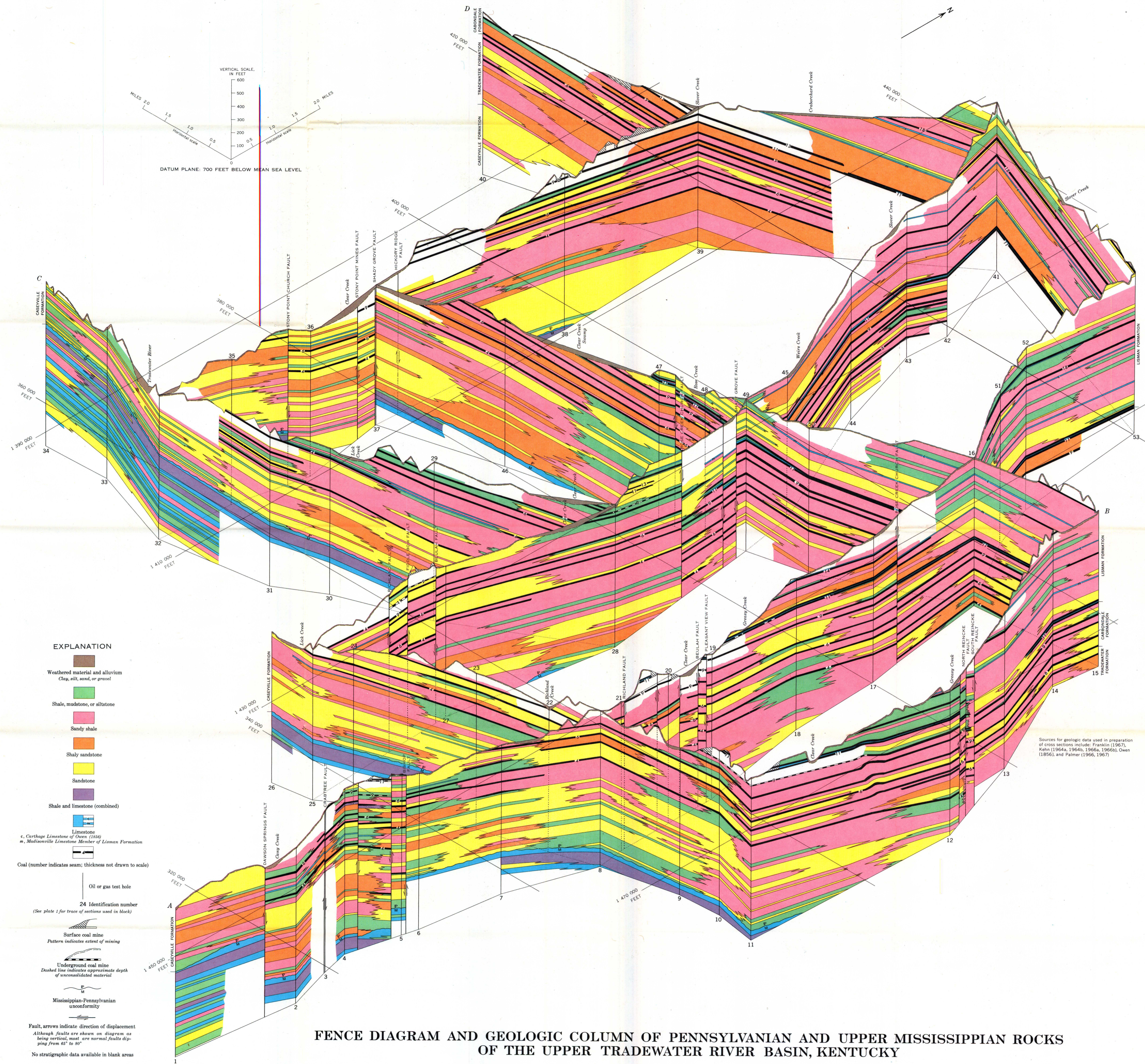


GENERALIZED GEOLOGIC COLUMN FOR UPPER TRADEWATER RIVER BASIN SHOWING CONTACTS OF FORMATIONS WITHIN THE PENNSYLVANIAN AND UPPER MISSISSIPPIAN SYSTEMS. TYPICAL THICKNESSES OF FORMATIONS AND POSITIONS OF IMPORTANT COAL AND LIMESTONE BEDS

SYSTEM	SERIES	FORMATION, MEMBER, AND BED	SELECTED COAL AND LIMESTONE BEDS	THICKNESS (FEET)
QUATERNARY		Alluvium		0-81
CARBONIFEROUS	Upper Pennsylvanian	Henshaw Formation		135-165
		Lisman Formation	No. 18 coal bed	930-990
			Carthage Limestone of Owen (1856)	
			Madisonville Limestone Member	
			No. 14 coal bed	
			No. 13 coal bed	
			No. 12 coal bed	
			Providence Limestone Member	
			No. 11 coal bed	
			No. 9 coal bed	
			No. 8 coal bed	
		No. 7 coal bed		
		No. 6 coal bed		
		No. 5 coal bed		
Middle Pennsylvanian	Treadwater Formation	Curlew Limestone Member		
		No. 4 coal bed	480-595	
		Lower Pennsylvanian	Caseville Formation	200-400+
			MAJOR UNCONFORMITY	
MISSISSIPPIAN	Chester	Kinkaid Limestone		
		Degonia Sandstone		
		Clore Limestone		
		Palatine Sandstone		
		Menard Limestone	600±	
		Waltersburg Sandstone		
		Varina Limestone		
		Tar Springs Sandstone		



EXPLANATION

- Weathered material and alluvium
Clay, silt, sand, or gravel
- Shale, mudstone, or siltstone
- Sandy shale
- Shaly sandstone
- Sandstone
- Shale and limestone (combined)
- Limestone
- c, Carthage Limestone of Owen (1856)*
m, Madisonville Limestone Member of Lisman Formation
- Coal (number indicates seam; thickness not drawn to scale)
- Oil or gas test hole
- 24 Identification number
(See plate 1 for trace of sections used in block)
- Surface coal mine
Pattern indicates extent of mining
- Underground coal mine
Dashed line indicates approximate depth of unconsolidated material
- Mississippian-Pennsylvanian unconformity
- Fault, arrows indicate direction of displacement
Although faults are shown on diagram as being vertical, most are normal faults dipping from 65° to 80°
- No stratigraphic data available in blank areas

FENCE DIAGRAM AND GEOLOGIC COLUMN OF PENNSYLVANIAN AND UPPER MISSISSIPPIAN ROCKS OF THE UPPER TRADEWATER RIVER BASIN, KENTUCKY

Sources for geologic data used in preparation of cross sections include: Franklin (1967), Kehn (1964a, 1964b, 1966a, 1966b), Owen (1856), and Palmer (1966, 1967)

20,000-foot grid based on Kentucky coordinate system, south zone