

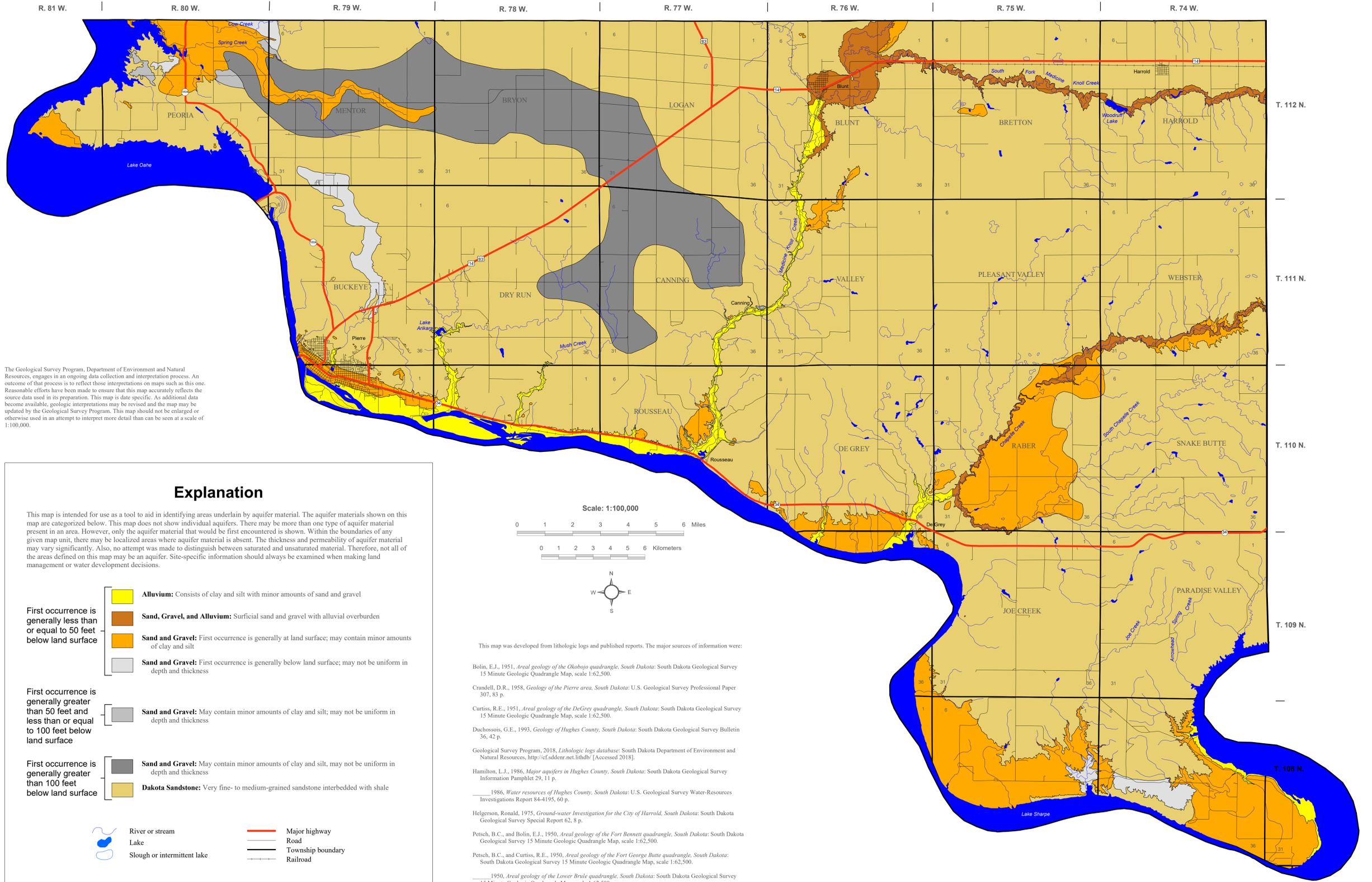
First Occurrence of Aquifer Materials in Hughes County, South Dakota



Department of Environment and Natural Resources
 Division of Financial and Technical Assistance
 Geological Survey Program
 Aquifer Materials Map 38
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State of South Dakota
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The Geological Survey Program, 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 Program. This map should not be enlarged or otherwise used in an attempt to interpret more detail than can be seen at a scale of 1:100,000.

