University of Kansas
State Geological Survey of Kansas

Prepared by Geological Survey, United States Department of the Interior, with cooperation of State Geological Survey of Kansas

1953

Oil and Gas Investigations
Preliminary Cross Section No. 9

SYSTEM	SERIES	GROUP	FORMATION OR MEMBER
TERTIARY	PLIOCENE		Ogallala formation
			Laverne formation
PERMIAN	GUADALUPIAN		Whitehorse sandstone
			Dog Creek shale
			Blaine formation
			Flowerpot shale
			Cedar Hills sandstone
	LEONARDIAN	NIPPEWALLA	Salt Plain formation
			Harper sandstone
			Stone Corral formation
			Ninnescah shale
		SUMNER	Wellington formation: Hutchinson salt
			Wellington formation: Hollenberg limestone
		CHASE	Nolans limestone
			Winfield limestone
			Towanda limestone
			Barneston limestone
			Kinney limestone
			Wreford limestone
	WOLFCAMPIAN	COUNCIL GROVE	Funston limestone
			Crouse limestone
			Bader limestone and Beattie limestone
			Eskridge shale
			Grenola limestone
			Red Eagle limestone
			Foraker limestone
		ADMIRE	Houchen Creek ls.
			Five Point limestone
			Falls City limestone
			Aspinwall limestone
	VIRGILIAN	WABAUNSEE	Brownville limestone
			Caneyville limestone
			Grandhaven limestone
			Dover limestone
			Tarkio limestone
			Elmont limestone
			Reading limestone
			Wakarusa limestone
			Burlingame limestone
			Rulo limestone
			Happy Hollow limestone
			Howard limestone
		SHAWNEE	Topeka limestone
			Deer Creek limestone
			Lecompton limestone
			Clay Creek limestone
			Oread limestone
		DOUGLAS	
	MISSOURIAN	LANSING	Stanton limestone
			Plattsburg limestone
		KANSAS CITY	Wyandotte limestone
			Iola limestone
			Drum limestone
			Westerville and Block lss.
			Dennis limestone
			Swope limestone
			Hertha limestone
		PLEASANTON	
		MARMATON	
	DESMOINESIAN	CHEROKEE	
			Ardmore ls. (?)
			Morrowan Series
	ATOKAN		
	MORROWAN		
MISSISSIPPIAN	CHESTERAN		
	MERAMECIAN		Ste. Genevieve limestone
			St. Louis limestone
			Spergen limestone
			Warsaw limestone
			Cowley formation
	OSAGIAN		Burlington limestone
			Reeds Spring formation
ORDOVICIAN			Viola limestone
	SIMPSON		
	ARBUCKLE		

FORMATION OR MEMBER	GROUP	SERIES	SYSTEM
Blue Hill shale (Carlile shale)	COLORADO	GULFIAN	CRETACEOUS
Fairport chalky shale (Carlile shale)			
Greenhorn limestone			
Graneros shale			
Dakota formation			
Kiowa shale		COMANCHEAN	
Cheyenne sandstone			
Blaine fm.	NIPPEWALLA	LEONARDIAN	PERMIAN
Flowerpot shale			
Cedar Hills ss.			
Salt Plain fm.			
Harper sandstone			
Stone Corral formation			
Ninnescah scale	SUMNER		
Wellington formation			
Hollenberg ls.			
Nolans ls.	CHASE		
Winfield limestone			
Towanda limestone			
Barneston limestone			
Kinney ls.			
Wreford limestone			
Funston limestone	COUNCIL GROVE	WOLFCAMPIAN	
Crouse limestone			
Bader limestone			
Beattie limestone			
Eskridge shale			
Grenola limestone			
Red Eagle limestone			
Foraker limestone			
Houchen Cr. ls.	ADMIRE		
Five Point ls.			
Falls City ls.			
Aspinwall limestone			
Indian Cave sandstone			
Dover ls.	WABAUNSEE	VIRGILIAN	
Tarkio ls.			
Elmont ls.			
Reading ls.			
Wakarusa ls.			
Burlingame ls.			
Rulo ls.			
Happy Hollow ls.			
Howard ls.			
Topeka limestone	SHAWNEE		
Deer Creek limestone			
Ost limestone			
Lecompton limestone			
Clay Creek limestone			
Heebner shale			
Oread limestone			
Haskell limestone	DOUGLAS		
Stanton limestone	LANSING	MISSOURIAN	PENNSYLVANIAN
Plattsburg limestone			
Wyandotte limestone	KANSAS CITY		
Iola limestone			
Drum limestone			
Westerville and Block lss.			
Dennis limestone			
Swope limestone			
Hertha limestone			
	PLEASANTON		
	MARMATON	DESMOINESIAN	
Ardmore limestone	CHEROKEE		
Pennsylvanian basal conglomerate			
Keokuk (?) ls.	OSAGIAN	MISSISSIPPIAN	
Gilmore City ls.	KINDERHOOKIAN		
Chattanooga shale	MISS. OR DEV.		
	DEVONIAN	SILURIAN	
Sylvan (Maquoketa) shale			
Viola limestone			
	SIMPSON	ORDOVICIAN	
	ARBUCKLE		

