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GEOLOGICAL SURVEY

GLIMPCE 1986 MULTICHANNEL SEISMIC-REFLECTION PROFILES IN THE GREAT LAKES

by John C. Behrendt¹ and Alan G. Green²

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey and Geological Survey of Canada editorial standards and stratigraphic nomenclature.

1. U.S. Geological Survey, Denver CO 80225
2. Geological Survey of Canada, Ottawa, Ontario KIA 0E8

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In September 1986, the U.S. Geological Survey and the Geological Survey of Canada acquired eight 24- to 30-fold seismic-reflection profiles across the midcontinent rift system in Lake Superior, Lake Huron, and Lake Michigan (Fig. 1). The profiles were collected under contract as part of the Great Lakes International Multidisciplinary Program on Crustal Evolution (GLIMPCE). They are described in Behrendt and others (1988).

During the seismic-reflection survey, 120-channel data were recorded to 20 seconds (s) at a 4-ms sample rate. The system utilized a 3,200-m streamer configured with a 70-airgun tuned array, and had a capacity of 120 liters (7800 in.). The data were processed and F-K migrated using a standard processing sequence that included deconvolution before and after stack and dip-filtering in the shot domain to suppress scattered noise from shallow sources, and in the common-depth-point domain to suppress multiple reflections. The data are of very good quality. Recording and processing specifications are appended to each profile. For a more detailed description of the data processing, see Lee and others (1988) and Milkereit and others (1988).

The original data are on file in the USGS offices in Denver, Co. Copies of the seismic-reflection profiles for these lines can be purchased only from the National Geophysical Data Center, 325 Broadway, Boulder, CO 80303 (telephone 303-497-6338).

References

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- Milkereit, B., Green, A.G., Morel-a-l'Hussier, P., Lee, M.W., and Agena, W.F., 1988, 1986 Great Lakes seismic-reflection survey - migrated data: Geological Survey of Canada, Open-file 88-1592, 35 p., 10 reflection survey charts, scale 1200,000.

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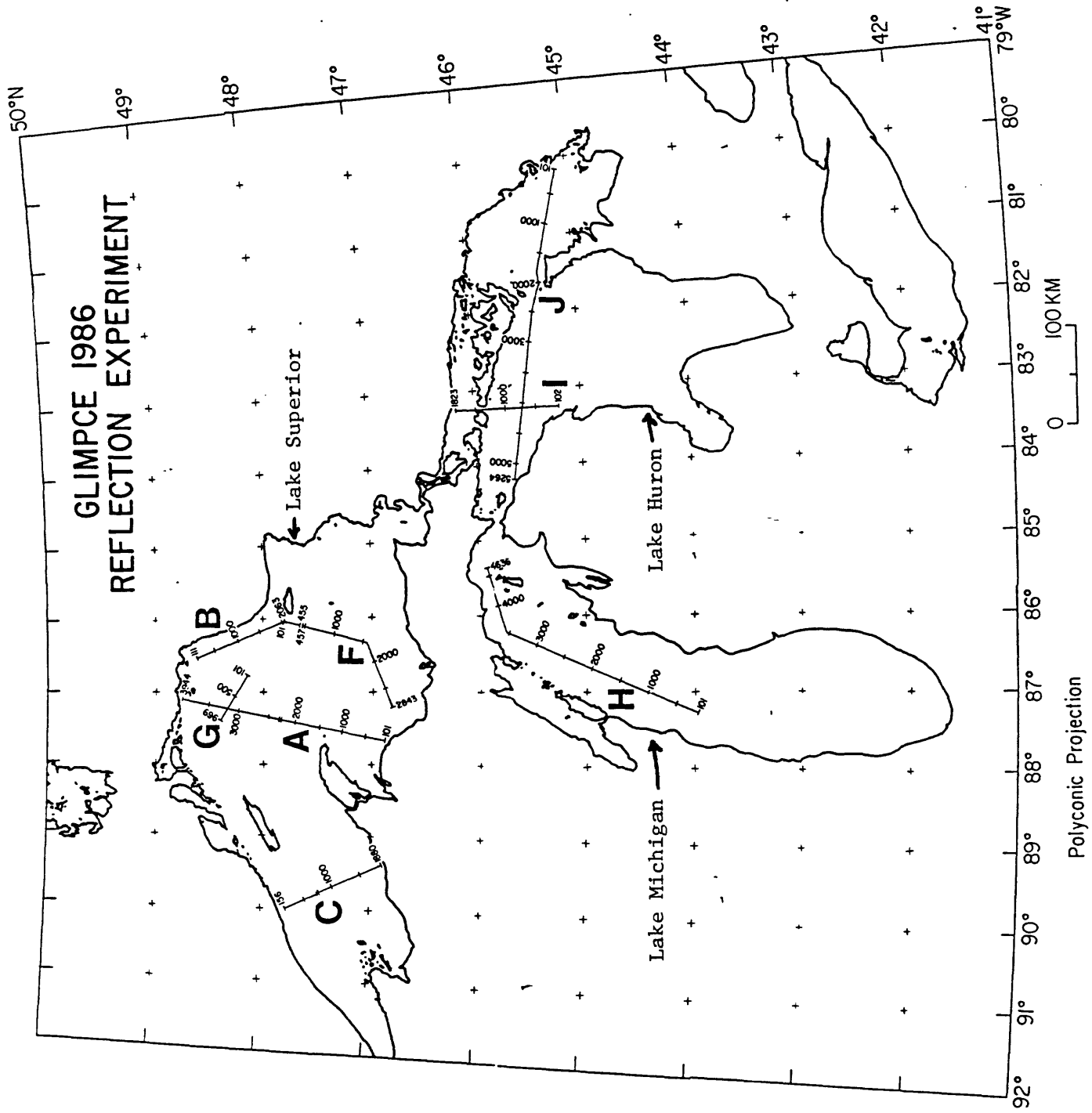


Figure 1.--Location of seismic reflection lines in Lakes Superior, Huron, and Michigan, from the 1986 GLIMPCE survey. Shotpoint locations are numbered along lines.