

U.S. GEOLOGICAL SURVEY  
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R. B. E.

STRUCTURE-SECTION SHEET

INDIAN TERRITORY  
COALGATE QUADRANGLE  
R. 12 E.

LEGEND

SURFICIAL ROCKS

**Prs**  
River sand  
(the yellow sand and alluvium)

SEDIMENTARY ROCKS

**Ng**  
Quartzite sand  
(unconsolidated silt sand, and gravel on benches above the present drainage)

**Csl**  
Seminole conglomerate  
(sandstone and chert conglomerate)

**Chd**  
Holdenville shale  
(blue clay shale with thin sandstone and sandstone)

**Cwk**  
Wewoka formation  
(massive soft sandstone and blue clay shale)

**Cwt**  
Wetumka shale  
(shale and thin sandstone with thin limestone at the top)

**Ccv**  
Calvin sandstone  
(massive sandstone changing to sandstone and shale toward the west)

**Csn**  
Senora formation  
(massive sandstone with shale above and shaly toward the west)

**Cst**  
Stuart shale  
(blue and black clay shale with sandstone near the middle)

**Ct**  
Thusman sandstone  
(conglomerate shale and sandstone with thin sandstone in the western portion)

**Cb**  
Boggy shale  
(shale with many thin sandstone beds and coal in lower part)

**Cs**  
Savanna sandstone  
(heavy sandstone shaly sandstone, and shale)

**Cm**  
Mc Alester shale  
(blue and black shale, thin sandstone, and coal)

**Ch**  
Hartshorne sandstone  
(heavy, thick and thin bedded sandstones)

**Ca**  
Atoka formation  
(shales and thin sandstone)

**Cc**  
Chickachoc chert lentil  
(white calcareous cherty sandstone in the Atoka formation)

**Cw**  
Wapanucka limestone  
(massive white limestone, cherty blue limestone, and shale)

**Ccy**  
Caney shale  
(blue clay shale and black shale with blue limestone segregations)

**Observed faults**

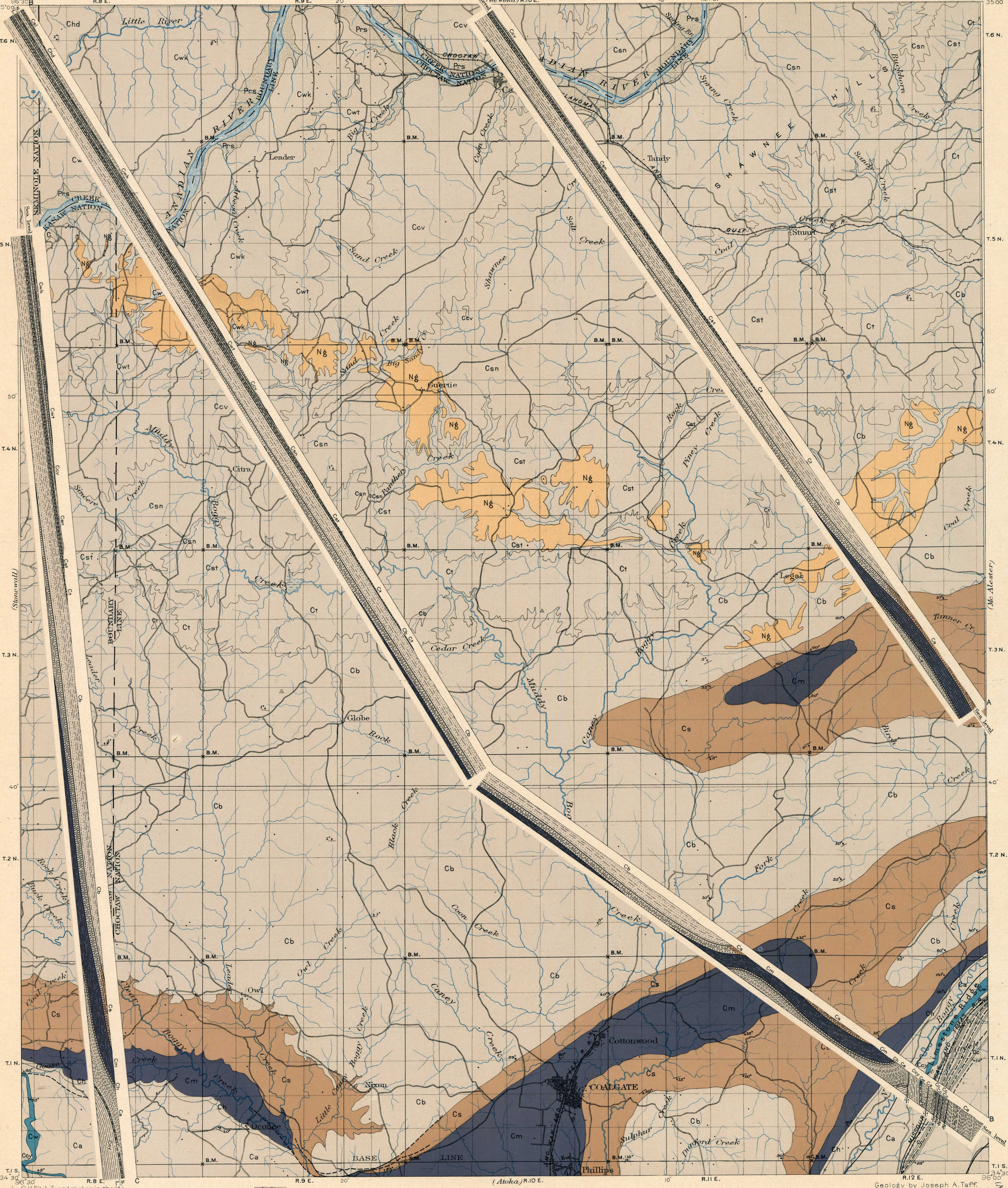
**Probable faults**  
(approximate location)

**Known productive formations**

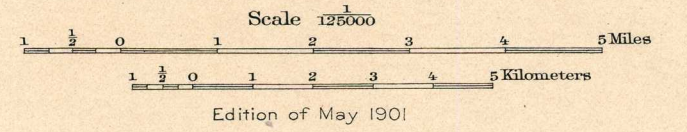
**Cm**  
Coal  
(Mc Alester shale contains workable coal beds)

**Cw**  
Limestone  
(Wapanucka limestone suitable for lime and building stone)

**Cs**  
Building stone  
(Savanna sandstone suitable for building)



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Van H. Manning, Topogr. Ass'n in charge.  
Triangulation by C.F. Urquhart.  
Topography by C.F. Cook, C.W. Goodlove,  
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Surveyed in 1895-96.



Geology by Joseph A. Taff.  
Assisted by George I. Adams.  
Surveyed in 1898.

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PLEISTOCENE

NEOCENE?

CARBONIFEROUS