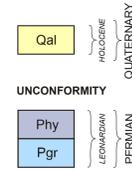


CORRELATION OF MAP UNITS

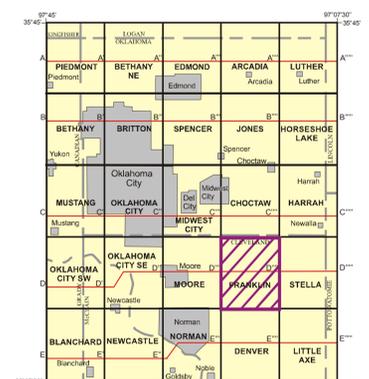


DESCRIPTION OF UNITS

- Qal** ALLUVIUM (Holocene)-Clay, silt, sand, and gravel in channels and on flood plains of modern streams. Includes terrace deposits of similar composition located directly above and adjacent to modern channels and flood plains. Thickness: 0 to about 30 ft
- Phy** HENNESSEY FORMATION (Permian)-Shale and siltstone, poorly exposed, mostly moderate reddish brown (10R4/6), moderate red (5R4/6), to moderate reddish orange (10R6/6) with conspicuous light greenish gray (5GY8/1) iron-reduction spots. The lower 20 - 30 ft is predominantly a blocky-weathering, silty shale and clayshale that exhibits good paleosol development; locally with lenticular beds of sandstone and siltstone-pebble conglomerate and fine- to very fine grained sandstone. Shale typically unstratified and highly fractured; rarely with small-scale slickensides that are evidence of paleosol development. Above the lower part, thin-bedded to laminated, stratified to well stratified siltstones and very fine grained sandstones are more common. Siltstone moderately to well stratified. Sandstone locally cross-stratified on large and small scale, uncommonly trough-cross-stratified and/or ripple marked. Trace fossils and shale rip-up clasts very rare. Sandstone rarely forms channelform deposits. Shale outcrops locally weather to blocky, very fractured, or "hackly" appearance; form bare, rounded outcrops and/or "badlands"-type topography. In other places, shale weathers to muddy soil with abundant small calcareous nodules. Calcite veinlets uncommon. Interbedded siltstone and shale weather to bench-and-slope topography. Siltstone and sandstone exhibit platy to flaggy weathering. Siltstone and sandstone beds with small-scale cross-stratification and ripples. Moderately indurated, occur as resistant beds capping tops of hills and ridges. Overall, unit is expressed as highly weathered, muddy soil. Thickness: 0-20 ft, top not exposed
- Pgr** GARBER FORMATION (Permian)-Sandstone, mostly fine-grained to less commonly very fine to medium-fine-grained; appears to be very fine grained near base; moderate reddish brown (10R4/6), moderate reddish orange (10R6/6), moderate red (5R5/4), light brown (5YR5/6), and dark yellowish orange (10YR6/6); minor siltstone, shale, siltstone-pebble conglomerate. Sandstone typically porous and friable. Commonly weathers to smooth, rounded outcrops; locally with platy to flaggy to rarely slabby appearance. Locally weathers to hard, dark-colored (grayish black [N2]) beds completely cemented with hematite, calcite, and/or silica. Dark-colored sandstone blocks locally form lag deposit over weathered outcrops. Large- and small-scale crossbeds, trough crossbeds common; many outcrops characterized by inclined beds and channelform deposits, although plane-parallel stratification also present. Shale and/or siltstone rip-up clasts uncommon; burrow extremely rare. Sandstone locally color-banded (e.g., moderate reddish brown (10R4/6), grayish red purple (5RP4/2), and grayish yellow green (5GY7/2)) or with mottled appearance. Small calcareous and iron-oxide spherules occur locally on weathered surfaces. Circular iron-reduction spots very rare. Siltstone and shale sandy, color-banded (e.g., moderate reddish brown (10R4/6) and yellowish gray (5Y7/2)), stratified to unstratified, and with uncommon iron-reduction spots as large as 2 in. in diameter. Typically soft, weather to "badlands"-type topography. Siltstone and shale common near the base and top of formation. In places, siltstone and shale contain evidence of paleosol development such as blocky weathering, fractures with fracture surfaces marked by small slickensides, through-going curved fractures, and calcareous concretions. Barite roses (Oklahoma rose rock) common south of Lake Stanley Draper. Thickness: about 950 ft; however, base not exposed

