KANSAS GEOLOGICAL SURVEY
THE UNIVERSITY OF KANSAS
MAP M-102

GEOLOGIC MAP OF OSBORNE COUNTY, KANSAS

2006

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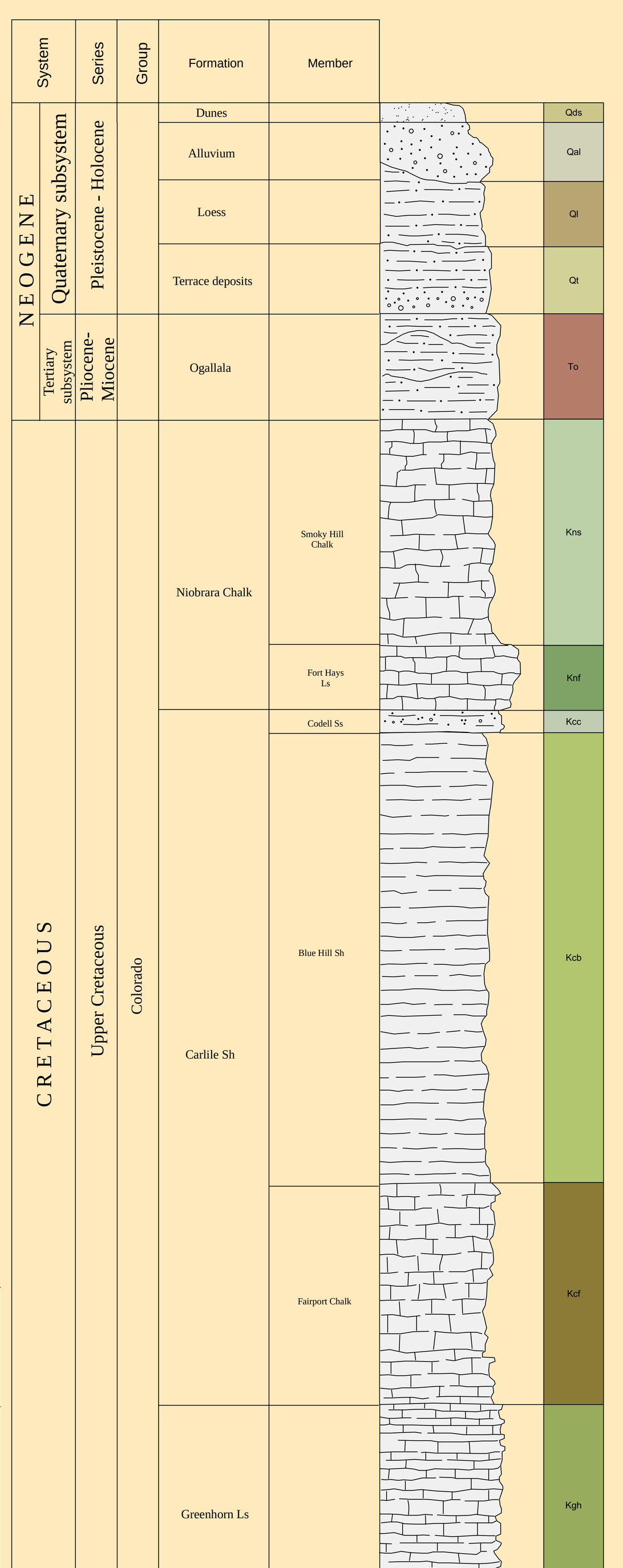
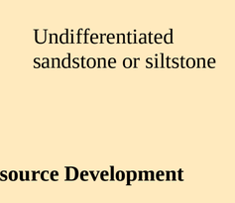


Kcc (Codell Sandstone Member)-This thin (~30cm) unit is located beneath a more resistant Knf (Fort Hays Limestone Member), and is not readily visible in the 'map view' elsewhere.

