UNITED STATES DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY

Multichannel seismic-reflection profiles collected in 1982 aboard R/V GYRE, Cruise G8212, on the western Florida Shelf

by

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*Woods Hole, Mass.

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From 4 to 19 October 1982, the U.S. Geological Survey (USGS) collected 1500 km of multichannel seismic-reflection data on the Western Florida Shelf (Figure 1). Navigational control was provided by the USGS's Integrated Navigation/Gravity System built around a Western Geophysical Inc. Survey and Data Management System. The Western system uses a Hewlett-Packard-2112 minicomputer and Western-designed interface circuitry to record data from six navigation sensors to calculate the accurate position of the vessel. The sensors used were: (1) velocity output--range-range loran, (2) bottom lock (pulsed) sonar, (3) doppler (continuous) sonar, (4) gyroscope, (5) position output--Navy Navigation Satellite receiver, and (6) hyperbolic loran..

The multichannel seismic reflection system consisted of a 1200-m streamer, a Texas Instruments Co., Digital Field System, DFS-V recorder, and Bolt 500-in^3 airgun. The gun was positioned 15 m off the stern and the near phone section was 230 m astern. Shot-point interval was 25 m. The streamer was composed of alternating active and inactive segments, each 50 m long. Twenty-four-fold data were recorded for 4 seconds in SEG-Y format. The quality of the seismic records is good to 2 seconds. The line layout (Figure 1) was designed to infill a pre-existing seismic network and to tie key exploration wells on the western Florida shelf. Data quality is impaired

*This report is preliminary and has not been reviewed for conformity with the U.S. Geological Survey editorial standards. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

on all lines by existance of multiples. An identifiable Mesozoic-Paleozoic reflection band is only apparent on the updip portion of the survey at about 1.8 sec reflection time on lines 7 and 8. Downdip portions of lines 4 and 6, in deeper water, are of interest from standpoint of revealing some aspects of the platform edge escarpment. Line 5 shows details of the deep Gulf basin west of the platform edge. The upper second of data contains reflections stemming from impedence contrasts in the Cenozoic section. Seismic line locations are shown on the attached track chart (Figure 1). Corrections to record header notations are indicated in Appendix I.

The original records may be seen at the USGS Branch of Marine Geology, USGS offices in Woods Hole, Massachusetts. Microfilm copies of the CDP data may be purchased only from the National Geophysical Data Center, NOAA, Code E64, 325 Broadway, Boulder, Co 80303 (Telephone #: 303-497-6338).

APPENDIX I. G8212 RECORD HEADING ERRORS

Line 1, SP 1-2565, Direction arrow over SP 1 is labeled northwest; arrow should be labeled southeast.

Line 2, SP 2566-4350, same as above.

Line 4, SP 1-2400, Heading arrow labeled southwest; should be northeast.

Line 4, SP 10000-10500, Shot points misnumbered 0-500.

Line 4, SP 10300-11480, Shot points misnumbered 300-1490.

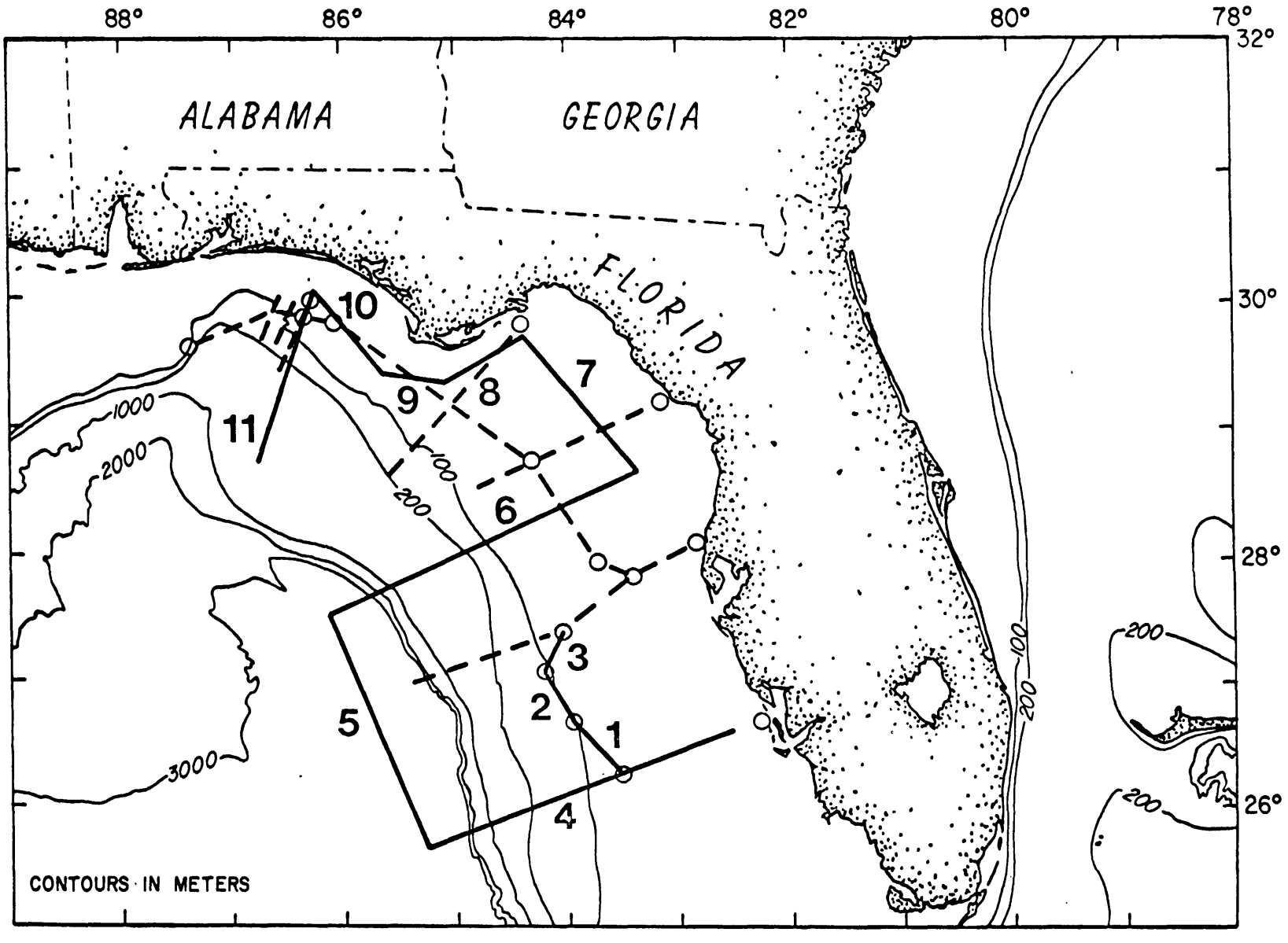

Figure 1 -- Multichannel seismic-reflection profiles on the western Florida Shelf. Circles indicate exploration well locations. Solid track line indicates the location of G8212 multichannel seismic lines; dashed lines indicate a pre-existing seismic net.