HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-314

MISSION STATUS

Location: Loihi Seamount

Mission Date: October 7, 1996

Maximum Depth: 1260 m.

Project Title: Chemical Monitoring of Hydrothermal Vents

Principal Investigator: Gary McMurtry

Address: Oceanography Dept.
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Phone: (808)956-6858

Observer 1: M. Cremer **Observer 2:**

Address: as above **Address:**

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

Goal of the dive was to prospect two specific areas for possible massive hydrothermal venting as suggested from real time data acquired earlier on this cruise. One area was the region between hydrothermal site "5" and "Pele's Overlook", the other the 1240m contour of the steep western slope of Loihi from "Pele's Pit" in the south to "Max's Vents" in the north. Secondary objectives were to retrieve our MTR at site 2, collect vent dwelling bacteria, collect volcanic glass, take major and total gas samples as well as measure temperatures in vents and collect waters in Niskin samplers at old and/or new vent sites. Both target areas were prospected and weak and diffuse venting was observed over large portions of both regions. No massive hydrothermal venting or other volcanic activity was detected that could account for the anomalies in physical and chemical tracers in the summit region of Loihi Seamount. The MTR was recovered and one Major gas tight sampler filled with 51.6^{o}C vent waters that were measured in situ at site 2. 4 containers were filled with bacterial flares at same spot. One scoop of volcanic glass (fine grained) was collected at Max's Vents.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

The great capabilities and professionalisms of the two pilots tends to reduce the observer to excess ballast.

Recommendations for corrective action or improvement:

Either run the operation completely with professional submarine pilots which may be even more efficient or give the observers something valuable to do such as what samples to collect were?. I understand it's a difficult balance to achieve.

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

Mission fully achieved its primary goal to answer the question if or not there was previously undetected volcanic activity in the target areas. There was not.

The sampling objectives were only partially achieved because more extensive sampling work would have cut into the traveling schedule for the primary goal.

List specimens or samples collected on the mission.

1 Major gas tight sample 700 ml
1 scoop of volcanic glass
4 buckets of bacterial flares
1 temperature measurement

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

Geochemistry of Loihi Seamount Hydrothermal Systems (project title)

held on 10-7-96 (date) in the following way:

a. CTD data by 10-7-98 (date)

b. voice transcripts, video, and still camera film by 10-7-98 (date)

c. other 10-7-98 (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