DIGITAL GEOLOGIC QUADRANGLE MAP
SEVIER COUNTY, ARKANSAS
CGM-AR-133

Geologic Map of Sevier County, Arkansas

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Arkansas Geological Commission
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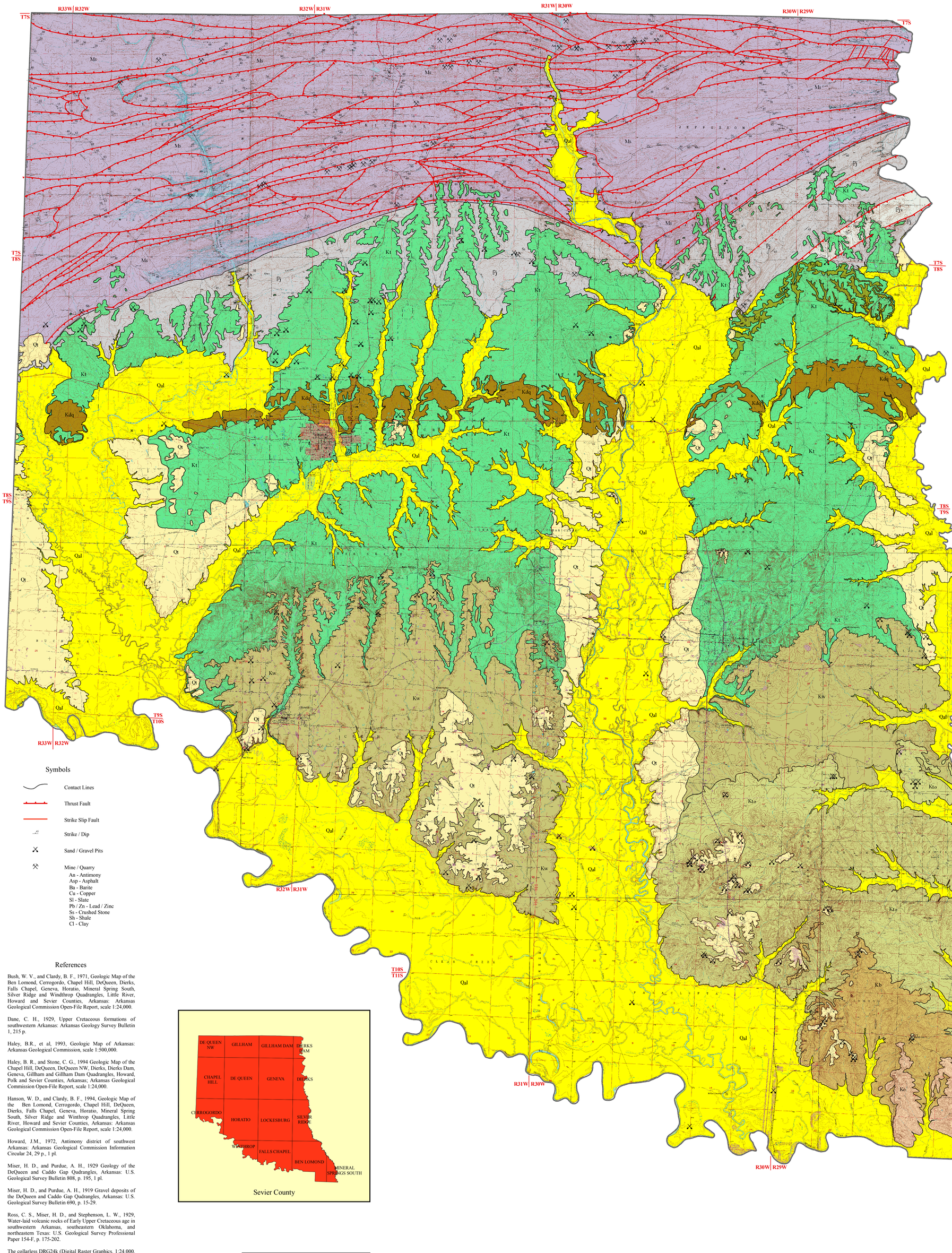

Description Of Map Units

Cenozoic

Quaternary

Qal — Alluvial deposits – These deposits are a product of present active deposition and erosion. They occur along streams and rivers, have low relief, and consist of unconsolidated gravel, sand, silt, and clay. Gravels general occur at the base of the alluvium. The gravels are composed of novaculite, chert, sandstone, and quartz, and have an economic value as an aggregate resource and may serve as an aquifer. Thickness of the unit varies, but is generally less than 50 feet.

