

Map A. Depth to Bedrock

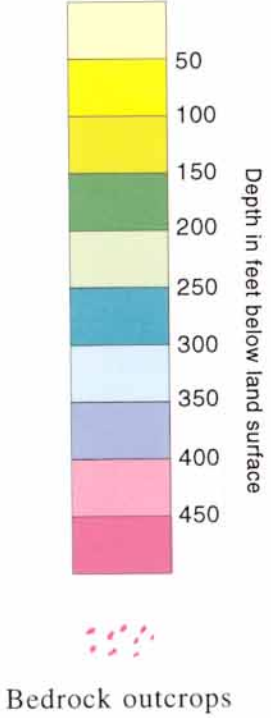
MAPPING DEPTH TO BEDROCK

The depth-to-bedrock maps were created digitally. The contours of the bedrock topography map (Plate 6) were digitized, and a grid (cell size 90 meters) was generated from those points. The U.S. Geological Survey's one-degree Digital Elevation Model (cell size 90 meters) was used to represent the land surface. The bedrock topography grid was then subtracted from the land surface elevation grid to yield a depth-to-bedrock data grid, from which a contoured depth-to-bedrock map was generated. The Digital Elevation Model (DEM) has an estimated vertical accuracy of ± 30 meters and no map derived from it can have greater accuracy¹. However, errors of that magnitude appear to be rare. During this mapping exercise, the DEM values in at least one area were found to be wrong when compared with the topography on 1:24,000-scale U.S. Geological Survey quadrangle maps. The DEM was modified, the bedrock topography grid subtracted, and a new depth-to-bedrock map generated. The depth-to-bedrock map is intended to represent regional variations in the thickness of glacial drift. For site-specific information on bedrock depth it is prudent to examine the data available for that area.

¹U.S. Geological Survey, 1990, Digital Elevation Models: Data user's guide 5 (2nd printing, revised): p. 13-15.

Every reasonable effort has been made to ensure the accuracy of the factual data on which this map interpretation is based; however, the Minnesota Geological Survey does not warrant or guarantee that there are no errors. Users may wish to verify critical information; sources include both the references listed here and information on file at the offices of the Minnesota Geological Survey in St. Paul. In addition, effort has been made to ensure that the interpretation conforms to sound geologic and cartographic principles. No claim is made that the interpretation shown is rigorously correct, however, and it should not be used to guide engineering-scale decisions without site-specific verification.

EXPLANATION



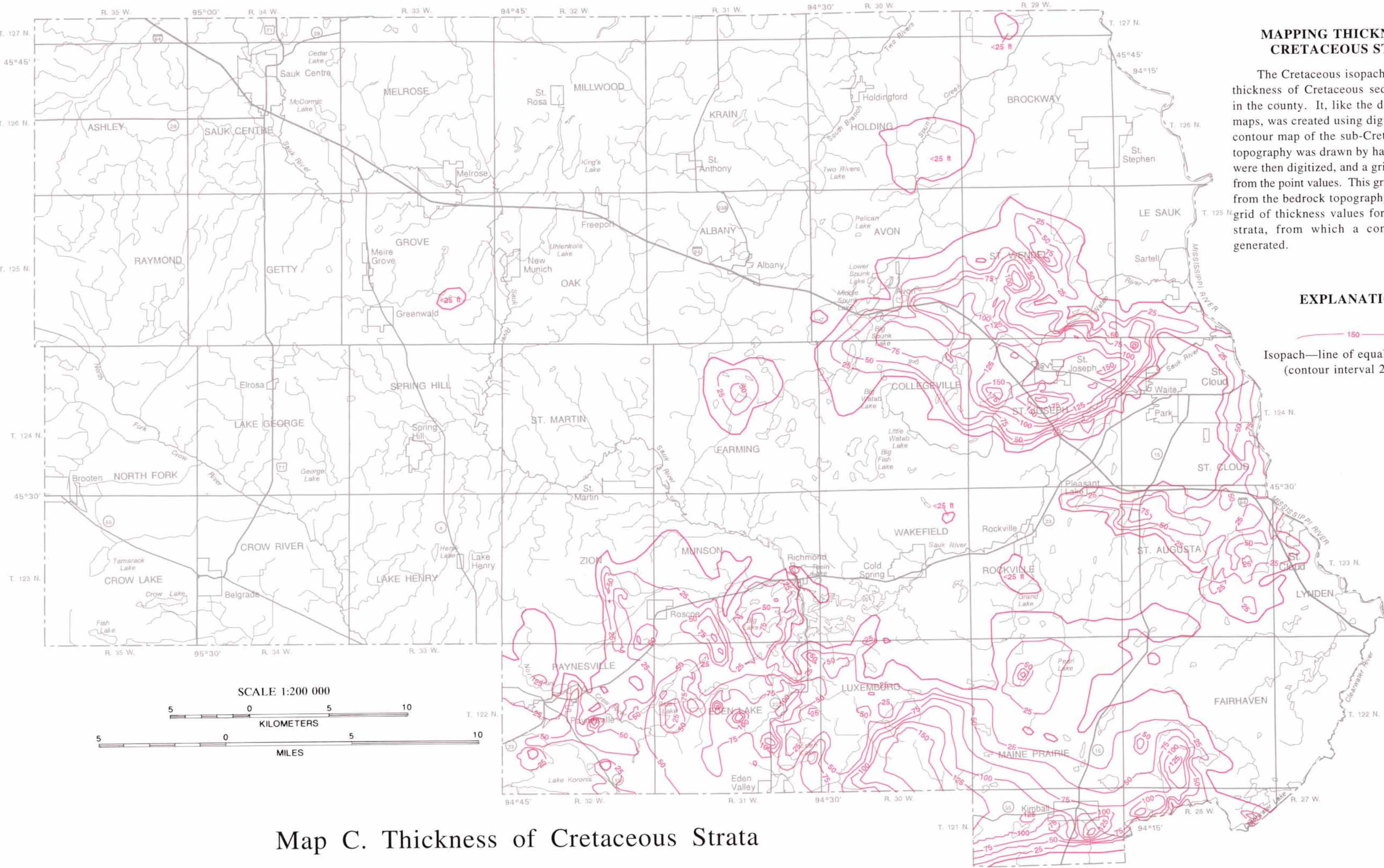
**DEPTH TO BEDROCK
AND
THICKNESS OF
CRETACEOUS STRATA**

