

State of Arkansas
ARKANSAS GEOLOGICAL SURVBY
George C. Branner
State Geologist

COUNTY MINERAL REPORT 1

POLK COUNTY

COMPILED UNDER THE DIRECTION OF
GEORGE C. BRANNER
Little Rock
1940

Reprinted
1959

STATE OF ARKANSAS
ARKANSAS GEOLOGICAL SURVEY

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June 1, 1940

Hon. Carl E. Bailey,
Governor, State of Arkansas
Little Rock, Arkansas

Sir:

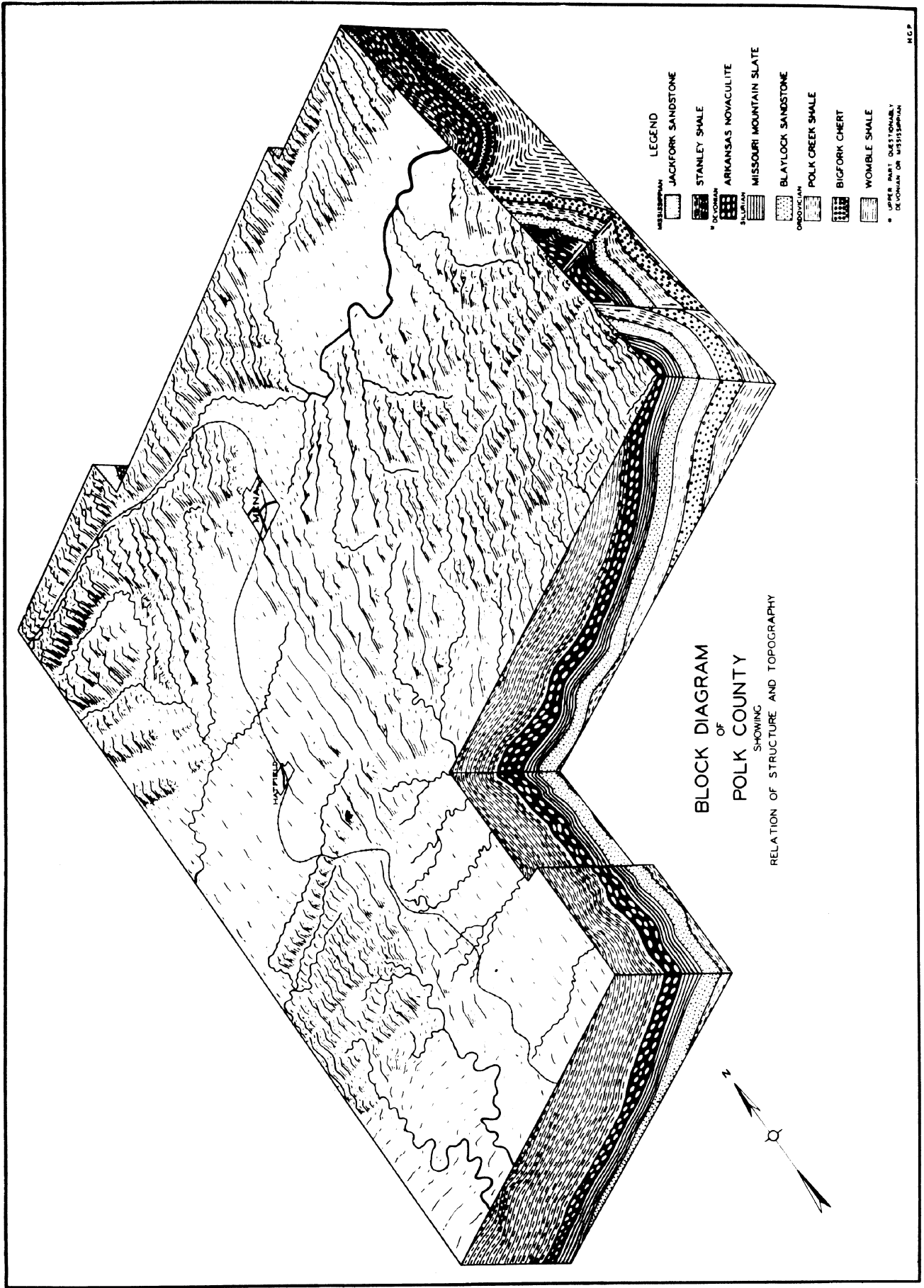
I have the honor to submit herewith County Mineral Report 1, Polk County, prepared under my direction.

