KANSAS GEOLOGICAL SURVEY
THE UNIVERSITY OF KANSAS
MAP M-55

KANSAS GEOLOGICAL SURVEY
The University of Kansas

GEOLOGIC MAP OF JEFFERSON COUNTY, KANSAS

Geology by John D. Winslow
Kansas Geological Survey (1972)

Geologic formation boundaries adjusted by Elizabeth C. Crouse, David R. Collins, and Jorgina A. Ross to fit 1:24,000 topographic base of the U.S. Geological Survey

2007

Computer compilation
and cartography by
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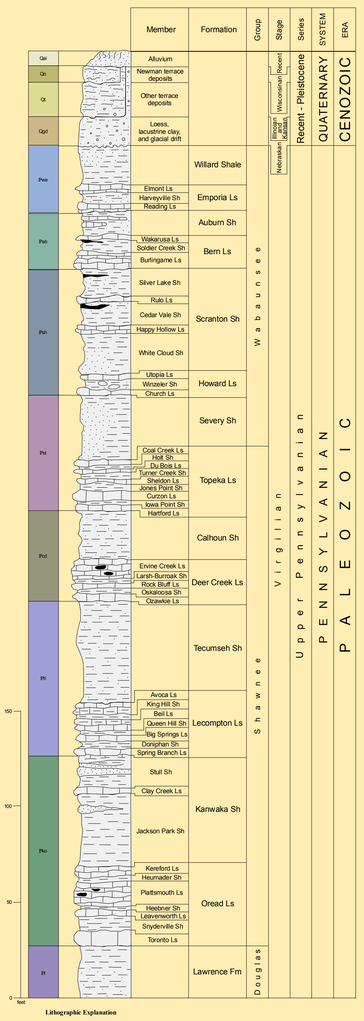


Lithographic Explanation

Shale or claystone · Gravel · Coal beds
Sandstone or sand · Limestone · Concretion
Siltstone · Chert

Transportation

1 - Interstate highway*
2 - Federal highway
3 - State highway
4 - Medium-duty primary road
5 - Medium-duty secondary road
6 - Light-duty secondary road
7 - Railroad
* Does not appear on this map

Boundaries and Locations

1 - County line
2 - Township/Range line
3 - Section line
4 - County seat
5 - City
6 - Locality
7 - City boundary

Hydrology and Topography

1 - Stream
2 - Areal hydrology
3 - Dam
4 - Elevation contours (50-meter interval)
5 - Elevation contours (10-meter interval)

Geologic Unit Boundaries

1 - Observed contact
2 - Inferred contact

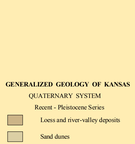
Townships

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

Diagram of a township showing numbering of sections

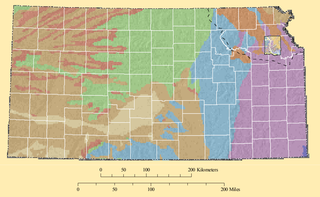
Index Reference Features

1 - 1:24,000 map edge
2 - Line of cross section



Convergence (GN) and 2007 magnetic declination (MN) at center of map
Diagram is approximate

LOCATION DIAGRAM
1:5,000,000

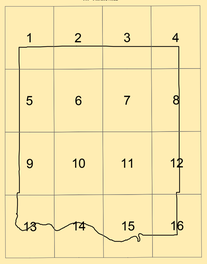


GENERALIZED GEOLOGY OF KANSAS

QUATERNARY SYSTEM
Recent - Pleistocene Series
Loess and river-valley deposits
Sand dunes
Glacial-drift deposits
Limit of Kansan Glaciation
TERTIARY SYSTEM
Pliocene Series
Ogallala Fm
CRETACEOUS SYSTEM
PERMIAN SYSTEM
PENNSYLVANIAN SYSTEM
MISSISSIPPIAN SYSTEM

Index to 1:24,000-scale maps
PR - Pleistocene

1 Arrington - 1960 (78 PR)
2 Half Mound - 1959 (79 PR)
3 Nortonville - 1960 (79 PR)
4 Porter - 1960 (79 PR)
5 Holton SE - 1960 (78 PR)
6 Valley Falls - 1959 (79 PR)
7 Winchester - 1959 (79 PR)
8 Easton SW - 1961 (79 PR)
9 Meriden - 1952 (75 PR)
10 Ozawkie - 1951 (75 PR)
11 Oskaloosa - 1951 (79 PR)
12 McLouth - 1950 (79 PR)
13 Grantville - 1950 (75 PR)
14 Perry - 1949 (75 PR)
15 Williamstown - 1949 (78 PR)
16 Midland - 1950 (78 PR)



CONVERSION TABLE

	feet	meters	kilometers	miles
feet	1	0.3048	0.0003	0.00019
meters	3.2808	1	0.001	0.00062
kilometers	3280.8	1000	1	0.6214
miles	5280	1609.4	1.6094	1

To convert feet to meters multiply by 0.3048
To convert meters to feet multiply by 3.2808
To convert kilometers to miles multiply by 0.6214
To convert miles to kilometers multiply by 1.6094

