U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

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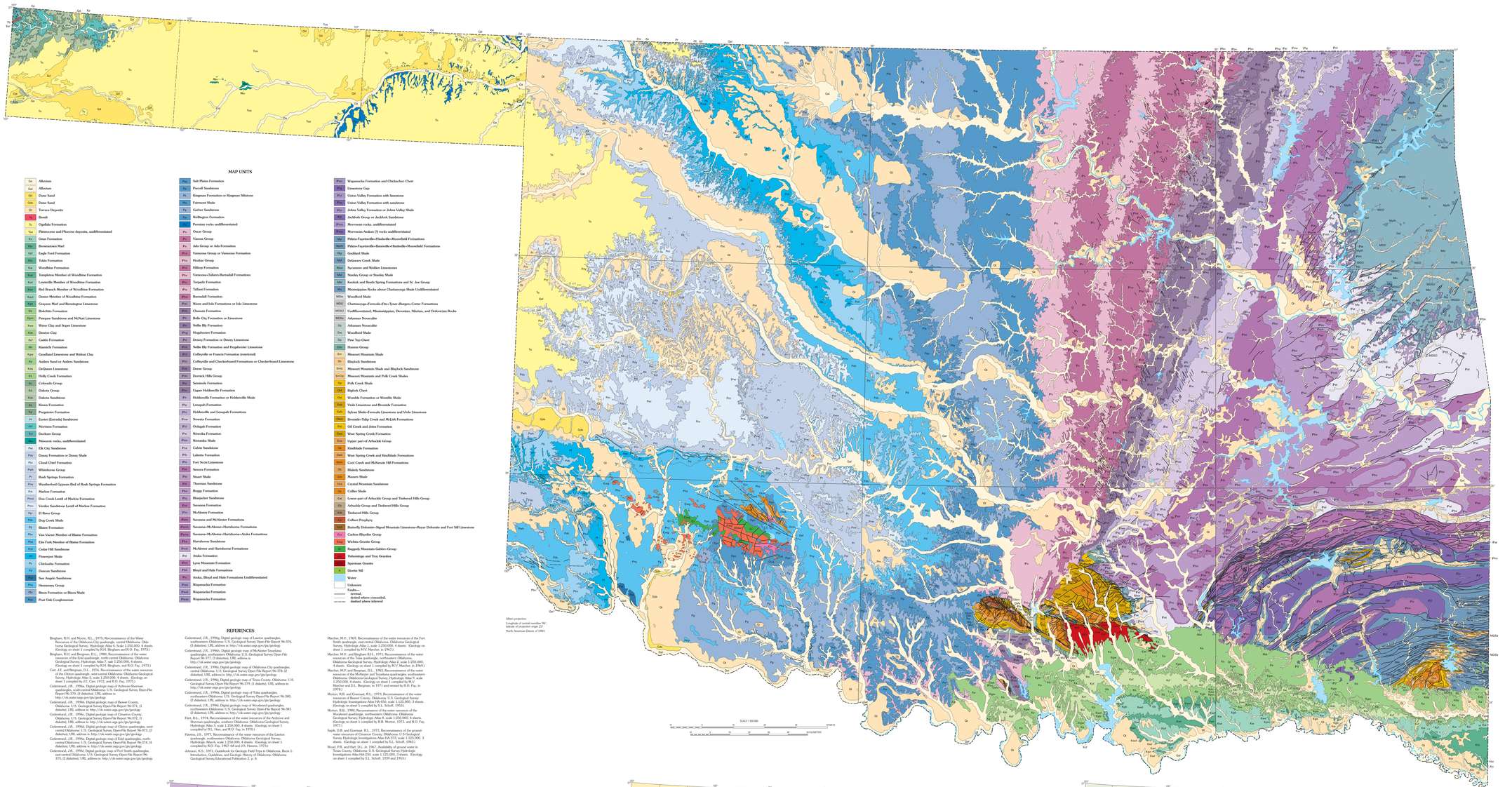

