

GEOLOGIC MAP OF THE CENTER POINT NE QUADRANGLE, PIKE AND HOWARD COUNTIES, ARKANSAS

DIGITAL GEOLOGIC QUADRANGLE MAP
CENTER POINT NE QUADRANGLE, ARKANSAS
DGM-AR-00143

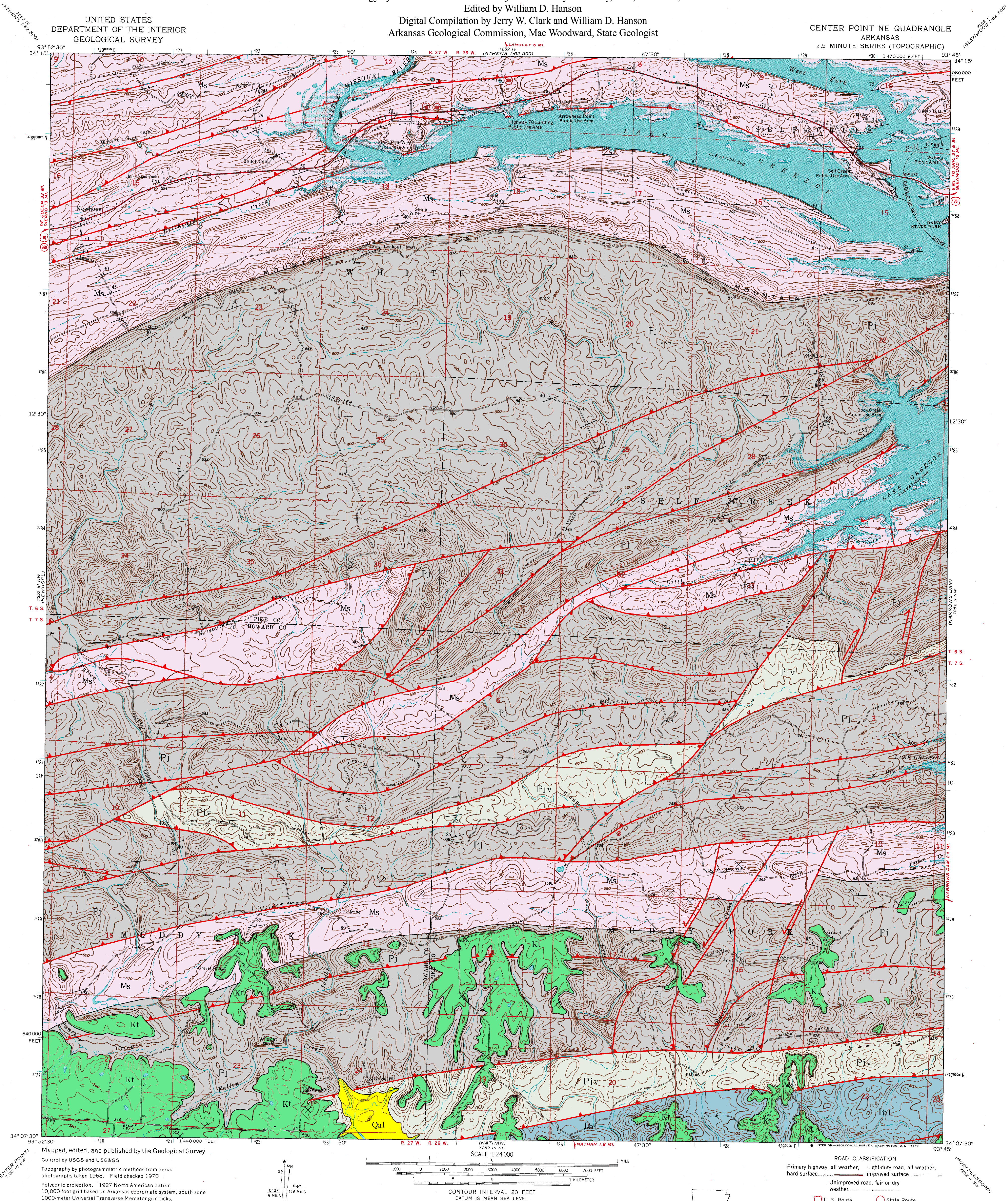
Geology by William D. Hanson and Benjamin F. Clardy and Haley, B.R., and Stone, C.G.

