

R. Bailey  
Received 12/26/79

79027rpt

CRUISE REPORT

R/V SURVEYOR, CRUISE II, LEG <sup>VI</sup> II, RP-4-SU-79B <sup>50</sup>

September 4 - 15, 1979

Kodiak, Alaska to Kodiak, Alaska

Raymond E. Davis  
U.S. Geological Survey  
Woods Hole, MA 02543

R/V SURVEYOR, September 4 - 15, 1979  
Kodiak to Kodiak, Alaska

#### Operational Area

Northeast Gulf of Alaska (NEGOA) south at Yakutat Bay. See appendix of Cruise Report, R/V SURVEYOR, Cruise II, Leg II RP-4-SU-79B, 22 August, 1979.

#### Objective

To recover the five OBIPs deployed on Leg II. This offshore OBIP array was placed so as to complement the USGS land station network in obtaining magnitude and acceleration data of offshore earthquakes in the NEGOA.

#### Navigation

Return to the drop sites was accomplished using the LORAN C rates recorded on Leg II. Water depth at the sites varied from 113m to 347m.

#### Summary

Once on site, acoustic communication was established between the pickup vessel and the OBIPs anchored to the bottom. The OBIPs were then individually commanded to release and then recovered by one of the SURVEYOR's workboats. All recoveries were routine. This completed USGS participation on this leg and USGS personnel disembarked in Yakutat.

#### Results

A preliminary look at the seismic data showed good system operation in four of the five instruments. Amplitudes were truncated in another but timing and frequency data were still useful. The OBIPs consistently detected and recorded seismic displacements above 5 milli-microns at 10 Hz; however, recorder noise levels at this time preclude meaningful interpretation of events below the 40-50 milli-micron level.

There were eight events, ranging from 1 micron to 14 microns that could be correlated in four of the instruments as well as the land station network.

Timing errors over the 43 day period ranged from .8 to 40 seconds, as expected with the low power oscillator used. An oven-controlled or at least a TCXO will be used in future experiments to reduce timing errors to less than .1 second in thirty days.

All tape in the instruments was used in five days due to the high sensitivity of the event triggering circuitry. An adjustable absolute level set will be incorporated for future deployments so that tape capacity is not depleted by unimportant seismic activity.

#### USGS Personnel Aboard

Ray Davis

cc: J. Grow  
B. Ambuter  
D. Folger  
B. Green  
R. Bailey  
D. Sylwester  
T. Aldrich