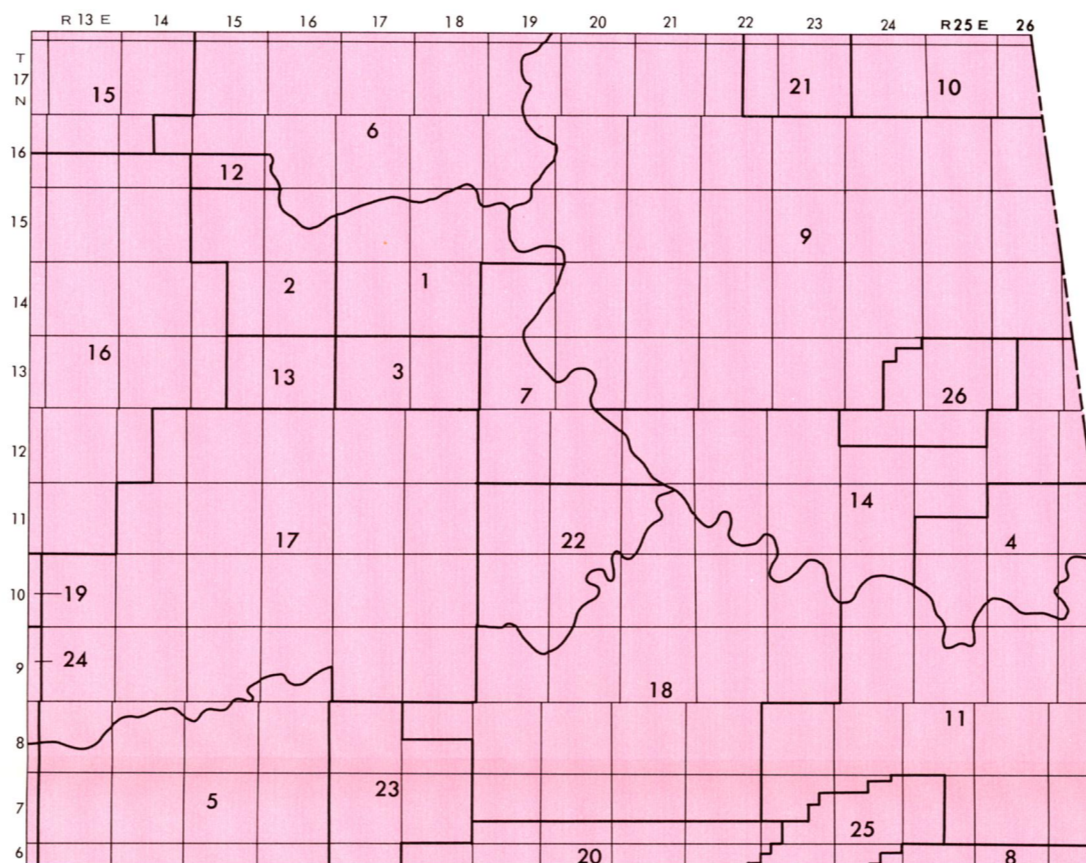


Base from Army Map Service 1:250,000 Series;
Fort Smith Quadrangle, 1948

Scale 1:250,000
Contour interval, 100 feet
Datum: Mean sea level

GEOLOGIC MAP

INDEX TO GEOLOGIC MAPPING



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EXPLANATION

Qal

ALLUVIUM

Gravel, sand, silt, and clay. Yields large amounts of water of good quality along the Arkansas River and probably will yield moderate to large amounts along the Canadian River.

Qt

TERRACE DEPOSITS

Gravel, sand, silt, and clay. Yield moderate to large amounts of water of good quality locally along the Arkansas River; smaller amounts elsewhere.

Ipsh

SEMINOLE FORMATION

Sandy shale, sandstone, and thin coal seams. Probably will yield only limited amounts of water of poor quality.

Ipsh

HOLDENVILLE SHALE

Shale, thin sandstones, and minor limestones. Probably will yield only limited amounts of water of poor quality.

Ipsh

WEWOKA FORMATION

Shale, sandstone, and minor limestones. Probably will yield only limited amounts of water of poor quality.

Ipsh

WETUMKA SHALE

Shale, minor sandstones, and minor limestones. Probably will yield only limited amounts of water of poor quality.

Ipsh

CALVIN SANDSTONE

Shale and sandstone. Yields limited amounts of water of fair to poor quality.

Ipsh

SENOIRA FORMATION

Shale, sandstone, and thin coal seams. Yields limited amounts of water of poor quality.

Ipsh

STUART SHALE

Shale and minor sandstones. Probably will yield only limited amounts of water of poor quality.

Ipsh

THURMAN SANDSTONE

Sandstone and shale. Probably will yield only limited amounts of water of poor quality.

Ipsh

BOGGY FORMATION

Shale, sandstone, and coal; includes Bluejacket Sandstone Member at base. Yields limited amounts of water of poor quality.

Ipsh

SAVANNA, McALESTER, AND HARTSHORNE FORMATIONS

Ipsh Savanna Formation, shale, sandstone, and coal. Yields limited amounts of water of poor quality.

Ipsh McAlester and Hartshorne Formations (undifferentiated), shale, sandstone, and coal. Yield limited amounts of water of poor quality.

Ipsh Savanna and McAlester Formations (undifferentiated; T. 15 N., R. 18, 19 E.), shale and minor sandstones. Yield limited amounts of water of poor quality.

Ipsh

ATOKA, BLOYD, AND HALE FORMATIONS

Ipsh Undifferentiated.

Ipsh Atoka Formation, shale and sandstone. Yields limited amounts of water of poor quality.

Ipsh Bloyd Formation, shale and limestone; and Hale Formation, limestone and sandstone. Probably will yield only small amounts of water of fair to poor quality.

Ipsh

MISSISSIPPIAN ROCKS ABOVE CHATTANOOGA SHALE

Mp Undifferentiated.

Mp Pika Formation, limestone; Fayetteville Formation, shale and limestone; Hindsville Formation, limestone and shale; and Morrill Formation, limestone.

Mkr Keokuk Formation, chert; Reeds Spring Formation, chert and limestone; and St. Joe "Group," limestone and marlstone.

Yield small to moderate amounts of water of fair to good quality.

Ipsh

MISSISSIPPIAN, DEVONIAN, SILURIAN, AND ORDOVICIAN ROCKS, UNDIFFERENTIATED

Mississippian and Devonian. Chattanooga Shale, shale.

Devonian. Sallisaw Formation, limestone, sandstone, and chert; and Frisco Formation, limestone.

Silurian. Quarry Mountain Formation, limestone; Tenkiller Formation, limestone; and Blackgun Formation, limestone and dolomite.

Ordovician. Sylva Shale, shale; Fernalde Limestone, limestone; File Limestone, limestone; Tycer Formation, shale, sandstone, dolomite, and limestone; Berger Sandstone, sandstone and minor shales and limestones; and Cotton Dolomite, dolomite.

Limestone, dolomite, and sandstone units may yield small to moderate amounts of water of fair to good quality; shale units probably will yield only limited amounts of water of poor to fair quality.

The stratigraphic nomenclature and age determinations used herein are those accepted by the Oklahoma Geological Survey and do not necessarily agree with those of the U. S. Geological Survey.

u

Fault

Dotted where concealed; U, upthrown side; D, downthrown side

RECONNAISSANCE OF THE WATER RESOURCES OF THE FORT SMITH QUADRANGLE, EAST-CENTRAL OKLAHOMA

MELVIN V. MARCHER
1969