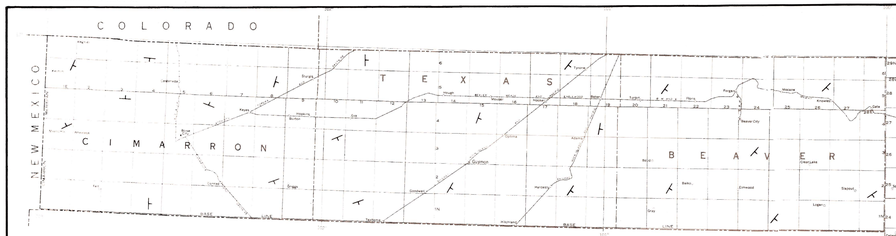
TECTONIC MAP OF OKLAHOMA

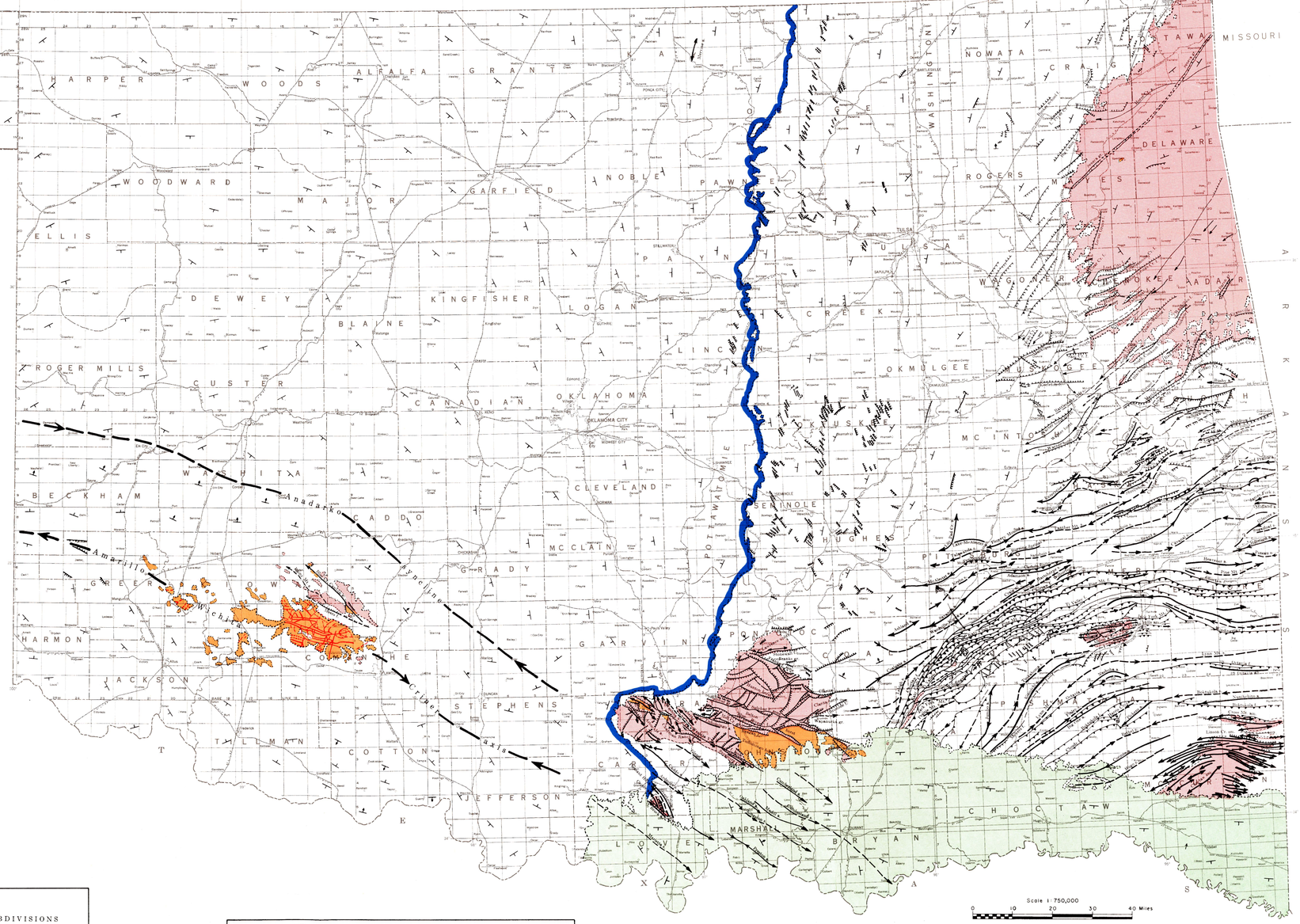
SHOWING SURFACE STRUCTURAL FEATURES

Compiled by
J. Kaspar Arbenz
1956

OKLAHOMA GEOLOGICAL SURVEY
CARL C. BRANSON, DIRECTOR

GM-3





EXPLANATION

GENERALIZED CONTACTS

Outcrops of Cretaceous of the Gulf Coastal Plain

Base of Permian of central Oklahoma

Outcrops of pre-Pennsylvanian Paleozoic sedimentary rocks
Pre-Springer (Goddard) in the Arbuckle and Wichita Mountains; pre-Stanley in the Ouachita Mountains; and pre-Hale in the Ozark uplift

