

**EXPLANATION**

**LITHOLOGY AND YIELD \***

- QUATERNARY**
    - Q** QUATERNARY DEPOSITS--Gravel, sand, silt, and clay. Includes recent alluvial deposits (Qal), and older alluvial terraces (Qt) and loess deposits (Ql). Thicker deposits yield large quantities of water to wells.
    - Tj** JACKSON GROUP--Clay, confining layer. Does not yield water to wells.
    - Tcf** COCKFIELD FORMATION--Lignitic fine to medium sand and clay. Yields small to moderate quantities of water to wells.
  - TERTIARY**
    - Tcm** COOK MOUNTAIN FORMATION--Clay, confining layer. Does not yield water to wells.
    - Ts** SPARTA SAND--Massive fine to medium sand with interbedded clay. Yields large quantities of water to wells.
    - Tcr** CANE RIVER FORMATION--Sand, clay, lignite and ironstone. Yields moderate amounts of water to wells in southwest Arkansas, but generally not productive elsewhere.
    - Tcz** CARRIZO SAND--Fine massive-bedded sand. Yields small amounts of water to wells in southwest Arkansas.
    - Tw** WILCOX GROUP--Sand, clay, and lignite. Yields large amounts of water to wells in northeast Arkansas and small amounts in southwest Arkansas.
    - Tm** MIDWAY GROUP--Clay, confining layer. Does not yield water to wells except locally in Saline County.
  - PALEOZOIC CRETACEOUS**
    - Kna** NACATOCHE SAND--Calcareous clay, sand and limestone. Yields moderate amounts of water to wells.
    - Kto** TOKIO FORMATION--Fine to medium sand and clay. Yields moderate amounts of water to wells.
    - Ku** CRETACEOUS UNITS UNDIFFERENTIATED. Marl, chalk, and limestone. Do not yield significant amounts of water to wells.
    - Pzu** PALEOZOIC ROCKS UNDIFFERENTIATED. Sandstones, shales, limestones and dolomites. Generally yields less than 10 gallons per minute to wells. Includes the Roubidoux Formation and the Gunter Sandstone member of the Van Buren Formation which yield moderate amounts of water to wells in northern Arkansas.
- BASE OF FRESH WATER
- \* YIELD DESIGNATION: Small--Less than 50 gallons per minute.  
 Moderate--50 to 500 gallons per minute.  
 Large--Greater than 500 gallons per minute.

Base from U.S. Geological Survey State Base Map 1:1,000,000, 1965

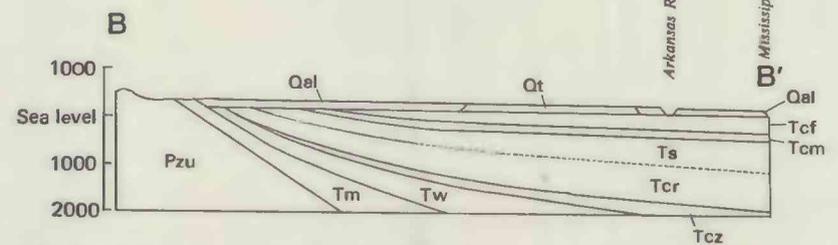
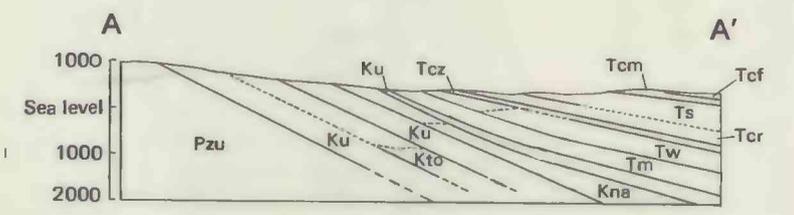
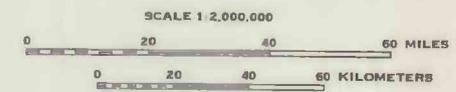


Figure 3.0-1 Generalized geology and general characteristics of formations.