The information in this report was compiled from field data collected by the Polk County section of the Works Projects Administration State Mineral Survey, which is being sponsored by this Survey, together with information contained in state and federal reports. It contains, therefore, practically all available information regarding the mineral resources of Polk County.

The State Mineral Survey has conducted a special investigation of the manganese deposits of the state and the results of the Polk County examination are contained in this report.

Respectfully submitted,

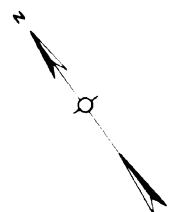
State Geologist

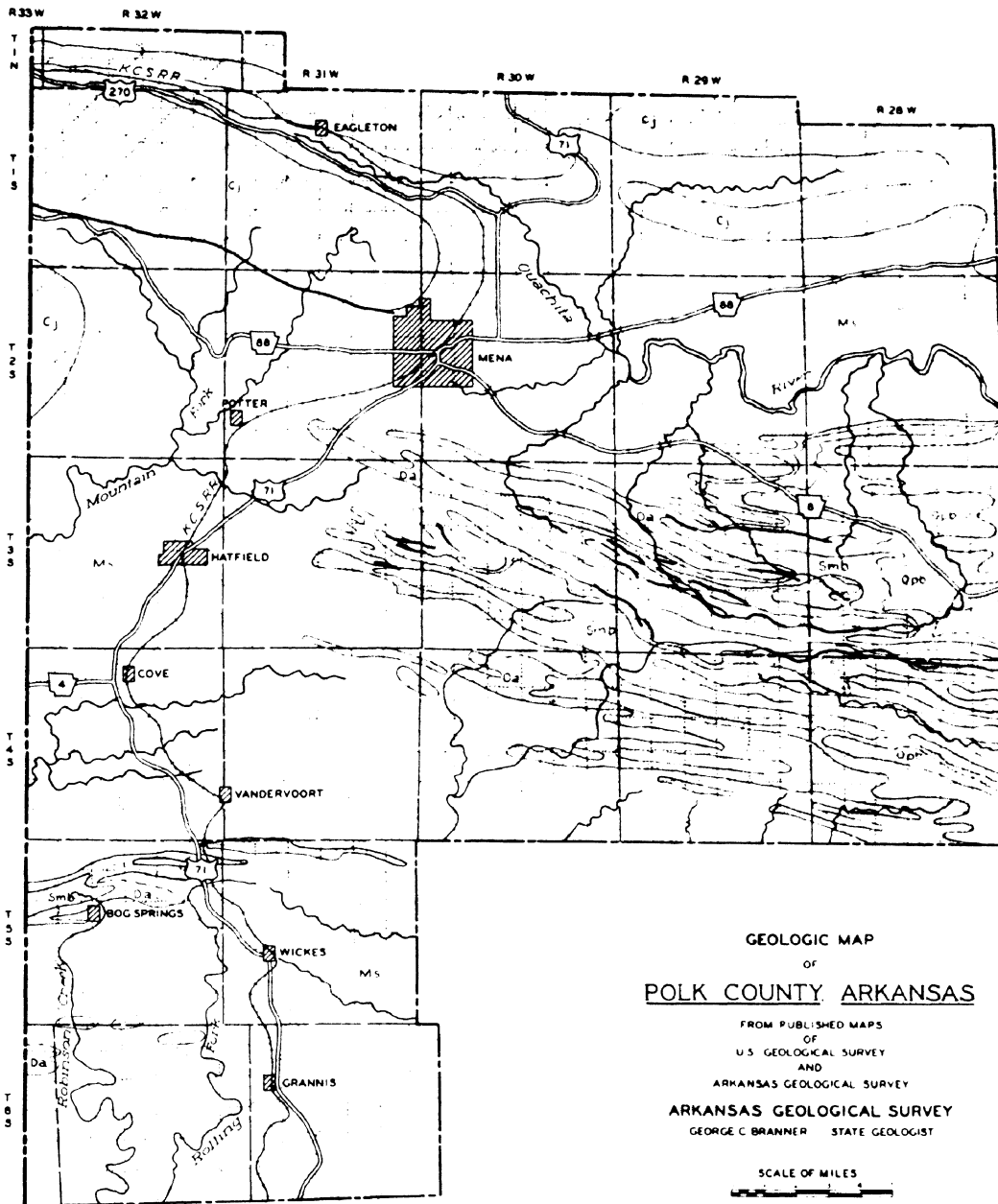


- LEGEND
- MISSISSIPPIAN JACKFORK SANDSTONE
 - STANLEY SHALE
 - DE VONIAN ARIKANSAS NOVAULITE
 - MISSOURI MOUNTAIN SLATE
 - OSAGEAN BLAYLOCK SANDSTONE
 - POLK CREEK SHALE
 - BIGFORK CHERT
 - WOMBLE SHALE
- * UPPER PART QUESTIONABLY DE VONIAN OR MISSISSIPPIAN

BLOCK DIAGRAM
OF
POLK COUNTY

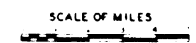
SHOWING
RELATION OF STRUCTURE AND TOPOGRAPHY





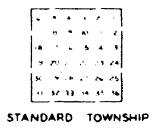
GEOLOGIC MAP
OF
POLK COUNTY, ARKANSAS

FROM PUBLISHED MAPS
OF
U.S. GEOLOGICAL SURVEY
AND
ARKANSAS GEOLOGICAL SURVEY
ARKANSAS GEOLOGICAL SURVEY
GEORGE C. BRANNER, STATE GEOLOGIST



CONTOUR INTERVAL 250 FEET

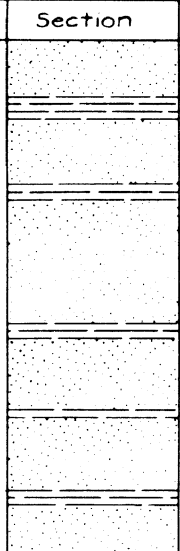
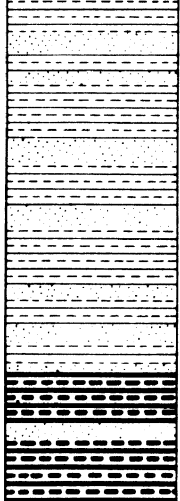

