



Arkansas Geological Survey
Bekki White, State Geologist and Director

DIGITAL GEOLOGIC QUADRANGLE MAP
NEWHOPE QUADRANGLE, ARKANSAS
DGM-AR-00626

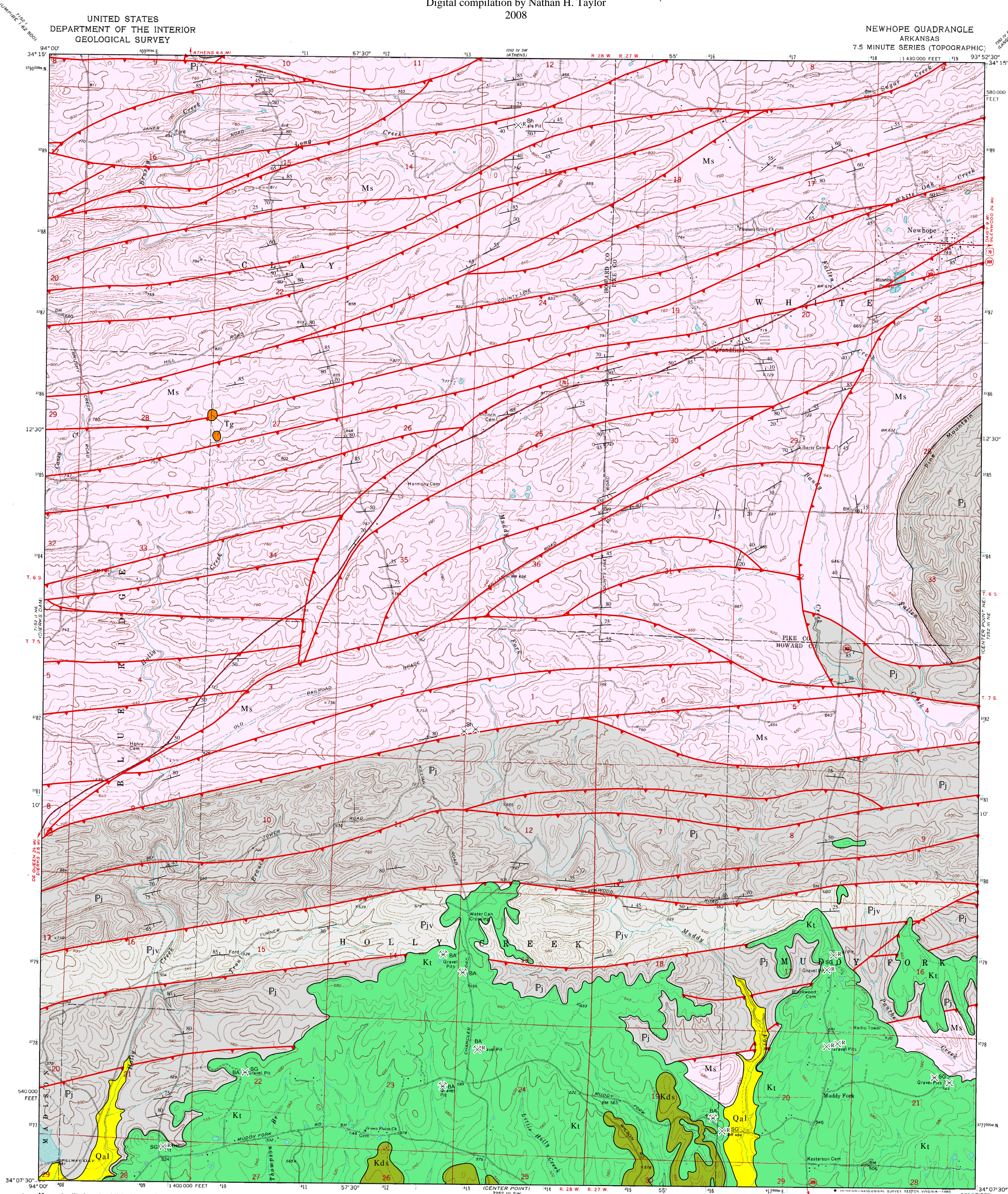
GEOLOGIC MAP OF THE NEWHOPE QUADRANGLE, HOWARD AND PIKE COUNTIES, ARKANSAS

Geology by B.R. Haley, C.G. Stone, W.D. Hanson, and B.F. Clardy
1994

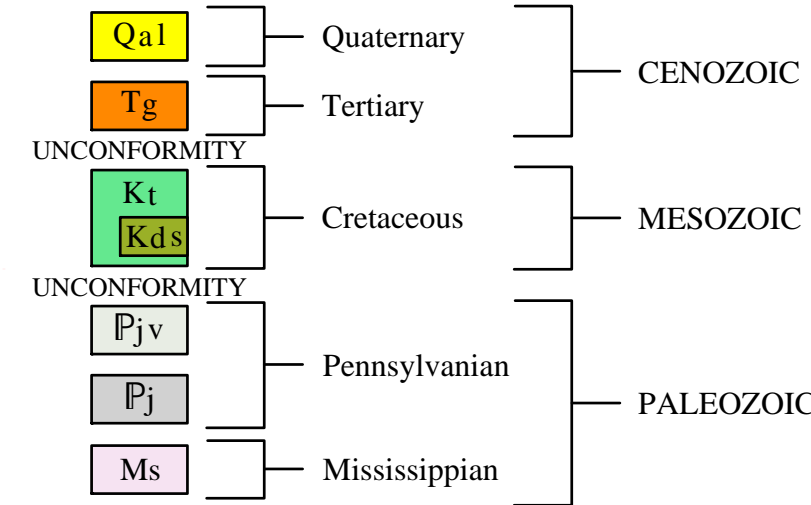
Digital compilation by Nathan H. Taylor
2008

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NEWHOPE QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)



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. Areas of alluvium are presently receiving sediment deposition.
- Tg** **Gravel (Tertiary)** - Scattered deposits of gravel found on isolated hills lying atop Paleozoic age rocks. This sequence has not been studied in detail and was mapped by Miser and Purdue (1929).
- 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 Lentil. The Pike Gravel, the basal member of the Trinity Group, is a bedded gravel deposit approximately 120 feet thick. The base of the Trinity rests unconformably on a surface of upturned and eroded Paleozoic rocks.
- Kds** **Dierks Limestone Lentil (Lower Cretaceous)** - The Dierks is an interbedded calcareous clay and fossiliferous limestone found in the lower part of the Trinity Group. The limestones weather to slabs and nodular masses. Notable fossils include *Ostrea franklini*. The unit is about 30 feet thick.
