HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5- 394

MISSION STATUS

Location: Keahole Point, Hawaii

Mission Date: 10/6/98

Maximum Depth: 540 m

Project Title: LEXEN

Principal Investigator: James Cowen

Address: DEPT OF OCEANOGRAPHY, UH.

Phone: (808) 956-7816

Observer 1: Phillis Lam

Address: DEPT OF OCEANOGRAPHY UH

Observer 2: GeoFF Wheat

Address:

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

The original objective of the proposed dive (of our group), was to search for a suitable vent site in Pele's Pit, Loihi, for the deployment of the Biocolumn. Unfortunately, due to adverse weather conditions around Loihi in the beginning of the cruise, in addition to the pessimistic weather forecasts for the days to follow, a suggestion was made by the ocean science party (G. Wheat) to search for a cold-seep site closer to shore, off Keahole Point, until the weather improves and permits submersible dive at Loihi again. The cold seep site was last visited in 1988 around 500m depth, therefore we followed the 500m depth contour according to previous dive-logs. Nevertheless, apart from the typical carbonate and basaltic rock and sand patches as found along shore of the Big Island no cold seeps site was found. Since it was uncertain whether dives at Loihi would be permissable or not in the remaining days, one member of each of the two science parties was required to see the

proposed cold-seep site to decide whether anything worthwhile can be done for each group's interest. However, it was not made clear which group (science party) was responsible for this dive.

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MISSION EVALUATION:

Limitations, failures, or operational problems noted:

The weather conditions was the major problem hindering the operation of the original plan, which was however not under our control.

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.

Again, the originally proposed vent site, in Lothi was not visited for both parties due to weather conditions; and the cold-deep site later proposed could not be found during this dive either, unfortunately.

List specimens or samples collected on the mission.

Rock samples = 1) - dark, probably Mn-coated carbonate
- an L-shaped piece of carbonate, still retaining form of coral.
- small tube-shaped, Mn-coated carbonate
→ all collected from the surface of a large boulder
2) small Mn-coated carbonate
3) basaltic rock
4) two pieces of basalt taken from "pillows".
5) a piece of suspected basaltic rock, taken among some calcareous rocks.

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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_____(date) in the following way:

a. CTD data by_____(date)

b. voice transcripts, video, and still camera film by_____(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

PISCES SAMPLE LOG -- Loihi Cruise -- October 1998				10/10/98	
Dive #:	394		Date of Dive:	10/7/98	Observer(s): G. Wheat, P. Lam
Time	Location	Depth (m)	Sample type	Sampler ID	Comments
0930		0			launch
0940		0			descent
1004		540			reached bottom
1007		540			VCR on; carbonate rock
1012					heading SE (155°), basaltic rubbles on which few red crinoids were\growing
1019					digital video on - fish in red crinoid
1023					heading SE (159o), old reefs (carbonate rocks) on top of Mn-coated carbonates
1028		527			changed direction towards 265°, carbonate boulder(shape of former reefs well-retained) half-coated by Mn
1032		527	rock	#1a	Mn-coated carbonate
1032		527	rock	#1b	L-shaped carbonate
1032		527	rock	#1c	small tube of Mn-coated carbonate
1040			rock	#2	small piece of suspected Mn-coated carbonate
1044					moved on towards SE (115),rock type still of carbonate coated with Mn; abrupt drop in slope for ~10m
1050					digital video on - ray of >1m in length; sharp rise in slope of carbonate rock
1056		519	rock	#3	basaltic rock with conspicuous green minderals on one side at least
1103					ray; sediment patches among rocks (in pockets) with sand waves (wavelength ~15-20 cm), fishes and squids o
1107		450			digital on + still cameral - a cluster of 3 sea urchins on sand
1113					a number of squids while heading 145°
1123		450			urchins and corals on carbonate rocks
1133					record of sonar scan in computer - an extensive wall in the front
1136		455			large tree of golden coral - digital on - ~2.5 m long
					heading to wall to the SE (155)
1142		409			at the top of the wall (~50-55 m tall), with flat top
1155		410			carbonate rock, not much basalt seen in the area - continued SE (126)
1200		410			lunch break
1218					continued SE (127), a large ledge dropped off to the WNW
1226		401			to SE (165), very few sediments on carbonate rocks
1228		399			base of a wall-like structure appeared on sonar scan
1233		396			sandy bottom: probably a terrace
1236		395			sandy patch
1246		397			pillows of basalt
1259		392	rock	#4	two samples of basalt pillows
1304		400			continued SE (146), a large amount of sediments among basalt; white sponges
1316		383			corals (dendrohilia) growing on basalt
1318		384			extensive sediment (sand) patch)
1320		380			sheets of basalt with fractures running perpendicular to each other, sloping up towards (295)
1325		385			flat sand bottom; 1st dive in 1988 ~ 1 nautical mile to the SW (226)
1331					SW(226), dusting sediments and pockets of sediments among basalt, sponges
1334		385			coral (Bathymedius sp.) on basalt
1336		392			sharp break of slope
1338					carbonate rock outcrop, followed by sand patch
1342		393			pillows, head towards SSW (217)
1348		378			basalt (perhaps formed by more fluid lava), fracture of ~1 m wide filled with sediments
1408		382			more basaltic outcrops, with dusting sediments
1411		379			former lava tubes

1417		381	rock	#5	basalt from slope - into starbooard basket
					carbonate rocks, a few golden corals
1437		390			pinacle dropped; sediments around
1441		397			carbonate rocks after an extensive patch of sand
1443		393			heading SW (204), a large area with alternate carbonate rocks and sandy patches
1447		394			a series of carbonate 'walls', with height ~1-7 m
1452		401			sandy bottom with a few small carbonate outcrops
1501		407			carbonate rocks with a lot of corals (golden, etc), brittle starts and sea urchins
1539		405			abundant coral growth on a carbonate outcrops
1600		398			left bottom
1640		0			surface