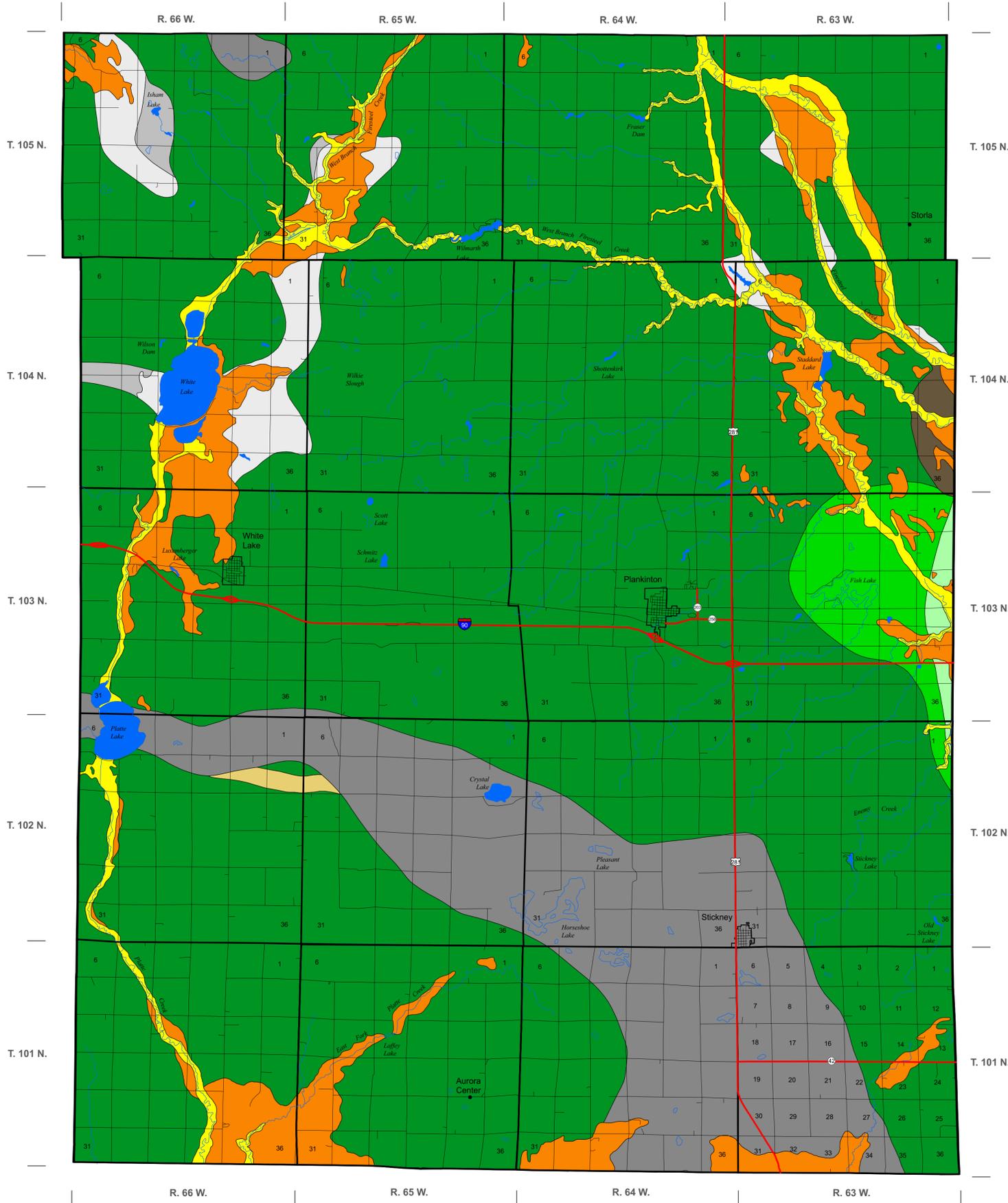


First Occurrence of Aquifer Materials in Aurora County, South Dakota

Department of Environment and Natural Resources
 Division of Financial and Technical Assistance
 Geological Survey
 Aquifer Materials Map 20
 Ann R. Jensen, 2004

State of South Dakota
 M. Michael Rounds, Governor

South Dakota Geological Survey
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Explanation

This map is intended for use as a tool to aid in identifying areas underlain by aquifer material. The aquifer materials shown on this map are categorized below. This map does not show individual aquifers. There may be more than one type of aquifer material present in an area. However, only the aquifer material that would be first encountered is shown. Within the boundaries of any given map unit, there may be localized areas where aquifer material is absent. The thickness and permeability of aquifer material may vary significantly. Also, no attempt was made to distinguish between saturated and unsaturated material. Therefore, not all of the areas defined on this map may be an aquifer. Site-specific information should always be examined when making land management or water development decisions.

