HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-304

MISSION STATUS

Location: Loihi Summit

Mission Date: September 25, 1996

Maximum Depth: 1328 m.

Project Title: Loihi Post Crisis

Principal Investigator: Alexander Malahoff

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Observer: A.Malahoff **Co-pilot:** Alan Wright

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

Safety/new vent survey. The objective was to determine safe landing and traverse sites for Loihi vent work. Landed on site north of pit crater to avoid any hydrothermally driven turbid water. Water was relatively clear at the landing site at 18°55.1', 155°14.85'. The traverse north and then south through West Pit to Pele's Pit showed a severely tectonised surface, impact scars of tumbling rocks on the exposed walls. Pele's Pit showed vertical walls, unstable talus overhangs and an active hydrothermal field at a water depth of 1328 meters. *Pisces* recorded a major landslide during its stay on the pit floor. The site of the vents unfortunately is not safe for work with a submersible.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

None

Recommendations for corrective action or improvement:

None

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

Yes. Summit of Loihi was severely tectonised. West Pit walls showed broken columnar basalt. Summit showed old pillows with freshly broken surfaces. Descent into the new Pele's Pit proved to be hazardous-unstable. Vertical and near-vertical walls descend to a depth of 1328 meters. An extensive vent field at the base of the north wall showed clear venting with new bacterial fields. Encountered an active rock fall during traverse on the ocean floor.

List specimens or samples collected on the mission.

4 rock samples, 9 water samples from Pele's Pit vent field.