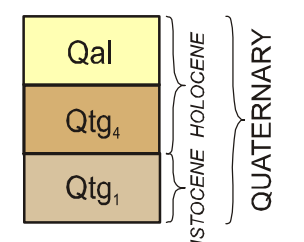
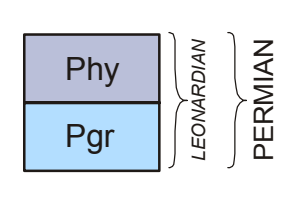


CORRELATION OF MAP UNITS



UNCONFORMITY

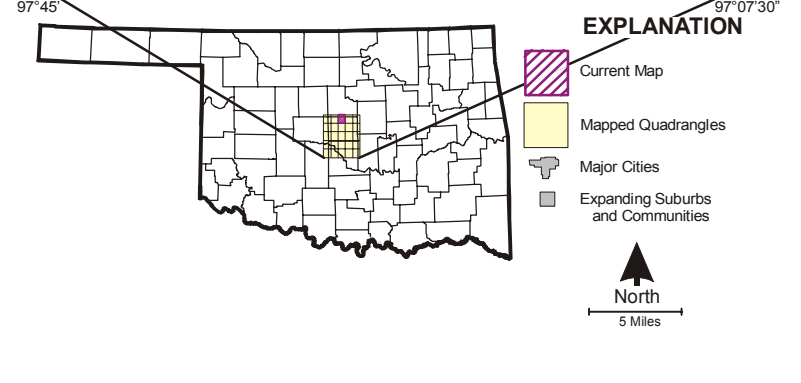
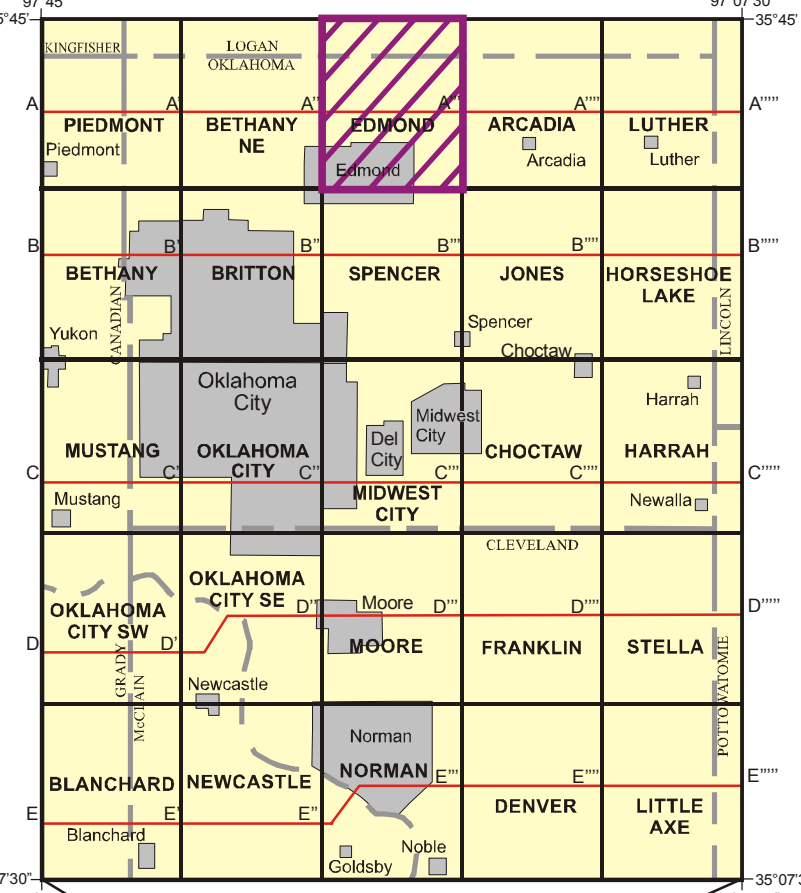


DESCRIPTION OF UNITS

- Qal** ALLUVIUM (Holocene)—Clay, silt, sand, and gravel in channels and on flood plains of modern streams and rivers
- Qtg** TERRACE DEPOSITS (Holocene)—Clay, silt, sand, and gravel on terraces immediately above and adjacent to modern flood plains. Consists entirely of locally derived sediment
- Qtg** REMNANTS OF TERRACE DEPOSITS (Pleistocene)—Concentrations of distally derived sediment, mostly subrounded quartz and quartzite cobbles and pebbles, more than 50 ft above modern flood plains. Probably represents part of former course of North Canadian River
- Phy** HENNESSEY FORMATION (Permian)—Shale and siltstone, poorly exposed, mostly moderate reddish brown (10R4/6) with conspicuous light greenish gray (5GY8/1) iron-reduction spots. Minor very fine grained sandstones, thin-bedded. Occurs on tops of hills and ridges, generally expressed as highly weathered, muddy soil. Thickness: 50 ft, top eroded
- Pgr** GARBER FORMATION (Permian)—Sandstone, fine-grained 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 sandstone- and siltstone-pebble conglomerate and/or breccia, dolomite conglomerate and/or breccia, siltstone, and shale. Sandstone typically porous and friable, although locally hard, dark-colored (grayish black [N2]), completely cemented with hematite, calcite, and/or silica. 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, burrows extremely rare. Sandstone typically 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. Sandstone locally contains calcite-, dolomite-, and/or barite-cemented septarian nodules. Circular iron-reduction spots very rare. Sandstone, siltstone, and dolomite conglomerates and breccias appear to be of two types: one is clearly sedimentary, the other appears to be diagenetic and probably represents a paleosol. Conglomerates and breccias common near base of formation. Siltstone and shale sandy, color-banded (e.g., moderate reddish brown (10R4/6) and yellowish gray (5Y7/2)), stratified to unstratified, and with common iron-reduction spots as large as 2 in. in diameter. Typically soft, weather to "badlands"-type topography. Locally contain abundant septarian nodules similar to those found in sandstone. Siltstone and shale common near base of formation. Thickness: about 430 ft, but base not exposed

