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Jan. 15, 2010  
 Contact: Bill Johnson, Department of Geography, (785) 864-5548

### Geologic map of Ford County now available

LAWRENCE — The surface geology of Ford County in southwestern Kansas is featured on a new full-color map available from the Kansas Geological Survey, based at the University of Kansas.

#### More Information

[Kansas Geological Survey](#)

Geologic maps show the type and age of rock layers found at the surface or immediately under the vegetation and soil. This is the first new geologic map of Ford County, whose county seat is Dodge City, since 1942. It was produced by William Johnson, professor of geography, and graduate student Terri Woodburn.

Surface geology in Ford County includes formations deposited from about 70 million to less than 1,000 years ago. Loess, or wind-blown silt, deposited within the last 100,000 years covers much of the county's surface.

Sand dunes, sand sheets and alluvial deposits are located along the Arkansas River. Sand and gravel from the alluvial deposits are used for road surfacing and concrete construction.

"Sand sheets and dunes along the south side of the Arkansas River floodplain were derived by the wind from an underlying ancient floodplain," Johnson said. "That sandy floodplain was deposited during the coldest part of the last ice age, about 15,000 to 20,000 years ago."

Dakota sandstone, the oldest rocks found at the surface in the county, and the slightly younger Greenhorn Limestone crop out mainly along the north-central Saw Log Creek and north of the Arkansas River near the town of Ford. They have historically been quarried for buildings and bridges but are now largely used for road material. The fossil clam *Inoceramus* is common in the Greenhorn.

The Arkansas River, which crosses the county generally west to east, has been mostly dry for the last three decades because of decreases in ground water levels in the underlying High Plains aquifer. Water from the aquifer seeps into the river when levels are higher. The aquifer is the major source of water in western Kansas.

Outcrops of the Ogallala Formation, adjacent to river and creek valleys in the northern half of the county, are locally known as mortar beds. The formation is made up of silt, sand, gravel and clay transported in by streams from the Rocky Mountains about 5 million years ago and underlies much of the county. The water-bearing portion of the formation, called the Ogallala aquifer, is part of the High Plains aquifer system.

Playa lakes, transient wetlands fed only by precipitation and runoff, are scattered on the uplands throughout the county. When wet, the small, shallow basins also known as lagoons or buffalo wallows help recharge the High Plains aquifer and provide refuge for local and migratory wildlife.

In addition to rock units and relief, the map shows towns, roads — from federal highways to unimproved roadways — ponds and streams, clay pits and limestone quarries and elevation contours at 10-meter intervals.

Drawn in full-color to differentiate rock layers, the computer-generated geologic map features shaded relief that give the map a three-dimensional look and emphasizes the landscape's topography. The map is at a scale of 1:50,000 so that one inch on the map equals about 3/4 mile of actual distance.

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Besides the map, the 60-inch by 50-inch sheet contains an illustrated rock column, which classifies rock units on the map, and a description of each unit.

Copies of the Ford County map are available from the Kansas Geological Survey, 1930 Constant Ave., Lawrence, KS 66047-3724 or by calling (785) 864-3965 or e-mailing [pubsales@kgs.ku.edu](mailto:pubsales@kgs.ku.edu). Maps also are available at 4150 Monroe St., Wichita, KS 67209 or by calling (316) 943-2343. The cost is \$15 plus shipping and handling and, for Kansas residents, sales tax. More information about the maps and other products is available at the Kansas Geological Survey's web site, [www.kgs.ku.edu](http://www.kgs.ku.edu).

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