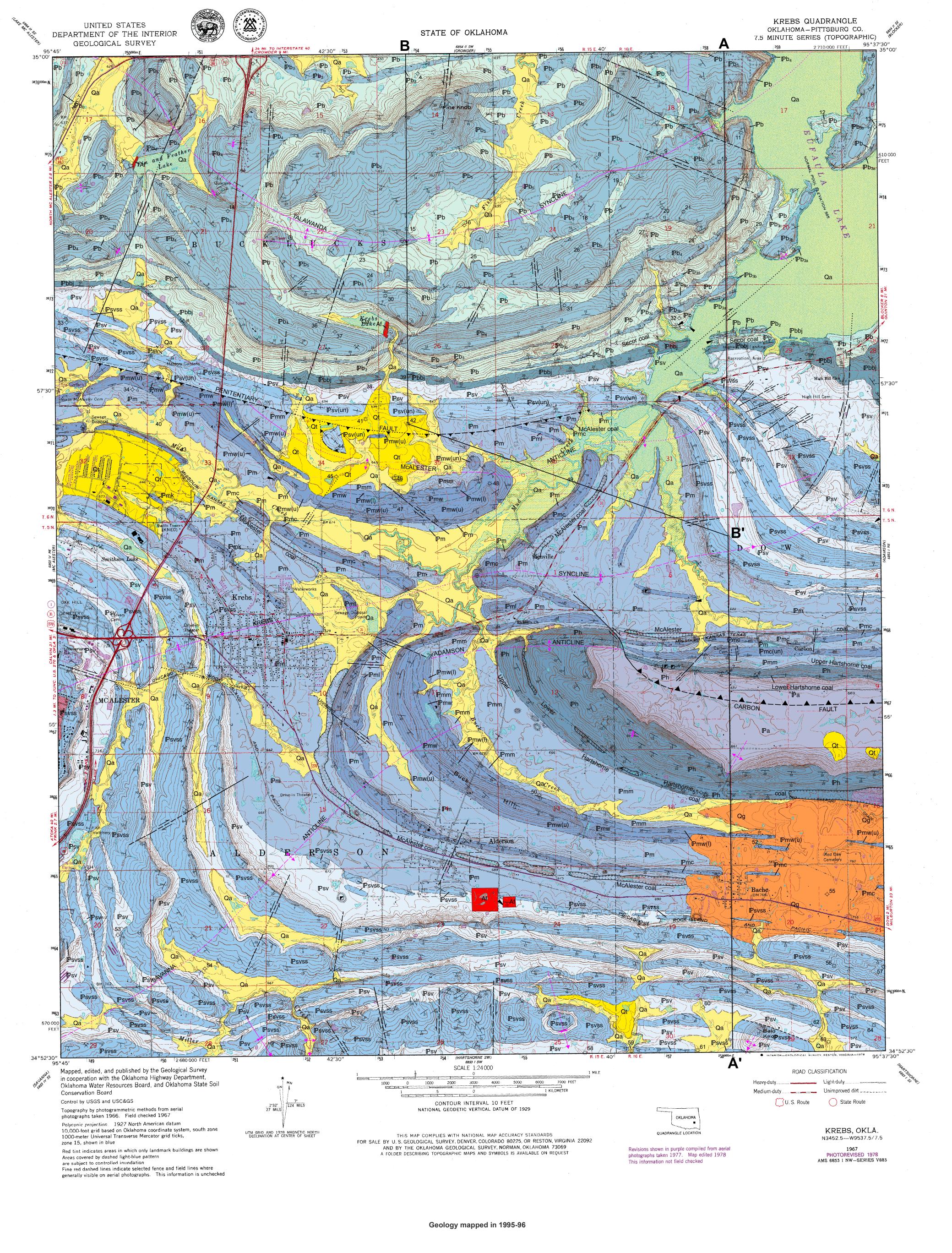
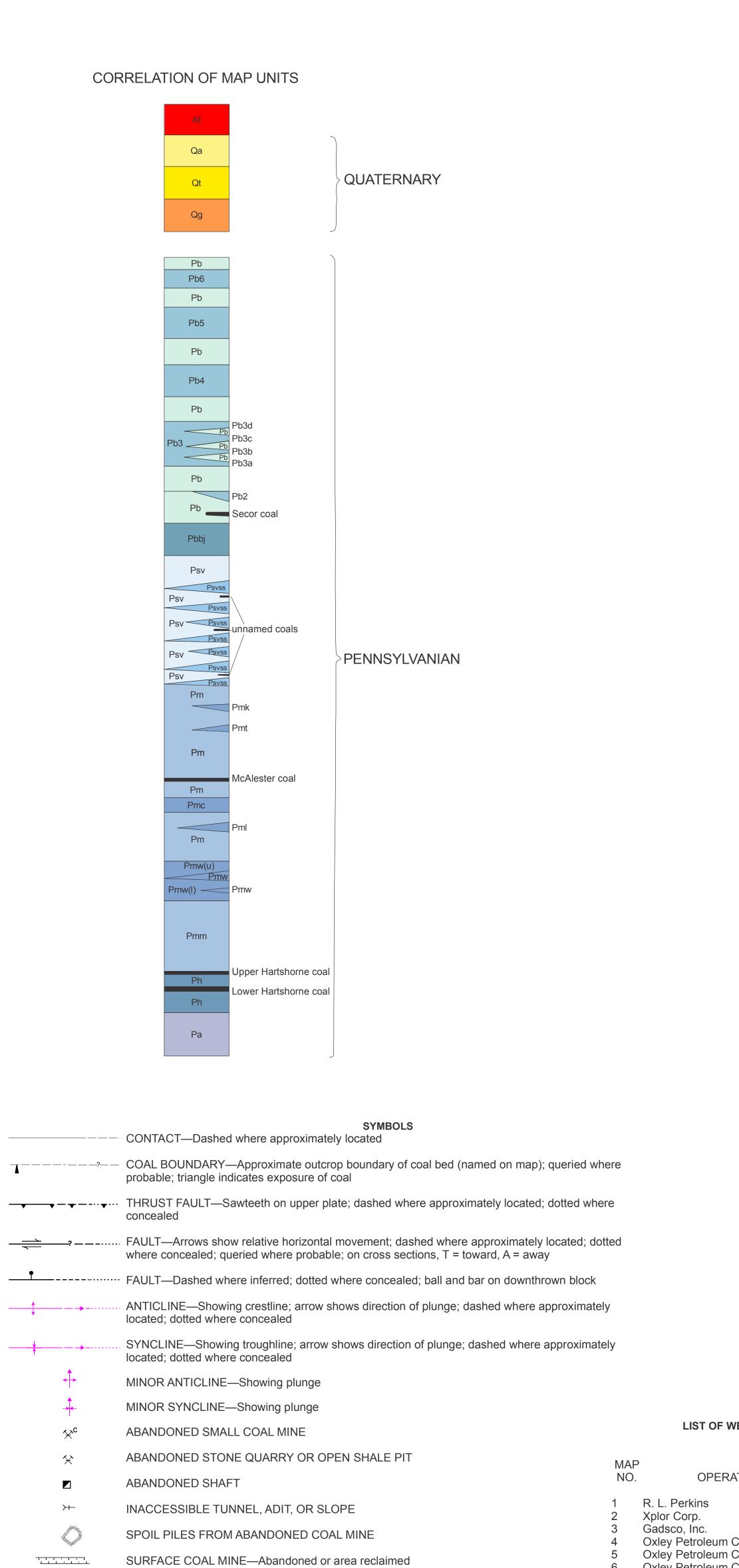
OKLAHOMA GEOLOGICAL SURVEY Charles J. Mankin, Director