- 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, dolomite, 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 (Chertian) 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
- Mine/Quarry, abandoned
- Mine/Quarry, reclaimed
- Pit, abandoned
- Pit, reclaimed

Mineral Commodities

- BA Barite
- SG Sand & Gravel
- Sh Shale

References

- Haley, B.R., and Stone, C.G., 1976, Geologic Worksheet of the Newhope 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.

DISCLAIMER

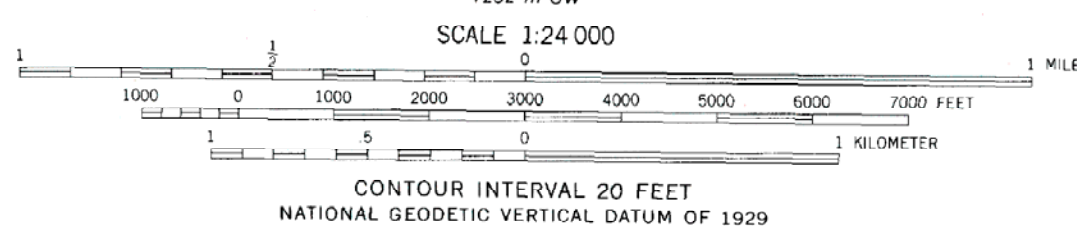
Although this map was compiled from digital data that was successfully processed on a computer system using ESRI ArcGIS 9.2 software at the Arkansas Geological Survey (AGS), no warranty, expressed or implied, is made by the AGS regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. The AGS does not guarantee this map or digital data to be free of errors or liability for interpretations from this map or digital data, or decisions based thereon.

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 Arkansas Geological Survey.

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 1969.
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.

Fine 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 5 meters south and 18 meters east as shown by dashed corner ticks.



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

Funded by the United States Geological Survey in cooperation
with the Arkansas Geological Commission, under
the COGEO Map Project

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

NEWHOPE, ARK.
N3407.5-W9352.5/7.5
1969
AMS 7232 III NW-SERIES Y684