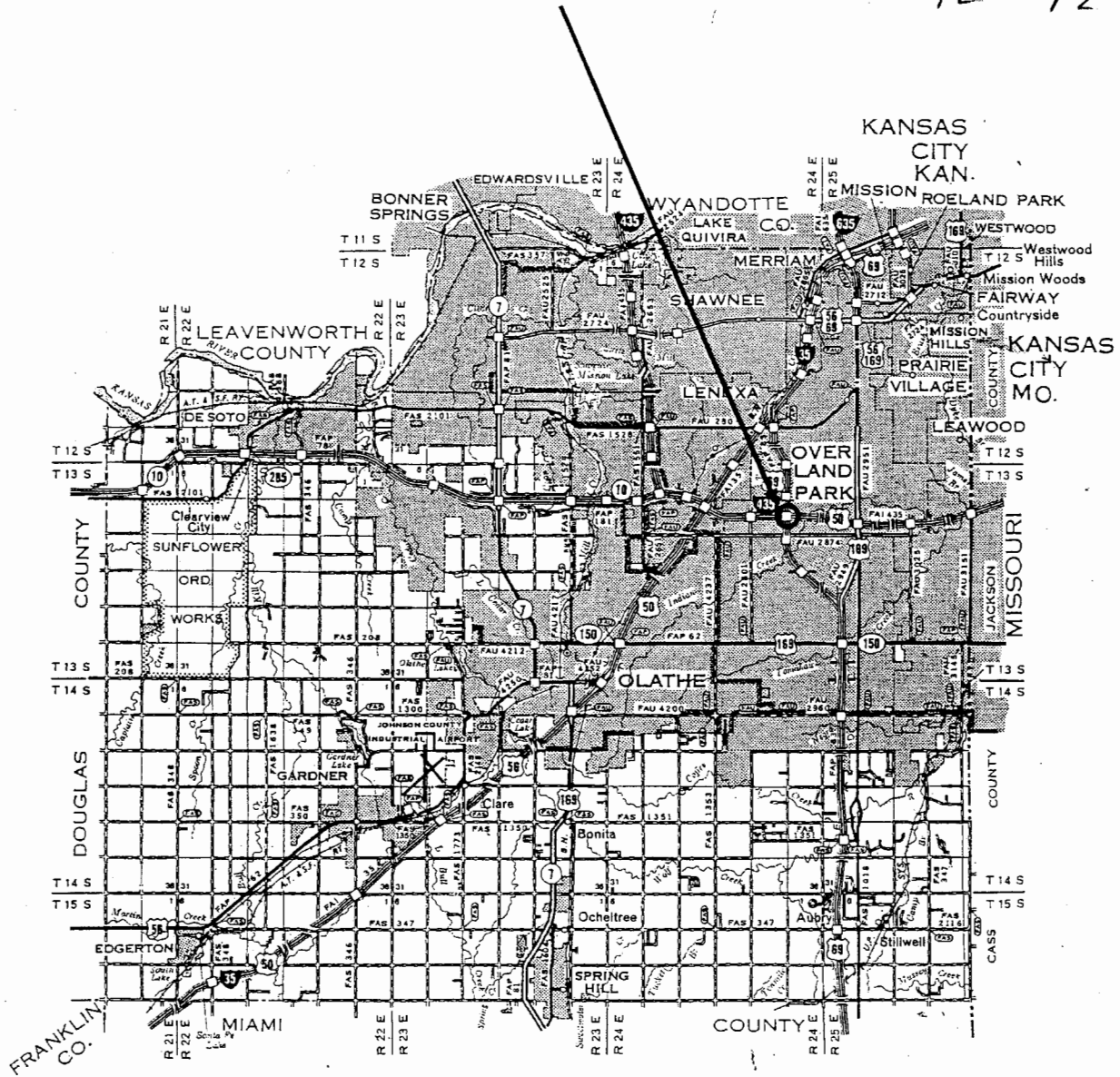


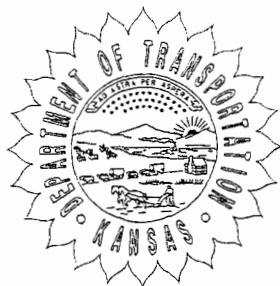
435-46 K-8262-01
Flyover ramp 69S-435E
Bridge No. 69-46-14.35(341)

