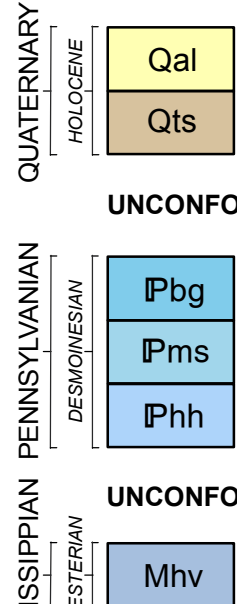


CORRELATION OF MAP UNITS

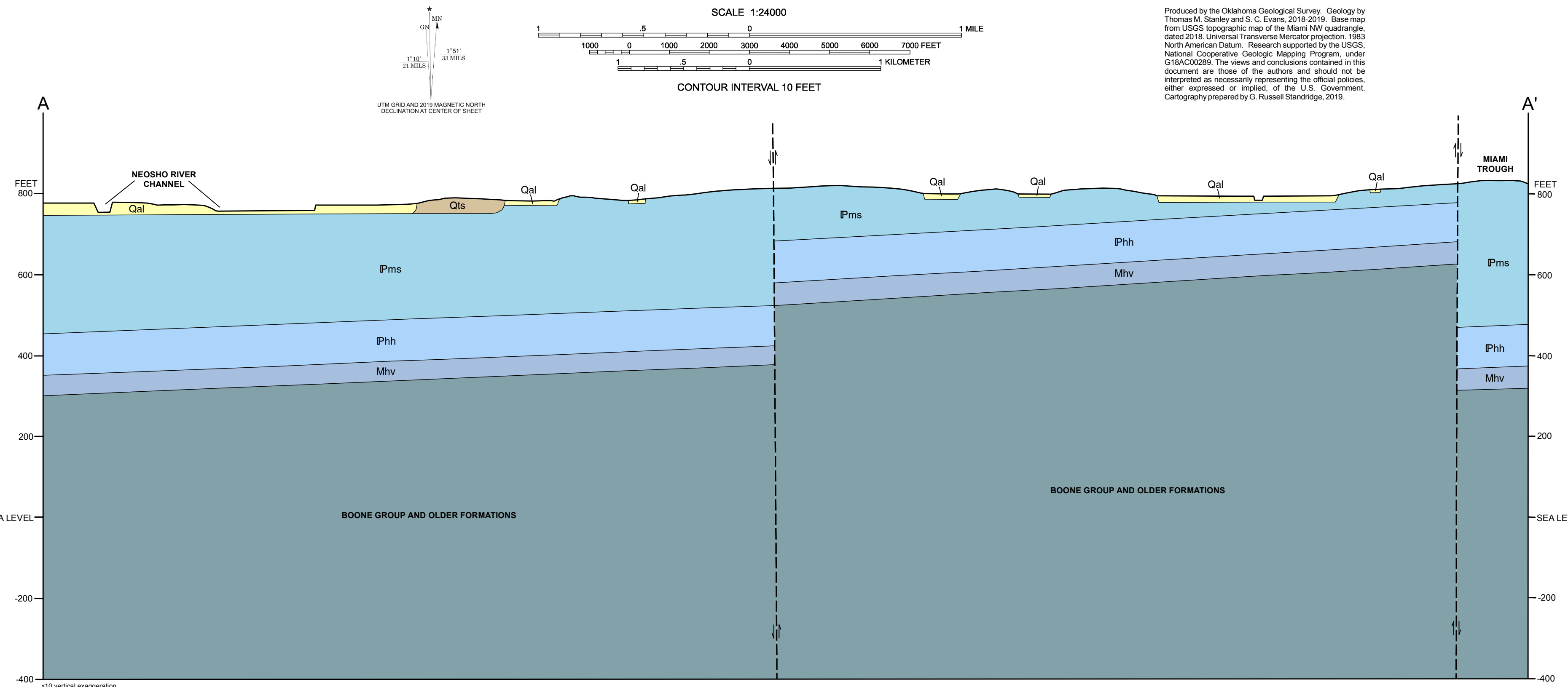
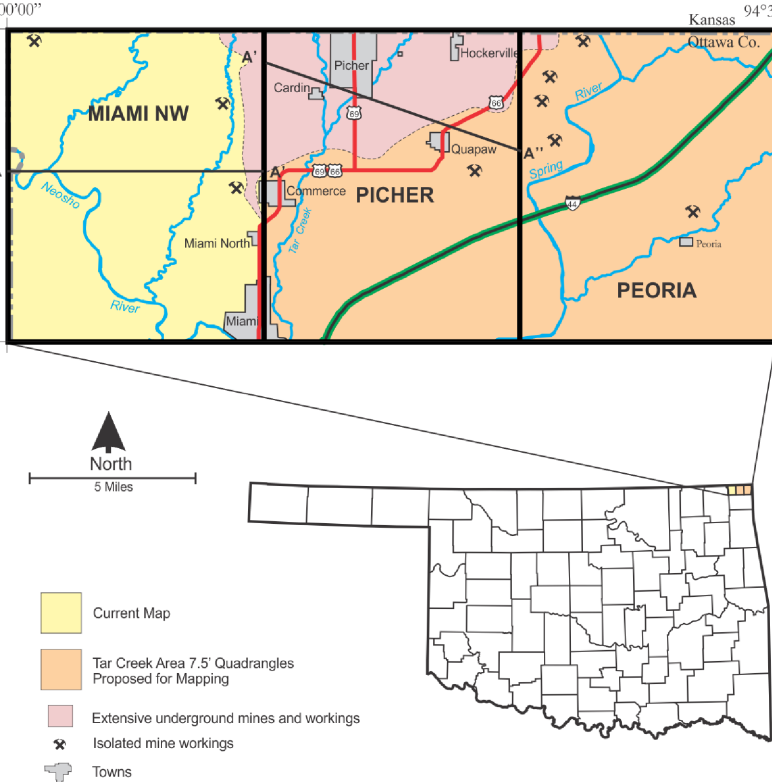