GEOLOGIC MAP OF THE KREBS QUADRANGLE, PITTSBURG COUNTY, OKLAHOMA

LeRoy A. Hemish



STRIKE AND DIP OF BEDS

Vertical beds

Horizontal beds

OIL AND GAS WELLS

⇔ Gas well

Overturned beds

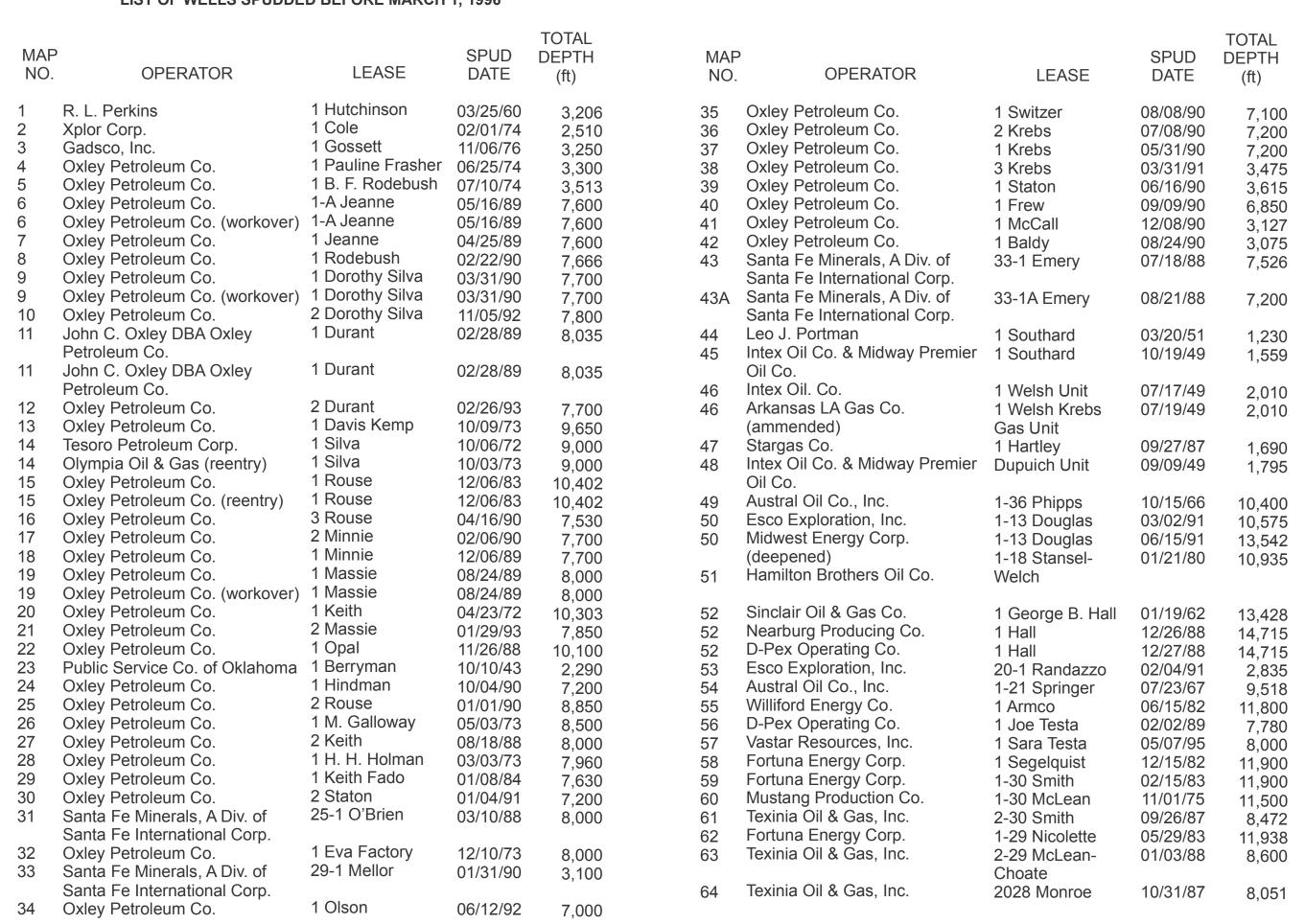
Dry hole, abandoned

Strike and dip of beds, upright

Undulatory beds, average dip

12 Number on map corresponds to list of wells

LIST OF WELLS SPUDDED BEFORE MARCH 1, 1996



ARTIFICIAL FILL—Mapped in large dams and landfills.

present-day streams.

ALLUVIUM (QUATERNARY)—Gravel, sand, silt, and clay on flood plains of

TERRACE DEPOSITS (QUATERNARY)—Subangular to subrounded cobbles,

gravel, sand, and silt, forming a veneer, generally about 4–10 ft thick, on surfaces of terraces that stand about 15–50 ft above the beds of present-day streams.

