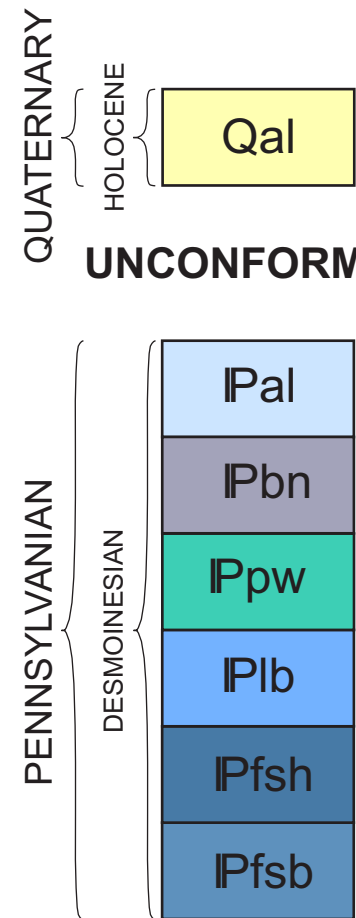


CORRELATION OF MAP UNITS

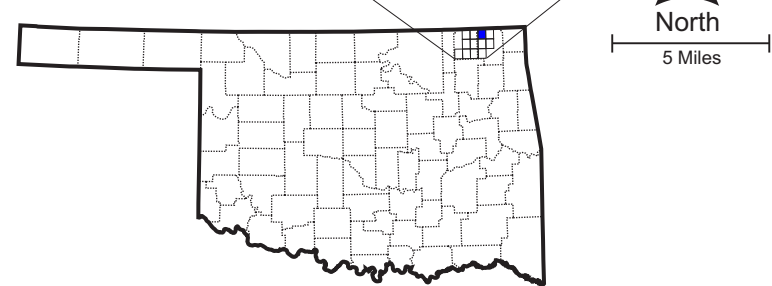
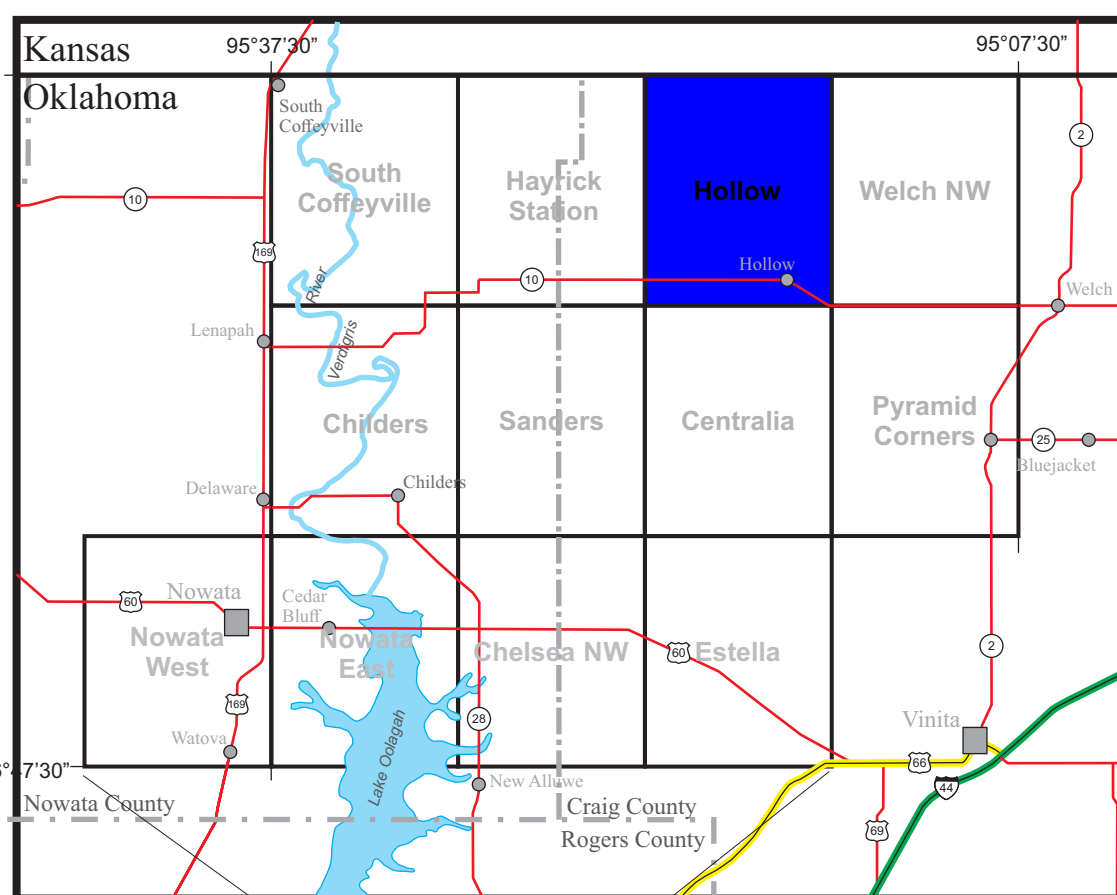


