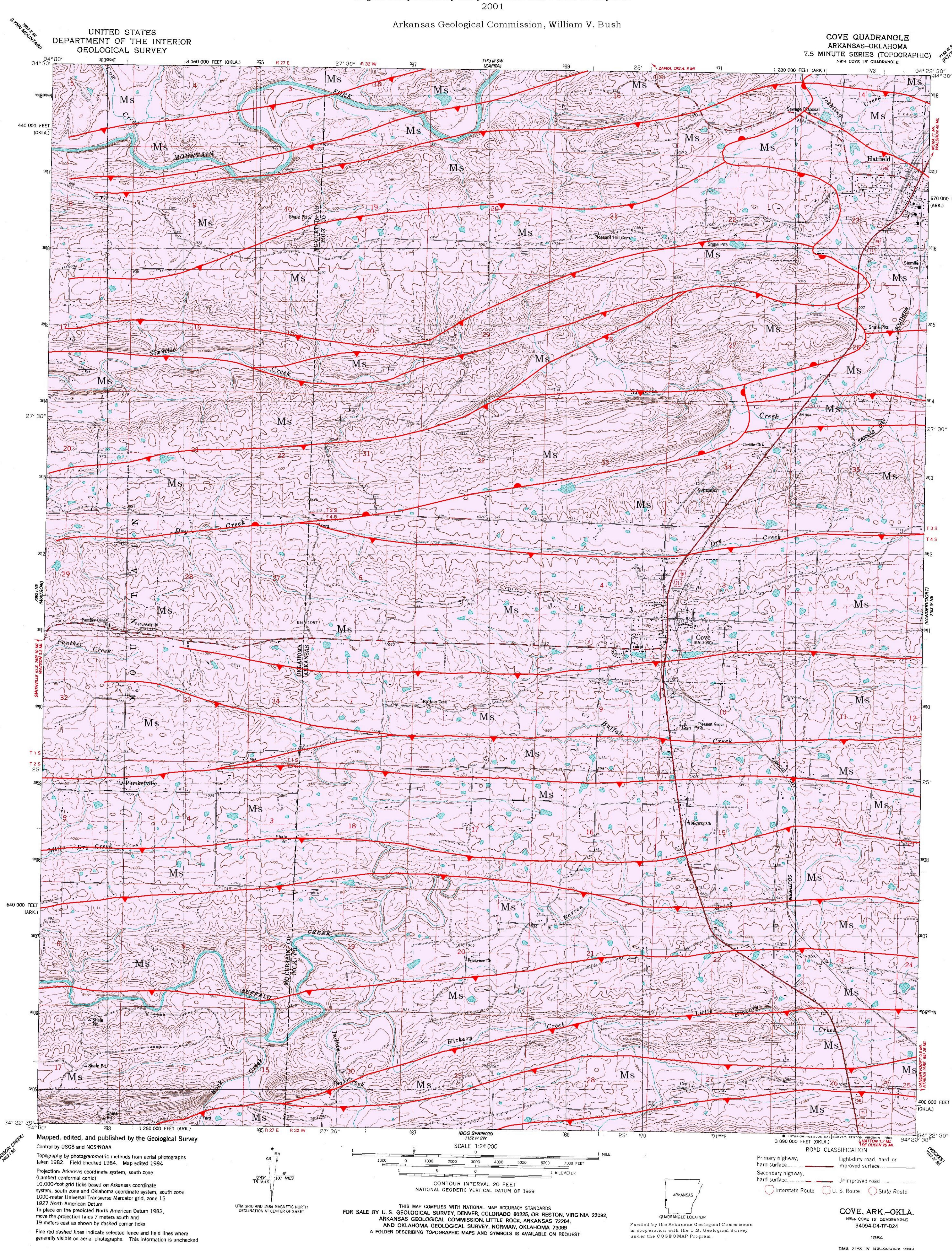
#### Geology by Boyd R. Haley and Charles G. Stone Digital compilation By Jerry W. Clark and Walter K. Mayfield



### CORRELATION OF MAP UNITS

— Mississippian — Paleozoic

# DESCRIPTION OF MAP UNITS

Stanley Shale (Mississippian) - The Stanley Shale is composed predominantly of grayish-black to brownish-gray shale, with lesser amounts of thin to massive 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 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

Pit, Quarry, or Mine

Thrust Fault

Strike and Dip

Strike and Dip of Overturned Bed

Dêcollement

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