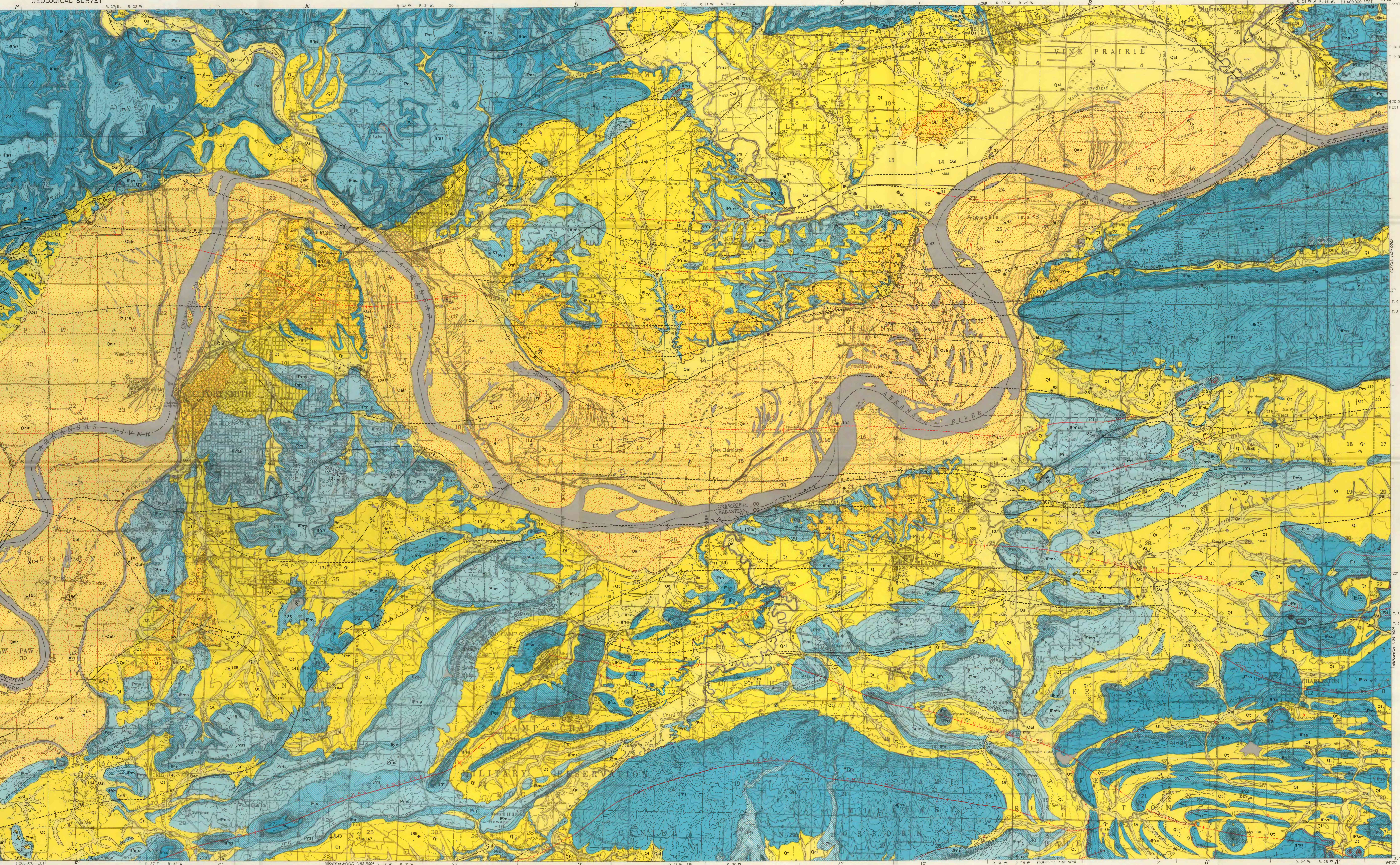




EXPLANATION

Qal
Alluvium
Deposits along stream channels. In some places includes parts of lowest terrace.
Qal, alluvium along small streams or reworked alluvium along Arkansas River.
Qair, alluvium along Arkansas River.

