



Base from U.S. Geological Survey 1:24 000 topographic quadrangles: Grantville and Topeka, 1950; Elmont and Meriden, 1952; Carbonade, Overbrook, Richland, and Wakarusa, 1955  
Roads revised, 1963; contours not modified

SCALE 1:48 000  
1 2 3 4 5 MILES  
1 2 3 4 5 KILOMETERS  
CONTOUR INTERVAL 10 FEET  
DATUM IS MEAN SEA LEVEL

INTERIOR-GEOLOGICAL SURVEY, WASHINGTON, D. C. 20508  
Geology mapped by W. D. Johnson, Jr., and W. L. Adkison,  
1957-59; assisted by H. J. Hyden, 1957-58

MAP EXPLANATION

- Qal Alluvium
- Qn Newnan terrace deposits
- Qb Buck Creek(?) terrace deposits
- Qe Glacial drift
- (Pst), underlying formation identified where known
- Stotter Limestone
- Pillsbury Shale
- Zandale Limestone
- Willard Shale
- Emporia Limestone
- Auburn Shale
- Bern Limestone
- Scranton Shale
- Par, Rulo Limestone Member
- Psh, Happy Hollow Limestone Member
- Howard Limestone
- Severy Shale
- Topeka Limestone
- Calhoun Shale
- Deer Creek Limestone
- Tecumseh Shale
- Lecompton Limestone
- Kawwaka Shale
- Pkc, Clay Creek Limestone Member
- Oread Limestone

Contact  
Dashed where approximately located; short dashed where inferred; dotted where datum is eroded. Contour interval 50 feet. Datum is mean sea level.

Structure contours  
Drawn on base of Topeka Limestone. Dashed where approximately located; short dashed where datum is eroded. Contour interval 50 feet. Datum is mean sea level.

USGS Permian and Carboniferous fossil locality

USGS foraminiferal collection locality

Dry and abandoned well

R, reported location

NOTE: Minor deviations between the geologic contacts and topographic contours are due to slumping, changes in soil thickness, and variations in thickness of the shale units.

STRATIGRAPHIC SECTION EXPLANATION

- Sandstone
- Siltstone
- Sandy siltstone
- Claystone
- Silty claystone
- Black fissile claystone
- Calcareous claystone
- Limestone
- Wavy-bedded limestone
- Argillaceous limestone
- Channel deposit
- 19446-PC (12983) Fossil collection from mapped area
- 12292 Fossil collection from outside mapped area

FEET  
0  
10  
20  
30  
40  
50

QUATERNARY  
PENNSYLVANIAN  
CARBONIFEROUS

SYSTEM	SERIES	GROUP	FORMATION	MEMBER	THICKNESS IN FEET	
CARBONIFEROUS	PENNSYLVANIAN	Virgil	Stotter Limestone	Dry Shale	2-4	112967
				Dover Limestone	2-2.4	
			Pillsbury Shale		40	
			Zandale Limestone	Maple Hill Limestone	1.3-2.4	112971
				Warrego Shale	12	
			Willard Shale	Tarkio Limestone	1.8-4.5	112968 112991
			Emporia Limestone	Elmont Limestone	3.3-4.6	112956A
				Harveyville Shale	10.5-14.4	
			Auburn Shale	Reading Limestone	1.8-2.6	112956A
		Waboursee	Bern Limestone	Wakarusa Limestone	3-4.3	112990 112973
				Soldier Creek Shale	2.6-15.2	
			Burlingame Limestone		1.6-11.8	112976 112978 112979
			Silver Lake Shale		19-26	112955-PC 112954-PC
			Rulo Limestone		0.2-4.1	112953-PC Elmo coal bed
			Cedar Vale Shale		30-35	
			Happy Hollow Limestone		0.3-0.6	
			Scranton Shale			112992 113000 113001
			Howard Limestone	Utopia Limestone	5-7	112992 113000 113001
				Winchester Shale	0.9-4.8	
			Severy Shale	Church Limestone	1.1-2.4	112980 112981
				Aarde Shale	0.8-8	
			Topeka Limestone			112996 112997 112998 112999 113000 113001
			Calhoun Shale		30-60	112994 112995 112996 112997 112998 112999 113000 113001
			Deer Creek Limestone	Ervin Creek Limestone	13-18	112994 112995 112996 112997 112998 112999 113000 113001
			Tecumseh Shale	Burroak and Larsh Shale	4	112994 112995 112996 112997 112998 112999 113000 113001
				Rock Bluff Limestone	1.8-2.8	
			Lecompton Limestone	Oskaloosa Shale	6-8.5	112986 112987
				Ozarkian Limestone	6-10	
			Spring Branch Limestone		7.4-14	112987
			Stull Shale		20-35	
			Clay Creek Limestone		3-4	
			Jackson Park Shale		44-47	
			Oread Limestone	Kerford Limestone	5-7	112988 112989
				Heumader Shale	4	
			Plattsburgh Limestone		14-16	
			Heebner Shale		5.5-6	
			Leavenworth Limestone		1.5	
			Snyderville Shale		6	

GEOLOGIC MAP OF EASTERN SHAWNEE COUNTY AND PARTS OF ADJACENT COUNTIES, KANSAS

GENERALIZED STRATIGRAPHIC SECTION  
OF EXPOSED ROCKS