

GEOLOGIC MAP OF THE MC NAB QUADRANGLE, HEMPSTEAD, HOWARD AND LITTLE RIVER COUNTIES, ARKANSAS

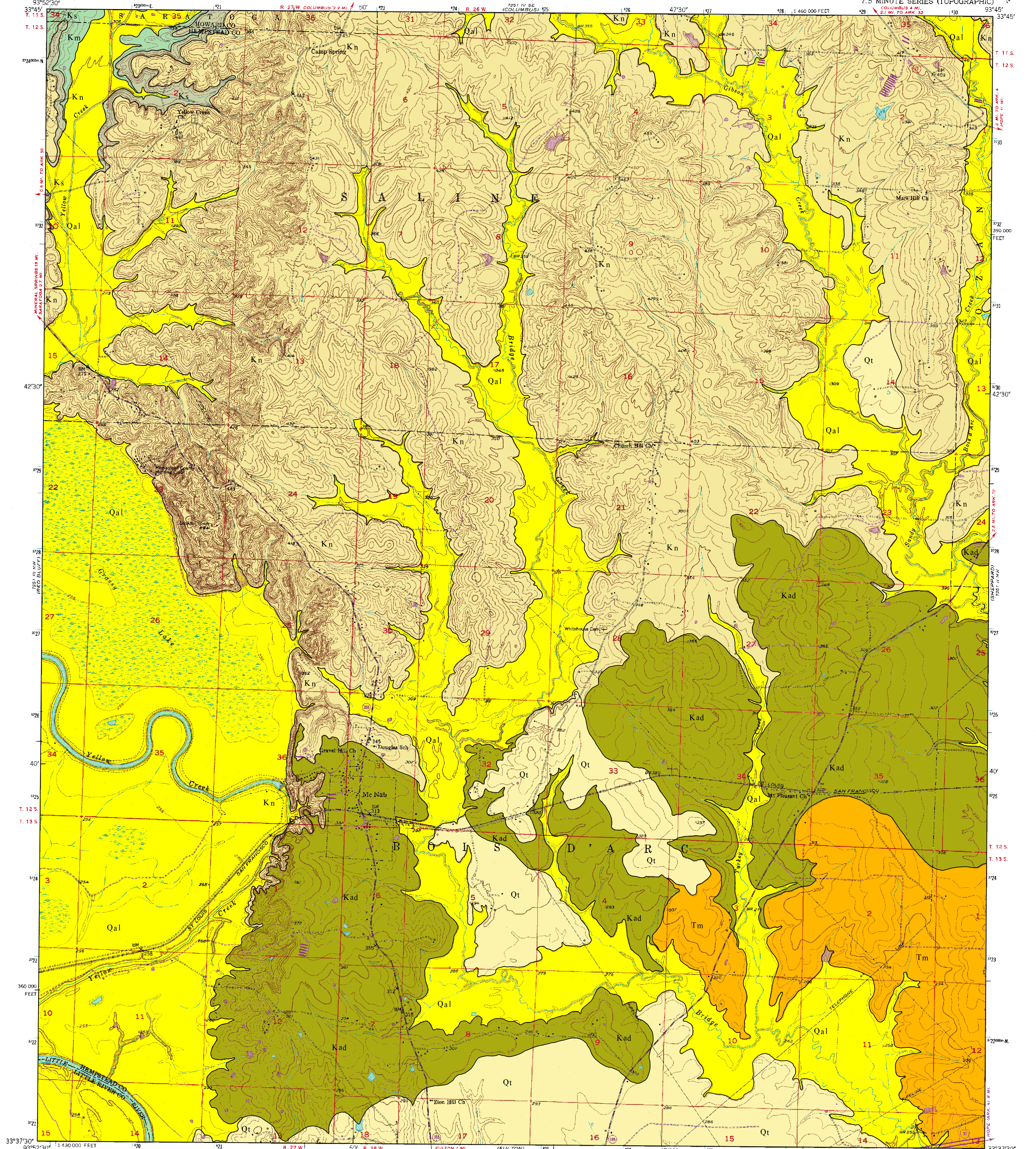
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 Edited by William D. Hanson
 2004

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 Digital compilation by Walter K. Mayfield

