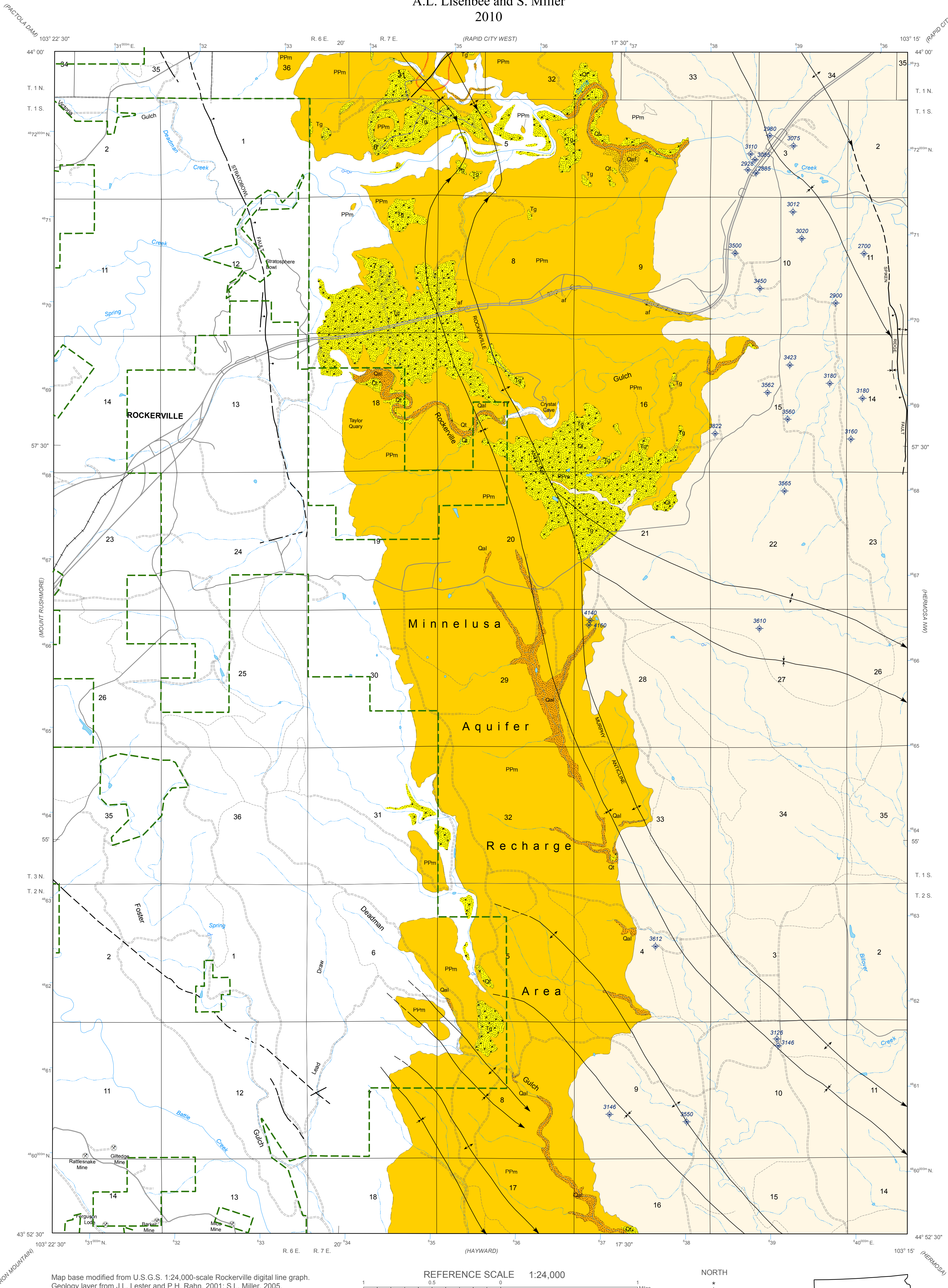


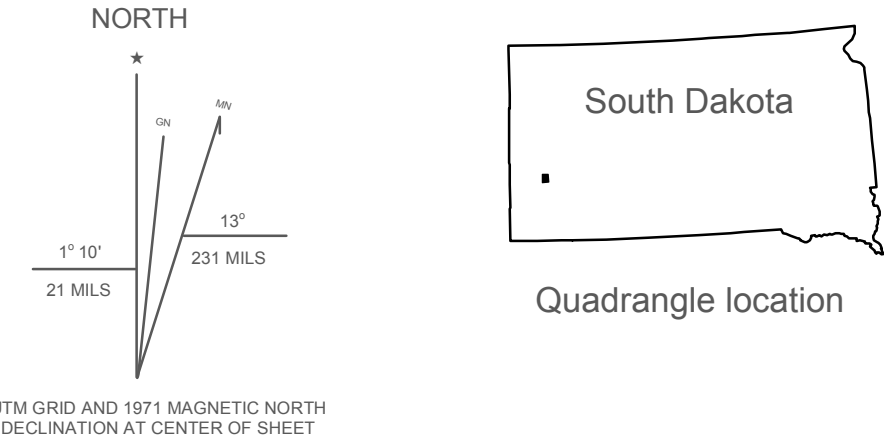
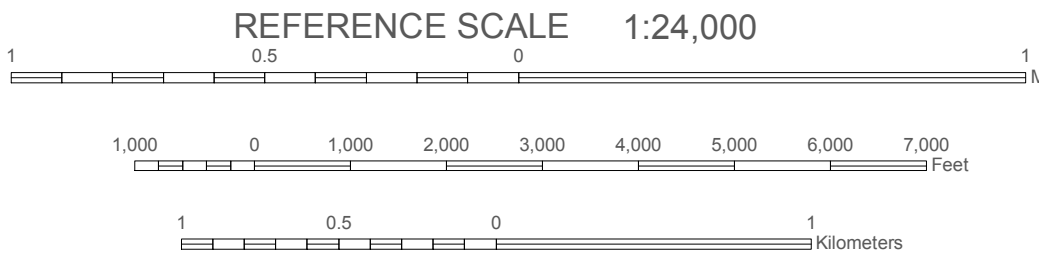
Aquifer Susceptibility Map of the Minnelusa Formation, Rockerville Quadrangle

