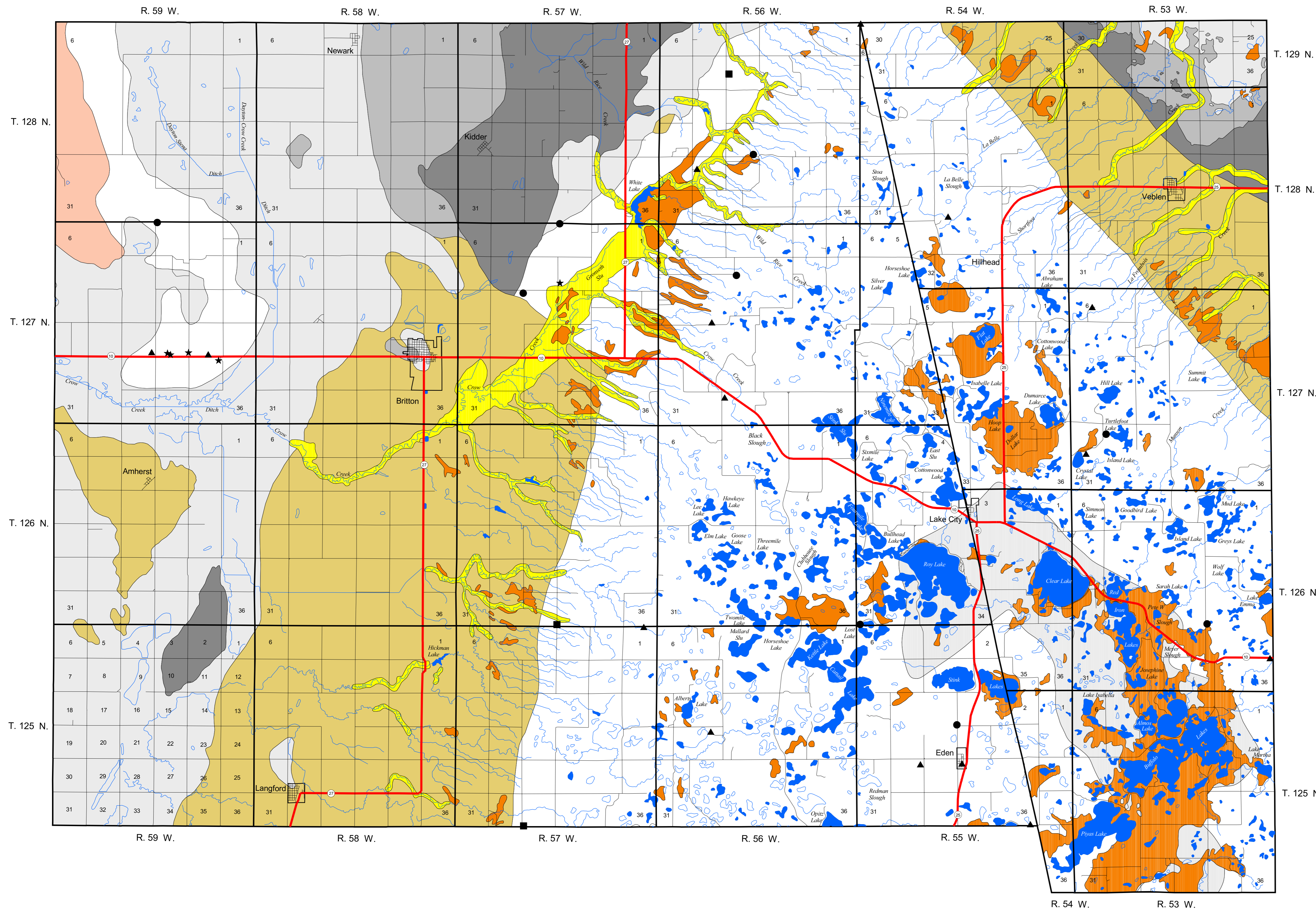


First Occurrence of Aquifer Materials in Marshall County, South Dakota

Department of Environment and Natural Resources
Division of Financial and Technical Assistance
Geological Survey
Aquifer Materials Map 3
Ann R. Jensen, 2001

State of South Dakota
William J. Janklow, Governor

South Dakota Geological Survey
Derric L. Iles, State Geologist



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
- Eolian Sand:** Windblown; occurs at land surface
- 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.

