First Occurrence of Aquifer Materials in Yankton County, South Dakota

Department of Environment and Natural Resources
Division of Financial and Technical Assistance
Geological Survey
Aquifer Materials Map 14
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State of South Dakota
M. Michael Rounds, Governor

South Dakota Geological Survey
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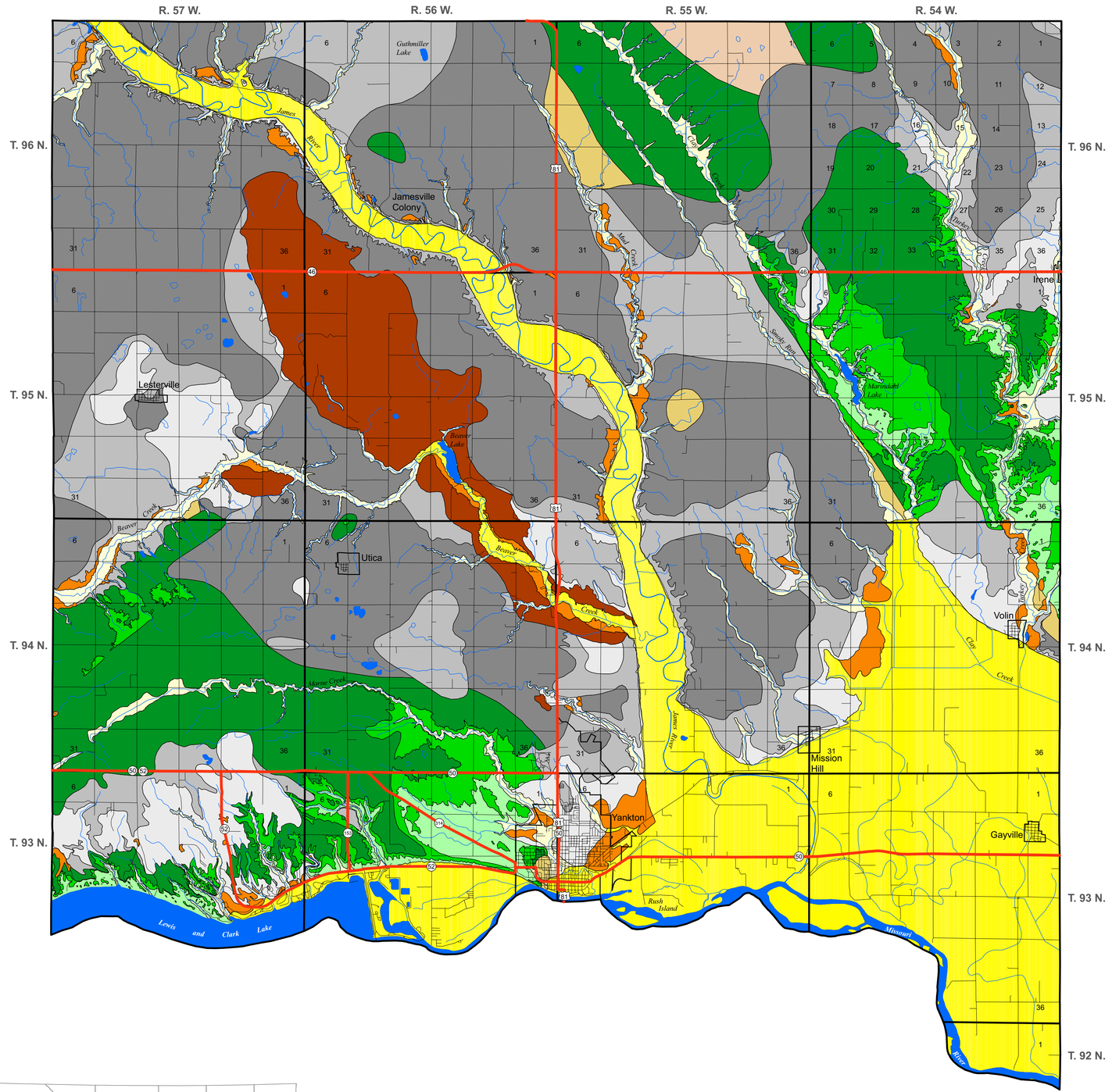


Explanation

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 that, in general, directly overlie a major aquifer
- **Alluvium:** Consists of clay and silt with minor amounts of sand and gravel that, in general, **do not** directly overlie a major aquifer
- **Sand and Gravel:** First occurrence is generally at land surface
- **Sand and Gravel:** First occurrence is generally at land surface. Varies from sandy clay to clayey sand and gravel.
- **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:** Consists of calcareous marl and chalky limestone

First occurrence is generally greater than 50 feet and less than or equal to 100 feet below land surface

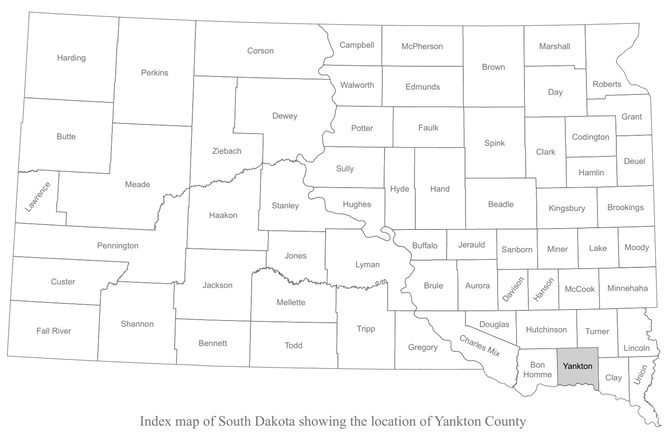
- **Sand and Gravel:** May not be uniform in depth and thickness and may be discontinuous in lateral extent
- **Niobrara Formation:** Consists of calcareous marl and chalky limestone

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
- **Tertiary Undifferentiated:** Consists of clay, silt, and fine sand. May not be uniform in depth and may be discontinuous in lateral extent.
- **Niobrara Formation:** Consists of calcareous marl and chalky limestone
- **Dakota Formation:** Consists of interbedded siltstone, sandstone, and shale

- Major highway
- Road
- Township boundary
- River or stream
- Lake
- Slough or intermittent lake

For township section numbering system, see T. 96 N., R. 54 W.



Index map of South Dakota showing the location of Yankton County

Scale: 1:100,000

0 1 2 3 4 5 6 Miles

0 1 2 3 4 5 6 Kilometers

N
W E
S

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

Bugliosi, E.F., 1983, *Major aquifers in Yankton County, South Dakota:* South Dakota Geological Survey Information Pamphlet 28, 7 p.

_____1986, *Water resources in Yankton County, South Dakota:* U.S. Geological Survey Water-Resources Investigations Report 84-4241, 41 p.

Simpson, H.E., 1960, *Geology of the Yankton area South Dakota and Nebraksa:* U.S. Geological Survey Professional Paper 328, 124 p.

South Dakota Geological Survey, Lithologic logs database

Tomhave, D.W., and Hammond, R.H., 1987, *Sand and gravel resources in Yankton County, South Dakota:* South Dakota Geological Survey Information Pamphlet 27, 47 p.

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.

Publication Date: May 19, 2003