Edited by William D. Hanson

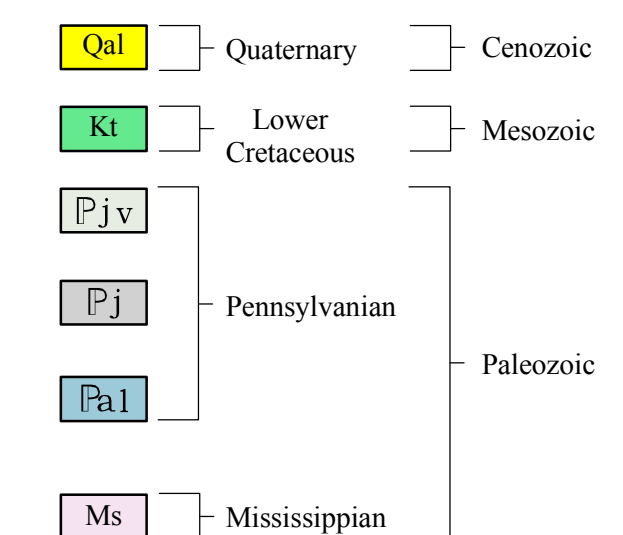
Digital Compilation by Jerry W. Clark and William D. Hanson
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CENTER POINT NE QUADRANGLE
ARKANSAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

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.
- Kt** **Trinity Group (Lower Cretaceous)** - The Trinity Group consists of cross-bedded gravel and sand. Gravels are 1/2 to 6 inches in size and are composed of novaculite, sandstone, and quartzite. Cross-bedded, medium- to fine-grained quartz sand weather yellow to orange-red. The unit was deposited on upturned and eroded Paleozoic aged rocks following a major unconformity, and is 0 - 100 feet thick on this quadrangle.
- Pjv** **Johns Valley (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. In the frontal Ouachita Mountains large quantities of erratic masses are common. The erratic masses consist of limestone, dolostone, cherts, and others. This unit was deposited in a deep marine environment and is about 500 - 1500 feet thick.
- Pj** **Jackfork Sandstone (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. Toward the north of its outcrop area the shale units of the lower and middle Jackfork take up more of the section and the sandstones are more lenticular, often occurring as chaotic masses in the 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. The formation is generally between 3500 to 6000 feet in thickness.
- Pa1** **Lower Atoka (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.
- Ms** **Stanley Shale (Mississippian)**- The Stanley Shale 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. Weathering causes the shale to turn olive-gray and the sandstone to become more porous and brown. Interbedded layers of thin black siliceous shale and chert are present and are used to subdivide the formation in other areas. Locally, volcanic tuffs (primarily the Hatton Tuff Member) and a quartzose sandstone-chert conglomerate unit (Hot Spring Sandstone Member) are present in the lower Stanley. Cone-in-cone and calcareous silty concretions are present in shale. About 8,500 feet of the Stanley is present in the quadrangle. All of the formation is exposed except for about 1,600 feet of the upper portion and 1,200 feet of the lower portion. Most of the Stanley is Late Mississippian (Chesterian) as indicated by the presence of conodonts and plant fossils. The formation is a deep-water marine turbidite sequence, derived primarily from a landmass (Llanoria) that existed along the southern margins of the Ouachita trough.

SYMBOLS

- ⊗ Gravel Pit and/or Mine
- 45 Strike and Dip
- ▲ Thrust Faults
- Tear Faults
- Contacts

REFERENCES

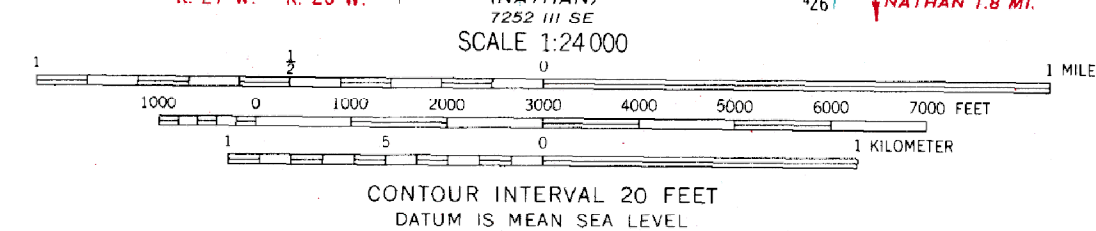
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Control by USGS and USC&GS
Topography by photogrammetric methods from aerial photographs taken 1968. Field checked 1970
Polyconic projection. 1927 North American datum
10,000-foot grid based on Arkansas coordinate system, south zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue
Areas covered by dashed light-blue pattern are subject to controlled inundation
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked



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



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