MAP UNITS

- Qa Alluvium
- Qal Alluvium
- Qd Dune Sand
- Qds Dune Sand
- Qt Terrace Deposits
- Quat Quaternary undifferentiated
- Tb Ogallala Formation
- Tertiary undifferentiated
- Kc Ozan Formation
- Kbm Bennett Mudstone
- Kef Eagle Ford Formation
- Kbo Boquillas Formation
- Kt Tokio Formation
- Kw Woodbine Formation
- Kwt Templeton Member of Woodbine Formation
- Kwl Lewisville Member of Woodbine Formation
- Kwd Red Branch Member of Woodbine Formation
- Kwd Dexter Member of Woodbine Formation
- Kgm Grayson Marl and Bennington Limestone
- Kb Bokchito Formation
- Kpm Pawpaw Sandstone and McNutt Limestone
- Kwa Weno Clay and Paper Limestone
- Kdn Denton Clay
- Kcf Caddo Formation
- Kki Kiamichi Formation
- Kgw Goodland Limestone and Walnut Clay
- Ka Antlers Sand or Antlers Sandstone
- Kdq DeQueen Limestone
- Kh Holly Creek Formation
- Kc Colorado Group
- Kd Dakota Group
- Kdk Dakota Sandstone
- Kj Kiowa Formation
- Kpg Purgatoire Formation
- Je Exeter (Entrada) Sandstone
- Jm Morrison Formation
- Jc Cockrum Group
- Jsu Mesozoic rocks, undifferentiated
- Pec Elk City Sandstone
- Pdy Doxey Formation or Doxey Shale
- Pcc Cloud Chief Formation
- Pwh Whitehorse Group
- Pr Rush Springs Formation
- Pmw Weatherford Gypsum Bed of Rush Springs Formation
- Pm Marlow Formation
- Pmd Doe Creek Lentil of Marlow Formation
- Pmv Verden Sandstone Lentil of Marlow Formation
- Pur El Reno Group
- Pdc Dog Creek Shale
- Pb Blaine Formation
- Pbv Van Vactor Member of Blaine Formation
- Pbe Elm Fork Member of Blaine Formation
- Pch Cedar Hill Sandstone
- Pf Flowerpot Shale
- Pc Chickasha Formation
- Pd Duncan Sandstone
- Psa San Angelo Sandstone
- Phy Hennessey Group
- Pb Bison Formation or Bison Shale
- Ppo Post Oak Conglomerate
- Psp Salt Plains Formation
- Pp Purcell Sandstone
- Pk Kingman Formation or Kingman Siltstone
- Pm Fairmont Shale
- Pg Garber Sandstone
- Pw Wellington Formation
- Permian rocks, undifferentiated
- Pv Oscar Group
- Pn Vanoss Group
- Pa Ada Group or Ada Formation
- Pvo Vanossa Group or Vanossa Formation
- Phv Hoshar Group
- Ph Hilltop Formation
- Pvt Vanossa-Tallant-Barnsdall Formations
- Pto Torpedo Formation
- Pta Tallant Formation
- Pbd Barnsdall Formation
- Pwi Wann and Iola Formations or Iola Limestone
- Pch Chanute Formation
- Pb Bailey City Formation or Limestone
- Pbl Nellie Bly Formation
- Ph Hogshooter Formation
- Pd Dewey Formation or Dewey Limestone
- Pnh Nellie Bly Formation and Hogshooter Limestone
- Pcf Collinsville or Francis Formation (restricted)
- Pcc Collinsville and Checkerboard Formations or Checkerboard Limestone
- Pdm Dome Group
- Pdz Dornick Hills Group
- Pt Seminole Formation
- Phu Upper Holdenville Formation
- Ph Holdenville Formation or Holdenville Shale
- Pl Lenapah Formation
- Phl Holdenville and Lenapah Formations
- Pnw Nowata Formation
- Pol Oologah Formation
- Pw Wewoka Formation
- Pwo Wetumka Shale
- Pca Calvin Sandstone
- Pla Labette Formation
- Pfs Fort Scott Limestone
- Pse Senora Formation
- Pst Stuart Shale
- Pth Thurman Sandstone
- Pbg Boggy Formation
- Pbz Bluejacket Sandstone
- Pta Tamaroa Formation
- Pmc McAlester Formation
- Pam Savanna and McAlester Formations
- Psm Savanna-McAlester-Hartshorne Formations
- Pasm Savanna-McAlester-Hartshorne-Atoka Formations
- Phe Hartshorne Sandstone
- Pmh McAlester and Hartshorne Formations
- Pa Atoka Formation
- Pbd Lynn Mountain Formation
- Pbh Bloyd and Hale Formations
- Pa Atoka, Bloyd and Hale Formations Undifferentiated
- Pwa Wapanucka Formation
- Pcal Wapanucka Formation
- Pwm Wapanucka Formation and Chickachoc Chert
- Pls Limestone Gap
- Puv Union Valley Formation with limestone
- Pun Union Valley Formation with sandstone
- Pjv Johns Valley Formation or Johns Valley Shale
- PJ? Jackfork Group or Jackfork Sandstone
- Pmc Morrowan rocks, undifferentiated
- Pma Morrowan-Atokan (?) rocks undifferentiated
- Mic Pitkin+Fayetteville+Hindsville+Moorefield Formations
- MPFL Pitkin+Fayetteville+Batesville+Hindsville+Moorefield Formations
- Mg Goddard Shale
- Mdl Delaware Creek Shale
- Mmw Sycamore and Welden Limestones
- Mst Stanley Group or Stanley Shale
- Mhc Kenoka and Reeds Spring Formations and St. Joe Group
- Mu Mississippian Rocks above Chattanooga Shale Undifferentiated
- MDw Woodford Shale
- MDO Chattanooga+Formoso+Haragan+Tyner+Bargen+Cromer Formations
- MDSO Undifferentiated, Mississippian, Devonian, Silurian, and Ordovician Rocks
- MDSa Arkansas Novaculite
- Da Arkansas Novaculite
- Dw Woodford Shale
- Dp Pine Top Chert
- Dhh Hunton Group
- Sm Missouri Mountain Shale
- Sb Blaylock Sandstone
- Smb Missouri Mountain Shale and Blaylock Sandstone
- SmOp Missouri Mountain and Polk Creek Shales
- Op Polk Creek Shale
- Obf Bigfork Chert
- Ow Womble Formation or Womble Shale
- Ovh Viola Limestone and Bromide Formation
- Ovb Sylvan Shale+Formale Limestone and Viola Limestone
- Obm Bromide+Tulip Creek and McLish Formations
- Otc Oil Creek and Joins Formation
- Otw West Spring Creek Formation
- Otwl Upper part of Arbuckle Group
- Ok Kindblade Formation
- Owk West Spring Creek and Kindblade Formations
- Ocm Cool Creek and McKenzie Hill Formations
- Ob Blakely Sandstone
- Cbh Bromide Formation
- Cos Crystal Mountain Sandstone
- Cc Collier Shale
- Cat Lower part of Arbuckle Group and Timbered Hills Group
- Cb Arbuckle Group and Timbered Hills Group
- Cth Timbered Hills Group
- Cef Collport Porphyry
- Cbf Butterfly Dolomite+Signal Mountain Limestone+Royer Dolomite and Fort Sill Limestone
- Ccv Carlton Rhyolite Group
- Ccog Wichita Granite Group
- Cg Raggedy Mountain Gabbro Group
- Cgr Diabasedogs and Troy Granites
- Cs Spavinaw Granite
- d Diorite Sill
- Water
- Unknown
- Faults—
  - normal, dotted where concealed, dashed where inferred