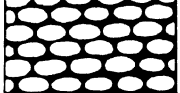


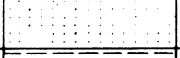



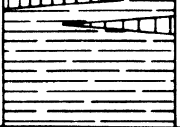
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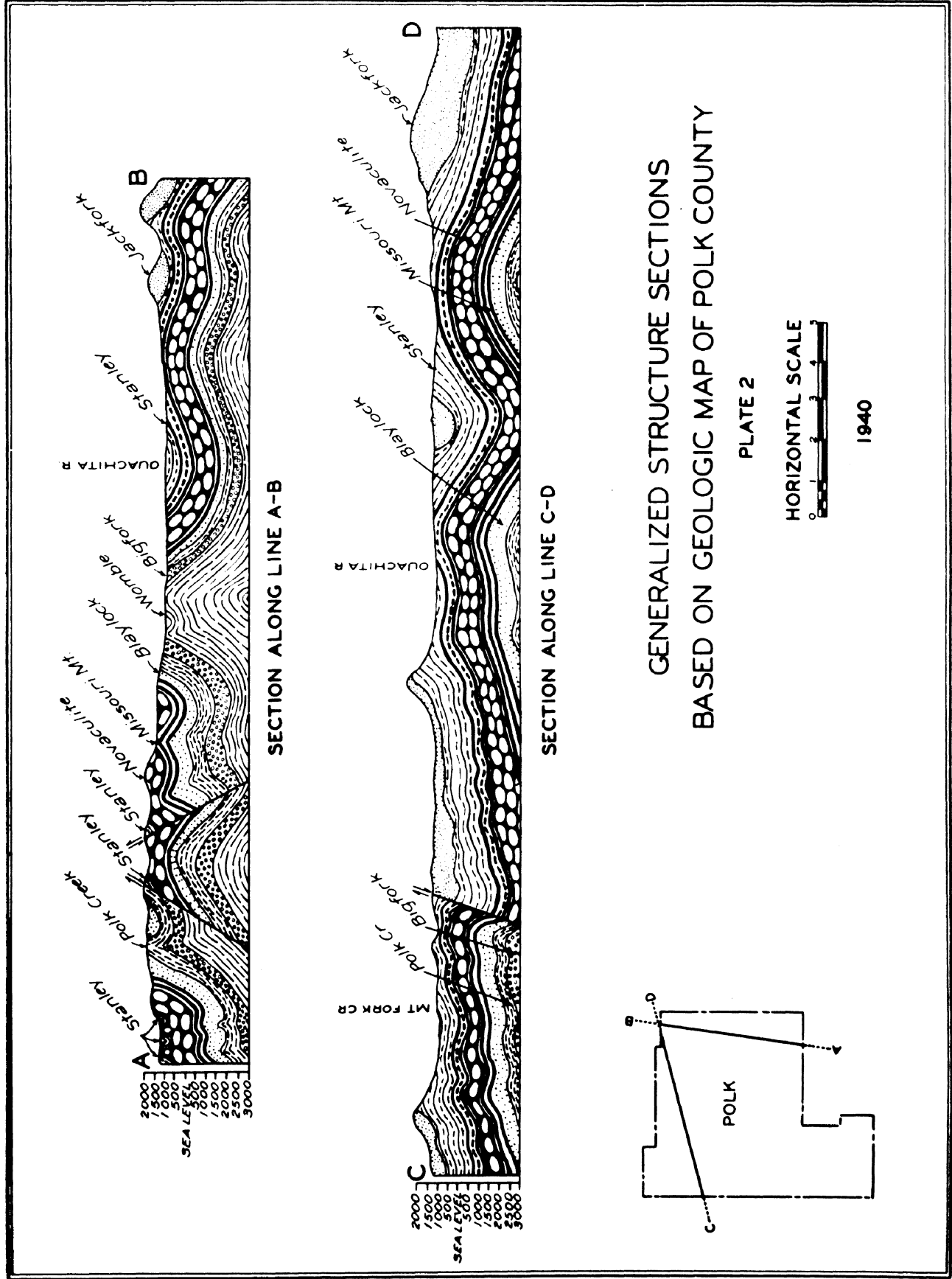
- MISSISSIPPIAN — Cj JACKFORK SANDSTONE
- Ms STANLEY SHALE
- DEVONIAN — Da ARKANSAS NOVAULITE

- LEGEND**
- SILURIAN — Smf MISSOURI MOUNTAIN SLATE
 - Bl BLATLOCK SANDSTONE
 - ORDOVICIAN — Opc POLK CREEK SHALE
 - Ow WOMBLE SHALE
 - F FAULTS
 - 8 STATE HIGHWAY
 - 71 U.S. HIGHWAY
 - CONTOURS

• THE UPPER PART IS QUARTZITICALLY SILICIFIED MISSISSIPPIAN

System	Series	Formation	Section	Thickness in feet	Character of rocks
Carboniferous	Mississippian	Jackfork sandstone		5000 6600	Sandstone, shale, and millstone grit. Sandstone gray, fine to coarse grained, mostly quartzitic. Millstone grit containing quartz pebbles mostly in basal part of formation. Shale is green, fissile clay shale. The hard sandstone is used locally for rough building stone.
		Stanley shale		6000	Shale, sandstone, and some conglomerate. Shale fissile, bluish black in fresh exposures; green, yellow, or brown in weathered exposures. Sandstone hard, tough, compact, quartzitic, fine-grained, greenish or bluish gray. Conglomerate near base is composed of novaculite pebbles in dense siliceous matrix. Slate beds occur in the lower 300 feet.
	Unconformity				
Devonian	Upper	Arkansas novaculite		900- 950	Massive gray novaculite. Thin-bedded dark novaculite and dark shale. Massive white novaculite. Formation in which manganese and tripoli occur.
	Middle				
Silurian		Missouri Mountain slate		50± 300	Red and green slate
		Unconformity?			
Ordovician		Blaylock sandstone		0- 1500	Hard, light to dark gray sandstone and dark shale.
	Upper	Unconformity?			
		Polk Creek shale		0-175	Black, fissile carbonaceous shale.
	Middle	Bigfork chert		700	Gray to black even-bedded fractured chert; black shale and black siliceous limestone.
	Lower	Wormle shale		1000	Shale in black and green layers; some blue limestone and sandstone.

