

# PRELIMINARY SURFICIAL GEOLOGY OF THE WEST OF COPELAND QUADRANGLE, HASKELL COUNTY, KANSAS

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2013

Computer compilation and cartography by John W. Dunham

Funded in part by the  
USGS National Cooperative  
Geologic Mapping Program

Units and Descriptions from  
McLaughlin (1946) and field notes.

## CENOZOIC ROCKS

### Quaternary

**Qp Upland intermittent lake (playa) deposits**

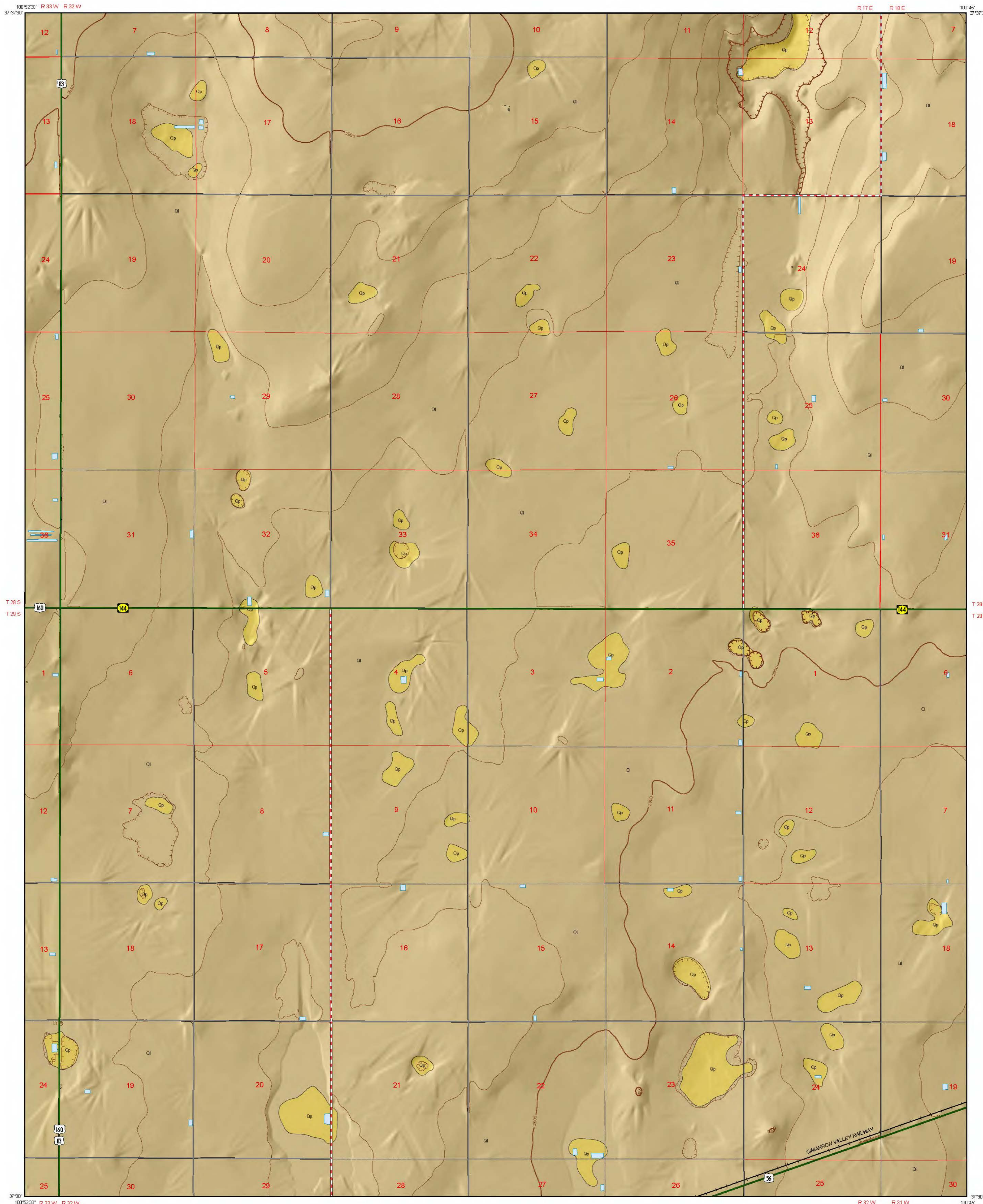


Shallow basins developed in upland loess deposits filled with silt and fine sand up to 5 feet thick. A carbonate layer may be present in larger basins.