- First occurrence is generally less than or equal to 50 feet below land surface
- Alluvium:** Consists of clay and silt with minor amounts of sand and gravel
 - Sand and Gravel:** First occurrence is generally at land surface
 - Sand and Gravel:** First occurrence is generally below land surface; may not be uniform in depth and thickness and may be discontinuous in lateral extent
 - Niobrara Formation:** The upper Niobrara Formation is a medium- to dark-gray, speckled, brittle, calcareous, chalk-like material; the lower Niobrara Formation is a white to light-gray, soft, gritty, marl
- First occurrence is generally greater than 50 feet and less than or equal to 100 feet below land surface
- Sand and Gravel:** May not be uniform in depth and thickness and may be discontinuous in lateral extent
 - Niobrara Formation:** The upper Niobrara Formation is a medium- to dark-gray, speckled, brittle, calcareous, chalk-like material; the lower Niobrara Formation is a white to light-gray, soft, gritty, marl
- First occurrence is generally greater than 100 feet below land surface
- Sand and Gravel:** May not be uniform in depth and thickness and may be discontinuous in lateral extent
 - Niobrara Formation:** The upper Niobrara Formation is a medium- to dark-gray, speckled, brittle, calcareous, chalk-like material; the lower Niobrara Formation is a white to light-gray, soft, gritty, marl
 - Codell Sandstone Member - Carlile Shale:** A fine- to medium-grained friable sand or sandstone
 - Dakota Formation:** Alternating beds of varicolored siltstone, friable to cemented sandstone, and shale

- Major highway
 - Road
 - Township boundary
 - River or stream
 - Lake
 - Slough or intermittent lake
- For township section numbering system, see T. 101 N., R. 63 W.

This map was developed from lithologic logs and published reports. The major sources of information were:

Blaze, D.A., and Hammond, R.H., 1980, *Sand and gravel resources in Aurora County, South Dakota*: South Dakota Geological Survey Information Pamphlet 22, 14 p.

Hamilton, L.J., 1980, *Major aquifers in Aurora and Jerauld Counties, South Dakota*: South Dakota Geological Survey Information Pamphlet 23, 5 p.

1985, *Water resources of Aurora and Jerauld Counties, South Dakota*: U.S. Geological Survey Water-Resources Investigations Report 84-4030, 58 p.

Hedges, L.S., 2001, *Geology of Aurora and Jerauld Counties, South Dakota*: South Dakota Geological Survey Bulletin 32, 32 p.

Schulz, L.D., 2001, *First occurrence of aquifer materials in Sanborn County, South Dakota*: South Dakota Geological Survey Aquifer Materials Map 6, scale 1:100,000.

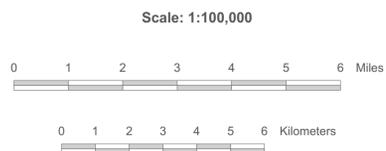
Schulz, L.D. and Smith, K.N., 2004, *First occurrence of aquifer materials in Davison County, South Dakota*: South Dakota Geological Survey Aquifer Materials Map 16, scale 1:100,000.

South Dakota Geological Survey, Lithologic logs database.

The Geological Survey, Department of Environment and Natural Resources, engages in an ongoing data collection and interpretation process. An outcome of that process is to reflect those interpretations on maps such as this one. Reasonable efforts have been made to ensure that this map accurately reflects the source data used in its preparation. This map is date specific. As additional data become available, geologic interpretations may be revised and the map may be updated by the Geological Survey. This map should not be enlarged or otherwise used in an attempt to interpret more detail than can be seen at the 1:100,000 scale.



Index map of South Dakota showing the location of Aurora County



Publication Date: August 3, 2004