

HAWAII UNDERSEA RESEARCH LABORATORY  
QUICK LOOK REPORT MISSION NO. P5-403

MISSION STATUS

Location: Pele's Pit  
Mission Date: 10-18-98  
Maximum Depth: 1305m  
Project Title: Volatile studies of active hydrothermal venting  
at Laki  
Principal Investigator:  
Address: G.M. McMurry  
U Hawaii

Phone:

Observer 1: David Hilton Observer 2:

Address: Scripps Inst. Oceanography  
La Jolla  
CA 92022-0220 Address:

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

Objectives are to collect active hydrothermal fluids for volatile analyses ( $\text{CO}_2$ , He) to establish absolute variations in these parameters (hotspot source characteristics) as well as Temporal patterns since previous sampling periods (1987, 1993, 1996).

Gases are collected (with fluids) using MATOR bottles and are sub-sampled on the ship which involves aliquoting part of the sample into 1720-glass (i.e. He tight) evacuated containers. These containers are processed in the laboratory at Scripps.

To date, we have observed wide variations in the  $\text{CO}_2/\text{He}$  ratios of vents since the 1996 seismic crisis. A primary objective of the present work is to evaluate if these changes are continuing

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

None - highly successful sampling dive

Recommendations for corrective action or improvement:

/

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 collected 3 major samples and 1 Niskin as planned covering a range of vents sites in the Pit Crater.

List specimens or samples collected on the mission.

- Fluid (MAJOR) samples from: Upper Vent Field  
Hot Vent Site  
Hot Hole.
- Niskin sample from: Upper Vent Field
- + Bacterial Mat from: Upper Vent Field
- + Rock samples scooped from: Upper Vent Field  
sulphide containing Hot Vent Site

Dive 403

## 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

geochemical monitoring of Loihi Hydrothermal System (project title)

held on 10/18/98 (date) in the following way:

- a. CTD data by 10/18/00 (date)
- b. voice transcripts, video, and still camera film by 10/18/00 (date)
- c. other 10/18/00 (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).

A. M. White Principal Investigator