# GEOLOGIC MAP OF THE PRESCOTT EAST QUADRANGLE, CLARK AND NEVADA COUNTIES, ARKANSAS

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Digital compilation by William D. Hanson, Jennifer R. Perkins, and Daniel K. Smith
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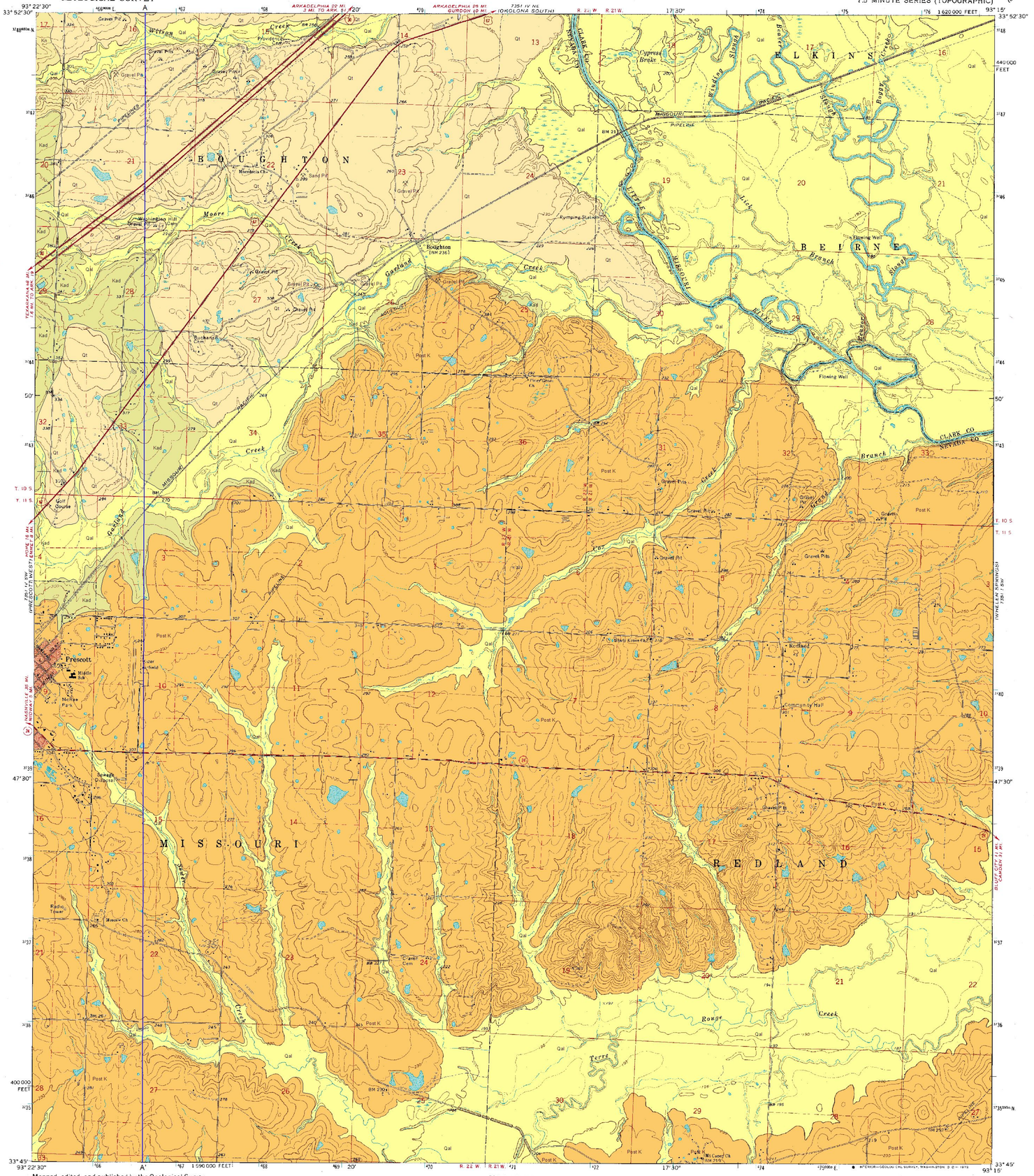
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Arkansas Geological Commission, William V. Bush, State Geologist

PRESCOTT EAST QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)




Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1968. Field checked 1970

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arkansas coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue

Red tint indicates areas in which only landmark buildings are shown

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

UTM GRID AND 1970 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
AND ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72204
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

Funded by the Arkansas Geological Commission in cooperation with the United States Geological Survey, STATEMAP Project No. 1434-94-A-1223

ROAD CLASSIFICATION

Primary highway, all weather, hard surface — Light-duty road, all weather, improved surface
Secondary highway, all weather, hard surface — Unimproved road, fair or dry weather

Interstate Route — U. S. Route — State Route

PRESCOTT EAST, ARK.
N3345—W9315/7.5
1970
AMS 7751 IV SE—SERIES V884

## CORRELATION OF MAP UNITS

| | | |
|---|---|---|
| Qal, Qt | Quaternary | CENOZOIC |
| UNCONFORMITY | | |
| Post K | Tertiary | CENOZOIC |
| UNCONFORMITY | | |
| Kad, Kn | Upper Cretaceous | MESOZOIC |

## DESCRIPTION OF MAP UNITS

**Qal** **Alluvium (Quaternary)** - Variably sized gravel overlain by unconsolidated sand, silt, and clay comprises this 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 chalks are found near the top of the unit. The Arkadelphia Marl is approximately 100 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 present in the Arkadelphia Marl include corals, bivalves, gastropods, cephalopods, shark teeth, 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, yellowish and gray fine quartz sand, hard fossiliferous sandy limestone, coarse highly glauconitic sand, fine argillaceous blue-black sand, and bedded light-gray clay and marl. Hard fossiliferous limestones are found near the base of the unit. Near the middle of the unit a coarse, highly glauconitic lens is observed. The lens appears black on outcrop and may be 30 to 60 feet thick. Thin bedded gray clay is interbedded with fine sands at the top of the unit. The Nacatoch Sand is approximately 50 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 present 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

Gravel and/or sand pit

Contact

## REFERENCES

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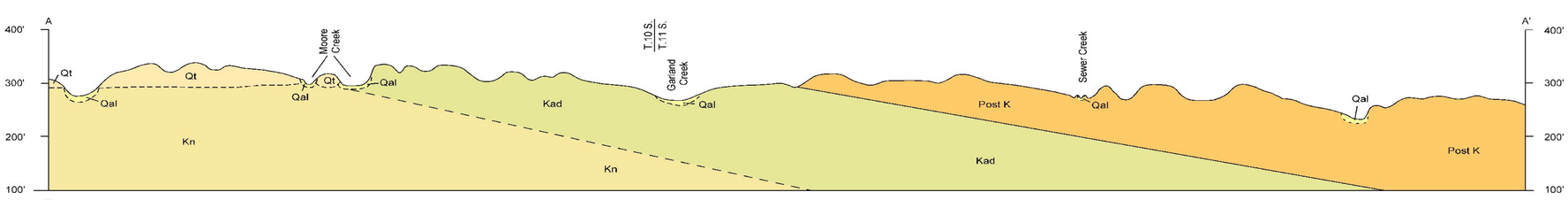
Miser, H. D., and Purdue, A. H., 1929, Geology of the DeQueen and Caddo Gap Quadrangles, Arkansas: United States Geological Survey Bulletin 808, 195 p.




GEOLOGIC CROSS SECTION A-A'
Horizontal scale 1" = 2000'
Vertical scale 1" = 100'