HAWAI‘I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT (QLR) for *Pisces* and *RCV-150*

DIVE: ___P5-817_____

(*Extend length of sections as needed/appropriate*)

MISSION STATUS

Location: __South of Koko Head, Oahu_____

Latitude: _21__° _15.2’ N__ **Longitude:** _157_° _42.2’ W_

Mission Date: **__3-Aug-2013_____** **Duration:** **__6__** hours **_10_** mins

Maximum Depth: ____290_____ meters

Project Title: __ The Glacial Sea Level Lowstand Shoreline In the Hawaiian Archipelago _

Principal Investigators: __Rubin* and Fletcher _____
***note:** Rubin is now the PI for the project since Fletcher is a SOEST Associate Dean

Address: __Dept. of Geology and Geophysics, Univ. of Hawaii_____

__1680 East West Rd_____

__Honolulu, HI 96822_____

Phone: __808-946-5434 (Rubin)_____

Observer 1: __Rubin, Ken_____ **Observer 2:** ___Kane, Haunani_____

Address: ____(see above)_____ **Address:** ____(see above)_____

_____ _____

_____ _____

Pilot 1: ___Max Kremer_____ **Pilot 2:** _____

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

Objectives:

To find and map coral reef structures/shoreline features from the last glacial maximum and subsequent deglaciation (ca. 10 to 20 kyrs BP) in order to constrain the age and depth of sea level at the last ice age and after. We anticipate sampling corals and other carbonate materials that serve as sea-level position indicators known to grow within definable limits of their contemporaneous sea-level position. These might include shallow coral species, beach rock, coralline algae, mollusks, etc. Bathymetric maps of the region indicate the presence of shelves, walls and other large-scale features that are likely to host potential sample targets.

Observations, findings, etc:

The dive progressed generally from E to W in a submerged embayment, making three semi-vertical transects up the slope at the back of this feature. Good outcrops of volcanic Tuff on steep to very steep (near vertical) faces were observed below 180m. All slopes less than 20-25 deg steep had extensive sand coverage, often times covering most of bed rock save small bits protruding through the sediment cover. Outcrops of reef rock were observed at the target site and anticipated depths above 162m up through 120m and high quality *in situ* coral samples were recovered. More extensive coral coverage was found at shallower depths. At deeper depths, encrusting corals were found on steeper slopes, and low-doming coral colonies were found on gentler slopes. In the western part of the embayment, coral-covered ridges were interspersed on high ground between sand channels containing coarse sands. Coral cover was generally restricted to more shallow depths (<140m) in the western part of the embayment, with sand drift deposits occurring beneath there. Somewhat large coral colony morphologies were encountered in the western part of the embayment

Observed Species list:

Various bottom fish, sea whips, crabs, algae, and corals.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

None. LRT launch and recovery was superb. All systems in the sub preformed as expected.

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:

Accomplishments matched expectations. The dive covered a the expected amount of ground and depth range. The sub and pilot performed admirably.

List specimens or samples collected on the mission:

14 samples of coral/carbonate reef rock, numbered P5-817-01 through P5-817-14

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):

The Glacial Sea Level Lowstand Shoreline in the Hawaiian Archipelago

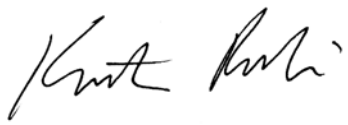
Held on __8/6/2013_____ (date) in the following way:

a. CTD data by _____ (date)

b. Video and images by __8/6/2015_____ (date)

c. Other _8/6/2015_____ (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
Ken Rubin

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