UNIVERSITY OF MINNESOTA

MINNESOTA GEOLOGICAL SURVEY
D.L. Southwick, Director

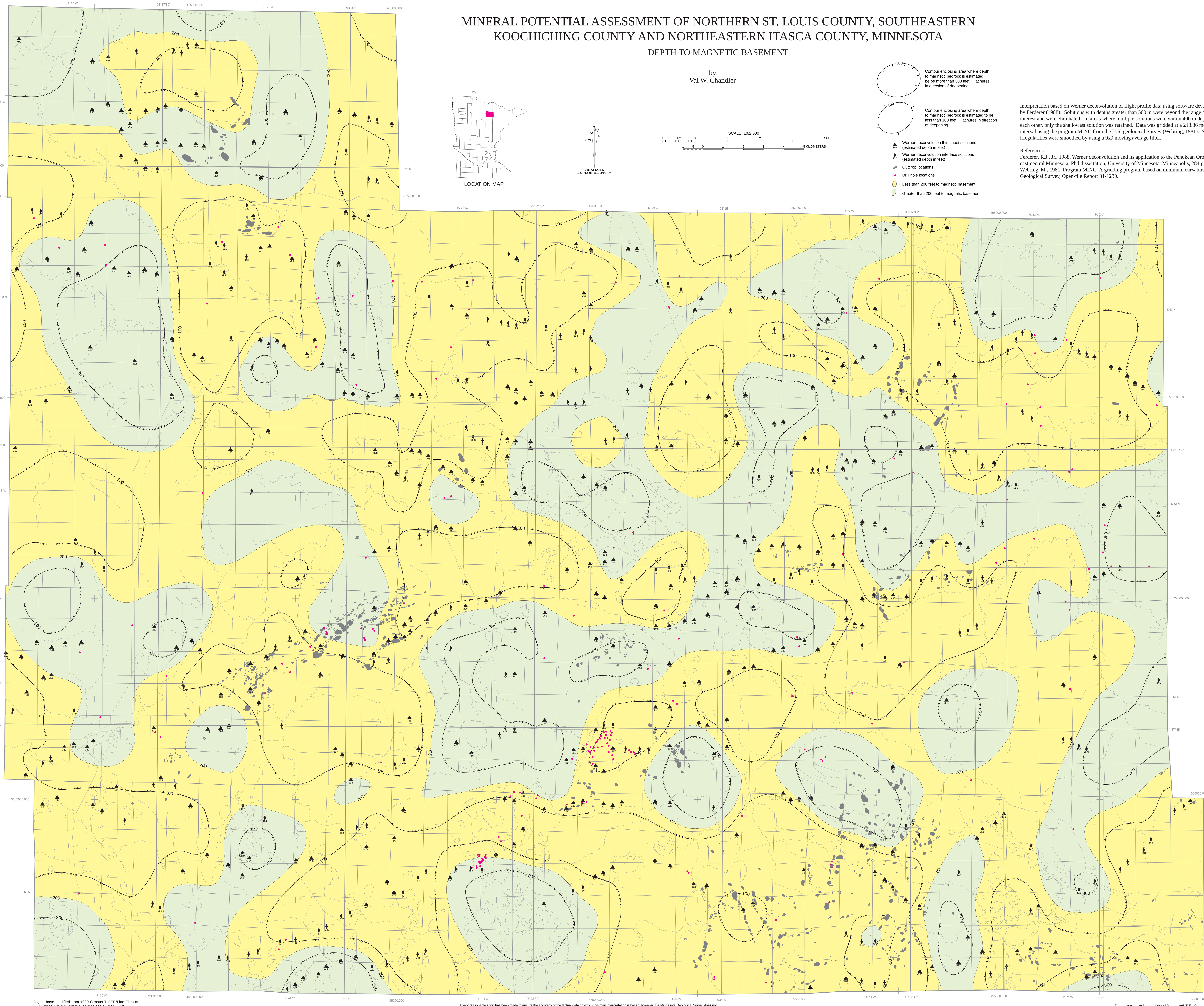
Prepared in part with funding from
THE DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERALS

OPEN-FILE REPORT 97-5
Plate 8—Depth to Magnetic Basement

MINERAL POTENTIAL ASSESSMENT OF NORTHERN ST. LOUIS COUNTY, SOUTHEASTERN KOOCHICHING COUNTY AND NORTHEASTERN ITASCA COUNTY, MINNESOTA

DEPTH TO MAGNETIC BASEMENT

by
Val W. Chandler



Interpretation based on Werner deconvolution of flight profile data using software developed by Ferderer (1988). Solutions with depths greater than 500 m were beyond the range of interest and were eliminated. In areas where multiple solutions were within 400 m depth of each other, only the shallowest solution was retained. Data was gridded at a 213.36 meter interval using the program MINC from the U.S. geological Survey (Webring, 1981). Small irregularities were smoothed by using a 9x9 moving average filter.

References:

Ferderer, R.J., Jr., 1988, Werner deconvolution and its application to the Penokean Orogen, east-central Minnesota, Phd dissertation, University of Minnesota, Minneapolis, 284 p.
Webring, M., 1981, Program MINC: A gridding program based on minimum curvature: U.S. Geological Survey, Open-file Report 81-1230.

Digital base modified from 1990 Census TIGER/Line Files of U.S. Bureau of the Census (source scale,1:100,000)

Universal Transverse Mercator Projection, grid zone 15
1983 North American Datum

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.

Digital cartography by Joyce Meints and T.E. Wahl;
Graphic design by R.S. Lively
(July 1997)