

# GEOLOGIC MAP OF THE GURDON QUADRANGLE, CLARK COUNTY, ARKANSAS

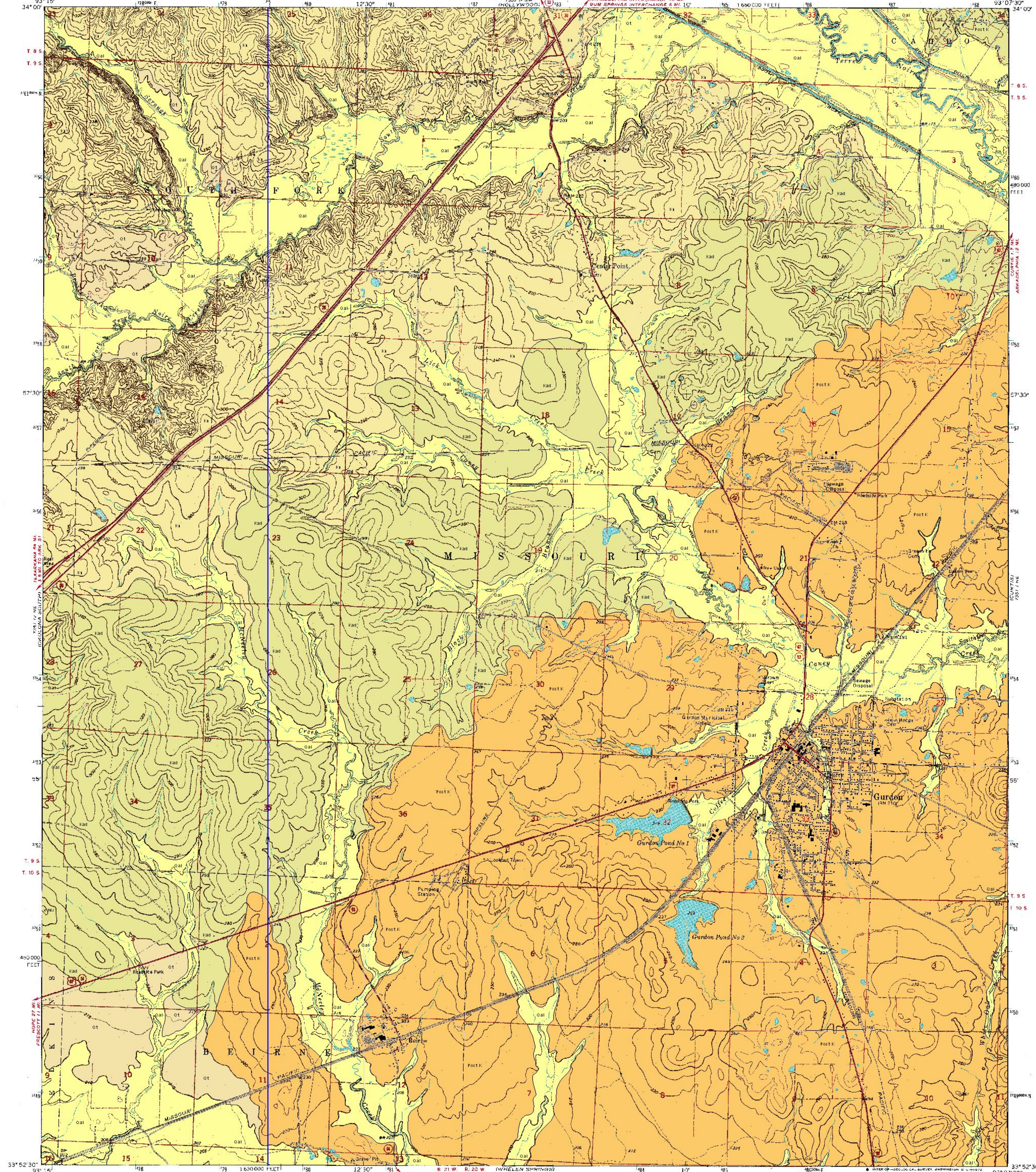
DIGITAL GEOLOGIC QUADRANGLE MAP  
GURDON QUADRANGLE, ARKANSAS  
DGM-AR-00359

Geology by William D. Hanson, Benjamin F. Clardy, and Daniel K. Smith  
Digital compilation by William D. Hanson and Daniel K. Smith  
2001