GENERALIZED COLUMNAR SECTION OF ROCKS EXPOSED IN POLK COUNTY
FROM MISER, H.D., AND PURDUE, A.H., U.S.G.S., BULL. 808

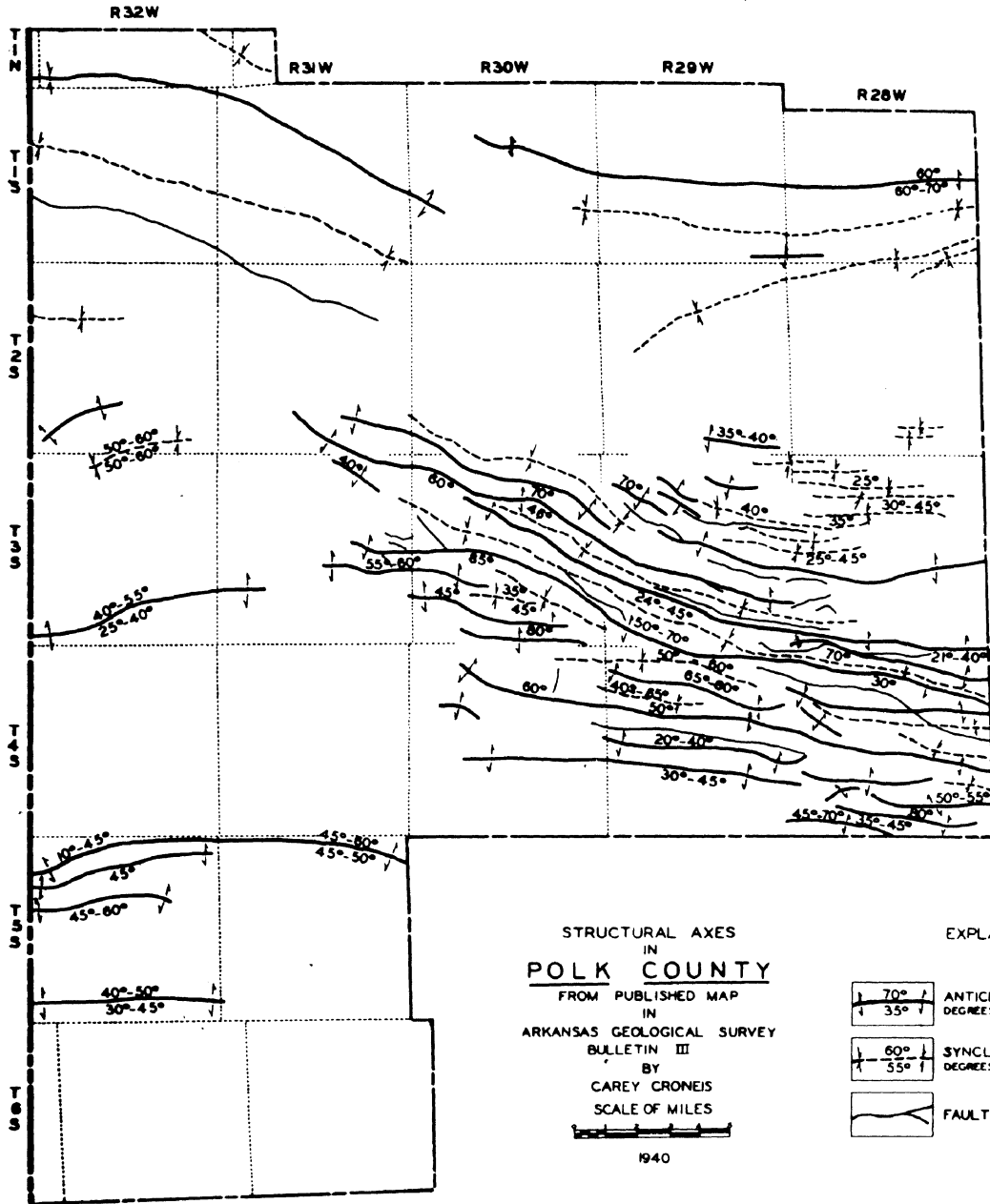


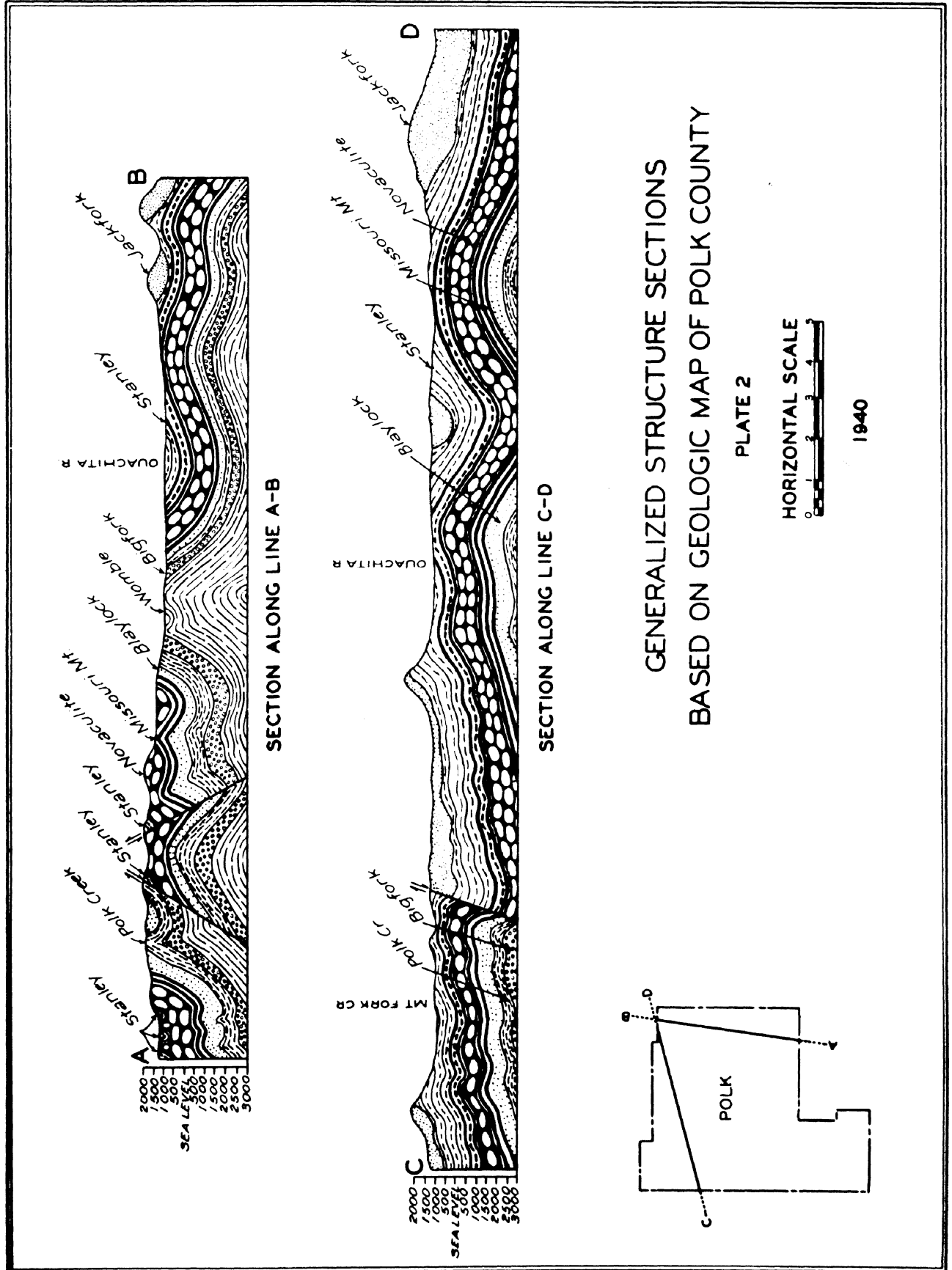
GENERALIZED STRUCTURE SECTIONS
 BASED ON GEOLOGIC MAP OF POLK COUNTY

PLATE 2

HORIZONTAL SCALE

1940



