

HAWAII UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT MISSION NO. P5-397

MISSION STATUS

Location: *Pek's Pit, Loihi*
Mission Date: *10/11/98*
Maximum Depth: *1309 m*
Project Title: *Investigation of Fe-oxidizing bacteria at Loihi Hydrothermal vents.*
Principal Investigator: *David Emerson Frank Sansone*
Address: *U. Hawaii*

Phone:

Observer 1: *David Emerson*

Observer 2:

Address: ~~10804~~
*American Type Culture Collection
10801 University Blvd
Manassas, VA 20108*

Address:

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

- ① Samples of bacterial mat from hydrothermal vents; these will be used for cultivation studies, for molecular analysis, and for morphological and chemical analysis of the microbial mat material.
- ② Cultivation substrates were placed around vent sites. These will be used for molecular studies of colonization of bacterial mats.

SEE ATTACHED LIST

Dive 397

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

none

Recommendations for corrective action or improvement:

The capacity to include 2 observers on individual dives would enhance scientific productivity.

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

Mission was quite successful.

List specimens or samples collected on the mission.

8 ~~stop~~ slurr samples from - tot. 1 of 3 different vent sites.

6 microbial trays placed at vents.
3 " " recovered

Dive 397

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

TEMPORAL EVOLUTION OF LOIHI (project title)

held on 10/12/98 (date) in the following way:

- a. CTD data by 10/12/00 (date)
- b. voice transcripts, video, and still camera film by 10/12/00 (date)
- c. other 10/12/00 (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).

FTM Principal Investigator

PISCES SAMPLE LOG -- Loihi Cruise -- October 1998					10/12/98	
Dive #:	397	Date of Dive:	10/11/98	Observer:	Emerson	
Time	Location	Depth	Nav Fix	Sample type	Sampler ID	Comments
930	Bottom	1090 m				Begin descent into pit
1025	Marker 20	1328		Trap #7		Pick up trap 7; T=24C, good color
				Traps 18&21		Deploy traps same approx locale as 7 and next to each other; T at Trap 21 = 57 C
1045	"			Osmo		T at tip = 47 C
1120						Pass by bio-tower, still standing
1130	Marker 11	1302		Trap #10		Retrieve, good color
				Trap #19		Deploy trap, T=64C
				Major	green	tip inserted well into vent; T=154C
				Sediment sccop		sccoped whitish sediment from within vent orifice
				Osmo		deploy new osmo with tip right in vent orifice; place rocks on hose to help hold
1230	Lower Jet Vent	1298		Trap #9		Retrieve, good color; shrimp in area
				Trap #22		Deploy close to position of #9
				Major	black handle	Tip well into vent orifice; T=165C
				Gas tight	D	Tip well into vent orifice; T=165C
1320		1295		Slurp gun	#1-4	slurp from walls above venting, dark brown mat; T at vent orifice 165C
				Trap #23		Deploy just upslope from a 77C vent near base of wall
				MTR		Place with tip in vent; body on slope
						Lots of shrimp & limpets at this site
1400						Lv Jet vents begin S. traverse, large walls & big rocks with lots of diffuse venting; not a lot of mat noticeable
1430	Marker 15, above Jet Vents	1289		Marker		This is a new site with a large vent orifice with v. hi flow; T=166C
				Niskin bottles		Fire both Niskins directly in shimmering water
				Slurp	5	from rust-colored mat just above vent orifice; crusty
				Slurp	6	area surrounding vent; quite crusty material
				Trap #20		Temp at this site 45C
						Lots of shimmering water; mats are not thick, shrimp present
1505						Observe large eel, 4 ft +, unidentified, on video
1518		1298		Slurp	7,8	Take slurps just above vents same location as on 10/6/98
1535						Leave bottom