GERTY SAND (QUATERNARY)—Unconsolidated gravel, sand, silt, and clay in abandoned river channel found at elevations well above modern flood plains. Main constituents of the sand and gravel are quartz, quartzite, chert, flint, jasper, and silicified wood. Thickness varies from an estimated maximum of 50 ft to a thin

BOGGY FORMATION (PENNSYLVANIAN)—Predominantly sandy, silty grayish black (N2) to olive gray (5Y4/1) to dark yellowish brown (10YR4/2) shales and

siltstones (Pb) with several mappable, scarp-forming, fine- to very fine grained sandstones (Pbbj, Pb2, Pb3, Pb4, Pb5, and Pb6). At the base is the Bluejacket

mappable. Top of formation eroded. Remaining thickness: 700–1,000? ft.

Psv brown (10YR6/2) to olive-gray (5Y3/2) to medium dark gray (N4) shales (Psv) with several mappable moderate brown (5YR4/4) to grayish orange (10YR7/4) to

coal beds. Thickness: 1,250–1,400 ft.

SAVANNA FORMATION (PENNSYLVANIAN)—Predominantly pale yellowish

moderate reddish brown (10YR4/6), fine- to very fine grained noncalcareous sandstone units (Psvss). The sandstones are massive to thin-bedded and sha They commonly are cross bedded and ripple marked and in places contain abundant soft-sediment deformation features. Sole marks (trace fossils; brush and prod marks; flute, groove, and load casts) at the base of some sandstone beds are locally common. Most shales in the Savanna include thin, unmappable sandstone units. In the area directly north of the Penitentiary Fault, and in a small, backthrusted block just south of the same fault, where beds dip steeply, sandstone and shale units are undifferentiated [Psv(un)]. The Savanna locally includes unnamed

McALESTER FORMATION (PENNSYLVANIAN)—Predominantly dark gray (N3) to

black (N1), blocky shales containing abundant ironstone concretions. McCurtain Shale Member (Pmm) at the base is ~600 ft thick. The Warner Sandstone Member (Pmw) overlies the McCurtain Shale Member. It is a resistance, moderate reddish brown (10R4/6) to grayish orange (10YR7/4) to moderate yellowish brown (10YR5/4), fine-grained, cross-bedded sandstone of variable thickness. Where exposed in the area north and east of Krebs, it is mapped as Pmw (I), a thick sandstone unit containing intervening shales, a middle shale unit, Pmw, and an upper sandstone unit, Pmw (u). In the area just north of the Carbon Fault, where beds dip steeply, sandstone and shale units are undifferentiated [Pmw (un)]. Four named moderate brown (5YR3/4), very fine grained, thin-bedded sandstone units occur in the shale (Pm) above the Warner Sandstone Member: Lequire Sandstone Member (Pml); Cameron Sandstone Member (Pmc); Tamaha Sandstone Member (Pmt); and Keota Sandstone Member (Pmk). The McAlester coal, about 2.0–3.5 ft thick, occurs in the shale interval above the Cameron Sandstone Member. It has

been extensively mined in the Alderson, Krebs, and McAlester areas. Thickness:

HARTSHORNE FORMATION (PENNSYLVANIAN)—Grayish orange (10YR7/4) to moderate reddish orange (10R6/6) to very light gray (N8), very fine grained, ripplemarked, bioturbated, thin-bedded to massive sandstone interbedded with silty, medium-gray (N5) shale. Contains the Lower and Upper Hartshorne coal beds. The Lower Hartshorne coal ranges in thickness from 2.5 ft to 6.0 ft — average thickness is ~4.0 ft; the Upper Hartshorne coal ranges in thickness from 2.3 ft to 3.5 ft —

ATOKA FORMATION (PENNSYLVANIAN)—Predominantly silty, medium dark gray

(N4) to olive black (5Y2/1) noncalcareous shale (Pa) with thin, brownish gray (5YR3/4) siltstone beds. Only the upper part is exposed in an area on both sides of