Albers projection
Longitude of central meridian 96°
latitude of projection origin 23°
North American Datum of 1983

SCALE 1 500 000

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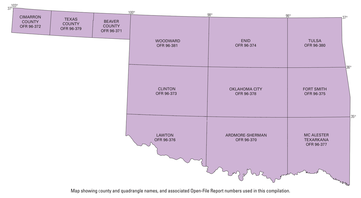
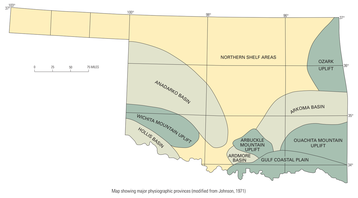
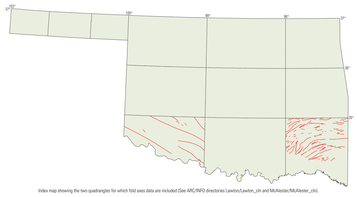


Map showing county and quadrangle names, and associated Open-File Report numbers used in this compilation.



Map showing major physiographic provinces (modified from Johnson, 1971)



Index map showing the two quadrangles for which fold axes data are included (See ARC/INFO directories Lawton_clin and McAlester/McAlester_clin).

A DIGITAL GEOLOGIC MAP DATABASE FOR THE STATE OF OKLAHOMA

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2003

Digital layout and design by Gayle M. Dunnewood
Preparation of GIS files for map layout by Gregory N. Green

Compiled from nine USGS 1:250,000 scale quadrangle maps and three 1:125,000 scale county maps

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