SYMBOLS

- Unit contact; dashed where approximate
- Mappable bed of conglomerate
- Mappable concentration of barite roses or crystals
- x Outcrop, geologic observation
- Petroleum well. Includes oil, gas, oil and gas, dry service (water supply or injection), junked and abandoned, unknown. Modified from Natural Resources Information System database

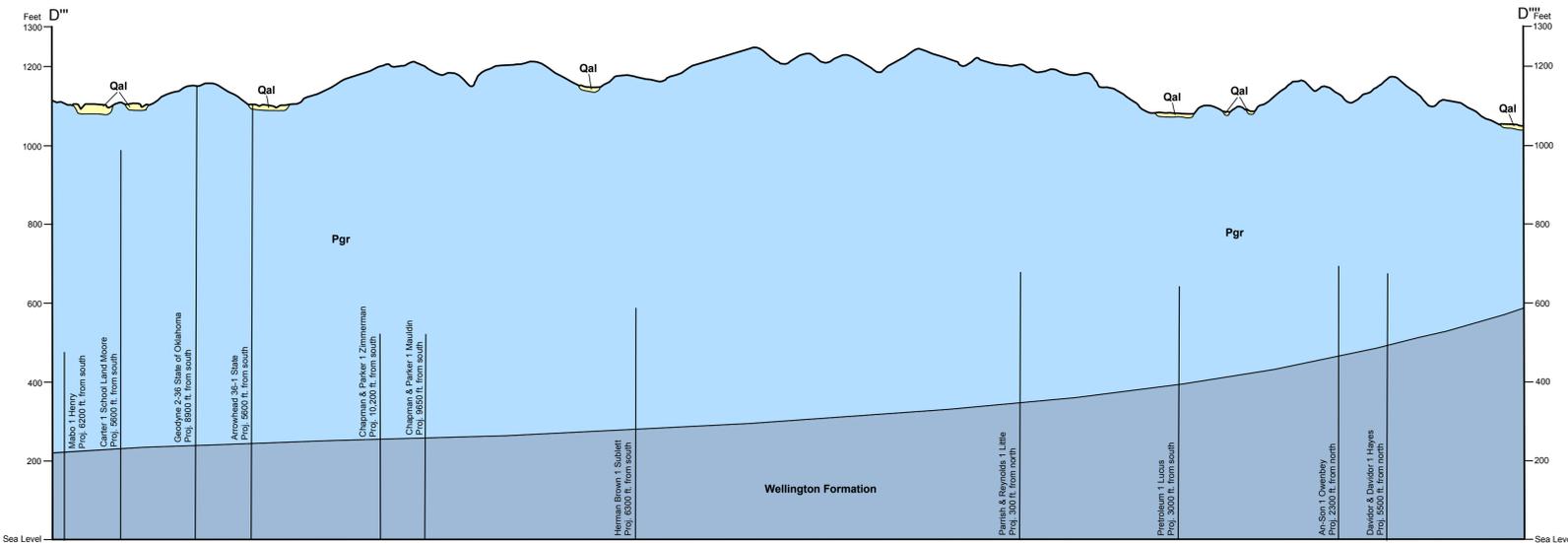
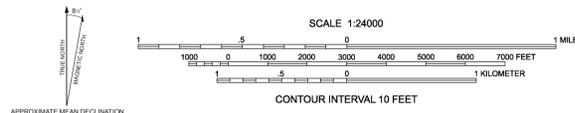


EXPLANATION

- Current Map
- Mapped Quadrangles
- Map Cities
- Expanding Subunits and Communities

Base Map Credits
The base map was compiled by the U.S. Geological Survey from aerial photographs and photogrammetric methods. Aerial photographs taken 1964. Field checked 1966. Universal Transverse Mercator (UTM) projection 1927 North American Datum, 10,000-foot grid based on Oklahoma coordinate system, south zone, 1,000-meter UTM grid, zone 14.

Geologic Map Credits
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GEOLOGIC MAP OF THE FRANKLIN 7.5' QUADRANGLE,
CLEVELAND COUNTY, OKLAHOMA
Thomas M. Stanley and Neil H. Suneson
2001