

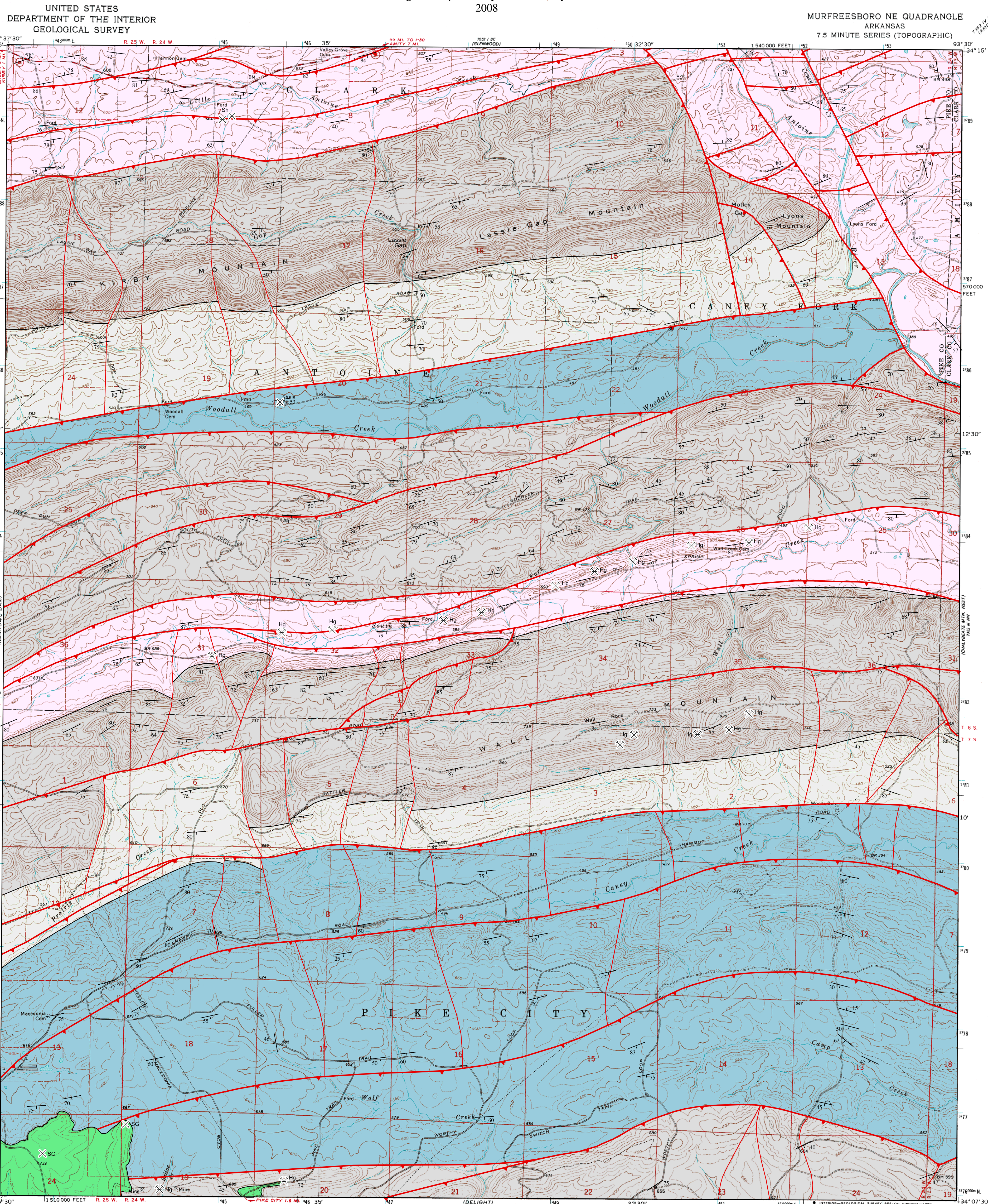


Arkansas Geological Survey
Bekki White, State Geologist and Director

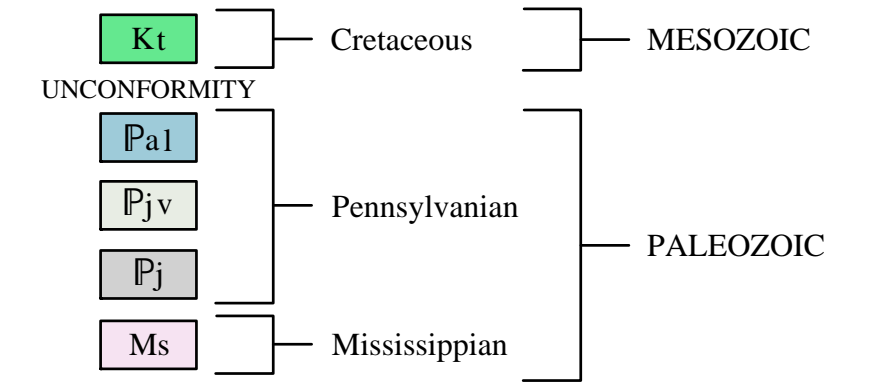
DIGITAL GEOLOGIC QUADRANGLE MAP
MURFREESBORO NE QUADRANGLE, ARKANSAS
DGM-AR-00612

GEOLOGIC MAP OF THE MURFREESBORO NE QUADRANGLE, CLARK AND PIKE COUNTIES, ARKANSAS

Geology by B.R. Haley, C.G. Stone, W.D. Hanson, and B.F. Clardy
1994
Digital compilation by Nathan H. Taylor
2008



Correlation of Map Units



Description of Map Units

- Kt** **Trinity Group (Lower Cretaceous)** - The Trinity is comprised of sand, gravel, clay, limestone, asphalt, and evaporate deposits. The upper part of the Trinity Group is mostly fine-grained, cross-bedded sand, usually weathered to reddish color. Marginal marine fossils are noted from the Trinity Group. Members exposed include the Pike Gravel and the Dierks Limestone Lenticle. The Pike Gravel, the basal member of the Trinity Group, is a bedded gravel deposit approximately 60 feet thick. The base of the Trinity rests unconformably on a surface of upturned and eroded Paleozoic rocks.
- Pa1** **Atoka lower (Pennsylvanian)** - The lower Atoka is a sequence of marine, mostly tan to gray silty sandstones and grayish-black shales. Some rare calcareous beds and siliceous shales are known. This unit has the largest areal extent of any of the Paleozoic formations in the state.
- Pjv** **Johns Valley Formation (Pennsylvanian)** - The Johns Valley Formation consists of black shale with numerous intervals of brownish sandstone. Also, small amounts of gray-black siliceous shale and chert have been noted. Erratic masses are known to occur in the southern Ouachitas. The erratic masses consist of limestone, dolostone, cherts, and others. This unit was deposited in a deep marine environment.
- Pj** **Jackfork Formation (Pennsylvanian)** - The Jackfork is thin- to massive-bedded, fine- to coarse-grained, brown, tan, or bluish-gray quartzitic sandstone with subordinate brown silty sandstones and gray-black shale. Minor conglomerates composed of quartz, chert, and metaquartzite occur notably in the southern exposures of the formation. The Jackfork rests conformably on the Stanley and was deposited in a deep marine environment.
- Ms** **Stanley Formation (Mississippian)** - The Stanley is composed predominantly of grayish-black to brownish-gray shale, with lesser amounts of thin- to massive-bedded, fine-grained, gray to brownish-gray feldspathic sandstone, dark green to black tuff and black chert. Weathered shale is olive-gray, and the sandstone is generally more porous and brown. The Stanley is Late Mississippian (Chesterian) as indicated by conodonts and plant fossils. The formation was deposited in a deep marine environment.