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ACKNOWLEDGMENTS

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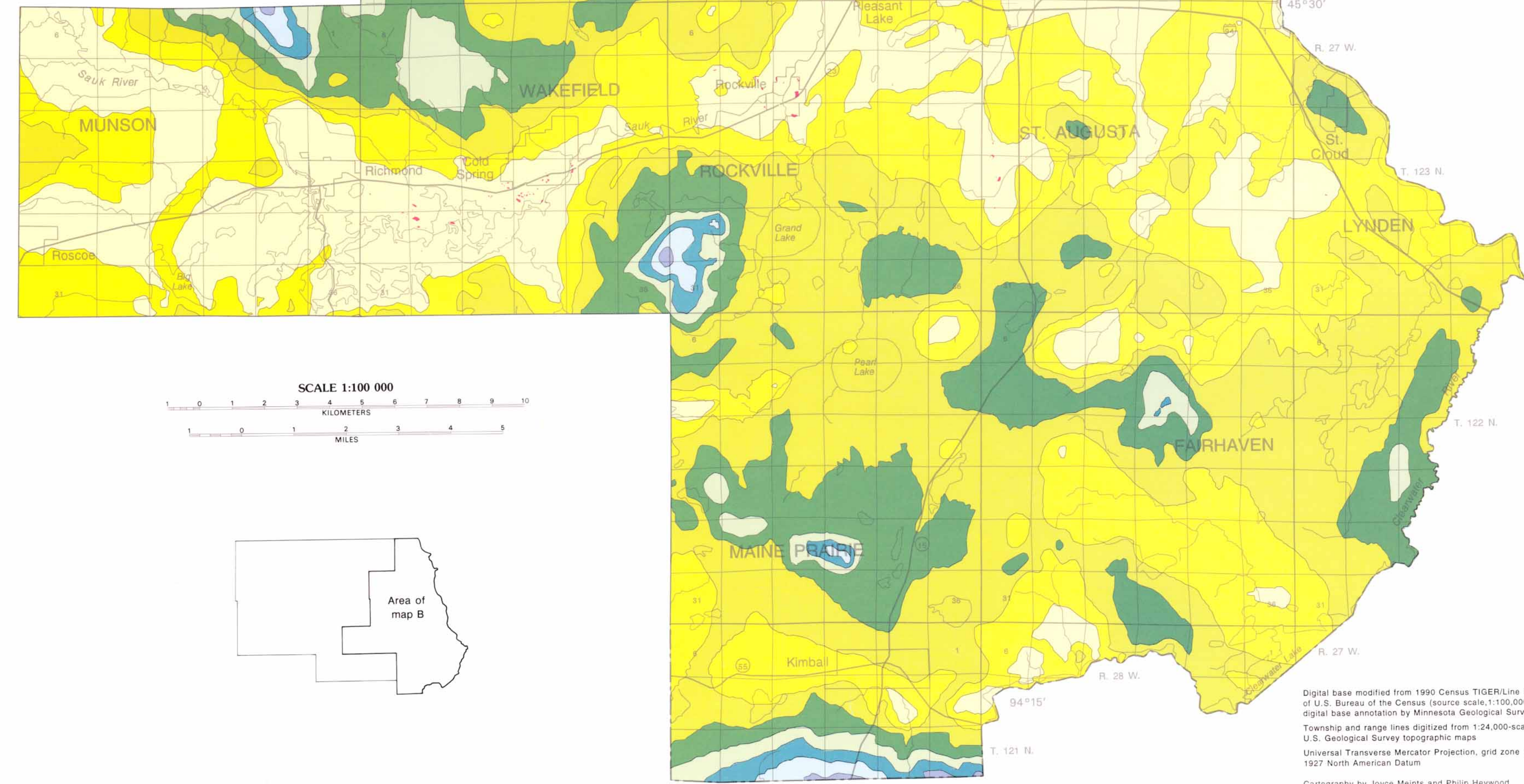
Map C. Thickness of Cretaceous Strata

**MAPPING THICKNESS OF
CRETACEOUS STRATA**

The Cretaceous isopach map shows the thickness of Cretaceous sedimentary rocks in the county. It, like the depth-to-bedrock maps, was created using digital methods. A contour map of the sub-Cretaceous bedrock topography was drawn by hand, the contours were then digitized, and a grid was generated from the point values. This grid was subtracted from the bedrock topography grid to yield a grid of thickness values for the Cretaceous strata, from which a contour map was generated.

EXPLANATION

Isopach—line of equal thickness (contour interval 25 feet)



Map B. Depth to Bedrock, Eastern Stearns County