Qt — Terrace deposits – These deposits represent past floodplain levels of rivers and large streams. They have low relief and consist of unconsolidated gravel, sand, silt, and clay. Gravels are composed of novaculite, chert, sandstone, and quartz, and have economic value as an aggregate resource and may serve as an aquifer. Thickness of the unit varies, but is generally less than 50 feet.

Mesozoic

Cretaceous

Upper

Ka — Annona Formation – The Annona Formation consists of hard, white to blue-gray, slightly fossiliferous chalk. The unit was deposited in a near-shore marine environment and dips gently < 1° to the south. Chalk from this unit is used in the production of Portland cement. Thickness of this unit is approximately 60 feet.

Ko — Ozan Formation – The Ozan Formation consists of fossiliferous marl, sandy marl, sandy glauconitic marl, and sand. A glauconitic sandy bed occurring at the base of the unit is known as the Buckrange Sand Member. The unit was deposited in a near-shore marine environment and dips gently < 1° to the south. Petroleum and natural gas are produced from the Buckrange Sand in southern Arkansas. Thickness of this unit is approximately 200 feet.

Kb — Brownstown Formation – The Brownstown Formation consists of fossiliferous, dark gray marl and sandy marl. The unit was deposited in a near-shore marine environment and dips gently < 1° to the south. Thickness of this unit is approximately 240 feet.

Kto — Tokio Formation – The Tokio Formation consists of gravel, sand, and clay. Gravels are composed of novaculite, chert, quartz, and sandstone. The unit was deposited in a near-shore marine environment and dips gently < 1° to the south. Sand and gravel are mined from this unit and it also serves as a municipal water source. Thickness of this unit is approximately 300 feet.

Kw — Woodbine Formation – The Woodbine Formation consists of water-lain calcareous tuffs, gravel, and sand. Gravels occurring primarily at the base of the unit are composed of novaculite, chert, quartz, sandstone, and rare igneous cobbles. The unit was deposited in a near-shore marine environment and dips gently < 1° to the south. Sand and gravel have been mined from this unit, and it may serve as an aquifer. Thickness of this unit is approximately 200 feet.

Lower

Kt (Kdq, Kw) — Trinity Group – The Trinity Group consists of gravel, sand, limestone, gypsum, and clay. Gravels are composed of novaculite, chert, and sandstone. Fossiliferous limestones, and calcareous clays occur in the DeQueen Limestone Member and the Dierks Limestone Lentil. The group was deposited in a near-shore marine environment and dips gently < 1° to the south. Gravel and sand are mined from this group, and it also serves as a municipal water source. Thickness of this group is approximately 700 feet.

Paleozoic

Pennsylvanian

Pjv — Johns Valley Formation – The Johns Valley Formation consists of shale, and minor siltstone, sandstone, and erratic lenses. Erratics that occur in the unit originated from a former landmass to the south. These turbidite sequences were deposited in a deep marine environment. Thickness of this unit is approximately 2000 feet.

Pj — Jackfork Formation – The Jackfork Formation consists of shale, sandstone, and siltstone. These turbidite sequences, which have an eastern and southern source area, were deposited in a deep marine environment. Sandstones are ridge formers and some are suitable for the aggregate industry. Fracture systems occurring in the unit serve as the best source of water. Thickness of this unit is approximately 6500 feet.

Mississippian

Ms — Stanley Formation – The Stanley Formation consists of shale, clean and dirty sandstone, and siltstone, with minor chert and siliceous shale. These turbidite sequences, derived almost exclusively from a southern source, were deposited in a deep marine environment. Some of the sandstone beds are suitable for the aggregate industry. Fracture systems and quartz veins occurring in the unit serve as the best source of water, and in some instances, a source for quartz crystals. Thickness of this unit is approximately 7500 feet.

Symbols

- Contact Lines
- Thrust Fault
- Strike Slip Fault
- Strike / Dip
- Sand / Gravel Pits
- Mine / Quarry
  - An - Antimony
  - Asp - Asphalt
  - Ba - Barite
  - Cu - Copper
  - Sl - Slate
  - Pb / Zn - Lead / Zinc
  - Ss - Crushed Stone
  - Sh - Shale
  - Cl - Clay

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DISCLAIMER

Sevier County


Arkansas

Magnetic Declination

Scale 1:50,000

1 0.5 0 1 2 3 4 5 6 7 8 9 10 11 Miles

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ARKANSAS GEOLOGICAL COMMISSION