**Ql Loess**



Wind-deposited silt with minor amounts of clay and fine sand which mantles the uplands of the county. Pleistocene to late Holocene in age and up to 30 feet thick.



Elevation contours are presented for general reference. They are generated from U.S. Geological Survey National Elevation Dataset (NED) digital elevation models (DEMs) with 1/3 arc-second resolution, which are in turn generated from high-resolution elevation data and other USGS DEMs. In some places the contours may be more generalized than the base map 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.

Geology was mapped in the field using a USGS 7.5-minute 1:24,000-scale topographic map.

Roads and highways are 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 geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program, award number G12AC20279 (FY2012).

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

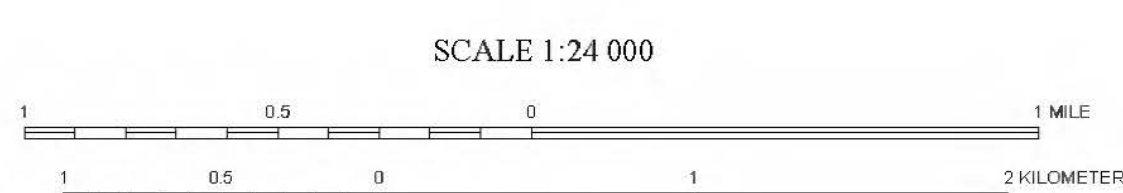
This map is a preliminary product and has had less scientific and cartographic review than the Kansas Geological Survey's M-series geologic maps. KGS does not guarantee this map to be free from errors or inaccuracies and disclaims any responsibility or liability for interpretations made from the map or decisions based thereon.

### CITED REFERENCE

McLaughlin, T.G., 1946, Geology and ground-water resources of Grant, Haskell, and Stevens counties, Kansas, with analyses by H.A. Stoltenberg; Kansas Geological Survey, Bulletin, no. 61, 221 p.

### SUGGESTED REFERENCE TO THE MAP

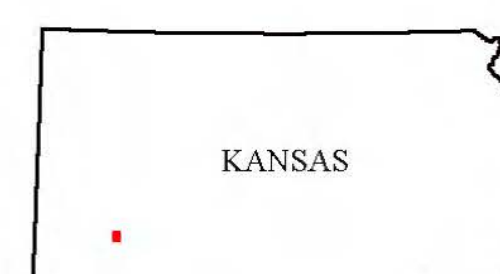
Smith, Jon J., 2013, Preliminary surficial geology of the West of Copeland quadrangle, Haskell County, Kansas; Kansas Geological Survey, Open-file Report 2013-5, scale 1:24,000, unpublished.



UNIVERSAL TRANSVERSE MERCATOR PROJECTION, ZONE 14  
NORTH AMERICAN DATUM OF 1983



APPROXIMATE MEAN DECLINATION, 2013



### QUADRANGLE LOCATION

West of Wild Horse Lake	Wild Horse Lake	Copeland NW
North of Statute	West of Copeland	Copeland
Statute	Statute	Plains NW

ADJOINING 7.5' QUADRANGLES

## EXPLANATION

### Boundaries and Locations

Township/range line

Section line

### Transportation

U.S. highway

State highway

Medium-duty secondary road

Light-duty road

Unimproved road

### Geologic Unit Boundaries

Observed contact

### Hydrology and Topography

Water body

Elevation contour (50-foot interval)

Elevation contour (10-foot interval)

Depression contour (50-foot interval)

Depression contour (10-foot interval)