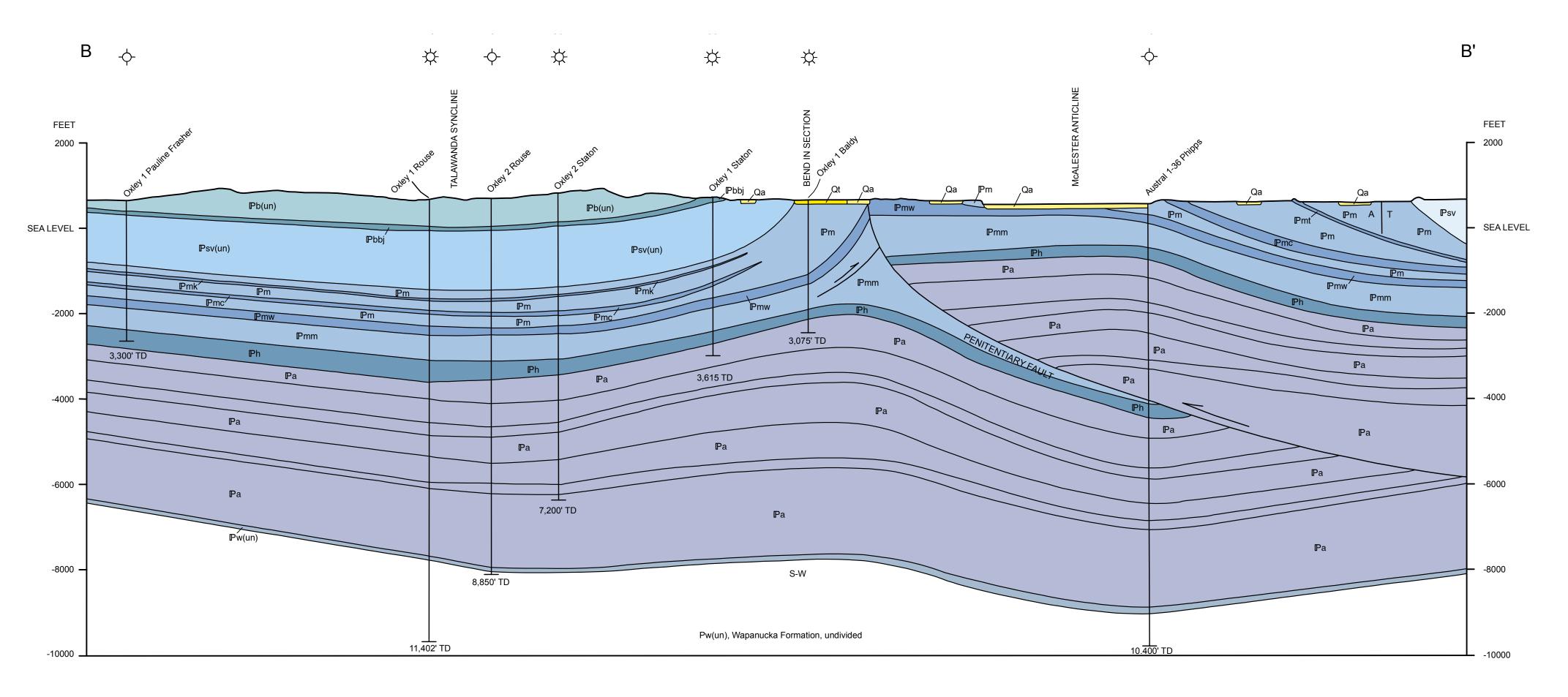
average thickness is ~3 ft. Thickness: approximately 350–750 ft.