Symbols

- Contact
- Thrust Fault
- Tear Fault
- Strike and Dip
- Overturned Strike and Dip
- Mine/Quarry, abandoned
- Pit

Mineral Commodities

- Hg Mercury
- SG Sand & Gravel
- Sh Shale

References

- Haley, B.R., and Stone, C.G., 1976. Geologic Worksheet of the Murfreesboro NE Quadrangle, Arkansas: Arkansas Geological Commission, Open-file Report, scale 1:24,000.
- Howard, J.M., 2008. Arkansas Mineral Commodity Database, In-house data: Arkansas Geological Survey.
- McFarland, J.D., 2004. Stratigraphic Summary of Arkansas: Arkansas Geological Commission Information Circular 36, 39p.
- Miser, H.D., and Purdue, A.H., 1929. Geology of the De Queen and Caddo Gap Quadrangles, Arkansas: U.S. Geological Survey, Bulletin 808, 195p, scale 1:125,000.

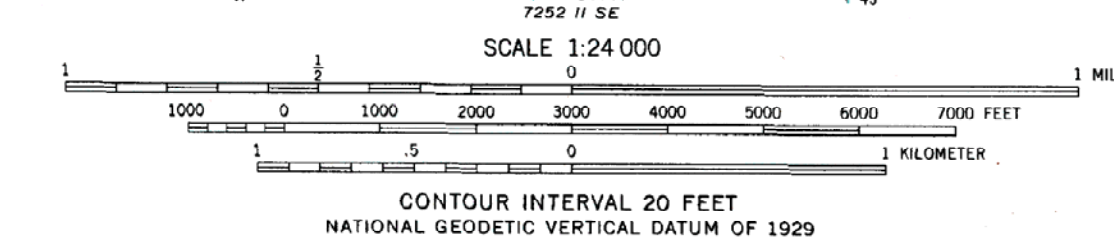
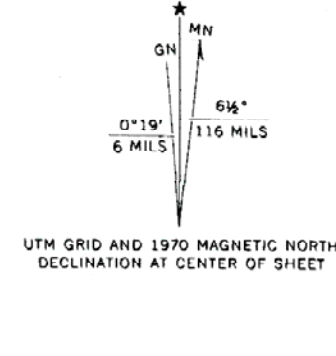
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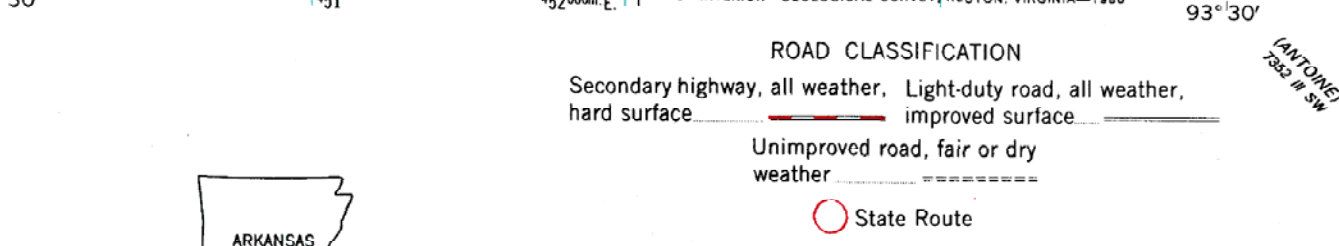
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Topography by photogrammetric methods from aerial photographs taken 1968. Field checked 1970.
Polyconic projection. 1927 North American datum.
10,000-foot grid based on Arkansas coordinate system, south zone.
3000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue.
Fire red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked to place on the predicted North American Datum 1983.
move the projection lines 8 meters south and 17 meters east as shown by dashed corner ticks.



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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



MURFREESBORO NE, ARK.
N3407.5-W9330.7.5
1970
AMS 7252 II NE-SERIES V884

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