GEOLOGIC MAP OF THE WICKES QUADRANGLE, HOWARD AND POLK COUNTIES, ARKANSAS

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1994
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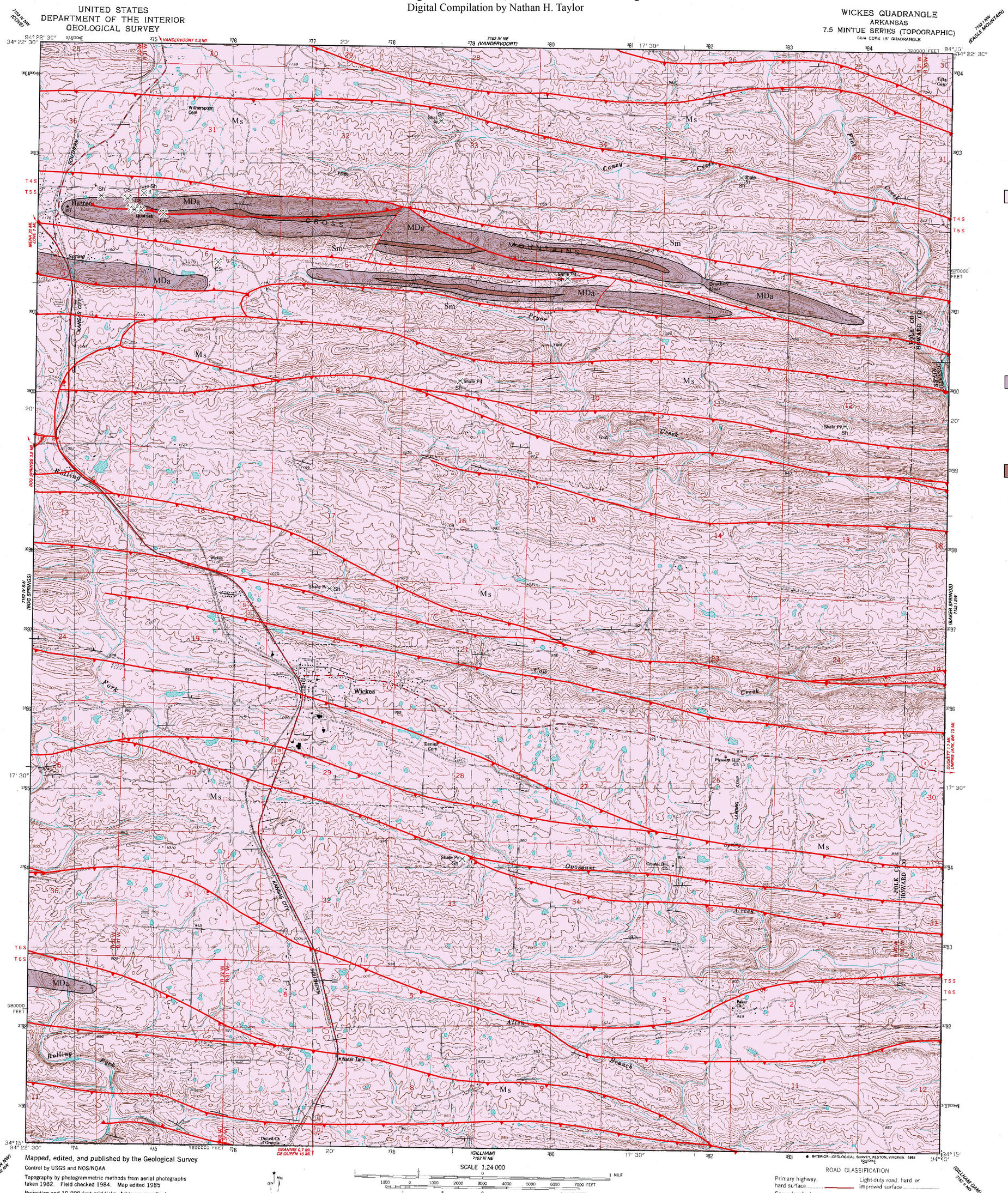

Correlation of Map Units

Ms	Mississippian	PALEOZOIC
MDa	Devonian	
Sm	Silurian	

Description of Map Units

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. 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. Most of the Stanley is Late Mississippian (Chesterian) as indicated by conodonts and plant fossils and has a total thickness of about 12,000ft. 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.

MDa — **Arkansas Novaculite** *(Mississippian-Devonian)* - Three divisions of the novaculite are recognized. The Lower Division is white massive-bedded novaculite with some interbedded gray shales near its base. The Middle Division is greenish to dark-gray shales interbedded with many thin beds of dark novaculite. The Upper Division is white, thick-bedded, and often calcareous. The unit is about 900 feet thick and was deposited in a deep marine environment.

Sm — **Missouri Mountain Formation** *(Silurian)* - The Formation occurs in the west-central Ouachita Mountains. The Missouri Mountain consists of shale interbedded with conglomerate, novaculite, and sandstone. Few identifiable fossils have been found in this unit. The unit was deposited in a deep marine environment and is about 300 feet thick.

Symbols

- Contact
- Thrust Fault
- Tear Fault
- Strike and Dip (45°)
- Mine or Quarry — CS - Crushed Stone
- Abandoned Mine or Quarry — CS - Crushed Stone
- Abandoned Pit — Sh - Shale
- Reclaimed Pit — Sh - Shale

References

Haley, B. R., and Stone, C. G., 1976, Geologic Map of the Wickes Quadrangle: Arkansas Geological Commission, scale 1:24,000.

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Miser, H. D., and Purdue, A. H., 1929 Geology of the DeQueen and Caddo Gap Quadrangles, Arkansas: U.S. Geological Survey, Bulletin 808, 195p., scale 1:125,000.

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Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1982. Field checked 1984. Map edited 1985

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
To place on the predicted North American Datum 1983, move the projection lines 7 meters south and 19 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked

UTM GRID AND 1985 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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

ROAD CLASSIFICATION

Primary highway, hard surface — Light-duty road, hard or improved surface
Secondary highway, hard surface — Unimproved road
Interstate Route — U. S. Route — State Route

ARKANSAS
QUADRANGLE LOCATION

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

WICKES, ARK.
SE/4 COVE 15' QUADRANGLE
34094-C3-TF-024
1985
DMA 7152 IV SE—SERIES V884

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1985