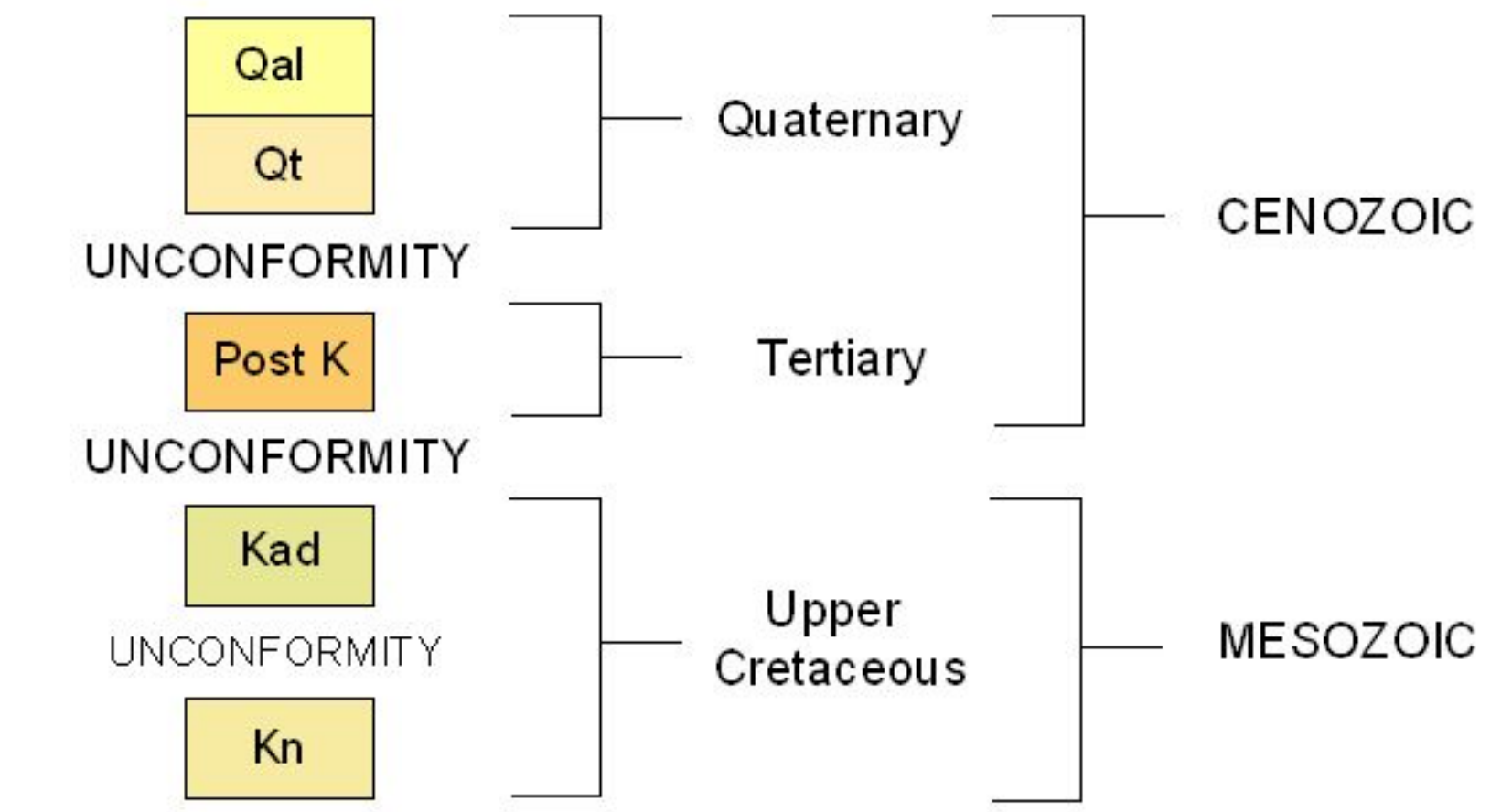
Arkansas Geological Commission, William V. Bush, State Geologist