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

First occurrence is generally greater than 100 feet below land surface

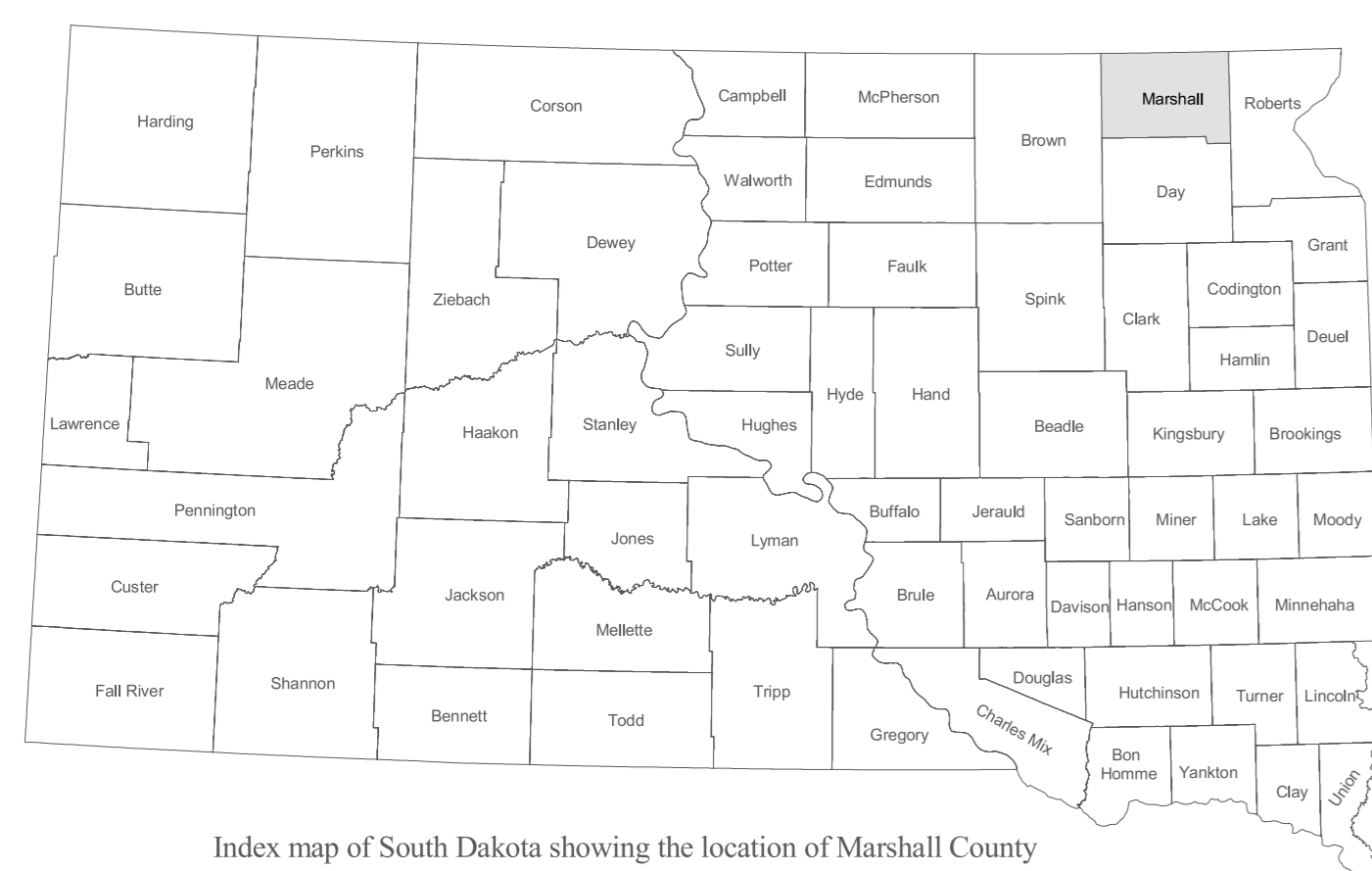
- Sand and Gravel:** May not be uniform in depth and thickness and may be discontinuous in lateral extent
- Dakota Formation:** Consists of interbedded siltstone, sandstone, and shale

Area where aquifer material may be present in glacial deposits overlying the bedrock, but insufficient data are available to delineate mappable units. Data points have been plotted to show availability of information. Dakota Formation underlies this entire area.

- Data point where the first occurrence of aquifer material is generally less than or equal to 50 feet below land surface.
- Data point where the first occurrence of aquifer material is generally greater than 50 feet and less than or equal to 100 feet below land surface.
- Data point where the first occurrence of aquifer material is generally greater than 100 feet below land surface.
- Data point which shows no aquifer material between land surface and the bedrock surface.

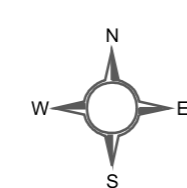
- Major highway
- Road
- Township boundary
- River or stream
- Lake
- Slough or intermittent lake

For township section numbering system, see T. 125 N., R. 59 W.



Index map of South Dakota showing the location of Marshall County

Scale 1:100,000



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

Koch, N.C., 1972, *Major aquifers and sand and gravel resources in Marshall County, South Dakota*: South Dakota Geological Survey Water-Information Pamphlet 1, 9 p.

Koch, N.C., 1975, *Geology and water resources of Marshall County, South Dakota: Part 1: Geology and water resources*: South Dakota Geological Survey Bulletin 23, 76 p.

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.