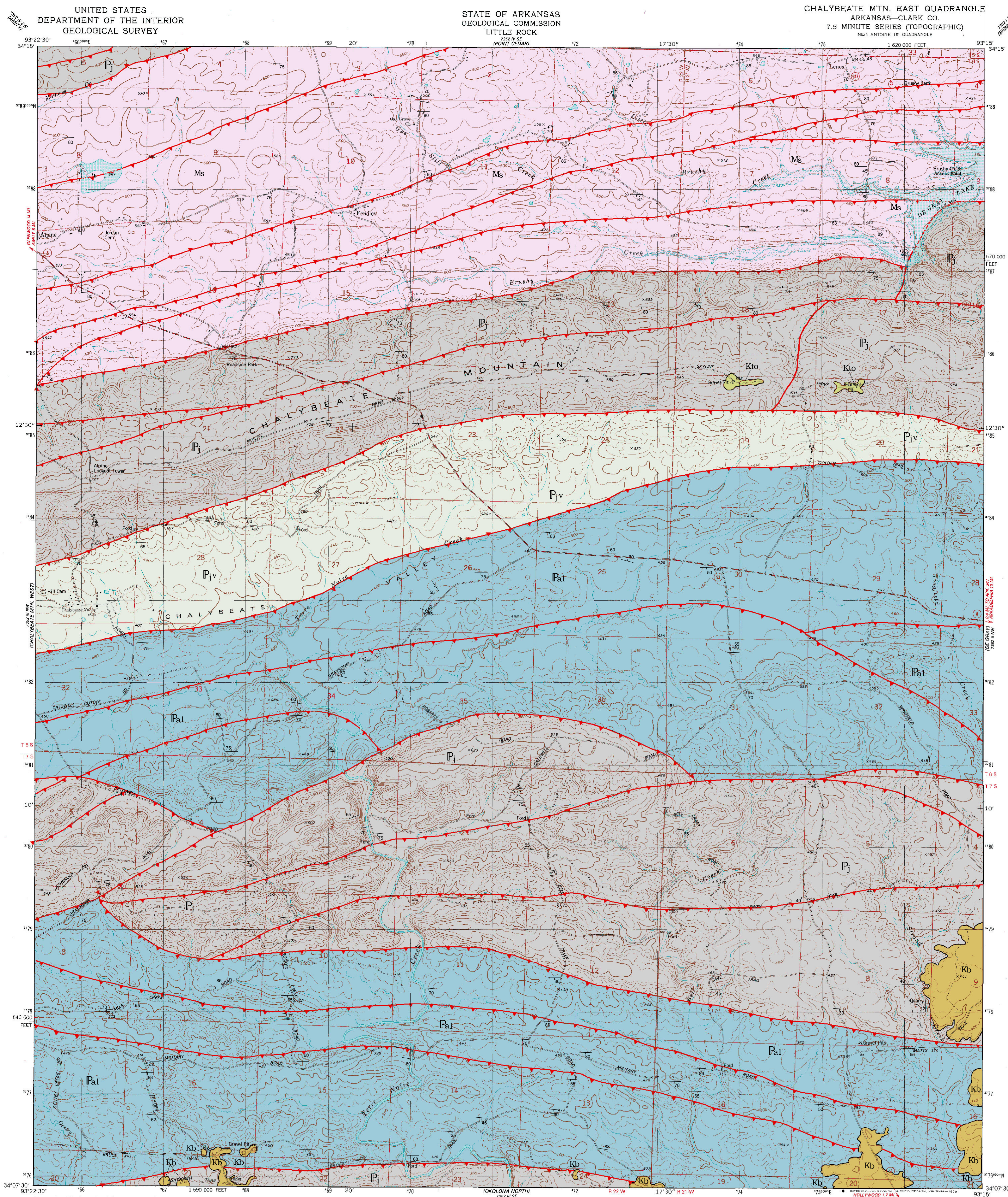


GEOLOGIC MAP OF THE CHALYBEATE MOUNTAIN EAST QUADRANGLE, CLARK COUNTY ARKANSAS

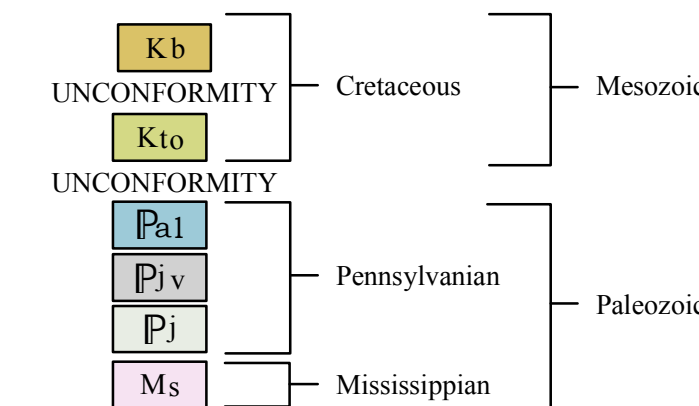
GEOLOGIC QUADRANGLE MAP
CHALYBEATE MOUNTAIN EAST QUADRANGLE, ARKANSAS
DGM-AR-00146

