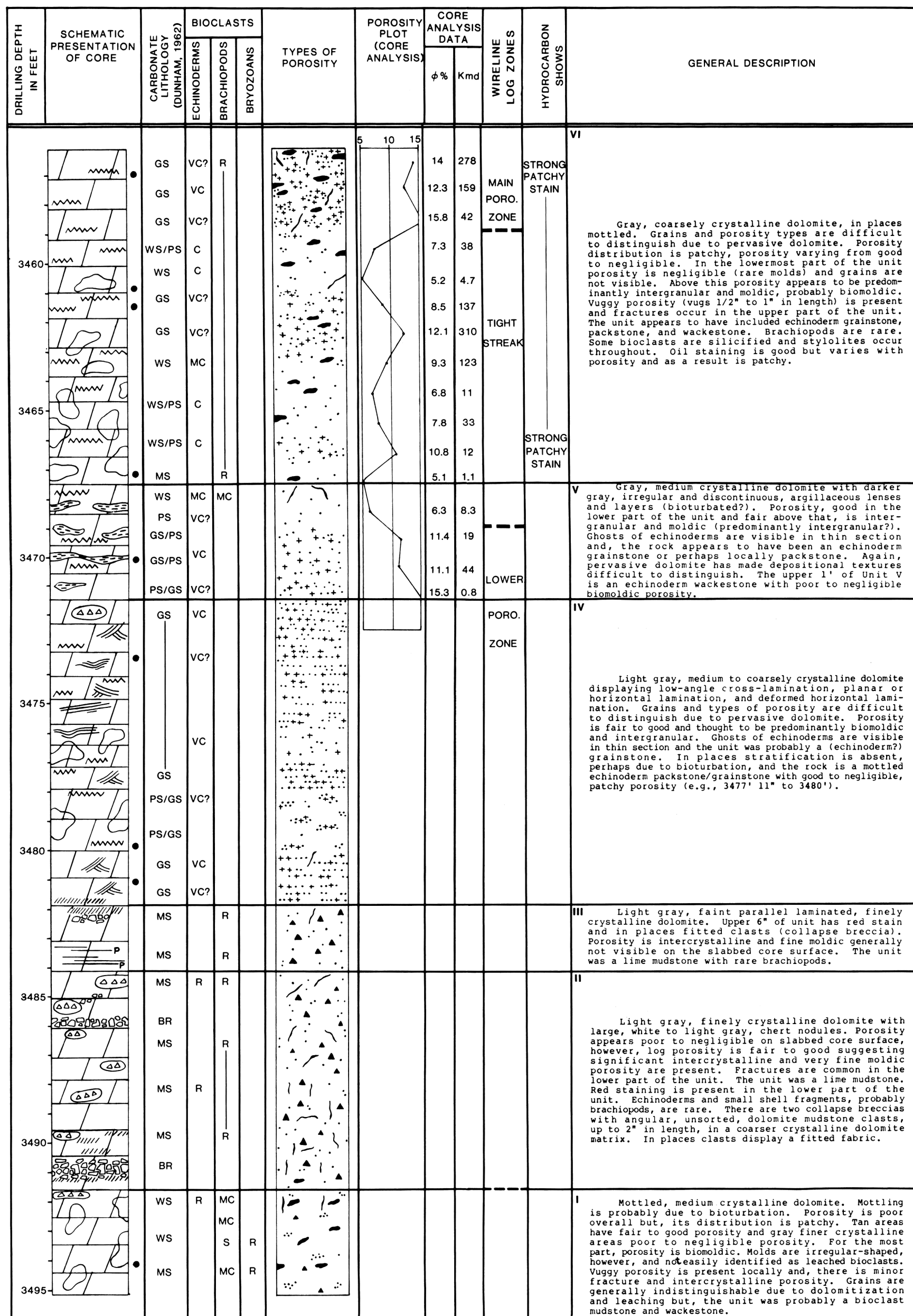


CITIES SERVICE, WESSEL "A" #1,  
McCLAIN SW FIELD, NEMAHA CO., KANSAS



DRILLING DEPTH IN FEET	SCHEMATIC PRESENTATION OF CORE	CARBONATE (DUNHAM, 1962)	ECHINODERMS	BIOCLASTS BRACHIOPODS	BRYOZOANS	TYPES OF POROSITY	POROSITY PLOT (CORE ANALYSIS)	CORE ANALYSIS DATA		NUCLEI LOG ZONES	HYDROCARBON SHOWS	GENERAL DESCRIPTION
								φ %	Kmd			
3480												VII Interlaminated, dark gray, slightly calcareous shale and light gray, fine-grained sandstone. Below 3480' shale dominates and the rocks are argillaceous. Above 3480' fine sandstone dominates, vertical and horizontal, tube-shaped burrows 1/8" to 1/4" in cross section are present and the sandstone is commonly rippled. This unit is the basal part of the Maquoketa Shale.
3485												VI Gray, argillaceous, medium to finely crystalline dolomite with common boreal stylonites and irregular, discontinuous argillaceous laminae. The unit is bioturbated and, horizontal tube-shaped burrows 1/8" to 1/4" in cross section are commonly present. Porosity is negligible to poor and is predominantly biomicoid. There is minor intercrystalline porosity. Vugs are rare and fractures essentially absent. The unit is an echinoderm rock, becoming progressively more argillaceous in the upper 5'. Where the rocks have a disrupted appearance. Patchy oil staining occurs in the upper 4.5'. In places bioclasts are silicified. Pyrite is rare, becoming more common in the upper 5.5'. A 1/2" layer of completely pyritized skeletal debris occurs at the contact with Unit VII (Maquoketa Shale).
3490		WS	MC	R				4.05		STRONG PATCHY STAIN		
								6.31.0				
								8.914				
								8.419		UPPER-MOST VIOLA		
								6.616				
								6.209				
								5.202				
								8.105				
								4.102				
3495		WS/MS	MC	R				4.702				
								2.002				
								5.922		STRONG PATCHY STAIN		V
								5.618				
								5.919		MAIN STRONG PORO PATCHY ZONE STAIN		
								10.150				
								4.991				
								11.324				
								7.3188				IV
								11.440				
								11.270		MAIN PORO. ZONE		
								10.9192				
								11.7147				
								11.257				
								7.994				
								8.511		TIGHT		
								15.8167		STREAK		
								8.074				
								9.923				
								5.21.1				
								4.466				
								17.1141		LOW PORO. ZONE		III
								13.3121				
								12.0143				
								14.554				
3520		PS/GS	VC?	R/S				8.916				
								8.612				
								8.32007				
								8.61599				
								6.320				I
								7.01.1				
								10.445				
								7.25				
								7.315				
								7.627				
								9.135				
								7.205				
								5.203				
				</								

FIGURE 6—Schematic drawing and description of the Cities Service Wessel "A" #1, McClain SW field, Nemaha County, Kansas.

**KEY**

SEDIMENTARY STRUCTURES AND LITHOLOGY		CARBONATE LITHOLOGY	PRESENCE OF BIOCLASTS
TYPES OF POROSITY			
MOLDIC	LOW-ANGLE CROSS-STRAT.	GS- GRAINSTONE	VC- VERY COMMON
INTERGRANULAR	PLANAR (HORIZONTAL LAMINATION)	PS- PACKSTONE	C- COMMON
INTERCRYSTALLINE	STYLOLITES	WS- WACKSTONE	MC- MODERATELY COMMON
FRACTURE (H: HAIRLINE)	MOTTLED	MS- MUDSTONE	S- SCARCE
VUGGY	BURROWS	(BR)-(BRECCIA)	R- RARE
			• THIN SECTION