Qt
Terrace deposits
Alluvial deposits on two terrace levels.
Qt along small streams.
Qt, along Arkansas River.

UNCONFORMITY

Pss
Savanna Formation
Alternating units of predominant shale or predominant sandstone.
Pss, shale, siltstone, and thin beds of silty sandstone.
Pss, sandstone, silty sandstone, or interbedded sandstone, siltstone, and shale.

Pms
McAlester Formation
Alternating units of predominant shale or predominant sandstone.
Pms, shale, siltstone, and thin beds of sandstone and silty sandstone.
Pms, sandstone, silty sandstone, or interbedded sandstone, siltstone, and shale.

Phs
Hartshorne Sandstone
Alternating units of predominant shale or predominant sandstone.
Phs, shale and siltstone.
Phs, sandstone, silty sandstone, or interbedded sandstone, siltstone, and shale.

Pa
Atoka Formation
Alternating units of predominant shale or predominant sandstone.
Pa, shale, siltstone, and thin beds of sandstone and silty sandstone.
Pa, sandstone, silty sandstone, interbedded sandstone, siltstone, and shale.

CONTACT
Dashed where approximately located.

FAULT, SHOWING DIP
Dashed where approximately located; dotted where concealed. U, upthrown side; D, downthrown side.

ANTICLINE
Showing trace of axial plane. Dotted where concealed.

SYNCLINE
Showing trace of axial plane. Dotted where concealed.

INCLINED
Inclined
Horizontal
Strike and dip of beds
Symbols in areas of alluvial deposits are measured on a north-south exposure too small to be shown on this map.

COAL BED
Dashed where approximately located.

EXPOSURE OF COAL

SURFACE OPENING ON COAL BED

MINE SHAFT TO COAL BED

SHALLOW HOLE
Drilled by Gulf Oil Corp.

QUARRY

GRAVEL PIT

STRUCTURAL SECTION SHOWN ON PLATE 6

WELL SYMBOLS
Number designates well listed in table 3 in text and pertains to wells drilled since 1958.

Gas producing

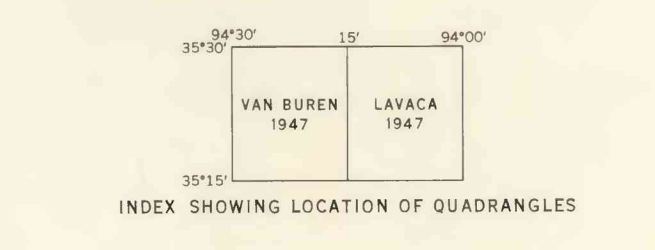
Reported show of gas

No reported show of gas

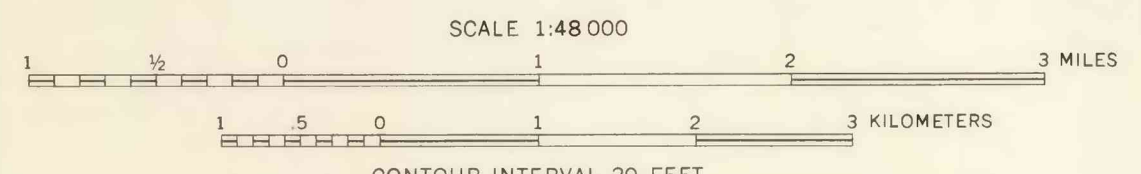
Being drilled as of Sept. 30, 1966

Electrical log was available, as of Sept. 30, 1966, to the authors of this report

Rock samples were examined and logged by a geologist of the U.S. Geological Survey



GEOLOGIC MAP OF VAN BUREN AND LAVACA QUADRANGLES, ARKANSAS AND OKLAHOMA



CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL