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Geological Survey

MULTICHANNEL SEISMIC-REFLECTION DATA COLLECTED  
IN 1978 IN THE EASTERN CHUKCHI SEA

by

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The U.S. Geological Survey (USGS) collected approximately 2520 km of 24-channel seismic-reflection data in the eastern Chukchi Sea from late August through late September, 1978, over the continental shelf in the Chukchi Sea (Fig. 1). The profiles were collected on the USGS Research Vessel S.P. Lee. The seismic energy source consisted of a tuned array of five airguns with a total volume of 1326 cubic inches of air compressed to approximately 1900 psi. The recording system consisted of a 24-channel streamer, 2400 meters long with a group interval of 100 m, and a GUS (Global Universal Science) model 4200 digital recording instrument. Shots were fired every 50 meters. Navigational control for the survey was provided by a Marconi integrated navigation system using transit satellites and doppler-sonar augmented by Loran C (Rho-Rho). A 2-millisecond sampling rate was used in the field; the data were later desampled to 4-milliseconds during the demultiplexing process. 8 seconds data length was recorded. Processing was done at the USGS Pacific Marine Geology Multichannel Processing Center in Menlo Park, California, in the sequence: editing-demultiplexing, velocity analysis, CDP stacking, deconvolution-filtering, and plotting on an electrostatic plotter. Plate 1 is a trackline chart showing shotpoint navigation.

The data are available in the following formats:

- 1) Electrostatically plotted profiles which have been deconvolved and filtered after stacking. Copies of the profiles may be purchased through:

National Geophysical Data Center  
NOAA/EDIS/Code D64  
325 Broadway  
Boulder, Colorado 80302

- 2) Digital magnetic stack tapes which have been processed using velocities derived from velocity analysis. These tapes are not deconvolved or band-pass filtered. Copies of the stack tapes and a description of the tape format can be obtained at the requesters expense by contacting:

Dennis M. Mann  
Pacific Branch of Marine Geology  
U.S. Geological Survey  
345 Middlefield Rd. MS 979  
Menlo Park, California 94025

- 3) Digital magnetic demultiplexed tapes. These tapes have been edited for missed shots, blanking times, and muting times. Copies of the demultiplexed tapes and a description of the tape formats can be obtained at the requesters expense by contacting Dennis Mann at the above address.

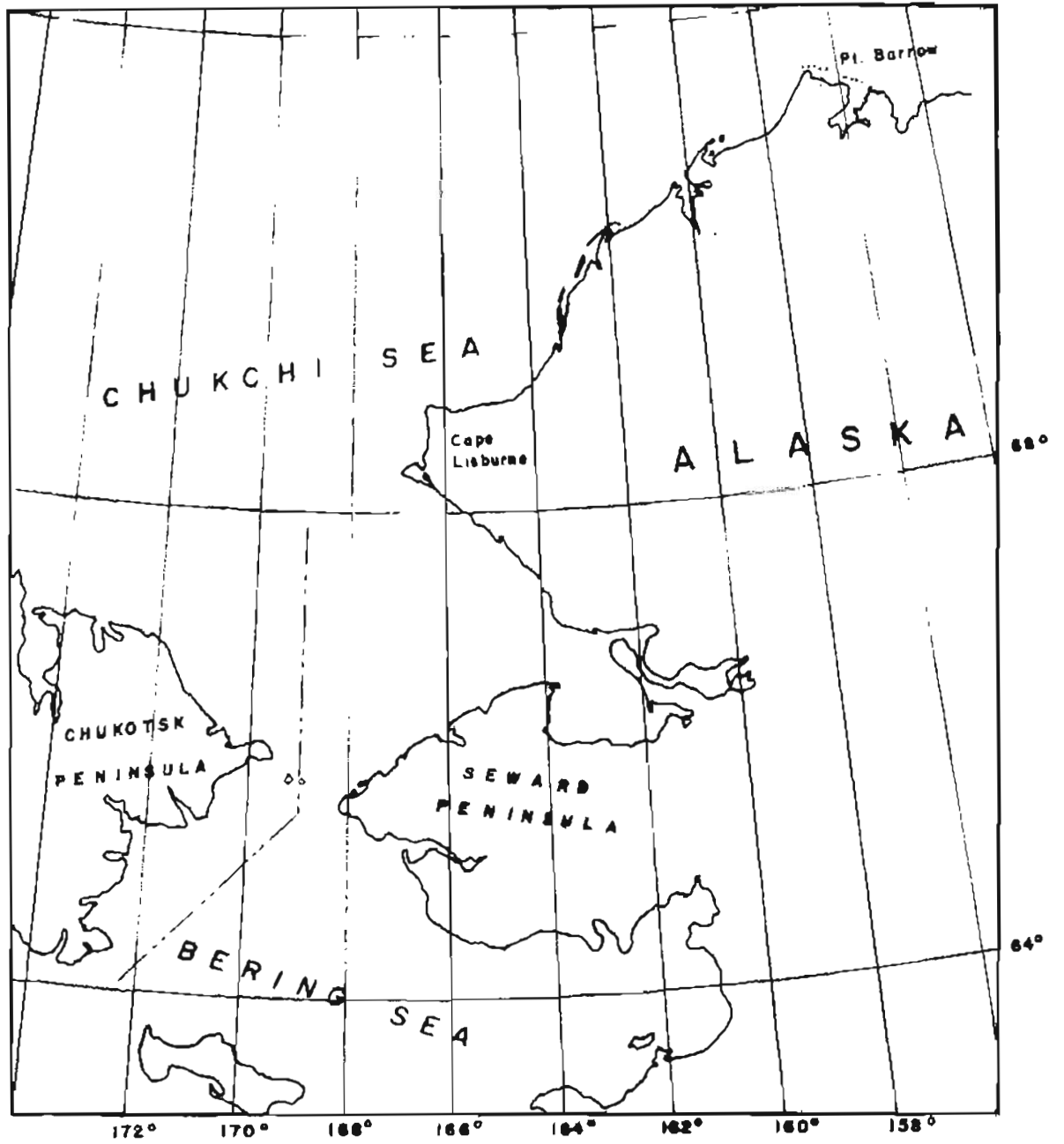


FIGURE 1. AREA OF STUDY. PLATE I SHOWS DETAILED LOCATION OF TRACKLINES AND SHOTPOINTS