HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: PV-676

MISSION STATUS

Location: Third Finger off southern edge of Penguin Bank, off Molokai, HI

Latitude: **20**° 55.5N **Longitude:** 157° 32.0W

Mission Date: 09-29-2006 **Duration:** **4** hours 12 mins

Maximum Depth: 218 meters

Project Title: Deep Seaweed Photosynthesis Research

Principal Investigator: Karla McDermid

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Phone: (808) 933-3906

Observer 1: Fred Gurgel
Address: Smithsonian Marine Inst.
Fort Pierce, Florida

Observer 2: Brent Yamamoto
Address: UH-Hilo

Pilot 1: Max Cremer

Pilot 2: none

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

Objectives:

- Collect macroalgal specimens.
- Measure light attenuation with depth.
- Measure ambient light levels (photosynthetically active radiation PAR) at collection sites.
- Deploy Pulse Amplitude Modulated Fluorometer and leave in situ for overnight readings
- Obtain water samples at deployment site using Niskin bottles

Observations, findings, etc:

After the Pisces V was launched, diving down began at 12:26. On the descent, light attenuation with depth was taken at every 5m down to a depth of 200m. At 12:31, the Pisces 5 was at a depth of 20m and at the 100m mark at 12:37. Diving ballast released to stop descent. At 13:06, the Pisces V reached maximum dive depth of 218m and headed north towards shallower areas. First sample collected at 192m (algal-looking Bryozoans). Continuing to head north, we came across a stingray at the depth of 170m. At about 163m, it went from sand to dead-Halimeda sediment. At 110m, other samples were taken near brown plate coral (live Halimeda, epiphytes, Distromium & associated flora). Still heading north going over the plateau, at 78m the bottom was mostly covered by small rhodoliths, Halimeda, small filamentous algae, with some sand spots here and there. At 14:44, we arrived at the "*Ulva*" station at 105m (N20 56.145 W157 31.985). At the site, the PAM was deployed and additional sampling took place, including the Niskin bottle. PAM appeared to be malfunctioning, so it was retrieved. At 16:32, we left the bottom and reached the surface at 16:32 where shortly after was back on the deck.

Species list:

ALGAE

Halimeda
Peyssonnelia inamoena
Crustose, cartilagenous "Cryptopleura" – with midribs (silica, pressed, formalin, photographed)
Lobophora
Dasya
Ulva expansa
Caulerpa (observed but not collected)
Cladophora
Dictyopteris repens
Ceramiaceae, filamentous red
Delesseriaceae red blade

ECHINODERMS
brittle stars, large sea stars

FISH
ulua, kahala, palani, triggerfish, scorpionfish, stingrays

BRYZOANS

CNIDARIA
brown plate coral

SPONGES
yellow, orange, blue, tan encrusting sponges

MISSION EVALUATION:

Limitations, failures, or operational problems noted:
PAM sustained a leak in one of its hoses
collecting seaweeds one by one from depressions in the sand with the Orion is time consuming

Recommendations for corrective action or improvement:
replace hose on PAM
mount scoops on the sub for faster collection from algal "piles"

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.

Halimeda
Peyssonnelia inamoena
Crustose, cartilagenous "Cryptopleura" – with midribs (silica, pressed, formalin, photographed)
Distromium
Dasya
Microdictyon
Cladophora
Dictyopteris repens
Ceramiaceae filamentous red
Delesseriaceae red blade
red crustose coralline algae
Ulva
Ventricaria

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 9-29-06 (date) in the following way:

a. CTD data by 9-29-06 (date)

b. video and images by 9-29-06 (date)

c. other Licor Light meter, PAM 9-29-06 (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).

Karla J. McDermid Principal Investigator