

HAWAII UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT MISSION NO. P5-188

MISSION STATUS

Location: Cross Seamount
Mission Date: Sept. 22, 1991
Maximum Depth: 990m
Project Title: Microbial Geochemistry of Ferromanganese Crusts
Project Leader: James Cowen
Address: Dept. of Oceanography
1000 Pope Road
University of Hawaii
Honolulu, HI 96822
Phone: 956-5963
Observers: Chuck Holloway
Miriam Bertram
Address: Same as above

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

The goals of this project are to: (1) evaluate any role CaCo_3 particles play in oxide deposition under in-situ conditions and (2) to relate dissolution/deposition at the experimental surface to water column properties.

To accomplish these objectives we have (1) constructed a series of 2cm x 2cm platelets each containing minerals of different composition, some preserving the organic matter and others which have had the organics removed. Sediment samples were obtained from the site of deployment of the experimental trays. Niskin bottles were used to sample water at the experimental depth. pH, TCO_2 alk., and trace metal _____ were obtained. Sediment traps were deployed on the seafloor with the first set of trays which were deployed in Feb. 1990. Samples require processing before findings can be reported.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Several design flaws in the experimental equipment - (using "syntactic foam" which crumpled like a foam cup!). Proper closing devices for the sediment traps need to be designed, as we were not able to cover the traps as we made our transit to the surface. Niskin bottles got bumped/or opened after sampling, probably with no adverse effect on the data.

Recommendations for corrective action or improvement:

Re-design of the site markers - use real s.foam! And construct a closing device for the traps. Care needs to be taken with the Niskin bottles - perhaps mounting them on the basket at a different position, or placing them on the sub would be helpful. Perhaps the use of a different type of sampler would help.

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 were able to locate the first site by transponder and the second site by luck and skill, as it had no marker.

List specimens or samples collected on the mission.

- sediment (surface)
- water
- exptl. trays
- sediment traps

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 of Ferromanganese Crusts (project title) held on Sept. 22, 1991 (date) in the following way:

- a. CTD data by Sept. 1993 (date)
- b. voice transcripts, video, and still camera film by Sept. 1993 (date)
- c. other Sept. 1993 (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).

Project Leader