

HAWAII UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT MISSION NO. P5-142

MISSION STATUS

Location: Loihi Seamount
Mission Date: 28 March 1990
Maximum Depth: 1100 meters
Project Title: Loihi Hydrothermal Vent Chemistry
Project Leader: G. McMurtry
Address: HIG Marine Geochemistry
 1000 Pope Road, MSB 325
 Honolulu, HI 96822
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Observers: Peter Sedwick, E. Murphy
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Scientific Data Acquired : Prepare an abstract outlining your objectives, techniques, findings, etc.

The objective was to sample Pele's vents for water chemistry and temperature. Retrieving gas chemistry samples (GAWS) were a secondary objective. Titanium major samplers and a Niskin bottle were used for the water sampling. Misalignment of the hydraulic actuator resulted in only one of four possible samples being taken. Temperature measurements were taken with a thermistor probe that was inserted in the vent. The wrong thermistor was rigged, thus the temperature data are only qualitatively useful. Previously deployed GAWS samplers were recovered and one more was deployed. Vent water sampling using the CTD was successful.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

- 1 - High temperature thermistor was rigged instead of low temperature as requested
- 2 - Actuator for titanium major samplers was not aligned correctly to trip the samplers
- 3 - Hydraulic pump failure (at end of dive anyway)
- 4 - Osprey camera resetting and also strobe not operating

Recommendations for corrective action or improvement:

- 1 & 2 - Better attention to detail
- 3 - Unknown
- 4 - Replace system

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

Expected	Accomplished
1. Water sampling	1. Water sampling
a. 2 double titanium samples	a. 1/2 sample
b. 1 Nisken sample	b. 1 sample
c. 3 GAWS samplers recovered (deployed on P5-138)	c. 3 recovered
d. 1 GAWS deployed	d. 1 deployed
2. Sensitive temp. measurements	2. Rough temp. measurements
3. Vent sampling w/CTD	3. Yes
4. Deploy transponder for A. Malahoff	4. Yes

List specimens or samples collected on the mission.

- 1 Nisken bottle water sample
- 1/2 Titanium major water sample
- 3 GAWS samples - one sample collected (gas and water samples)
 CTD vent water data

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 P5-142 Loihi Hydrothermal Vent Chemistry (project title) held on 28 March 1990 (date) in the following way:

- a. CTD data by 28 March 1991 (date)
- b. voice transcripts, video, and still camera film by 28 March 1991 (date)
- c. other 28 March 1991 (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
E. Murphy (for G. McMurtry - P.I.)