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Minisparker profiles from Jeffreys Ledge and adjacent areas in the western Gulf of Maine

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A total of 250 kilometers of single-channel seismic-reflection data (28 minisparker profiles) were collected in the coastal waters of Massachusetts, north of and immediately south of Cape Ann, and on the western flank of Jeffreys Ledge, western Gulf of Maine, during the September 1978 cruise of the R/V ASTERIAS. The survey was conducted by the U.S. Geological Survey as part of the Massachusetts Cooperative Marine Geologic Program.

The seismic systems used included a ¹Del Norte minisparker and streamer, an Energy International Streamer, and EPC 3200 and 4100 recorders. Navigational control was established by Radar and Loran-C. The Loran-C navigation data were recorded on a Northstar 6000 system.

The purpose of the cruise was to discover the significance and extent of the folded and faulted internal reflections that were first noticed on the westernmost tip of Jeffreys Ledge in line 14 of minisparker data from the 1976 R/V FAY 023 cruise (Eskenasy, 1980).

Sixteen northwest-trending lines were run off Cape Ann (fig. 1) to investigate the deformed reflectors, now thought to represent a moraine formed by readvance of continental ice over the last glacial marine Presumpscot Formation. Lines north and south of Cape Ann were run to locate the offshore extension of the Clinton-Newbury and Bloody Bluff fault systems.

The original records can be studied at the U.S. Geological Survey offices at Woods Hole, Mass. Microfilm copies of the records can be purchased only from the National Geophysical and Solar-Terrestrial Data Center, NOAA/EDIS/NGSDC, Code D621, 325 Broadway, Boulder, CO 80303 (303-497-6338)

1. Use of tradenames in this report is for purposes of identification only and does not constitute endorsement by the U.S. Geological Survey. This report is preliminary and has not been edited for conformity with USGS editorial standards or nomenclature.

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Reference Cited

Eskenasy, Diane M., 1980, Single-channel seismic-reflection profiles from Massachusetts coastal waters and the western part of Georges Bank: U.S. Geological Survey Open-File Report 80-509, 2 p.

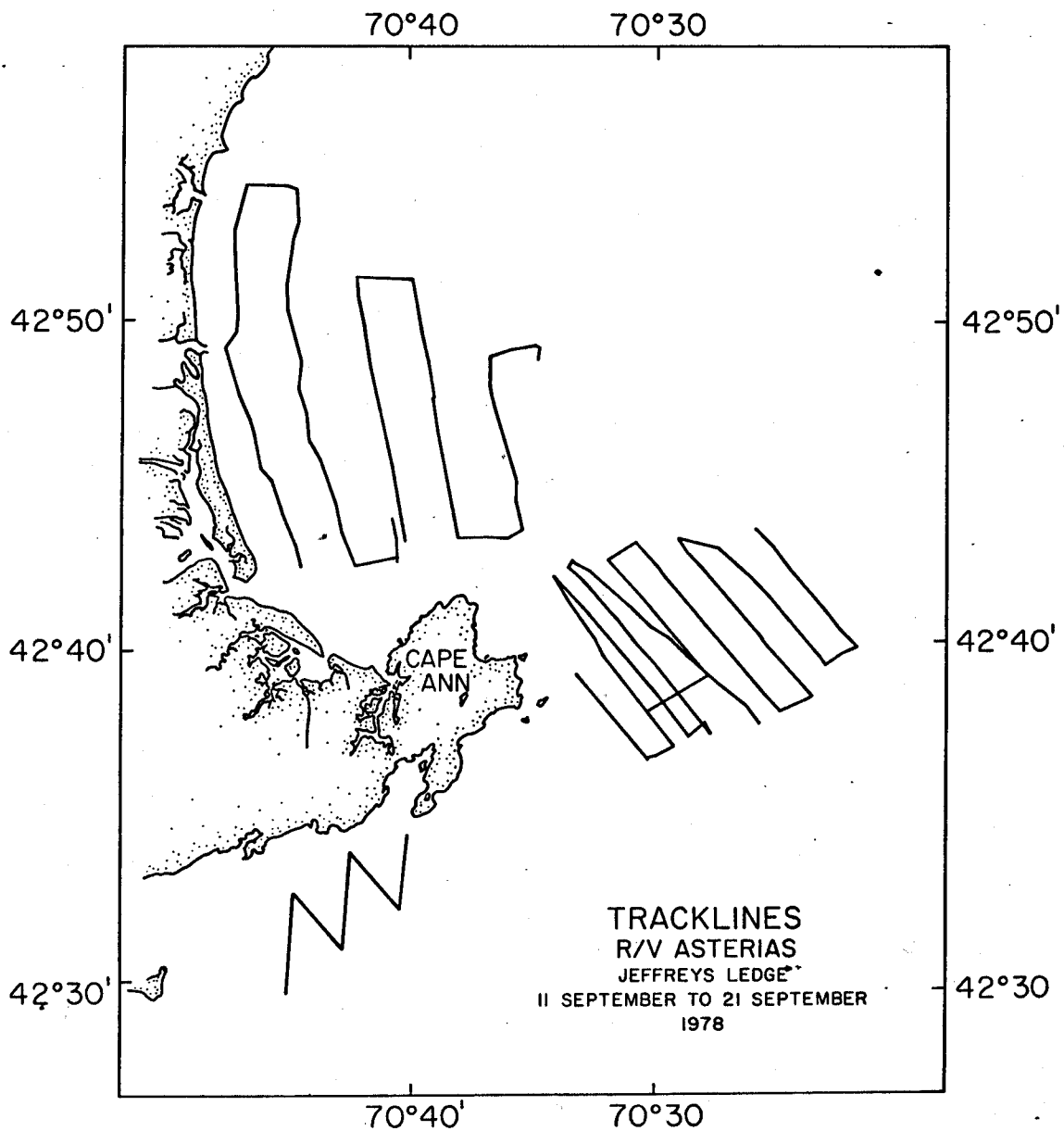


Figure 1: Tracklines, R/V ASTERIAS, September 1978