By
A.L. Lisenbee and S. Miller
2010



Map base modified from U.S.G.S. 1:24,000-scale Rockerville digital line graph.
Geology layer from J.L. Lester and P.H. Rahn, 2001; S.L. Miller, 2005.
Water well data collected and digitized from SD Dept. of Environment
and Natural Resources "Online Oil/Gas/Injection Well Data" database.
Projection is Universal Transverse Mercator, Zone 13, North American Datum 1983.

Digital Cartography: E.M. Francisco, 2007 and S.L. Saxton, 2010.
Department of Geology and Geological Engineering
South Dakota School of Mines and Technology

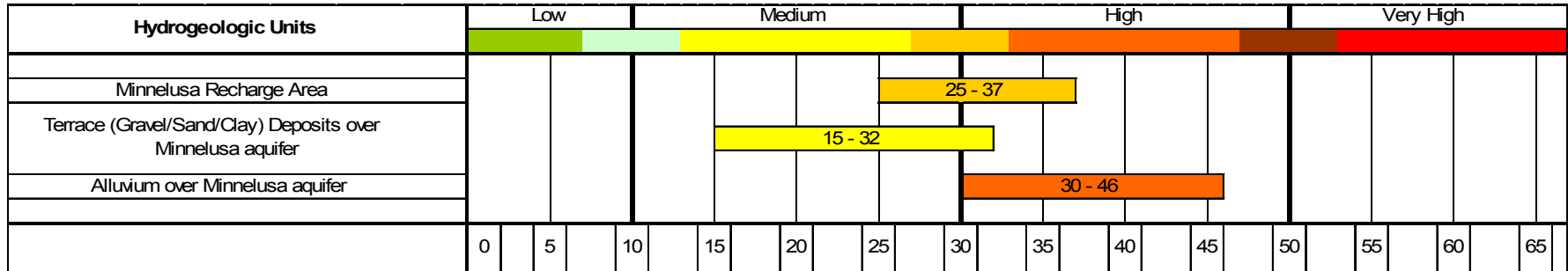


The preparation of this map was funded by the West Dakota Water Development District in association with the Department of Geology and Geological Engineering South Dakota School of Mines and Technology

Definition of Susceptibility

Aquifer susceptibility is the inherent ability of a formation to accept and transmit liquids (potentially including contaminants).

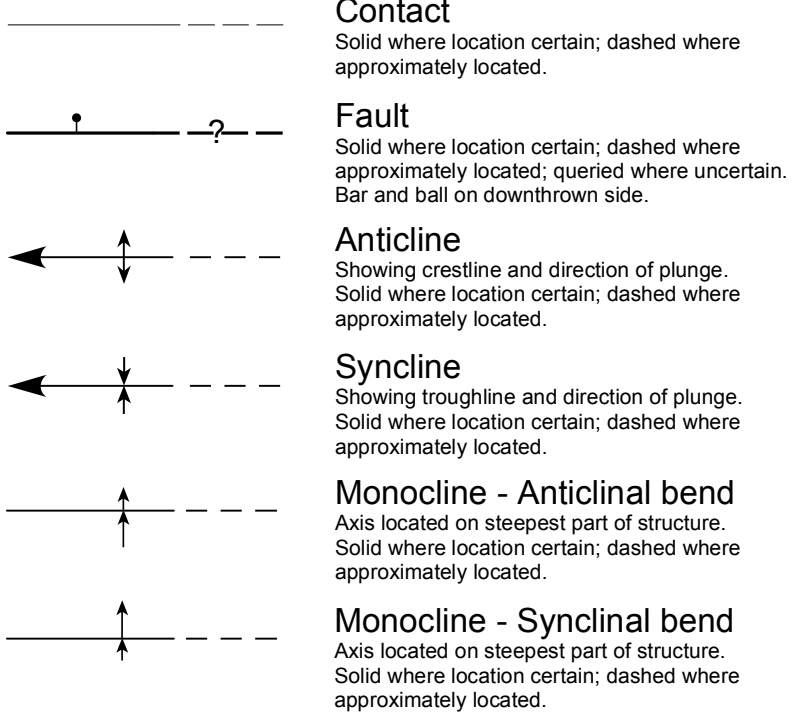
Susceptibility Ranges for Hydrogeologic Units



Summary of ratings associated with the Minnelusa aquifer. Number falling within the range area indicates the qualitative rating for aquifer susceptibility (adapted from Hargrave, 2005).

Susceptibility Ratings Explanation:
The susceptibility range is the sum of ratings for parameters of the aquifer. The parameters used for the Minnelusa aquifer are rock type, overlying material, joints, minor karst, breccia and minor faults affecting the hydrogeologic units of the Minnelusa Fm.
The ratings for these parameters are: Rock Type: 5-8 for sandstone; Overlying Material: 5-10 for alluvium and negative 5-10 for gravel, sand and clay mixture; Joints: 5-7; Minor Karst: 5-8; Breccia: 5-7 and; Minor Faults: 4-6.
The ratings suggested for the parameters are from Aller et al. (1987) and Davis et al., (1994.)

EXPLANATION



Geologic Units - Color indicates degree of susceptibility; see chart to left.