DESCRIPTION OF UNITS*

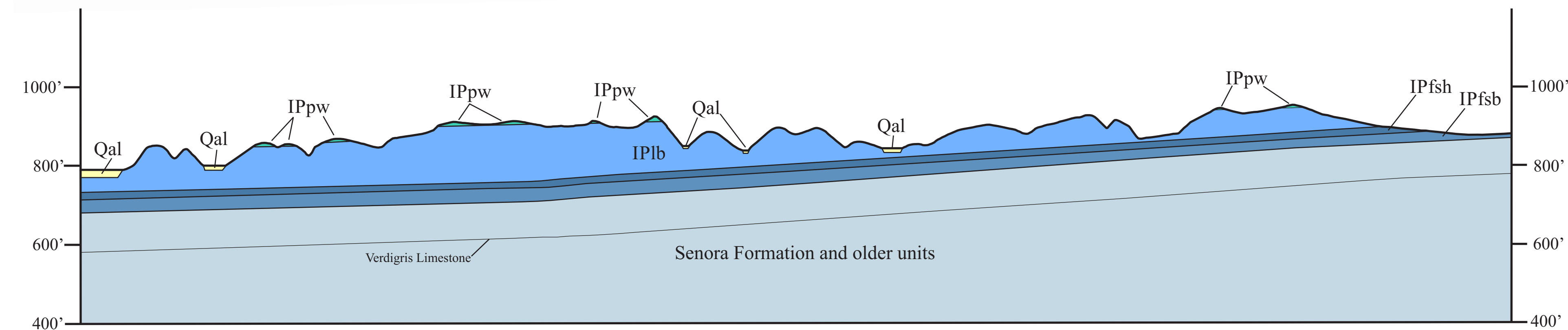
- Qal** ALLUVIUM (Holocene) - Clay, silt, sand, and gravel in channels and on flood plains of modern streams. Includes terrace deposits of similar composition located directly above and adjacent to modern channels and flood plains. Thickness: 0 to about 40 ft.
- Pal** ALTAMONT FORMATION (Pennsylvanian, Desmoinesian) - Consists of three members in descending order: the upper Worland Limestone, the Lake Neosho Shale, and the basal Amoret Limestone. Only the Amoret Limestone was observed in the quad, which is characterised by a medium gray (N5) at top to a medium light gray (N6) toward base; texture predominated by a slightly argillaceous skeletal mudstone with thin, medium dark gray (N4) clayshale partings that average around 2" thick. Near the base of the member, coarsely crystalline limestone textures occur locally. Thickness about 7 ft, top erosional.
- Pbn** BANDERA SHALE (Pennsylvanian, Desmoinesian) - Predominantly a medium dark gray (N5) where fresh, grayish orange pink (5YR7/2) where weathered, micaceous, slightly sandy clayshale at top, grading into a claystone at base. At about 15 ft. below the top of the formation is a more interbedded sand and shale interval that may correspond to the Bandera Quarry Sandstone. Interval varies from 5 to 10 ft thick. Total thickness of the formation about 120 ft.
- Ppw** PAWNEE FORMATION (Pennsylvanian, Desmoinesian) - Includes, in descending order, the Coal City Limestone, Mine Creek Shale, and the Myrick Station Limestone. The Coal City Limestone is a light gray (N7) fresh to light brownish gray (5YR6/1) weathered, irregularly bedded medium crystalline limestone with local interbeds of carbonate mudstone texture. Thickness about 20 ft. The Mine Creek Shale member consists of a dark gray (N3) platy to fissile laminated, slightly phosphatic and argillaceous clayshale; unit was rarely observed in the field. The basal Myrick Station Limestone is a 10 ft. thick medium light gray (N6) to light gray (N7), unbedded, skeletal mudstone to locally a coarse crystalline limestone. Fossil fragments mostly consist of crinoid debris, and associated with brachiopod fragments. Lower contact sharp but wavy. Total thickness of the formation varies from 35 to 40 ft.
- Plb** LABETTE SHALE (Pennsylvanian, Desmoinesian) - Light olive gray (5Y5/2) to dusky yellow (5Y6/4), occasionally medium light gray (N6), laminated, very silty to sandy, micaceous, concretionary clayshale, concretions dusky red (5R4/2) to moderate red (5R5/4), composed of hematite and/or siderite(?), and usually occur sporadically throughout formation as 1-3" diameter discoid-shaped clasts. Clayshale predominantly non-calcareous, although some narrow horizons are weakly calcareous (particularly those associated with abundant concretions). Locally, various non-descript very sandy