



EXPLANATION

Symbols in red indicate data on contoured horizon

500
400

Structure contours
Drawn on base of Hartshorne Sandstone. Dashed where projected above surface. Contour interval 100 feet

Trace of synclinal axis

Trace of anticlinal axis

Fault
Dashed on downthrown block.
U, upthrown side; D, downthrown side

Ph
Pa

Surface trace of contact between Hartshorne Sandstone (Ph) and Atoka Formation (Pa)

X—X'

Line of structural section shown on plate 3

COAL BEDS

Unnamed coal bed in Savanna Formation

Unnamed coal bed in McAlester Formation

Lower Hartshorne coal bed

Unnamed coal beds in Atoka Formation

X²⁰
Exposure of coal
Number is thickness of coal, in inches

16
Surface opening on coal bed
Number is thickness of coal, in inches

Mined area in coal bed

Lower Hartshorne coal thickness line
Number is thickness of coal, in inches

Boundary between measured and indicated reserves and inferred reserves of coal
Square on side of area of measured and indicated reserves of coal

163
Shallow hole
Number designates hole listed in table 3 in text

14
Gas producing

46
Show of gas

43
No show of gas

Wells
Number designates well described in table 2 in text

Gas field
Name of field shown

INDEX TO QUADRANGLES

93°22'30" 93°15'
35°30'
22'30"
35°15'

KNOXVILLE 1962
DELAWARE 1962

Base from U.S. Geological Survey, 1:24,000, 1962
10,000-foot grid based on Arkansas coordinate system, north zone

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1971—G70172
Geology by E. A. Merewether, 1958-60

**MAP SHOWING STRUCTURE CONTOURS, COAL BEDS, AND GAS FIELDS
IN KNOXVILLE AND DELAWARE QUADRANGLES, JOHNSON AND LOGAN
COUNTIES AND VICINITY, ARKANSAS**