Lithographic Explanation

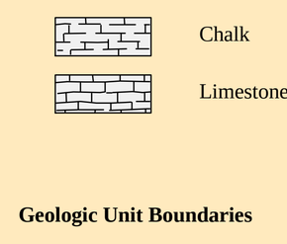
- Sand and gravel, conglomerate, or "mortar beds"
- Sandstone or sand
- Undifferentiated sandstone or siltstone
- Shale or claystone
- Chalk
- Limestone

Resource Development



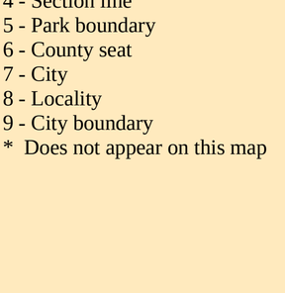
1 - Quarry
2 - Abandoned quarry*
3 - Pit
4 - Oil wells*
5 - Gas wells*
6 - Water wells*
c - coal*
g - gravel*
s - sand
ca - caliche*
ch - chalk*
sh - shale*
si - silica*
* Does not appear on this map

Geologic Unit Boundaries



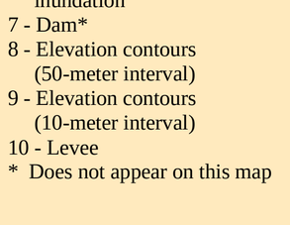
1 - Observed contact
2 - Observed contact (Change of facies)*
3 - Inferred contact*
4 - Inferred contact (Change of facies)*
5 - Concealed contact*
* Does not appear on this map

Boundaries and Locations



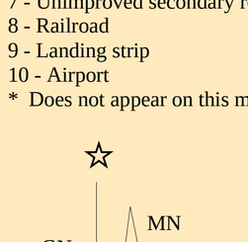
1 - State line*
2 - County line
3 - Township/Range line
4 - Section line
5 - Park boundary
6 - County seat
7 - City
8 - Locality
9 - City boundary
* Does not appear on this map

Hydrology and Topography

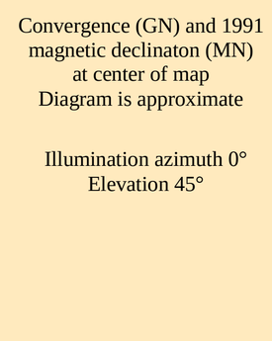


1 - Intermittent stream
2 - Perennial stream
3 - Canal
4 - Abandoned canal*
5 - Areal hydrology
6 - Land subject to inundation
7 - Dam*
8 - Elevation contours (50-meter interval)
9 - Elevation contours (10-meter interval)
10 - Levee
* Does not appear on this map

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 - Unimproved secondary road
8 - Railroad
9 - Landing strip
10 - Airport
* Does not appear on this map



Convergence (GN) and 1991 magnetic declinaton (MN) at center of map
Diagram is approximate

Illumination azimuth 0°
Elevation 45°

Index Reference Features

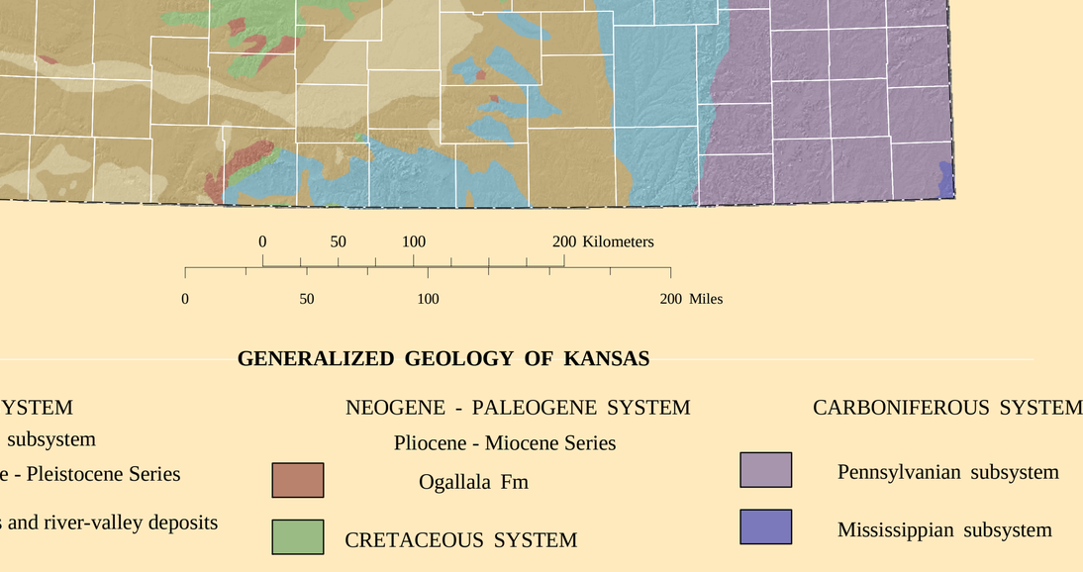
1 - 1:24,000 map edge
2 - Line of cross section*
* Does not appear on this map

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

LOCATION DIAGRAM
1:5,000,000



GENERALIZED GEOLOGY OF KANSAS

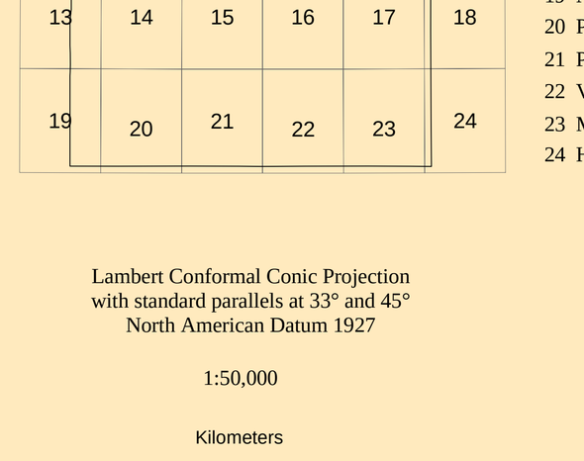
NEOGENE SYSTEM
Quaternary subsystem
Holocene - Pleistocene Series
- Loess and river-valley deposits
- Sand dunes
- Glacial-drift deposits
- Limit of Kansan Glaciation

NEOGENE - PALEOGENE SYSTEM
Pliocene - Miocene Series
- Ogallala Fm
- CRETACEOUS SYSTEM
- PERMIAN SYSTEM

CARBONIFEROUS SYSTEM
- Pennsylvanian subsystem
- Mississippian subsystem

Index to 1:24,000 scale maps

PR - Photorevised
PI - Photoinspected



1 Kirwin SE- 1961
2 Gaylord SW- 1961
3 Harlan- 1961
4 Portis- 1961
5 Downs North- 1960 (PR 1980)
6 Cawker City- 1962 (PR 1980)
7 Woodston- 1953 (PR 1979)
8 Alton- 1953 (PR 1979)
9 Bloomington- 1953 (PR 1979)
10 Osborne- 1953 (PR 1979)
11 Downs South- 1953 (PR 1979)
12 Mill Creek- 1953 (PR 1979)
13 Laton- 1978
14 Alton SW- 1978
15 Covert- 1978
16 Osborne SW- 1978
17 Osborne SE- 1978
18 Tipton- 1978
19 Natoma- 1978
20 Paradise NW- 1978
21 Paradise NE- 1978
22 Vincent- 1978
23 Meades Ranch- 1978
24 Hunter- 1967

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

1:50,000

Kilometers
1 0.5 0 1 2 3

Miles
1 0.5 0 1 2 3

Elevation contours are presented for general reference. They are taken from USGS 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.

The geology was mapped in the field using USGS 7.5-min 1:24,000-scale topographic maps.

Roads and highways are shown on the base map as represented by data in the Kansas Cartographic Database. These data are derived primarily from USGS 7.5-min 1:24,000-scale topographic maps. As accurate data are acquired, the base map will be revised to reflect new highway construction not yet represented on USGS maps.

Shaded relief is based on U.S Geological Survey digital elevation model (DEM) data with 1 arc-second resolution. The 1 arc-second data, in ESRI GRID format, were converted to a hillshade, which was then resampled to approximately 1/6 arc-second and smoothed using cubic convolution, with each cell value based on fitting a smooth curve through the 16 nearest input cell centers

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

Suggested reference to this map:
Neuhauser, K. R., 2006, Geologic Map of Osborne County, Kansas: Kansas Geological Survey, Map M-102, scale 1:50,000.

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