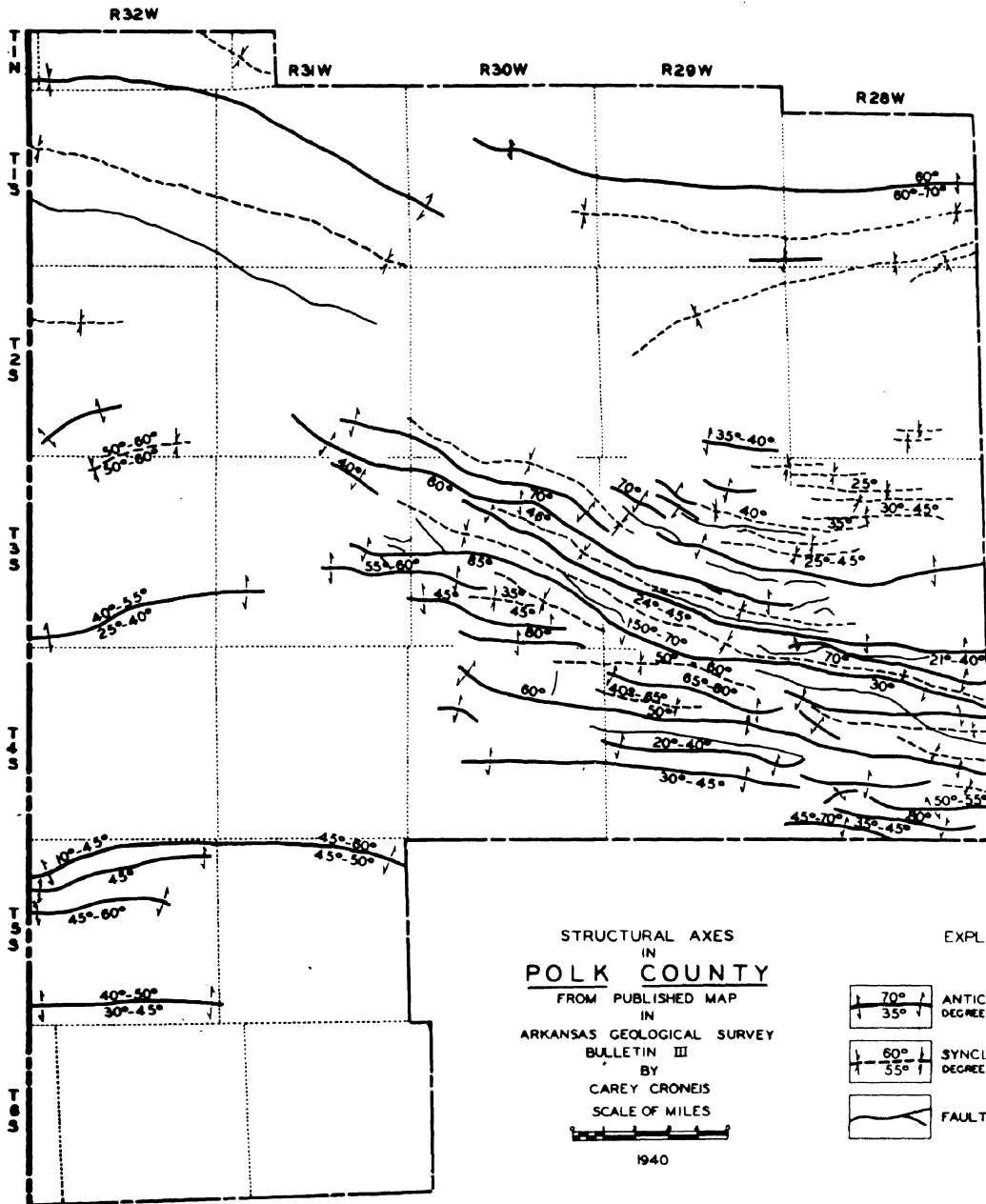


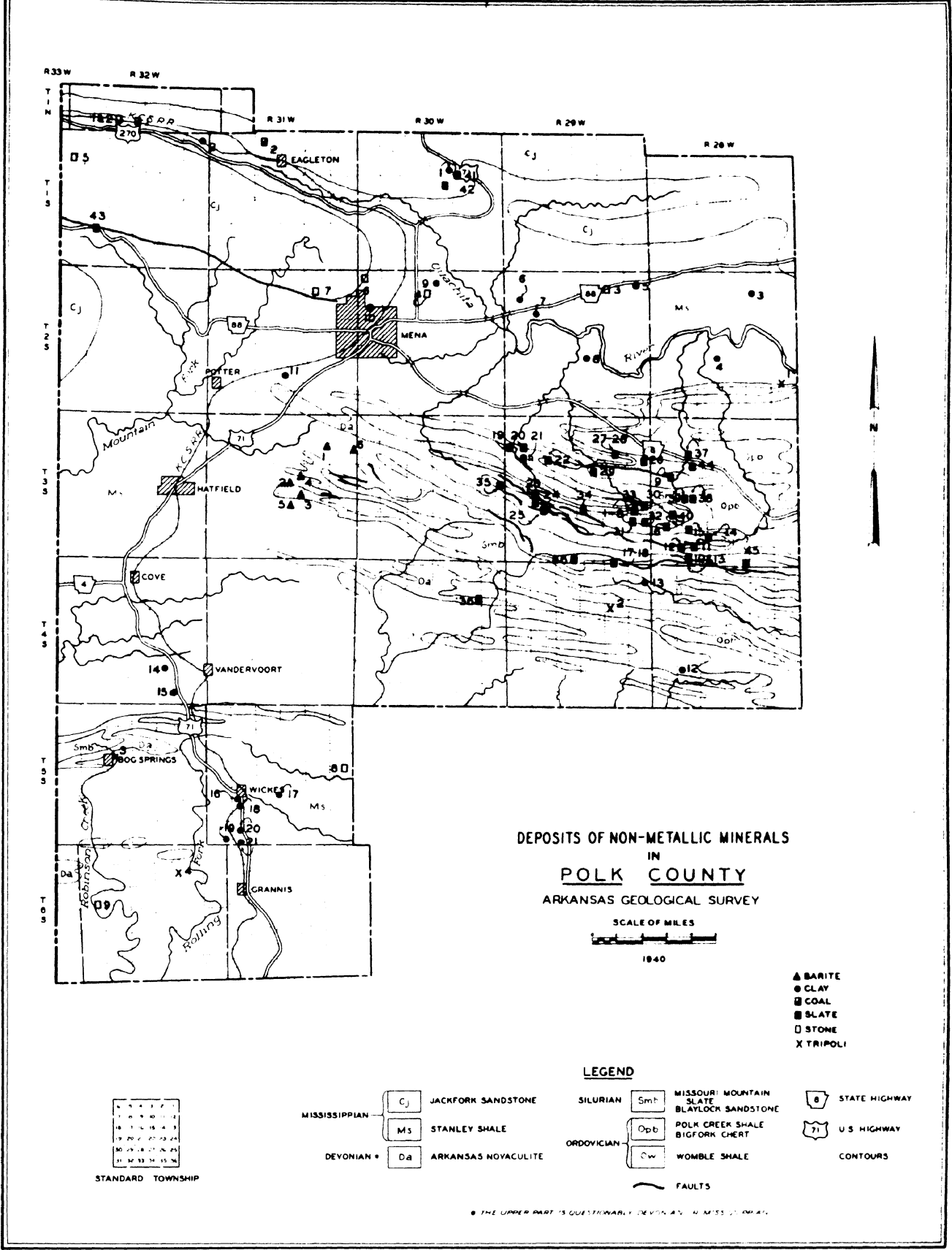
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PLATE 2

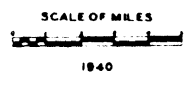
HORIZONTAL SCALE

1940





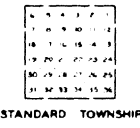
DEPOSITS OF NON-METALLIC MINERALS
IN
POLK COUNTY
ARKANSAS GEOLOGICAL SURVEY



- ▲ BARITE
- CLAY
- COAL
- ▣ SLATE
- ◇ STONE
- X TRIPOLI

LEGEND

- | | | | | | | | |
|---------------|------|--------------------|------------|-------|-----------------------------------|------|---------------|
| MISSISSIPPIAN | □ Cj | JACKFORK SANDSTONE | SILURIAN | □ Smb | MISSOURI MOUNTAIN SLATE | ▭ 8 | STATE HIGHWAY |
| | □ Ms | STANLEY SHALE | | □ Opb | BLAYLOCK SANDSTONE | ▭ 71 | U.S. HIGHWAY |
| DEVONIAN | □ Da | ARKANSAS NOVAULITE | ORDOVICIAN | □ Cw | POLK CREEK SHALE
BIGFORK CHERT | — | CONTOURS |
| | | | | | WOMBLE SHALE | — | FAULTS |



* THE UPPER PART IS QUESTIONABLY DEVONIAN OR MISSISSIPPIAN.