List of Wells

Well No.	Company	Farm name	Foe No.	Location	Elevation in feet above sea level
1.	Helmerich & Payne, Inc.	Meyers	1	Cen. NE¼ SW¼ sec. 10, T. 5 S., R. 11 W., Smith County	1,714
2.	Carter Oil Co.	Neuschwanger	1	Cen. NE¼ SW¼ sec. 15, T. 8 S., R. 14 W., Osborne County	1,870
3.	Lario Oil & Gas Co.	Hugh I. Cress	1	NE¼ NE¼ NE¼ sec. 13, T. 11 S., R. 17 W., Ellis County	1,770
4.	Gulf Oil Corp.	John F. Arnhold	1	Cen. N½ NE¼ SE¼ sec. 36, T. 13 S., R. 17 W., Ellis County	1,978
5.	Sohio Petroleum Corp.	Schneider	1	SW cor. NW¼ sec. 9, T. 16 S., R. 18 W., Rush County	1,996
6.	Wolf Creek Oil Co.	Thalheim	1	Cen. S½ SE¼ NE¼ sec. 1, T. 19 S., R. 20 W., Rush County	2,105
7.	Broderick & Gordon	Smith	1	Cen. NE¼ SE¼ sec. 17, T. 24 S., R. 20 W., Edwards County	2,269
8.	Olson Oil Co.	S. E. Fowler	1	Cen. SW¼ sec. 26, T. 27 S., R. 22 W., Ford County	2,419
9.	Texas Co.	V. L. Andrews	1	NW cor. SW¼ sec. 17, T. 29 S., R. 23 W., Ford County	2,581
10.	Stanolind Oil & Gas Co.	W. L. Rickers	1	SW cor NE¼ sec. 27, T. 32 S., R. 29 W., Meade County	2,703
11.	Stanolind Oil & Gas Co.	A. W. Adams	1	SW cor. SW¼ sec. 8, T. 35 S., R. 30 W., Meade County	2,467

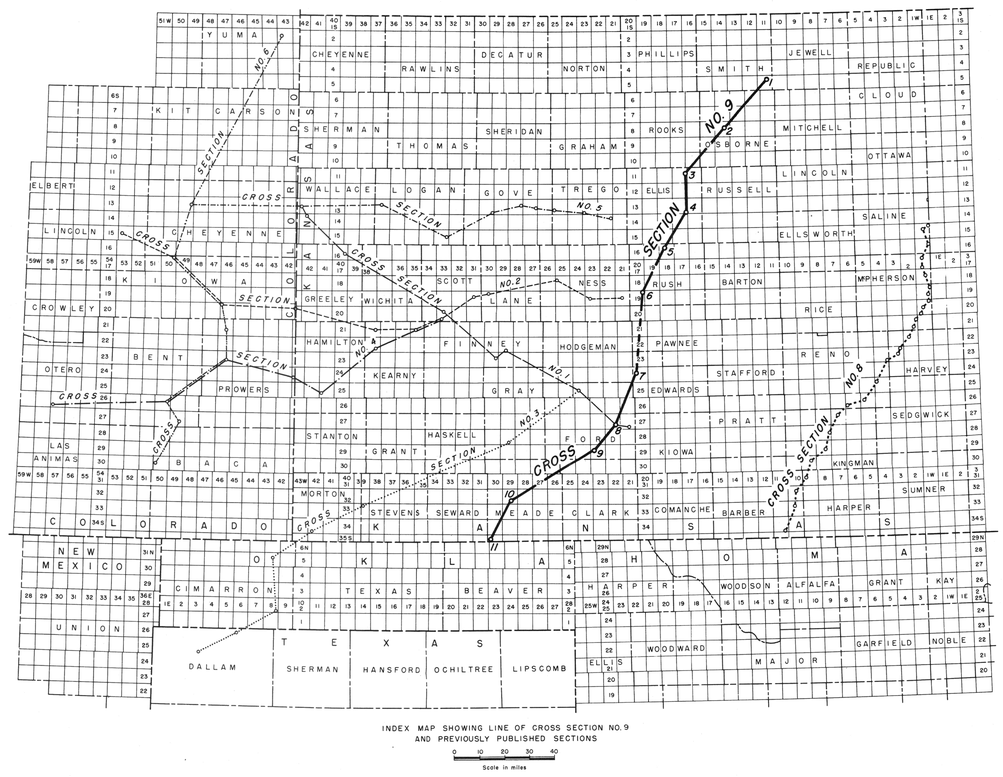
EXPLANATION

- Limestone
- Chalk or marl
- Anhydrite or gypsum
- Dolomite
- Earthy dolomite
- Argillaceous limestone and marl
- Silty limestone
- Oölitic limestone or algal limestone
- Dolomitic limestone
- Cherty limestone
- Cherty dolomite
- Sandstone
- Siltstone Calcareous siltstone
- Shale
- Dark shale Black shale
- Red or variegated shale
- Green shale
- Calcareous shale
- Dolomitic shale
- Chalky shale
- Red silty shale
- Gypsum and shale
- Siderite pellets
- Pyrite and marcasite
- Course sand and conglomerate
- Coal / Lignitic shale
- Salt molds
- Salt and anhydrite
- Glauconite
- Chert
- Conglomerate
- No samples
- Important unconformity
- Interfingering or lateral gradation of formations
- Doubtful correlations,

The nomenclature and classification follow the usage of the State Geological Survey of Kansas. Not all the formation and member names are shown.

Figures at right of columns indicate depth of wells in feet.

Horizontal scale in miles: 10 5 0 5 10 20 30



INDEX MAP SHOWING LINE OF CROSS SECTION NO. 9 AND PREVIOUSLY PUBLISHED SECTIONS

0 10 20 30 40
Scale in miles

SUBSURFACE GEOLOGIC CROSS SECTION FROM SMITH COUNTY TO MEADE COUNTY, KANSAS

BY WALLACE LEE

Drafting by Joan Jaeger and Joann Ruese