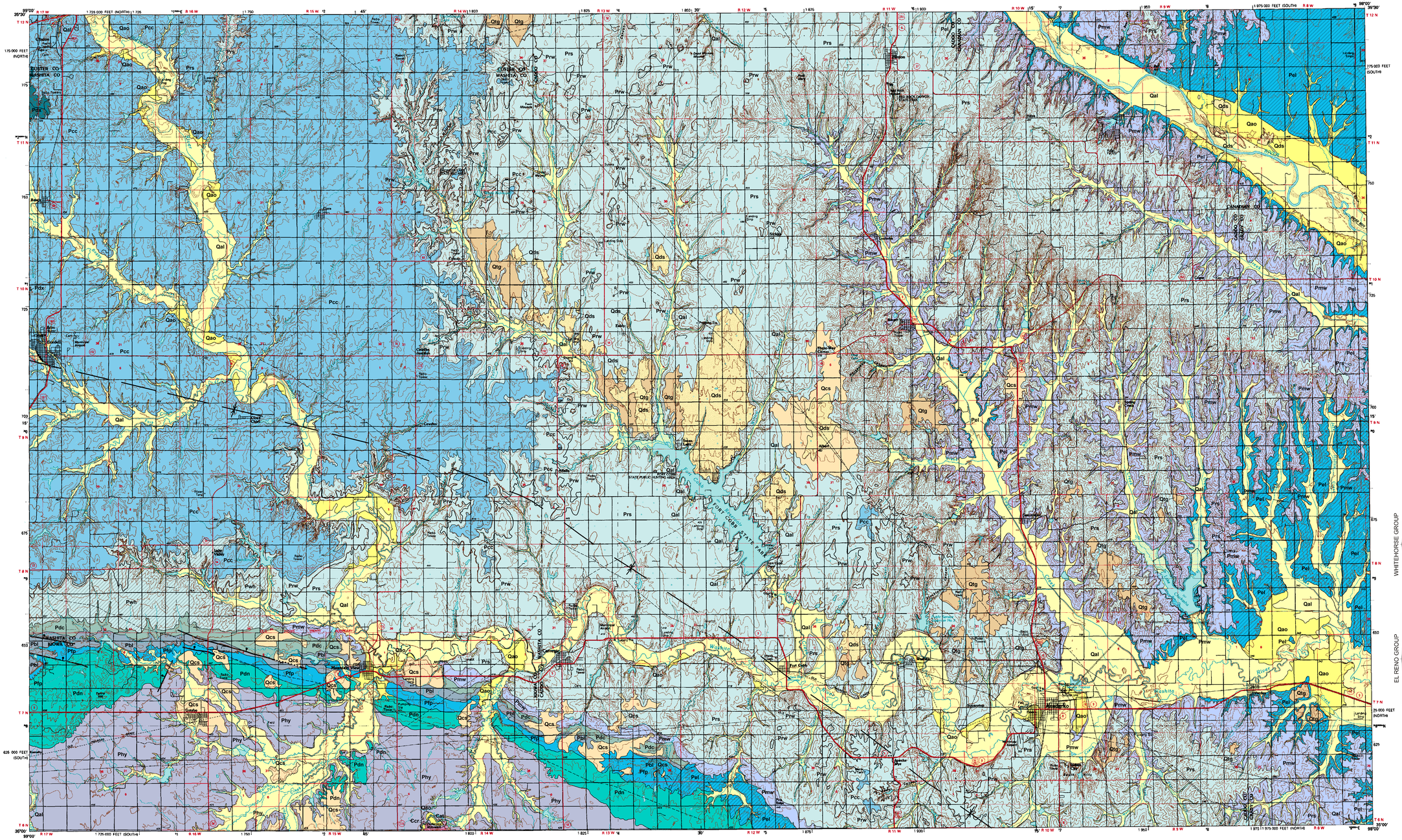
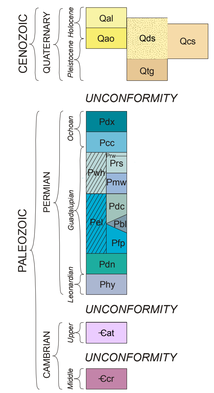
OKLAHOMA GEOLOGICAL SURVEY
Charles J. Mankin, *Director*

OPEN-FILE REPORT 4-2005
Geologic Map of the Anadarko
30′ X 60′ Quadrangle



CORRELATION OF UNITS



DESCRIPTION OF UNITS

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 0–12 m above modern flood plains

Qds — DUNE SAND—Unconsolidated windblown sand formed into definite dune structures and ridges

Qcs — COVER SHEET SAND—Featureless sheet of windblown silt and sand

Qtg — TERRACE GRAVEL—Unconsolidated gravel, sand, silt, and clay laid down at several levels along former courses of present-day rivers and streams