GURDON QUADRANGLE  
ARKANSAS, CLARK CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY



## CORRELATION OF MAP UNITS



## DESCRIPTION OF MAP UNITS

- Qal Alluvium (Quaternary)** - Variably sized gravel overlain by unconsolidated sand, silt, and clay comprises the unit. This unit occurs in the floodplains of streams and rivers. The sediments form a rich loam and are excellent for agriculture. Gravels, primarily novaculite, originated in the Ouachita Mountain region and from local Cretaceous formations. Thickness varies from 0 to 25 feet. Areas of alluvium are presently receiving sediment deposition.
- Qt Terrace Deposits (Quaternary)** - Terrace deposits generally grade from basal gravel to silt and clay at the top. Gravels, primarily novaculite, originated in the Ouachita Mountain region and from local Cretaceous formations. Thicknesses are generally less than 50 feet. Terraces are topographic features which are former floodplains of nearby streams and/or rivers. The sediments form a rich loamy soil. The basal gravel is sometimes utilized for water-well production and gravel-mining operations.
- Post K Post Cretaceous (Tertiary)** - Undifferentiated units of post Cretaceous age.
- Kad Arkadelphia Marl (Upper Cretaceous)** - The Arkadelphia Marl is a dark-gray to black marl or marly clay. It contains some limy, gray sandstone, gray sandy clay, sandy limestone, concretionary limestone, and white to light brown impure chalk. The sandy marls and limestones are found near the base of the unit, while the impure chinks are found near the top of the unit. The Arkadelphia Marl is approximately 120 to 160 feet thick in the mapped area. The unit strikes to the northeast and has a dip of approximately 80 feet per mile to the southeast in this quadrangle. Fossils found in the Arkadelphia Marl include corals, bivalves, gastropods, cephalopods, shark teeth, reptilian remains, and various microfossils. The unit was deposited in a nearshore marine environment and rests unconformably on top of the Nacatoch Sand.
- Kn Nacatoch Sand (Upper Cretaceous)** - The Nacatoch Sand is composed of unconsolidated, cross-bedded, yellow to orange quartz sand and gray clay. Clays occur interbedded with the sand and as rip-up clasts. The Nacatoch Sand is approximately 300 to 350 feet thick in the mapped area. The unit strikes to the northeast and has a dip of approximately 80 feet per mile to the southeast in this quadrangle. Fossils found in the unit include corals, echinoderms, bryozoa, annelids, bivalves, gastropods, cephalopods, crab remains, and shark teeth. The Nacatoch Sand was deposited in a nearshore marine environment and rests unconformably on top of the Saratoga Chalk (Upper Cretaceous).

