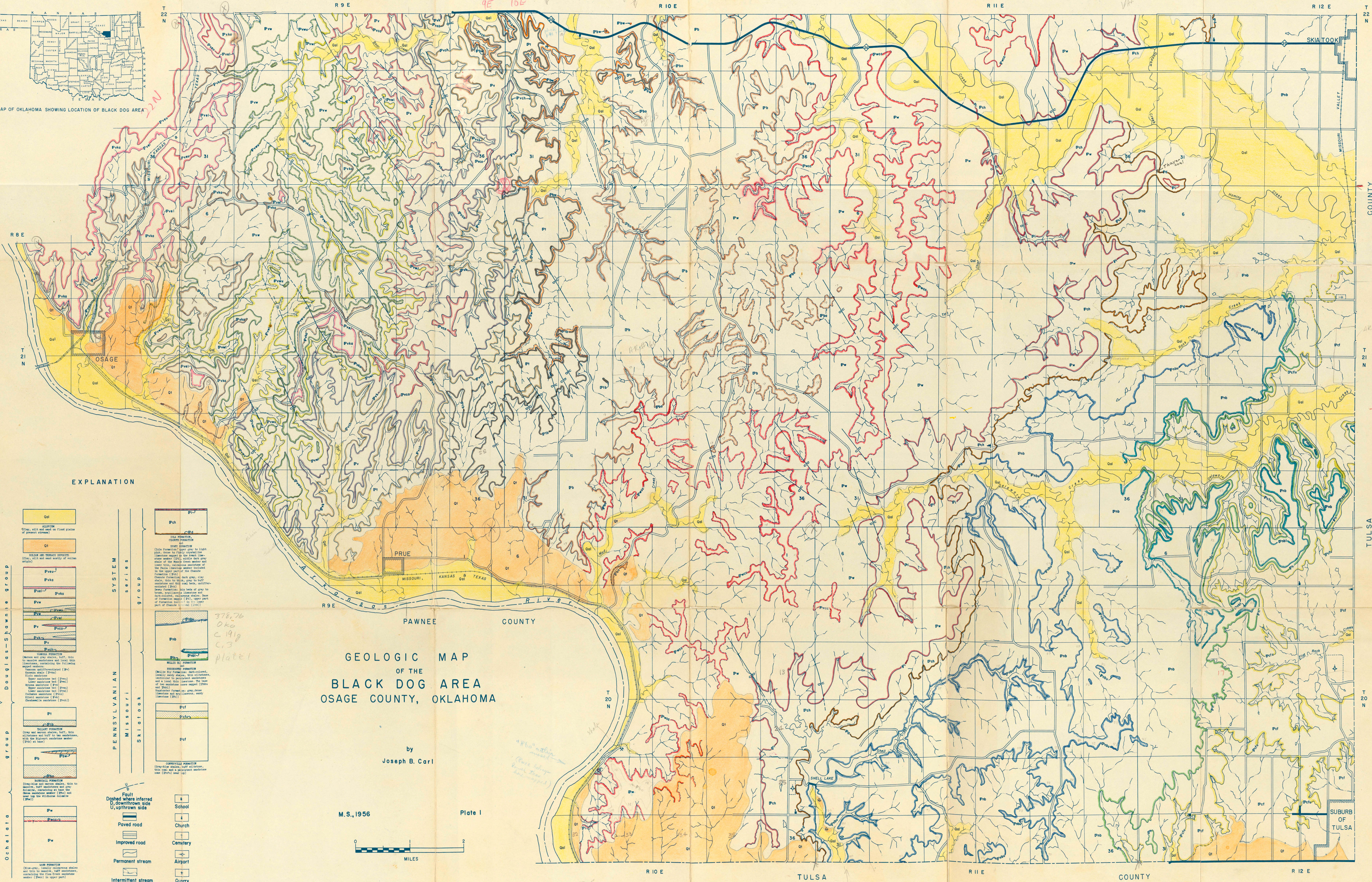


INDEX MAP OF OKLAHOMA SHOWING LOCATION OF BLACK DOG AREA



QUATERNARY
 series
 group
MISSOURIAN
 series
 group
OSAGEAN

EXPLANATION

- Qal** ALLUVION (Color, alluvium, or flood plain of present stream)
- Q1** COLLUVIAL AND TERRACE DEPOSITS (Color, alluvium and alluvium of various grades)
- Pvka** VERNON FORMATION (Lower and upper members; color, alluvium and alluvium of various grades)
- Pv** VERNON FORMATION (Lower member; color, alluvium and alluvium of various grades)
- Pvca** VERNON FORMATION (Upper member; color, alluvium and alluvium of various grades)
- Pv** VERNON FORMATION (Lower member; color, alluvium and alluvium of various grades)
- Pvca** VERNON FORMATION (Upper member; color, alluvium and alluvium of various grades)
- Pv** VERNON FORMATION (Lower member; color, alluvium and alluvium of various grades)
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- Pv** VERNON FORMATION (Lower member; color, alluvium and alluvium of various grades)
- Pvca** VERNON FORMATION (Upper member; color, alluvium and alluvium of various grades)

- Fault** (Dashed where inferred, D, downthrown side, U, upthrown side)
- Paved road**
- Improved road**
- Permanent stream**
- Intermittent stream**

- Pch** CHESTER FORMATION (Lower member; color, alluvium and alluvium of various grades)
- Pch** CHESTER FORMATION (Upper member; color, alluvium and alluvium of various grades)
- Pch** CHESTER FORMATION (Lower member; color, alluvium and alluvium of various grades)
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- Pch** CHESTER FORMATION (Upper member; color, alluvium and alluvium of various grades)

- School**
- Church**
- Cemetery**
- Airport**
- Quarry**

378.76
 Oko
 C 1919
 C 3
 plate I

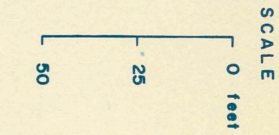
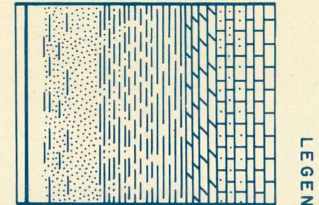
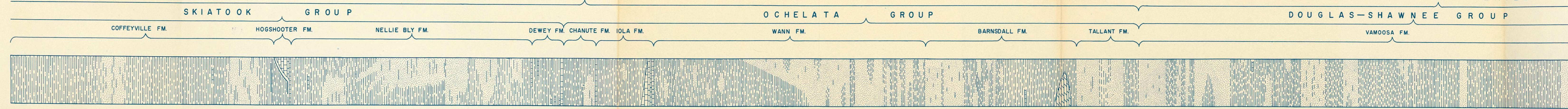
GEOLOGIC MAP OF THE BLACK DOG AREA, OSAGE COUNTY, OKLAHOMA

by **Joseph B. Carl**
 M.S., 1956
 Plate I



MISSOURI SERIES

VIRGIL SERIES



Upper bed of Elgin ss.

Konwka sh.

Lower bed of Elgin ss.

Wynona ss.

Upper ss. bed

Lower ss. bed

Cochanee ss.

Kiheki ss.

Cheshawalla ss.

Bigheart ss.

Wildhorse dol.

Okesa ss.

Clem Creek ss.

W. Irving ss.

Avant ls.

Muncie Creek sh.

Paola ls.

Cottage Grove ss.

Thayer coal

Cowbern ls.

Upper ss. zone

Shell Cr. ss.

Lower ss. zone

Winterset ls.

Lost City ls.

Cedar Bluff coal

Upper ss. zone

Layton ss.