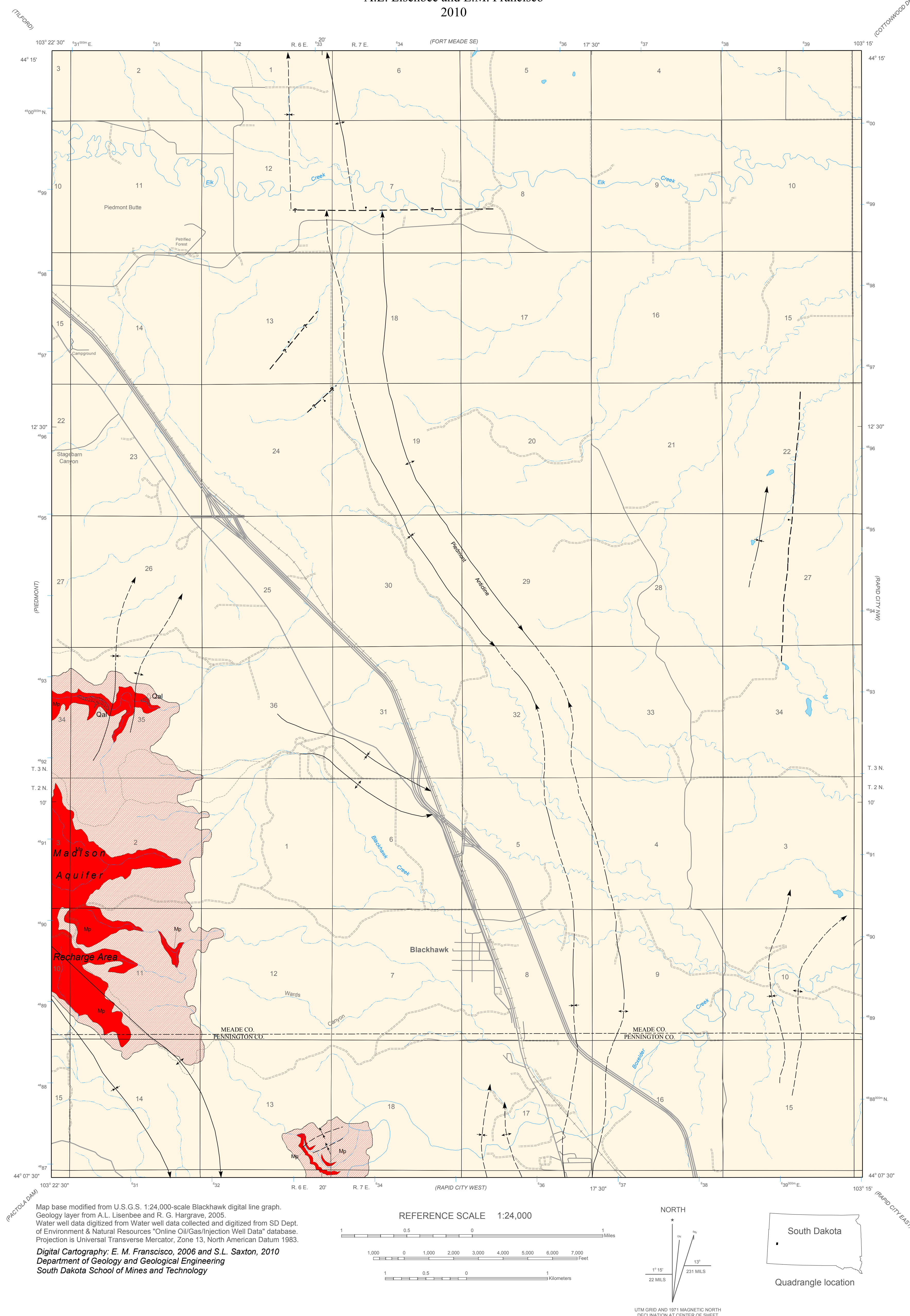


# Aquifer Susceptibility Map of the Pahasapa Limestone (Madison Aquifer), Blackhawk Quadrangle

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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
Madison (Pahasapa Limestone) Recharge Area				58 - 66
Alluvium over Pahasapa Limestone				63 - 71
	0	5	10	15
	20	25	30	35
	40	45	50	55
	60	65	70	75

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. 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.
- Monocline - Anticlinal bend  
Axis located on steepest part of structure. Solid where location certain; dashed where approximately located.
- Monocline - Synclinal bend  
Axis located on steepest part of structure. Solid where location certain; dashed where approximately located.

- Geologic Units
- Quaternary **Qal** **Alluvium - VERY HIGH SUSCEPTIBILITY**  
Susceptibility rating ranges between 63 to 71 where alluvium overlies the Pahasapa Formation
- Lower Mississippian **Mp** **Pahasapa Limestone (Madison Aquifer) - VERY HIGH SUSCEPTIBILITY**  
Susceptibility rating ranges between 58 to 66
- Less than 100-Ft Minnelusa Formation Overburden**
- Minnelusa Formation Present in Subsurface**