

HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-499

MISSION STATUS

Location: Loihi Seamount Summit Region

Mission Date: Nov 12, 2002

Maximum Depth: 1327

Project Title: Microbially Mediated Glass Alteration

Principal Investigator: Dr. Hubert Staudigel

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Observer 1: Hubert Staudigel

Observer 2: N/A

Address: see above

Address:

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

The main goal of this dive was to re-visit hydrothermal vents at M 48, to deploy a funnel for focusing water flow into a reaction chamber. Secondary goals included some scoop samples on the crater floor and exploration of hydrothermal systems on the N-rim

We entered the crater from M18 on the E – side, descended to the crater floor, saw a nice Chaimera (Bone – fish?). We probed the crater floor with the temperature probe but gave up sampling because of a very shaky Titan manipulator arm. We traversed past the now buried boiling pot site (some shimmering waters still seeping through the pillow fragment breccia). Moved up to M48, measured temperature inside the gravel/sand (70degC) and right at the water – rock interface (5.9degC, slightly above ambient). We deployed the funnel, and two more 400g glass charges (#'s 39 and 40), moved about 20m S M48 1267m to deploy two WHOI charges (# 5 and 6). WHOI deployment on rather fragile ground, secured with some rocks. After completion of this work we moved about 20m north and ascended a steep cliff, and left for north rim. Jetting off (no touchdown) released a significant rock fall. We searched for some hot springs on the north wall, and found a region of mildly shimmering waters with large numbers of pencil sized chimneys. We took one ball-valve scoop sample and two suction samples of material that is bright (hematite-?) red with an overlying microbial mat. We ascended straight from there

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Titan manipulator arm continues to shake too much for delicate operations

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

List specimens or samples collected on the mission.

Two suction samples, one sample with the ball valve sampler.

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

_____ (project title)

held on November 11, 2002 (date) in the following way:

- a. CTD data by any (date)
- b. voice transcripts, video, and still camera film by November 2004 (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).

_____ Principal Investigator