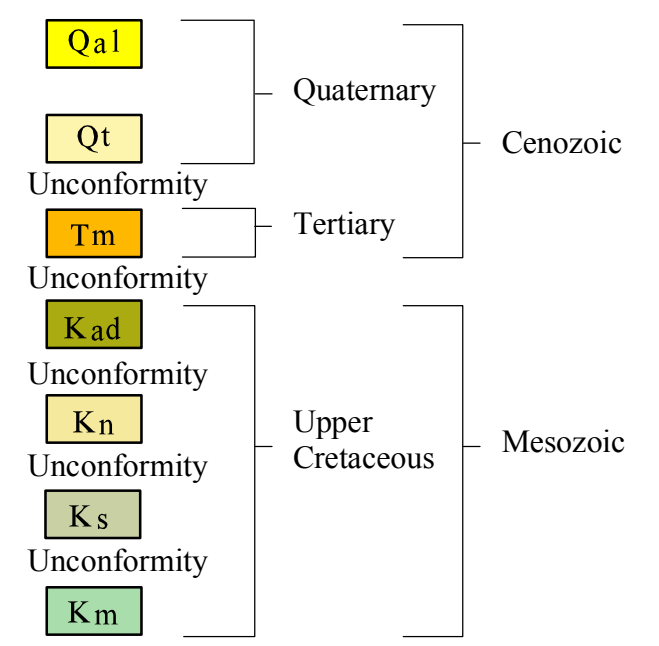
DIGITAL GEOLOGIC QUADRANGLE MAP
 MC NAB, ARKANSAS
 DGM-AR-00554

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

MC NAB QUADRANGLE
 ARKANSAS
 7.5 MINUTE SERIES (TOPOGRAPHIC)



Correlation of Map Units



Descriptions 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 60 feet. Areas of alluvium are presently receiving sediment deposition.
- Qt** **Terrace Deposit (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.
- Tm** **Midway Group (Tertiary)** - Midway sequence exposed at the surface in Arkansas represents marginal marine deposits.
- Kad** **Arkadelphia Marl (Upper Cretaceous)** - The Arkadelphia Marl is a dark-gray to black marl or marly clay. It contains some limy, 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 include corals, bivalves, gastropods, shark teeth, reptilian remains, and various microfossils. The Arkadelphia Marl 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. Thin bedded gray clay is interbedded with fine sands at the top of the unit. 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.
- Ks** **Saratoga Chalk (Upper Cretaceous)** - The Saratoga Chalk is a fossiliferous, hard, glauconitic chalk with beds of marly chalk and sandy chalk. It is blue-gray when freshly exposed and weathers white, light gray, and light brown. The Saratoga Chalk is 30 to 40 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 sponges, bryozoa, echinoderms, annelids, bivalves, gastropods, cephalopods, crustaceans, and fish teeth. The Saratoga Chalk was deposited in a nearshore marine environment and rest unconformably on top of the Marlbrook Marl.
- Km** **Marlbrook Marl (Upper Cretaceous)** - The Marlbrook Marl is a uniform chalky marl that is blue-gray when freshly exposed and weathers white to light brown. The unit is moderately fossiliferous in the upper part and slightly fossiliferous in the lower part. Notable fossils include Exogyra, Gryphaea, and Ostrea oyster species and reptile remains. The Marlbrook Marl is approximately 220 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. The Marlbrook Marl was deposited in a nearshore marine environment and rests unconformably on top of the Ozan Formation.

SYMBOLS

Contact

REFERENCES

Bush, W. V., and Clardy, B. F., 1971, Geologic Map of the McNab Quadrangle, Hempstead, Howard and Little River Counties, 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, 215p.

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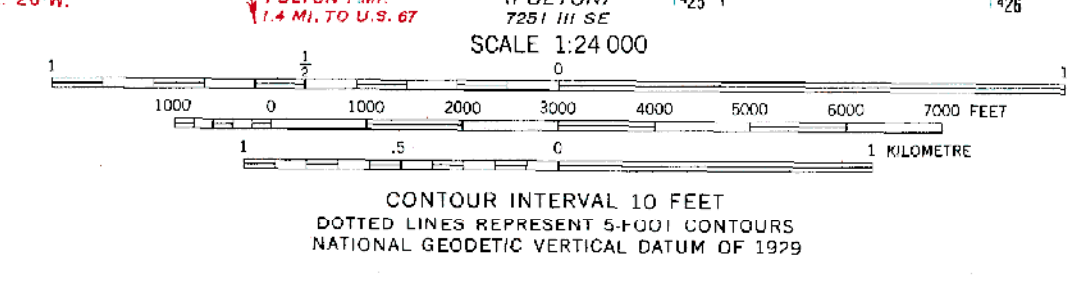
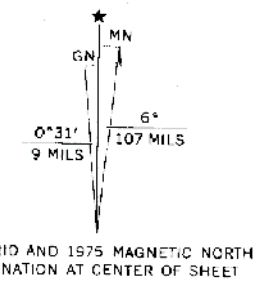
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Culture and drainage in part compiled from aerial photographs taken 1949. Topography by plane-table surveys 1951.

Polyconic projection, 1927 North American datum
 10,000-foot grid based on Arkansas coordinate system,
 south zone

1:6000-metre Universal Transverse Mercator grid ticks,
 zone 15, shown in blue

Revisions shown in purple compiled from aerial photographs taken 1975. This information not field checked



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 AND ARKANSAS GEOLOGICAL COMMISSION, LITTLE ROCK, ARKANSAS 72204
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



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