



**NOAA Teacher at Sea**  
**Jill Stephens**  
**Onboard NOAA Ship *Rainier***  
**June 15 – July 2, 2009**

**NOAA Teacher at Sea: Jill Stephens**  
NOAA Ship *Rainier*  
Mission: Hydrographic Survey  
Geographic Area of Cruise: Pavlof Islands  
Date: June 29, 2009

**Weather Data from the Bridge:**

Position: 55°13.516'N 161°22.812'W  
Scattered clouds with 10 miles visibility  
Wind: 195° at 14 knots  
Pressure at sea level: 1023 mbar  
Temperature: Sea; 7.8°C Dry bulb; 13.3°C  
Wet bulb; 11.1°C

**Science and Technology Log**

Today was another awesome day at sea. The ship picked up the anchor at 0830 to begin our move to a new anchorage. The plan for the day called for bottom sampling while in transit to the new anchorage. Bottom sampling is used to determine the composition of the sea floor. The bottom sampler is attached to a winch with the cable run through a boom to move the sampling device over the starboard side of the ship. The bottom sampler has a bucket that is designed to close when it hits the bottom, collect a sample of the material on the seafloor, and then it is brought back to the surface.



**The bottom sampler is ready to be deployed to collect a seafloor specimen.**



**Assistant Survey Technician, Todd Walsh, and I release the bottom sample that was collected from the sea floor.**

The bucket must be secured and locked in place prior to lowering it to the bottom. The operation requires two people manning the device and examining the specimen and another person operating the winch.

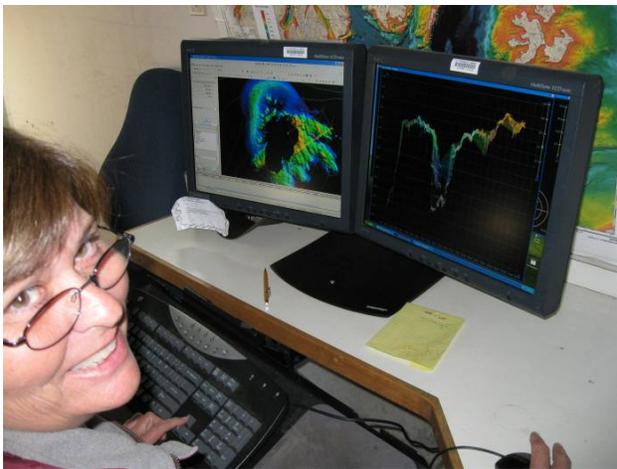
The bottom sampler is opened once it is back on deck and examined by survey technicians. The sediment is observed for color and felt to determine texture elements. Most of the samples examined today were determined to be green sticky mud or volcanic ash and broken shells. This form of sampling provides information about the seafloor that will be of

importance to ships that might consider anchoring in the area. Samples are sometimes collected for more extensive study.

While the people on the fantail are examining the sea floor samples, personnel in the plot room prepare to enter the information into the computer. The plot room crew enters the GPS location into the computer plus all descriptive data regarding the samples from the sampling crew. If the sampler returns to the surface in the open position, the sample is determined to be unsuccessful and is repeated.

### Personal Log

Working the bottom sampler and feeling the sea floor sediment was exciting for me. I thoroughly enjoy working with soils to determine



Sitting in with a night processor allowed the opportunity to review data collected during the day and clean out noise that prevents the computer from selecting the best representation of the sea floor.

### Animal Sightings

A baby **crab** (see right) and a **worm** were found in some of our bottom samples.



The sample is reviewed to determine the type of sea floor that is present in the area.

various characteristics, so this activity was right up my alley. Although the sampler itself can be managed by one person, it is easier and safer for two people to operate the sampler while a third person operates the winch and boom. My partner and I worked together very efficiently and processed between five and ten samples during one shift. The shifts were divided into one and a half hour periods. I was lucky enough to get two sampling shifts and one shift in the plot room recording the data.

After dinner, I was able to work with one of the night processors to convert and clean data that was collected on one of the launches during the day.