or sandstone horizons occur; mostly these sand horizons are planar laminated to thin-bedded, but one at 15 ft above base of the Labette is trough-cross-bedded. Near top of the formation a thick sequence of interbedded sandstone and shale occurs (Peru sandstone). Where present, the base of the Peru sandstone is about 17 ft below the top of the formation, consisting of 9-10 ft of dusky yellow (5Y6/4), friable, thin- to medium-, trough-cross-bedded, fine-grained, non-calcareous, argillaceous sandstones, alternating every 6" to 3" with intervals consisting of well-laminated, calcareous, very fine-grained sandstone and shale; from top of Peru to base of the Pawnee find typical silty clayshale of the Labette. A black fissile, phosphatic shale called the Anne Shale may occur locally above the Peru Sandstone through to the top of the formation. Thickness of unit varies from 0 to 7 ft. In the map area the Labette Formation varies between 120 to 150 ft thick, but averages closer to 150 ft thick.
- Pfsh** FORT SCOTT FORMATION (Pennsylvanian, Desmoinesian) - Unit is subdivided into two informal units for the purposes of mapping: a lower unit, IPfsh, corresponding to the Blackjack Creek Limestone, and an upper unit, IPfsh that includes the Little Osage Shale and the Higginsville Limestone.
- Pfbs** The basal Blackjack Creek Limestone (IPfbs) consists of light gray (N7) to medium light gray (N6), thin to medium, wavy bedded whole-fossil wackestones and mudstones. Bedding varies from 2" to as much as 16" thick with thicker bedding more frequent toward top of exposure; wavy bedding contacts due (in part) to stromatolitic bedding. Fossils dominated by spirifer and productid brachiopods, and crinoid debris; algae and fusulinids common in some intervals. Only about 5-8 ft. of interval is exposed in quad. The upper Higginsville interval (IPfsh) consists of the Higginsville Limestone proper at top and the Little Osage Shale at base. In the map area the Higginsville is poorly exposed and highly recessive interval, only observed as a series of discontinuous limestone beds and float nodules that occur on steeper hill-sides. The limestone is usually a moderate orange pink (5YR/4) to grayish orange (10YR/4), slightly argillaceous (locally cherty), skeletal mudstone, most likely interbedded with calcareous shale. Thickness of interval varies from 40 ft to 55 ft. The Osage Shale is predominantly a black fissile bedded, phosphatic shale that grades upward into a 5 to 7 ft. thick, thickly laminated, medium gray (N5) to medium dark gray (N4) slightly silty and calcareous clayshale. Overall the Fort Scott varies between 45 to 63 ft thick.

SYMBOLS

x Outcrop; geologic observation



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Geologic Map of the Hollow 7.5' Quadrangle, Craig County, Oklahoma

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2025