HAWAI'I UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT
DIVE: P5-786

MISSION STATUS

Location: Hawaii Undersea Military Munitions Assessment Study Area

Latitude: [redacted] **Longitude:** [redacted]

Mission Date: 23 Nov 2012 **Duration: 6** hours, 43 mins

Maximum Depth: 556m

Project Title: HUMMA-III Phase 1 Field Program:
Submersible and Remote Camera Operations, Mass Spectrometer Transects

Principal Investigator: Margo Edwards

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Observer 1: JC King
Address: Office Assistant Deputy Sec. Army

Observer 2: Carter DuVal
Address: University of Delaware

Pilot 1: Terry Kerby **Pilot 2:** N/A

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

Objectives: Sampling at two control sites with no munitions nearby. Goal is to deploy a marker and shrimp trap, then collect sediment samples and one box core at each site. If time permits, a brisingid (echinoderm) sample will be collected. If time still permits, the Pisces V will survey munitions trails.

Dive Summary: The dive started late due to KoK's initial departure from the dock plus a fire-and-boat drill and science briefing. Despite not launching the Pisces V until 1027 local time (L), we were able to accomplish all of the sampling at the two control sites plus collect one brisingid with a lesion on one of its arms and conduct a short reconnaissance survey of one of the trails. The new sampling scheme was easier to follow than the approach we undertook in 2009. The consistency of the sediments remains sticky, which made handling and sampling of sediment difficult. The box corers were difficult to close and sediment sticks inside sediment scoop tubes. Otherwise, additional modified approaches worked better than their 2009 equivalents. This includes: the sediment scoopers, which collect sufficient material faster than the ball-valve scoops; and the shrimp traps, which are populated by shrimp within a few minutes of being deployed right at the target. The sample locations were approximately 120 meters apart. The last part of the dive was devoted to surveying along a munitions trail, confirming the presence of DMM.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

1. Working around the shrimp traps was difficult.
2. The box corers did not automatically close.
3. Post-dive analysis of the sediment scoops proved really problematic for ECBC – in removing the tightly fitting lids, which have water and sediments under the upper cap, the contents leaked all over the inside of the glove box requiring ECBC personnel to undertake extensive clean up after each sediment scoop was analyzed.

Recommendations for corrective action or improvement:

1. For future dives, samples close to the marker/target should be collected first, then the shrimp traps deployed, the outermost samples collected, and then the shrimp traps can be recovered.
2. We discussed options for closing the box corers using additional springs, but Terry thinks it will be better to force the corers closed when on the bottom. The box cores that were collected on Dive P5-786 had plenty of material for our analysis, although the corers are too big with their handles on to put into ECBC's glove box without tipping them and affecting the sediment stratigraphy. For future dives the handles will be removed prior to putting the corers into ECBC's glove box.
3. Our first attempt to address the problem with the sediment scoops is to drill one hole in the T-handle caps of the scoops and insert a screw. After future dives this screw will be removed in the secured glove box when the scoops get back to the boat. We hope that this will allow the water and extra sediments to be decanted before removing the lids.

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

This dive achieved its purpose.

List specimens or samples collected on the mission.

P5-786	Sediment	Shrimp*	Box Core	Brisingid	Water
Daily Samples	10	6	2	1	0
Total Samples	10	6	2	1	0

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. video and images 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