dives.

List specimens or samples collected on the mission.

1 FeMn rock for Alex Malahoff.

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 Microbial Geochemistry (project title) held on October 19, 1993 (date) in the following way:

a. CTD data by October 1995 (date)

b. voice transcripts, video, and still camera film by October 1995 (date)

c. other October 1995 (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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Principal Investigator