Scale 1:50,000

Lambert Conformal Conic Projection
with standard parallels at 33° and 45°
North American Datum of 1927

1 0.5 0 1 2 3
Kilometers
1 0.5 0 1 2 3
Miles

Adjustment Technique

This map is based on interpretation of Winslow (1972). Field work for the original map was done in the late 1960's without the benefit of modern topographic and base maps. The techniques for developing this updated version – a process that simply adjusts the original geologic data to fit modern topographic maps – were described by Ross (1996), Collins (1997) and by Ross and Collins (1997). Topographic maps at a scale of 1:24,000 were used as base maps in the process, which included reference to other sources and limited field checking. Geologic information and critical map points were transferred from the original geologic map to a modern 1:24,000-scale topographic base. The 1:24,000-scale outcrop patterns were then derived, and the resulting data digitized into databases using standard methodology.

References

Collins, D. R., 1997, Mining information from published geologic maps (an extractive industry); *in*, Digital Mapping Techniques '97 – Proceedings of a Workshop on Digital Mapping Techniques: Methods for Geologic Map Data Capture, Management, and Publication, D. R. Soller, ed.; U.S. Geological Survey, Open-file Report 97-269, p. 47-50.

Ross, J. A., 1996, Compilation of digital geologic map data at the Kansas Geological Survey – Report to the Working Group on Data Capture, Digital Geologic Map Standards Committee, American Association of State Geologists and United States Geological Survey: Kansas Geological Survey, Open-file Report 96-58, 29 p.

Ross, J. A., and Collins, D. R., 1997, Information capture from previously published maps; *in*, Digital Mapping Techniques '97 – Proceedings of a Workshop on Digital Mapping Techniques: Methods for Geologic Map Data Capture, Management, and Publication, D. R. Soller, ed.; U.S. Geological Survey, Open-File Report 97-269, p. 51-56.

Winslow, J. D., 1972, Generalized Geologic Map and Section of Jefferson County, Kansas; *in*, Geohydrology of Jefferson County, Northeastern Kansas: Kansas Geological Survey, Bulletin 202, part 4, plate 1, scale = 1:62,500.

Elevation contours are presented for general reference. They are taken from U.S. Geological Survey Digital Line Graph (DLG) files compiled from base maps at a scale of 1:100,000. In some places the contours from the DLG's may be more generalized than the base maps used for compilation of geologic outcrop patterns. Outcrop patterns on the map will typically reflect topographic variation more accurately than the associated contour lines. Repeated fluctuation of an outcrop line across a contour line should be interpreted as an indication that the mapped rock unit is maintaining a relatively constant elevation along a generalized contour.

Roads and highways shown on the base map as represented by data from the Kansas Department of Transportation (KDOT), TeleAtlas, and other sources. U.S. Department of Agriculture – Farm Services Agency (USDA-FSA) National Agriculture Imagery Program (NAIP) imagery also was used to check road locations.

Shaded relief is based on U.S. Geological Survey digital elevation model (DEM) with 1/3 arc-second resolution. The 1/3 arc-second data, in ESRI GRID format, were converted to a hillshade, a multidirectional shaded-relief image using angles of illumination from 0°, 225°, 270°, and 315° azimuths, each 45° above the horizon, with a 4x vertical exaggeration.

This map was produced using the ArcGIS system developed by ESRI (Environmental Systems Research Institute, Inc.).

The Kansas Geological Survey does not guarantee this map to be free from errors or inaccuracies and disclaims any responsibility or liability for interpretations made from the map or decisions based thereon.

Suggested reference to this map:

Winslow, J. D. [1972] 2007, Geologic map of Jefferson County, Kansas; geologic formation boundaries adjusted by E. C. Crouse, D. R. Collins, and J. A. Ross to fit 1:24,000 topographic base of the U.S. Geological Survey: Kansas Geological Survey, Map M-55, scale 1:50,000, revised from Kansas Geological Survey, Bulletin 202, part 4, plate 1.

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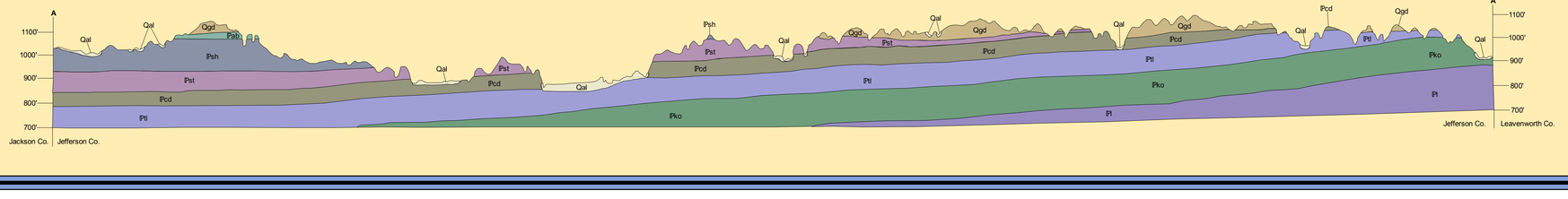

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