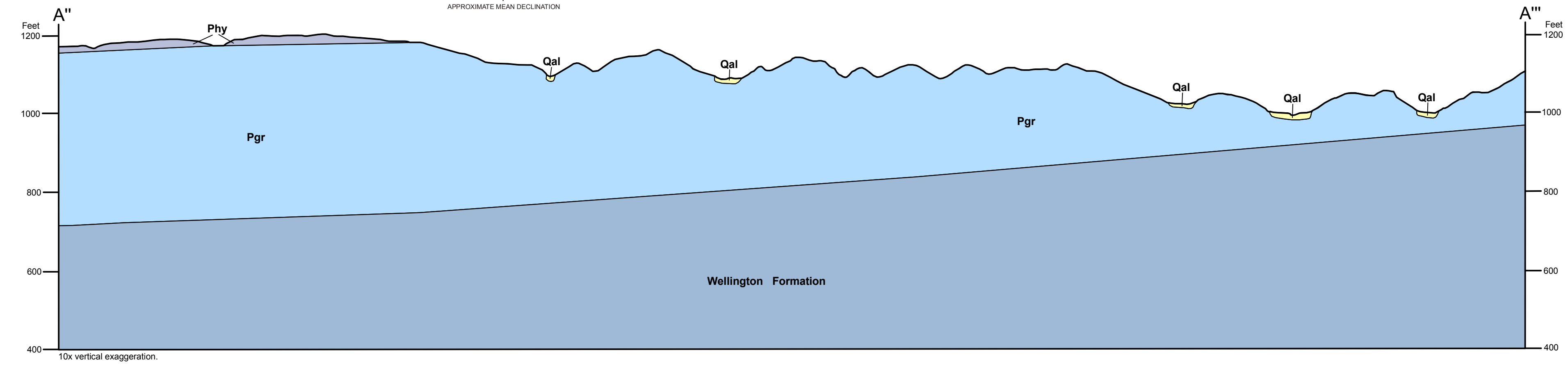
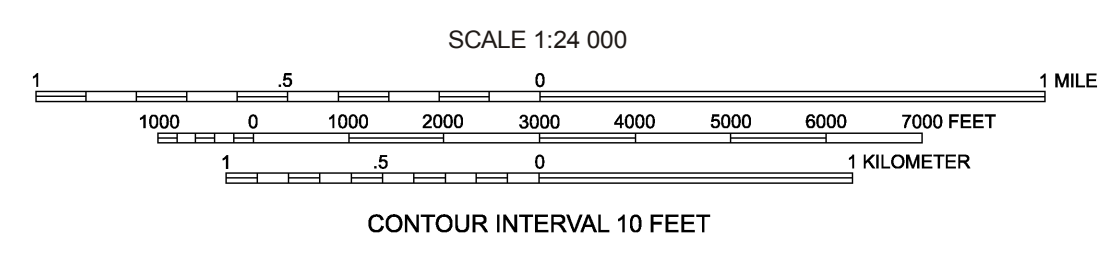
SYMBOLS

- Unit contact; dashed where approximate
- × Outcrop, geologic observation
- Outcrop, bearing of paleocurrent direction
- Exotic (quartz, quartzite) pebbles and cobbles
- 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
- Municipal water well
- Test hole by Oklahoma Department of Transportation



Base Map Credits
The base map was compiled by the U.S. Geological Survey Topography by photographic methods from aerial photographs taken 1984. Field checked 1986. Revisions from aerial photographs taken 1981 and other sources. Map edited 1983. Universal Transverse Mercator (UTM) projection, 1927 North American Datum, 10,000-foot grid ticks based on Oklahoma coordinate system, north and south zones, 1,000-meter UTM grid, zone 14.

Geologic Map Credits
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**GEOLOGIC MAP OF THE EDMOND 7.5' QUADRANGLE,
LOGAN AND OKLAHOMA COUNTIES, OKLAHOMA**
LeRoy A. Hemish and Neil H. Suneson
1998