11-13-24E
E/2 E/2



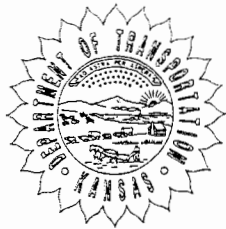
Johnson County

KANSAS DEPARTMENT OF TRANSPORTATION



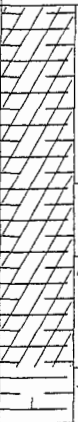
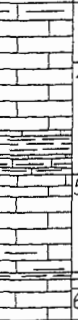
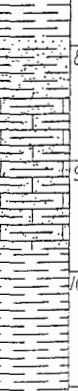
RTE./CO. 435-46	SOUNDING NO. CD#2	SHEET 1 OF 3
BRIDGE STA. 13+975.538 (341)	PROJ. NO. 435-46 K-8262-01	BRIDGE NO. 69-46-14.35(341)
SITE NAME RAMP 69N-435E OVER RAMP 435E-ANTIOCH		HOLE 13+905.0, 6.6 m Lt STA. @ Ramp 69S-435E
GEOLOGIST ROCKY CROW	SCALE 1:100 (10mm=1m)	DATE 9/29/2003
DRILLER JIM BURNS	RIG TYPE CME-55	TOP HOLE ELEV. 295.572
GW ELEV. 14	TOTAL DEPTH 34.47	M/B ELEV. 284.902

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION TEST (SPT)	
							N COUNT	ELEVATION
					THE+295.572			
				295	Silty clay, tan, moist			
				294				
				293		236		293.44
				292				
				291				
				290		288		290.39
				289				
				288				
				287		649		287.34
				286				
			10.67	285	284.902			
					Shale, tan/olive/gray, weathered			
				284		446		284.29
				283				
				282				
						344		281.25

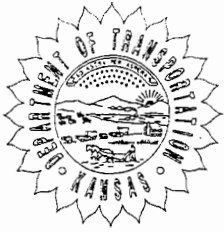


KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 435-46	SOUNDING NO. CD*2	SHEET 2 OF 3
BRIDGE STA. 13+975.538 (341)	PROJ.NO. 435-46 K-8262-01	BRIDGE NO. 69-46-14.35(341)
SITE NAME RAMP 69N-435E OVER RAMP 435E-ANTIOCH		HOLE 13+905.0, 6.6 m Lt STA. @ Ramp 69S-435E

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION TEST (SPT)			
							N COUNT	ELEVATION		
Diamond	Liberty Memorial Shale Formation			280	Shale, tan/olive/gray, weathered					
				279						
			1	278		315		278.44		
			2	277		1132		276.98		
			3	19.38		276.192	1752	275.94		
			20.12	276		Shale, gray, laminated becoming limy 275.452				
			Raytown Ls Mbr			275	Limestone, hard, gray, wavy-bedded $\Delta D = 2 \text{ ft}$ $\Delta = \frac{1}{2}''$	89800	274.54	
						274	273.692	275	273.44	
						22.13	273.442	Shale, gray		
						22.40	273.172	Limestone, wavy-bedded, many thin shale breaks		
	5	273			Limestone, hard, gray	37500	272.38			
	Muncie Ck Member		23.71	272	271.862					
			23.80	271.772	Shale, gray					
	Pocahontas Ls		24.35		Limestone, high-energy fossil debris 271.222	127600	271.28			
			271	Shale, gray, laminated	7840	270.70				
	Chanute Formation		25.45	270	270.122	2210	269.94			
			25.69		269.82	Sandstone, shaly, many thin light & dark gray laminae				
					Shale, gray, laminated					
			26.97	269	268.602	2540	268.78			
					Shale, gray, sandy, hard	20100	268.23			
			268	267.992						
				Sandstone, limy, many shale varves, hard						
267					18450	267.07				
					8560	266.43				
29.67			266	265.902						
		Shale, dark gray, clayey								
		265		520	264.51					

5.61 7.87



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 435-46	SOUNDING NO. CD#2	SHEET 3 OF 3
BRIDGE STA. 13+975.538 (341)	PROJ. NO. 435-46 K-8262-01	BRIDGE NO. 69-46-14.35(341)
SITE NAME RAMP 69N-435E OVER RAMP 435E-ANTIOCH		HOLE 13+905.0, 6.6 m Lt STA. @ Ramp 69S-435E

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION TEST (SPT)	
							N COUNT	ELEVATION
Diamond	Chapin Fm	11	32.22	263.352	Shale, dark gray, clayey			
	Drum Ls Fm	12	33.50	262.072	Limestone, wavy-bedded, stylolitic seams			
	Out-vira		34.47	261.102	Shale, green-olive, clayey, limy			
				261				