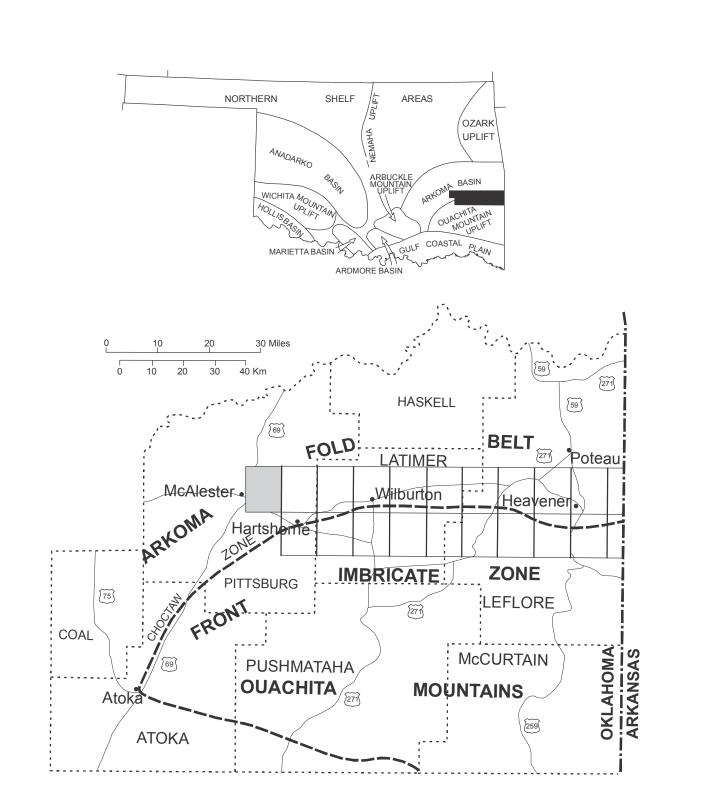
the Carbon Fault. Thickness unknown. Subsurface thickness: 8,500 ft.

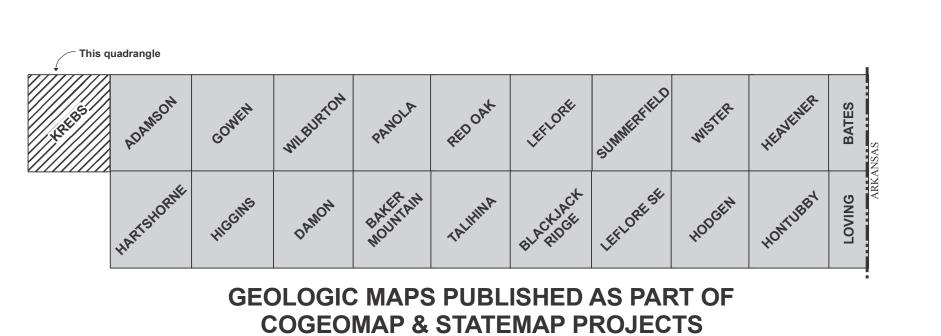
Assisted by Dorothy Smith

Sandstone Member (Pbbj), mostly moderate yellowish brown (10YR5/4), about 20–200 ft thick. In the eastern part of the map area the Bluejacket contains a lower, very fine grained, silty, shaly, thin-bedded, parallel-bedded, ripple-marked, bioturbated sandstone unit 25-50 ft thick; a middle silty shale unit (generally covered), about 50-100 ft thick; and an upper fine-grained, medium- to thickbedded sandstone unit about 25-75 ft thick, containing large-scale trough crossbedding, abundant soft-sediment-deformation features, and stacked-channel sequences. Pbbj thins westward and can be observed as only a single unit represented by about 20–40 ft of thin- to medium-bedded slabby sandstone in the western one-third of the map area. Pb2-Pb4 are predominantly dark yellowish brown (10YR4/2) to grayish orange (10YR7/4) to light brown, (5YR5/2), very fine grained, noncalcareous sandstones with abundant sedimentary structures such as ripples, cross-stratification, sole marks, and soft sediment deformation features. The Secor coal occurs in the shale interval between Pbbj and Pb2. It is locally of minable thickness in the east-central part of the quadrangle where it is >2 ft thick. Pb2 is discontinuous, or thin bedded and generally unmappable. Pb3 becomes shaly and splits into four mappable sandstone units (Pb3a, Pb3b, Pb3c, and Pb3d) in the slopes west of Eufaula Lake. In the northern and western parts of the Boggy outcrop belt, Pb3 is represented by a single sandstone unit that is continuously

11 10 22 21 28 * * * * + Sub-Wapanucka Units S-W (not exposed in quadrangle) Pb(un), (undivided Boggy Formation above Pbbj); Pbbj, Bluejacket Sandstone Member of Boggy Ps, Spiro Sandstone Member of Wapanucka Formation Cross-sections based on surface geology and well-log interpretation. Formation; and Psv(un), (undivided Savanna Formation) include sandstone and shale units. Pw, Wapanucka Formation below Spiro Sandstone Sandstone beds (stippled) diagrammatic to show structure.







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