Geology by Boyd R. Haley, Charles G. Stone, William D. Hanson and Benjamin F. Clardy
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Correlation of Map Units



Description of Map Units

- Kb** **Brownstown Marl (Upper Cretaceous)** – The Brownstown Marl consists of dark-gray calcareous clay, marl, and sandy marl. The unit is fossiliferous and weathers yellow to gray in color. Notable fossils are the *Exogyra ponderosa* and *Inoceramus*. The outcrop belt extends from east of Arkadelphia AR, southwest to the Arkansas-Oklahoma state line, and dip approximate 80 feet per mile to the south. The approximate thickness in the quadrangle is 60 feet. The unit was deposited in a nearshore marine environment and rests unconformably on the Tokio Formation (Upper Cretaceous).
- Kto** **Tokio Formation (Upper Cretaceous)** – The Tokio Formation consists of gravel and sand. Gravels are up to 6 inches, but are primarily 1 to 1.5 inches. The unit is represented by small outliers. The unit rests unconformably on Paleozoic rocks.
- PaI** **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. The Atoka unit has the largest areal extent of any of the Paleozoic formations in the state.
- 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, dolomite, and chert. This unit was deposited in a deep marine environment and is about 500-1,500 feet thick.
- Pjv** **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. Minor conglomerates composed of quartz, chert and metaquartzite occur notably in the southern exposures of the formation. The Jackfork rests conformably on the Stanley.
- 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. Concretionary and calcareous silty concretions are present in shale. Most of the Stanley is Late Mississippian (Chesterian) as indicated by conodonts and plant fossils. The formation is deep-water marine turbidite sequence, derived primarily from a landmass (Llanoria) that existed along the southern margins of the Ouachita trough.

Symbols

- Contact
- Thrust Fault
- Strike Slip Fault
- Strike and Dip
- Overturned Strike and Dip

Reference

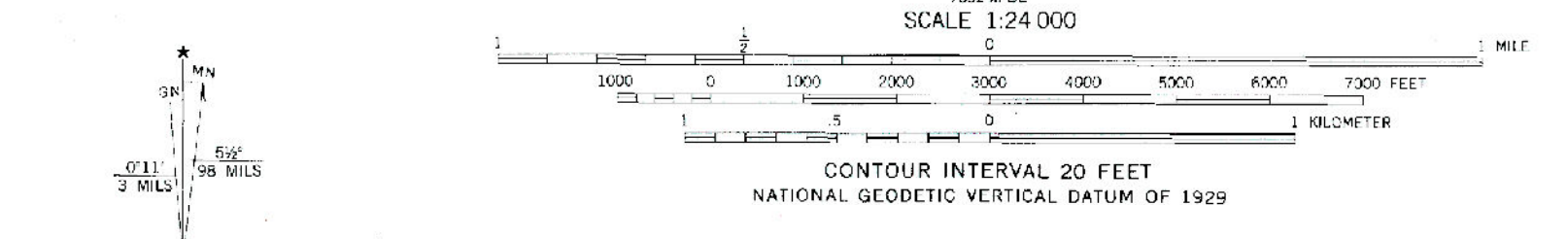
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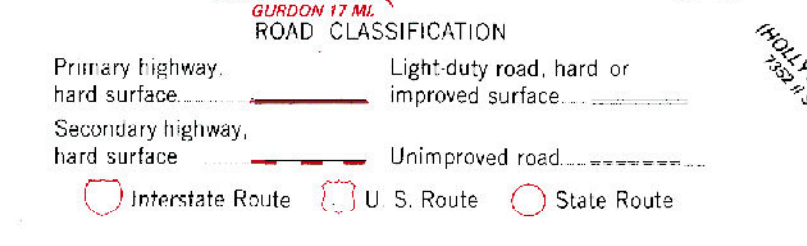
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Topography by photogrammetric methods from aerial photographs taken 1974. Field checked 1975
Projection and 10,000-foot grid ticks: Arkansas coordinate system, south zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 15
1927 North American datum
Area covered by dashed light-blue pattern is subject to controlled inundation
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is uncheckd



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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

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CHALYBEATE MTN. EAST, ARK.
NE. ANTONIO 10' QUADRANGLE
N3407.5-W0915.7.5
1975
AMS 7352 III NE-SERIES Y684

