HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-033

MISSION STATUS

Location: Cross Seamount, HI

Mission Date: 9/15/87

Maximum Depth: 1640 ft.

Project Title: Stratigraphy of Mn Crust

Project Leader: Dr. Alexander Malahoff

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Honolulu, HI 96822

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Observers: K. Kelly, D. Vonderhaar

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

This dive on Cross Seamount was undertaken primarily to collect several, thick, in-situ Mn-crust samples from within a precisely defined area. Cross has been mapped using GPS controlled Seabeam and several potential sampling sites had been chosen based on the analysis of thousands of photographs. Although an area topographically similar to the target area was encountered, without precision GPS navigation from the support ship our location could only be tracked along the seafloor by use of bathymetry. Sampling of in-situ Mn-crusts with the manipulator arm was unsuccessful. The pinnacle which was visited appears to be a remnant dike structure.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Navigation on the support ship was unable to locate the target area.
GPS unavailable for work which calls for precise locationing.
Failed to collect Mn-crusts from in-situ environments.
Could not return to the surface with a heavy payload of samples.
Still camera did not function properly.
Manipulator arm behaves spastically.

Recommendations for corrective action or improvement:

Get GPS receiver for support vessel.
Increase payload capacity of the sub.
Get a more powerful manipulator or crust sampler.
Troubleshoot still camera system and repair.

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

No, the mission did not achieve the majority of its objectives. Although we were able to look at the terrain around the rim of the seamount the sampling of in-situ crusts was completely unsuccessful. Moreover, without GPS controlled navigation, sampling from a pre-determined location is hopeful at best. We were able to recover some basalts from the talus piles at the base of some steep pinnacles.

List specimens or samples collected on the mission.

Manganese coated basalts.
Bulk sediment samples.
Manganese in sterile seawater samples.

gold coral

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 Stratigraphy of Mn Crust (project title) held on 9/15/87 (date) in the following way:

a. CTD data by _____(date)

b. voice transcripts, video, and still camera film by _____(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).

_____

Project Leader