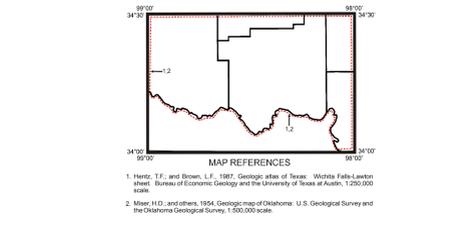


- ### DESCRIPTION OF UNITS
- af** ARTIFICIAL FILL—Natural or artificial talus, slumps, and tailings covering formerly exposed areas around large spillways.
 - Qal** ALLUVIUM—Unconsolidated sand, silt, clay, and gravel in stream and river channels on modern flood plains.
 - Qao** OLDER ALLUVIUM—Unconsolidated sand, silt, clay, and gravel in stream and river channels, mainly between 8–12m above modern flood plains.
 - Qds** DUNE SAND—Unconsolidated windblown sand formed into definite dune structures and ridges.
 - Qcs** COVER SHEET SAND—Thin, featureless sheet of windblown silt and sand; thickness varies in relation to underlying topography.
 - Qtg** TERRACE GRAVEL—Unconsolidated gravel, sand, silt, and clay laid down at several levels along former courses of present-day rivers and streams.
 - Phy** HENNESSEY FORMATION—Mostly a reddish-brown silty mudstone, with siltstone, and thin sandstone intervals; very thin dolomite and limestone beds locally. Unit correlates with the Clear Fork Group of north-central Texas. Only lower 15–45 meters are exposed in quad.
 - Pwr** WAGGONER RANCH FORMATION—Interbedded reddish-brown laminated silty mudstones and thin limestone and dolomite beds; locally, thin intervals of siltstone and sandstone occur, but are rare. Limestone and dolomite beds typically medium to coarsely crystalline texture, particularly in upper half of formation, where original depositional texture is observed; carbonates consist of an argillaceous, algal lime mudstone. The Lake Kemp Limestone, a 2.3 meter thick coarsely crystalline limestone, occurs at the top of the formation, base mapped at the top of the stratigraphically highest occurring sandstone or conglomerate bed of the Petrolia Formation. Thickness varies between 40–60 meters.
 - Ppt** PETROLIA FORMATION—Interbedded reddish-brown, unstratified silty mudstones, and lenticular, trough cross-bedded, medium- to fine-grained sandstones, soft sediment deformation common; locally, conglomeratic beds consisting of siltstone and limestone clasts set within a medium- to coarse-grain matrix occur, particularly in the upper half of the formation. Mudstones are blocky bedded, with local occurrences of calcareous nodules and paleosol development. Thickness varies between 110–122 meters.
 - Ppt** POST OAK FORMATION—Generally unconsolidated to weakly consolidated unit, consisting of well-rounded cobbles, sand, silt, and clay. Lithology of cobbles reflects the provenance of bedrock terrane from which the formation was derived, either limestone, granitic, or anorthositic. Post Oak derived from more mafic provinces locally contains zoned, oolitic, termed Teepees Creek facies. Laterally, the Post Oak interfingers with the Hennessey, Waggoner Ranch and Petrolia Formations. Surficial thickness in quad only about 10 meters; however, in subsurface formation extends into Pennsylvanian rocks occurring at depths of 700 meters.



Geologic Map Credits

Area	Geologist	Year
Area 1	Miller	1983
Area 2	Stanley	1983
Area 3	Miller	1983
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Area 5	Miller	1983
Area 6	Stanley	1983
Area 7	Miller	1983
Area 8	Stanley	1983
Area 9	Miller	1983
Area 10	Stanley	1983

Base Map Credits

The base map was compiled by the U.S. Geological Survey from 1:24,000 and 1:62,500-scale topographic maps dated 1960–1969. Primarily derived from aerial photographs taken 1983 and other source data. Map edited 1985. Universal Transverse Mercator (UTM) projection, 1983 North American Datum, 25,000-foot grid based on Oklahoma coordinate system, north zone, 10,000-meter grid, zone 14.

Geologic Map Credits

Geology compiled and field checked by Galen W. Miller and Thomas M. Stanley, 2005–2006. Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under Assistance Award Number 04RDCG0006. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official position, either expressed or implied, of the U.S. Government. Cartography and layout prepared by G. Russell Standridge, 2006.

GEOLOGIC MAP OF THE OKLAHOMA PART OF THE BURKBURNETT 30' X 60' QUADRANGLE, COMANCHE, COTTON, JEFFERSON, STEPHENS, AND TILLMAN COUNTIES, OKLAHOMA
Compiled by Galen W. Miller and Thomas M. Stanley
Cartography by G. Russell Standridge
2006