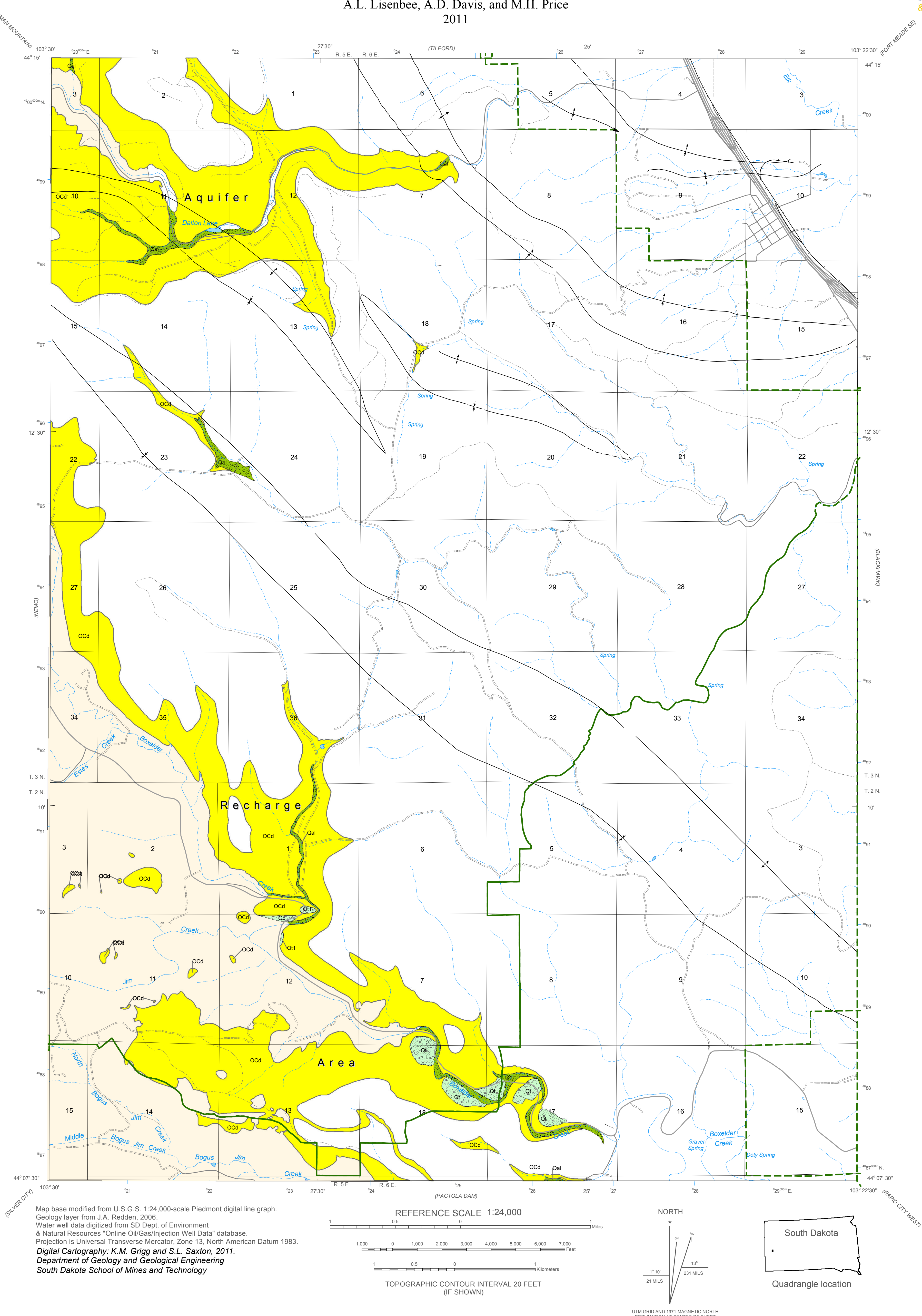


Aquifer Susceptibility of the Deadwood Formation, Piedmont Quadrangle

By
A.L. Lisenbee, A.D. Davis, and M.H. Price
2011



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

Hydrogeologic Units	Low	Medium	High	Very High
Deadwood Aquifer Recharge Area	8 - 16			
Deadwood aquifer by terrace deposits	13 - 26			
Saturated alluvium over Deadwood aquifer	3 - 6			

Summary of ratings associated with the Deadwood 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 Deadwood aquifer are rock type, overlying material, and joints affecting the hydrogeologic units of the Deadwood 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 and Joints; 5-7.
The ratings suggested for the parameters are from Ailer et al. (1987) and Davis et al., (1994.)