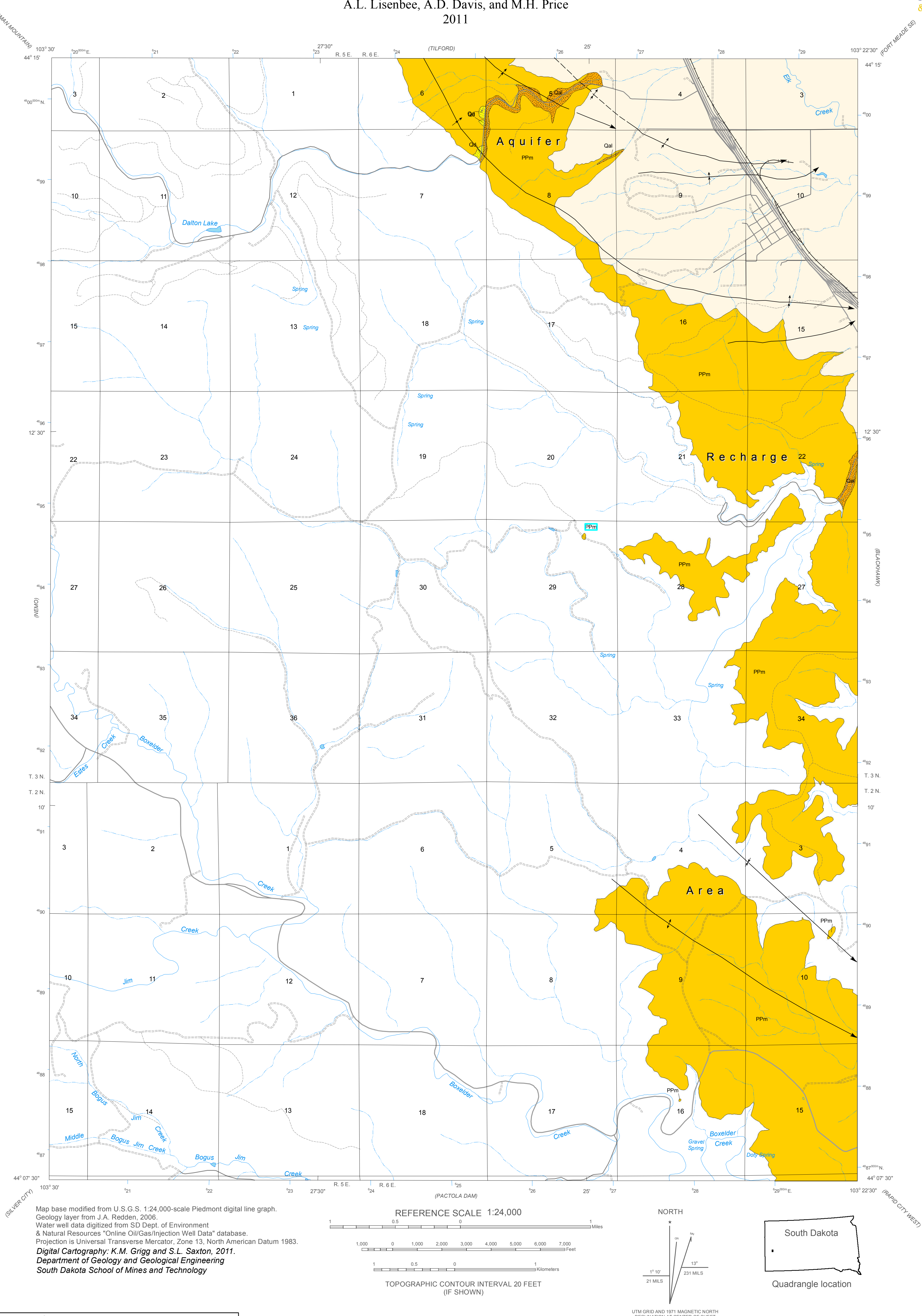


Aquifer Susceptibility of the Minnelusa Formation, Piedmont Quadrangle

By
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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

Hydrogeologic Units	Low															Medium															High															Very High																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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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 susceptibility 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

- Contact
Solid where location certain; dashed where approximately located.
- Fault
Solid where location certain; dashed where approximately located; queried where uncertain. Bar and ball on downthrown side.
- Anticline
Showing crestline and direction of plunge. Solid where location certain; dashed where approximately located.
- Syncline
Showing troughline and direction of plunge. Solid where location certain; dashed where approximately located.
- Black Hills National Forest Boundary

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

- Quaternary
Floodplain Surficial Deposits - HIGH SUSCEPTIBILITY
Includes alluvium (Qa) deposits. Increased potential for infiltration of water.
- Quaternary
Terrace Deposit - MEDIUM TO HIGH SUSCEPTIBILITY
Includes debris flow deposits (Qd). Decreased potential for infiltration of water.
- Pennsylvanian
Minnelusa Formation - HIGH SUSCEPTIBILITY
Susceptibility rating ranges between 25 to 37. No distinction was made between the upper sandstone and the lower sandstone beds of the formation.
- Minnelusa Formation Present in Subsurface
- Minnelusa Formation Absent