## SYMBOLS

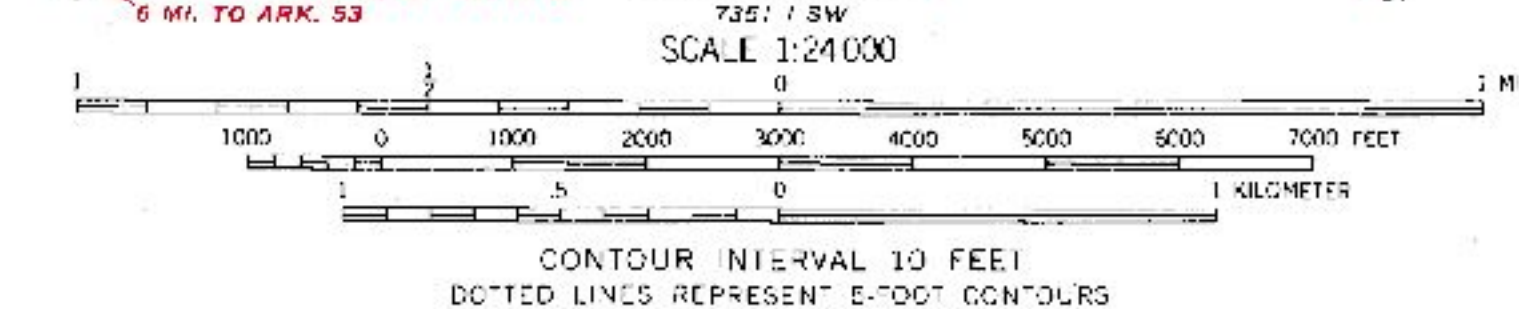
Contacts

## REFERENCES

- Bush, W.V., and Clardy, B.F., 1971, Geologic Map of the Gurdon Quadrangle, Clark County, Arkansas: Arkansas Geological Commission Open-File Report, scale: 1:24,000.
- Dane, C.H., 1929, Upper Cretaceous Formations of Southwestern Arkansas: Arkansas Geological Survey Bulletin 1, 215 p.
- Haley, B.R., Glick, E.E., Bush, W.V., Clardy, B.F., Stone, C.G., Woodward, M.B., Zachry, D.L., 1993, Geologic Map of Arkansas: U.S. Geological Survey Map, [revised from 1978 edition], scale 1:500,000.
- McFarland, John David, 1998, Stratigraphic Summary of Arkansas: Arkansas Geological Commission Information Circular 36, 39 p.

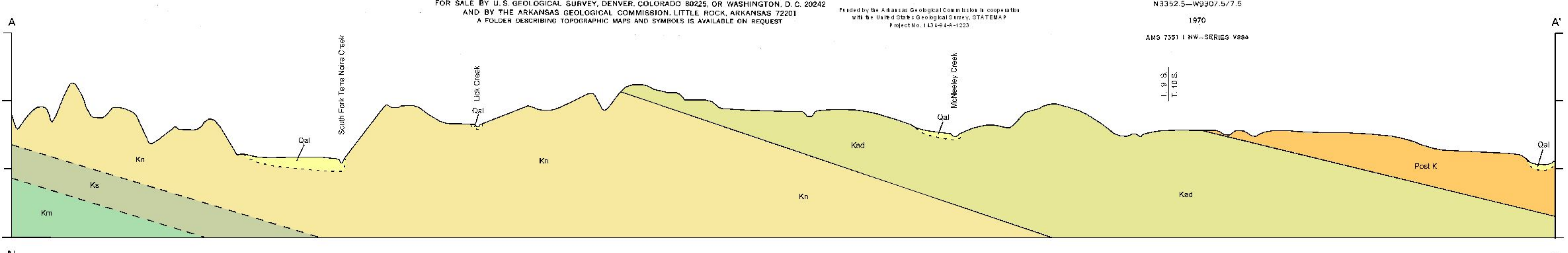
Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS  
Topography by photogrammetric methods from aerial photographs taken 1986. Field checked 1970  
Projection: 1927 North American datum  
10,000-foot grid based on Arkansas coordinate system, south zone  
1:000-meter interval, Transverse Mercator grid cells, zone 15, shown in blue  
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is uncorrected



ROAD CLASSIFICATION  
Primary highway all weather, Light duty road, all weather, hard surface, Improved surface  
Secondary highway, all weather, Unimproved road, fair or dry weather, weather  
Interstate Route, U.S. Route, State Route

GURDON, ARK.  
N33525-W92075/7.5  
1970  
AMD 7351 I NW-SERIES 988A



GEOLOGIC CROSS SECTION A-A'  
Horizontal scale 1" = 200'  
Vertical scale 1" = 100'