DESCRIPTION OF UNITS

- Qal** ALLUVIUM (Holocene) - Clay, silt and sand, with minor gravel, in channels and on flood plains of modern streams. Includes terrace deposits of similar composition located directly above and adjacent to modern channels. Thickness: 0-30 ft.
- Qts** UPPER TERRACE SANDS (Holocene) - Consists mostly of unconsolidated fine- to medium-grained quartz sand, silt, and clay. Situated just above modern flood plains and drainages. Thickness: 0 ft to as much as 20 ft; averages closer to 8 ft thick.
- Pbg** BOGGY FORMATION (Pennsylvanian, Desmoinesian) - Represented by small outliers of the Bluejacket Sandstone within the Miami Trough. Sandstone is moderate olive brown (5Y4/4), weakly to moderately indurated, medium- to coarse-grained, feldspathic, and argillaceous. Coarser grained material near base of unit, fining upward. Hematite cement common. Thickness from 5-10 ft.
- Pms** McALESTER-SAVANNA FORMATIONS Undivided (Pennsylvanian, Desmoinesian) - Poorly exposed in map area. Consists of dark gray to medium dark gray, well-laminated, concretionary, silty clayshales; a thin limestone bed (Doneley Limestone) and several thin coal beds (one of which is the Rowe Coal) have been reported within the Savanna proper, but were unobserved in field area. Base of interval mapped at the base of the Warner Sandstone of the McAlester Formation proper, and is predominantly a dusky yellow (5Y6/4) color with characteristic MnOx blotches, moderately indurated, planar laminated to thin-bedded (bedding from 0.5'-1.0' thick), fine-grained, siliceous sandstone; sandstone member about 10 ft thick, and generally better exposed in eastern part of map area. Overall thickness of McAlester-Savanna interval about 350 ft.
- Pph** HARTSHORNE FORMATION (Pennsylvanian, Desmoinesian) - Dark gray (N3) to medium dark gray (N4), well-laminated to fissile, slightly silty clayshale. Rare coal beds with underclay, and concretionary horizons occur locally in upper part of unit. Appears that Hartshorne Formation contains proportionately less coarse terrigenous material than overlying McAlester-Savanna Formations. Major erosional unconformity occurs at base of formation. Thickness about 75-10 ft.
- Mhv** HINDSVILLE FORMATION (Mississippian, Chesterian) - Overall a dark yellowish orange (10YR6/6), very pale orange (10YR8/2), to medium light gray (N6) weathering, medium light gray (N6) to medium gray (N5) fresh, limestone having wackestone to grainstone textures. Formation can be subdivided into 2 basic members: 1) an upper 0-24 ft thick interval of cross-laminated, sandy grainstone, interbedded with medium- to thin-bedded whole-fossil wackestones and packstones; Waulsortian mound facies, with accompanying flank beds, may occur at top of this interval, mounds typically 2-3 ft in diameter and 6' in height, and contain abundant fenestrate bryozoans; small, well-rounded chert pebbles commonly found in grainstone cross-bedding sequences; and 2) a lower, 10-30 ft thick interval of thin- to medium-bedded, well-rounded skeletal, crinoidal grainstone that may contain shark's teeth and disarticulated fish plates. A 12" thick dark gray (N3), fissile, very calcareous clayshale separates the upper and lower intervals; a corresponding 1'-2" thick sulfide zone occurs just below clayshale at the top of the lower interval. Predominate interval mapped was the lower skeletal grainstone facies observed as small outliers exposed in the Neosho River, the upper interval with Waulsortian facies rarely observed outside of quarries due to local pre-Batesville erosion. Thickness of formation in the subsurface about 55 ft.
- Mbn** BOONE GROUP (Mississippian, Meramecian) - Observed only in the subsurface.

SYMBOLS

- Unit contact; dashed were approximate
- Normal fault; bar and ball on downthrown side; dotted where covered
- x Outcrop, geologic observation
- Petroleum well; includes oil, gas, oil and gas, dry service (water supply or injection), junked and abandoned, and unknown; modified from NRIS well data
- A---A' Line of cross section



GEOLOGIC MAP OF THE MIAMI NW 7.5-MINUTE QUADRANGLE,
CRAIG AND OTTAWA COUNTIES, OKLAHOMA

Thomas M. Stanley and S. C. Evans
2019