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.

- Alluvium:** Consists of clay and silt with minor amounts of sand and gravel
 - Sand, Gravel, and Alluvium:** Surficial sand and gravel with alluvial overburden
 - Sand and Gravel:** First occurrence is generally at land surface; may contain minor amounts of clay and silt
 - Sand and Gravel:** First occurrence is generally below land surface; may not be uniform in depth and thickness
 - Sand and Gravel:** May contain minor amounts of clay and silt; may not be uniform in depth and thickness
 - Dakota Sandstone:** Very fine- to medium-grained sandstone interbedded with shale
- River or stream
 - Lake
 - Slough or intermittent lake
 - Major highway
 - Road
 - Township boundary
 - Railroad

Scale: 1:100,000



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

Bolin, E.J., 1951, *Areal geology of the Okobojo quadrangle, South Dakota*: South Dakota Geological Survey 15 Minute Geologic Quadrangle Map, scale 1:62,500.

Crandell, D.R., 1958, *Geology of the Pierre area, South Dakota*: U.S. Geological Survey Professional Paper 307, 83 p.

Curtiss, R.E., 1951, *Areal geology of the DeGrey quadrangle, South Dakota*: South Dakota Geological Survey 15 Minute Geologic Quadrangle Map, scale 1:62,500.

Duchossois, G.E., 1993, *Geology of Hughes County, South Dakota*: South Dakota Geological Survey Bulletin 36, 42 p.

Geological Survey Program, 2018, *Lithologic logs database*: South Dakota Department of Environment and Natural Resources, <http://cf.sddenr.net/litdb/> [Accessed 2018].

Hamilton, L.J., 1986, *Major aquifers in Hughes County, South Dakota*: South Dakota Geological Survey Information Pamphlet 29, 11 p.

_____, 1986, *Water resources of Hughes County, South Dakota*: U.S. Geological Survey Water-Resources Investigations Report 84-4195, 60 p.

Heigerson, Ronald, 1975, *Ground-water investigation for the City of Harrold, South Dakota*: South Dakota Geological Survey Special Report 62, 8 p.

Petsch, B.C., and Bolin, E.J., 1950, *Areal geology of the Fort Bennett quadrangle, South Dakota*: South Dakota Geological Survey 15 Minute Geologic Quadrangle Map, scale 1:62,500.

Petsch, B.C., and Curtiss, R.E., 1950, *Areal geology of the Fort George Butte quadrangle, South Dakota*: South Dakota Geological Survey 15 Minute Geologic Quadrangle Map, scale 1:62,500.

_____, 1950, *Areal geology of the Lower Brule quadrangle, South Dakota*: South Dakota Geological Survey 15 Minute Geologic Quadrangle Map, scale 1:62,500.

Rich, T., 2012, *First occurrence of aquifer materials in Hyde County, South Dakota*: South Dakota Geological Survey Aquifer Materials Map 33, scale 1:100,000.

Tomhave, D.W., 1986, *Sand and gravel resources in Hughes County, South Dakota*: South Dakota Geological Survey Information Pamphlet 30, 85 p.

Tomhave, D.W., and Schulz, L.D., 2004, *Bedrock geologic map showing configuration of the bedrock surface in South Dakota east of the Missouri River*: South Dakota Geological Survey General Map 9, scale 1:500,000.

Water Rights Program, 2018a, *Water rights database*: South Dakota Department of Environment and Natural Resources, <http://denr.sd.gov/des/wr/dbwsearch.aspx> [Accessed 2018].

_____, 2018b, *Water well completion reports database*: South Dakota Department of Environment and Natural Resources, <http://arcgis.sd.gov/server/denr/wellLogs/default.aspx> [Accessed 2018].



Index map of South Dakota showing the location of Hughes County

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Township section numbering system