

OKLAHOMA GEOLOGICAL SURVEY Charles J. Mankin, Director





Base map from a USGS topograhic map of the Foss Reservoir quadrangle, dated 1990. Universal Transverse Mercator projection. 1927 North American Datum. Geology compiled by Robert O. Fay 1996–1997. Geology not field checked. Cartography by M.S. Gregory, 1997. Initial layout by T.W. Furr, 1997, and final layout by G.R. Standridge, 2010. Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program (NCGMP), under 1434–HQ-96-AG-01512. The views and complusions contained in this document are those of the authors and The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government. In 1996–1997, the Watonga and Foss Reservoir quadrangles were compiled to test OGS compilation efforts and digital capabilities for the NCGMP 1:100K-scale digital mapping. The digital maps were never published. Currently underway, the geology is being field checked and new mapping being done, where needed. A preliminary geologic map has been made available until a final map can be published.

> PRELIMINARY GEOLOGIC MAP OF THE FOSS RESERVOIR 30' X 60' QUADRANGLE, BECKHAM, CUSTER, DEWEY, ELLIS, AND ROGER MILLS COUNTIES, OKLAHOMA Compiled Robert O. Fay

SCALE 1:100 000 1 0 1 2 3 4 5 6 7 8 MILES 1 0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

CONTOUR INTERVAL 10 METERS

2010

1	02°	101°	100° 9	9° 91	8° 97	7° 9	6° 95	5°	37°
oise City	Guymon	Beaver	Buffalo	Alva	Ponca City	Pawhuska	Bartlesville	Neosho	
			Woodward	Fairview	Enid	Keystone Lake	Tulsa	Fayetteville	-36°
			Foss Reservoir	Watonga	Oklahoma City North	Bristow	Muskogee	Stilvell	
			Elk City	Anadarko	Oklahoma City South	Shawnee	Eufaula	Fort Smith	35°
			Altus	Lawton	Pauls Valley	Ada	McAlester	Mena	
			Vernon		Ardmore	Tishomingo	Antlers	De Qjeen	
				Wichita Falls	Gainesville	Sherman	Paris	Idabel	
			Map of quadra map	Oklahoma ngles. Red	a showing I shaded qu	the locatio	ons of the represents	30′ X 60′ the current	

Oklahoma Geologic Quadrangle OGQ-78A Preliminary Geologic Map of the Foss Reservoir 30'X 60' Quadrangle

CORRELATION OF UNITS



DESCRIPTION OF UNITS



TERRACE DEPOSITS—Unconsolidated sand, silt, clay, gravel, and volcanic ash above modern flood plains

OGALLALA FORMATION—Gray to light-brown, fine- to medium-grained sand with some clay, silt, gravel, volcanic ash, and caliche beds; locally cemented by calcium carbonate

DAKOTA GROUP — Outliers of gray to brown, coarse-grained sandstone and conglomerate KIOWAFORMATION—Outliers of dark-gray shale with some thin beds of fossiliferous tan limestone ELK CITY SANDSTONE—Reddish-brown, fine-grained sandstone with minor amounts of siltstone and claystone, weakly cemented by iron oxide, calcium carbonate, and gypsum DOXEY SHALE—Reddish-brown, silty shale and siltstone

CLOUD CHIEF FORMATION—Reddish-brown to orange-brown shale with siltstone and sandstone in middle part and some dolomite and much gypsum in lower part

Prs RUSH SPRINGS FORMATION—Orange-brown, cross-bedded, fine-grained sandstone with some dolomite and gypsum beds