UNCONFORMITY

Pdx — DOXEY SHALE—Reddish-brown, moderately indurated siltstone and silty shale. Only basal 10-20 m exposed in map area

Pcc — CLOUD CHIEF FORMATION—Reddish-brown to orange-brown shale, locally interbedded with thin, reddish-brown, fine-grained sandstone and siltstone in middle of formation, and some dolomite in lower parts. Base of the formation is the base of the Moccasin Creek Gypsum Bed. Thickness from 60–120 meters

Pwh — WHITEHORSE GROUP, Undifferentiated—Reddish-brown and orange-brown, fine-grained sandstone and minor siltstone of the Marlow Formation (below) and the Rush Springs Formation (above). Units undifferentiated in southwestern part of map area due to absence of the Emanuel gypsum bed at the top of the Marlow Formation

WHITEHORSE GROUP

Prs — RUSH SPRINGS FORMATION—Reddish-brown locally orange-brown, cross-bedded, fine- to very fine-grained sandstone with local occurrences of dolomite and gypsum. Weatherford Gypsum Bed (Prw) occurring from 9 to 18 m below top of unit. Thickness varies between 60 m in west to 90 m in central and east parts of quad

Pmw — MARLOW FORMATION—Orangish-brown, fine-grained, massive sandstone with local interbeds of siltstone. Top mapped at the top of the Emanuel Gypsum Bed. Thickness varies from 30 to 40 meters

EL RENO GROUP

Pel — EL RENO GROUP, Undifferentiated—Reddish-brown silty shale, with local interbeds of thin gypsum and dolomite beds. Consists of the Dog Creek and Flowerpot Shales in areas where the Blaine Formation has pinched out due to off-lap

Pdc — DOG CREEK SHALE—Reddish-brown, silty shale. Contains thin interbeds of greenish-gray shale and several thin layers of light-gray dolomite. Thickness, about 60 meters

Pbl — BLAINE FORMATION—Anywhere from a maximum of 9, to a minimum of 2, thick beds of white, massive gypsum, each typically underlain by a thin bed of dolomite and thin to thick beds of reddish-brown shale. Unit pinches out to the east of map area. Thickness varies from 0–55 meters

Pfp — FLOWERPOT SHALE—Reddish-brown, silty shale, with locally occurring thin interbeds of greenish-gray shale and several thin layers of gypsum and dolomite in the upper part. Unit varies between 30–50 m thick

Pdn — DUNCAN SANDSTONE—Light-gray to reddish-brown, fine-grained, cross-bedded sandstone, with interbeds of yellowish gray and reddish-brown shale, and local occurrences of mudstone conglomerate. Total thickness is 15–60 meters

Phy — HENNESSEY FORMATION—Reddish-brown shale, with some reddish-brown and greenish-gray siltstone beds. Only upper 15–45 m is exposed

UNCONFORMITY

Cat — ARBUCKLE AND TIMBERED HILLS GROUPS, Undifferentiated—Outliers of Timbered Hills Group, consisting in descending order the Honey Creek Limestone and upper Reagan Sandstone; overlain by the lower section of the Arbuckle Group, consisting of in descending order the lower part of the Signal Mountain Formation, and the Fort Sill Limestone. Total thickness about 200-225 meters

UNCONFORMITY

Ccr — CARLTON RHYOLITE GROUP—Rhyolite flows and tuffs. Less than 50 m exposed

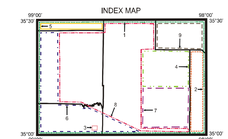
SYMBOLS

Geologic contact; approximately located

Axial trace of synclinal structure, dashed where approximate

FAULT, dotted where covered; ball and spike on downthrown side. All faults are normal faults, dipping 60–65°

INDEX MAP



MAP REFERENCES

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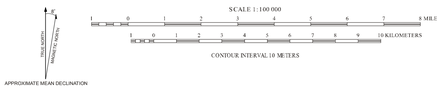

GEOLOGIC MAP OF THE ANADARKO 30′ X 60′ QUADRANGLE, CADDO, CANADIAN, CUSTER, GRADY, KIOWA AND WASHITA COUNTIES, OKLAHOMA

Compiled by Galen W. Miller and Thomas M. Stanley
Cartography by G. Russell Standridge
2004

Base Map Credits

The base map was compiled by the U.S. Geological Survey from 1:24,000-scale topographic maps dated 1967-1985. Planimetry revised from aerial photographs taken 1981. Map edited 1986. Universal Transverse Mercator (UTM) projection. 1927 North American Datum. 25,000-foot grid ticks 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, 2003-2004. Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award number 03HQAG0079. Any views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government. Digital cartography and layout prepared by G. Russell Standridge, 2004.

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Map of Oklahoma showing the locations of the 30′ X 60′ quadrangles. Red shaded quadrangle represents the current map