AREAL GEOLOGY OF MITCHELL COUNTY, KANSAS

State Geological Survey of Kansas

By Warren G. Hodson
1957

Bulletin 140

Plate 1

R. 10 W. R. 9 W. R. 8 W. R. 7 W. R. 6 W.

T. 6 S. T. 7 S. T. 8 S. T. 9 S.

CAWKER CITY GLEN ELDER SOLOMON RAPIDS BELOIT SCOTTSVILLE ASHERVILLE SIMPSON TIPTON VICTOR HUNTER

U.S. 24 Kan. 9 Kan. 128 Kan. 14 Kan. 181 M.O. PAC. R.R. U.P. R.R.

EXPLANATION

QUATERNARY

PLEISTOCENE

Alluvium
Unconsolidated sand, gravel, silt, and clay of Recent age. Underlies Recent flood plain in stream channels. Dashed lines indicate minor terrace scarps. Yields moderate quantities of water to wells along Solomon Valley and smaller quantities along tributary valleys.

Terrace deposits
Unconsolidated sand and gravel grading upward into clay and silt of late Wisconsinan age. Underlie terraces in valleys of larger streams. Yield moderate quantities of water to wells along Solomon Valley and smaller quantities along tributary valleys.

Peoria and Loveland Formations of Sanborn Group
Silt and sandy silt, mostly eolian, of Wisconsinan and Illinoian age. Blanket much of the upland. Include colluvium in upland draws. Yield little or no water to wells.

Crete Formation
Remnants of alluvial deposits consisting of sand, gravel, and silt of Illinoian age in a high terrace position along Solomon Valley and its major tributaries. Yields no water to wells.

CRETACEOUS

GULFIAN

Fort Hays Limestone member of Niobrara Formation
Massive beds of cream-colored chalky limestone separated by thin partings of chalky shale. Forms prominent buttes. Yields no water to wells.

Carlile Shale
Gray to black shale containing large septarian concretions near top and thin silty sandstone (Codell Sandstone zone) at top. Lower part consists of alternating beds of chalky shale and thin chalky limestone. Yields no water to wells.

Greenhorn Limestone
Alternating beds of calcareous shale and chalky limestone. Contains thin bentonite beds; thin bed of hard crystalline limestone at base. Yields meager to small quantities of water of variable quality from place to place.

Graneros Shale
Dark-blue-gray shale that weathers gray and tan. Locally contains thin layers of bentonite and thin lenses of silty red-brown sandstone. Yields little or no water to wells.

Dakota Formation
Clay, shale, siltstone, and sandstone. Contains lignite and "ironstones". Yields small to moderate quantities of water, potable in eastern part of county, too mineralized for use in central and western parts.

Federal or state highway
Township or county road
Section line (no road)
Railroad
Perennial stream
Intermittent stream

Base compiled from maps prepared by the Soil Conservation Service

Drainage from map prepared by U. S. Dept. of Agriculture

0 1 2 3 4
Scale, in miles