Outcrops of Precambrian basement rocks

Abbreviations

a. anticline
s. syncline
am. anticlinorium
sm. synclinorium
f. fault
gr. graben
Cr. creek
V. valley
Mt. mountain

TECTONIC SYMBOLS

FAULTS

High angle normal or reverse fault
Majority normal. Hachures on downthrown side

Same, concealed or of uncertain location

High angle or low angle reverse fault
Majority in the Ouachita province. Triangles on upthrown side

Same, concealed or of uncertain location

Fenster *Inlier below thrust mass*

Klippe *Outlier of thrust mass*

Fault with strike slip component
Arrows indicate relative movement

Fault with unknown displacement

Major fault in the Precambrian of the Wichita Mountains
Minor fault *Displacement mostly unknown*

FOLDS

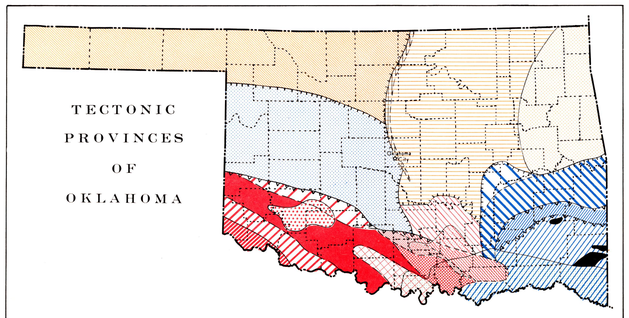
Trace of large regional folds in the Permian of southwestern Oklahoma

Anticline } Traces of major folds of orogenic origin
Syncline } *Dip of limbs normally above 10°. Synclines drawn only where important. Arrows indicate direction of plunge.*

Anticline } Traces of minor folds of epeirogenic origin
Syncline } *Dip of limbs normally below 10°. Synclines drawn only where important. Arrows indicate direction of plunge. Note: the numerous local folds of small amplitude and closure of central and northern Oklahoma are omitted because of incomplete information.*

Strike and regional dip

Less than 1° *1°—5°*
(Compiled by W. E. Ham)



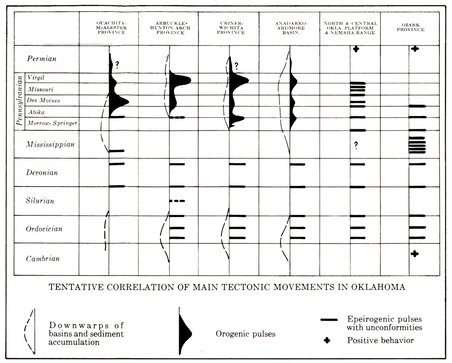
EXPLANATION

MAJOR PROVINCES	SUBDIVISIONS
Ozark province *Southwestern part of Ozark dome*	
Central Oklahoma platform *Southern portion of Prairie Plains homocline*	
Northern Oklahoma platform (east) and Hugoton syncline (west)	*Nemaha range*
McAlester-Arkansas foredeep	*Folding and faulting weak* *Folding and faulting strong*
Ouachita system *Oklahoma salient*	*Marginal belt of imbricate thrusting* *Central fold and thrust segment* *Anticlinorium of tightly folded and faulted older Paleozoics*
Anadarko synclinal foredeep	

MAJOR PROVINCES	SUBDIVISIONS
Arbuckle-Wichita-Amarillo system	*Outcrop area of Arbuckle Mountains* *Hunton—Pauls Valley uplift* *Tishomingo—Belton segment* *Arbuckle segment* *Ardmore synclinorium* *Central Criner—Wichita segment* *Marietta syncline* *Outcrop area of Wichita Mountains* *Northern Wichita segment* *Southern Wichita segment* *Palo Duro syncline*
Gulf Coastal homocline	*(Overprint lines refer to buried portions of the Ouachita and Arbuckle systems)*

BOUNDARIES

Boundaries of stratigraphic character (conformable or unconformable contact)
Boundaries of hinge character, hachures on downwarped side
Boundaries of fault character, triangles on upthrown side
Boundaries of varying structural character



TENTATIVE CORRELATION OF MAIN TECTONIC MOVEMENTS IN OKLAHOMA

Downwarps of basins and sediment accumulation
Orogenic pulses
Epeirogenic pulses with unconformities
Positive behavior

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