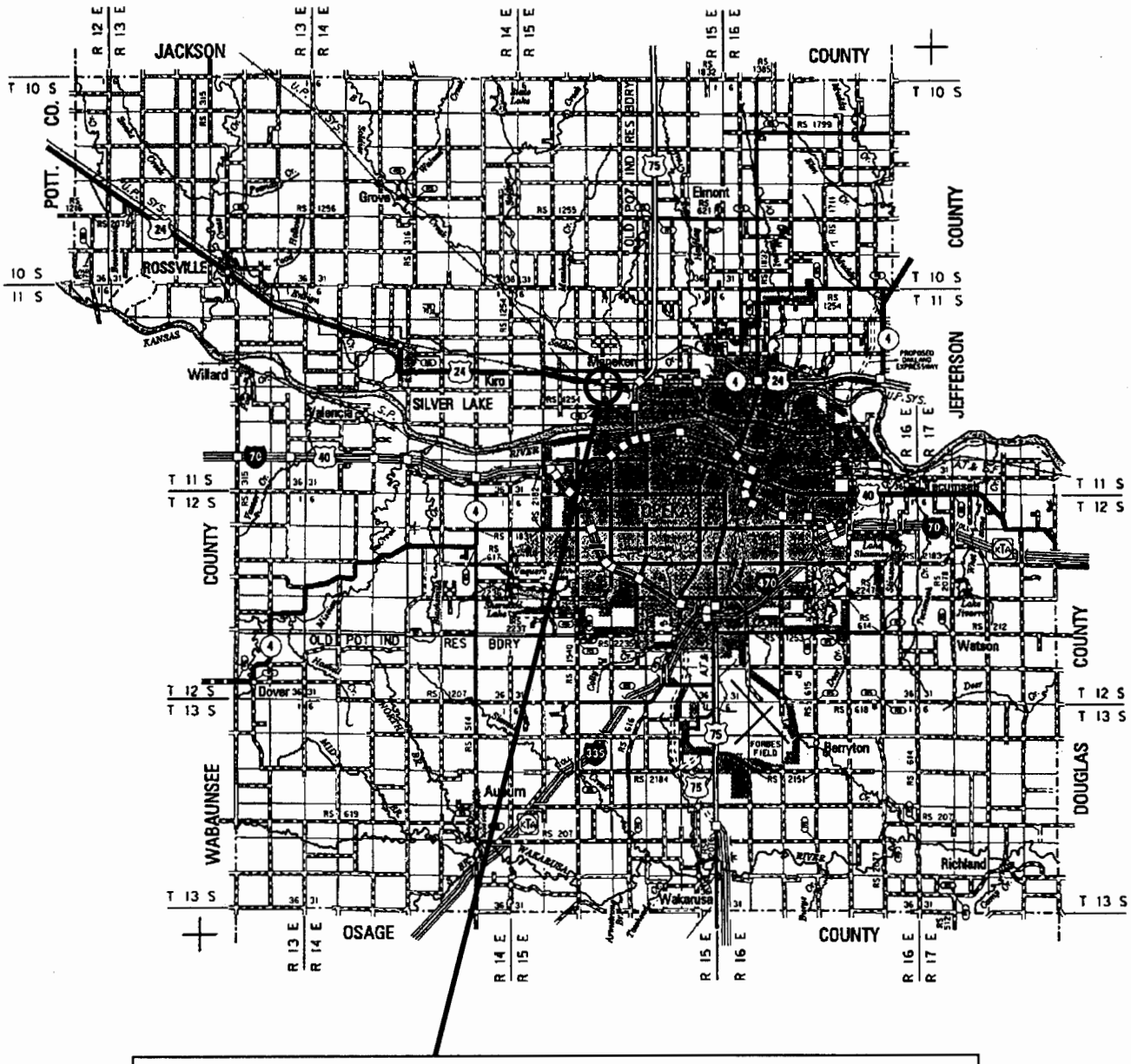

24-89 K-7431-01

US-24 over UP Railroad

Bridge No. 24-89-17.23(283)EB

Shawnee County

CD 01

N:39.091597 E:-95.748754(Approx.)

SE ¼, NW ¼, SE ¼, Section16, T11S, R15E

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD1	SHEET 1 of 4	
BRIDGE STA.	122+02.5	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	125+22.5, 64.0' Rt CL
GEOLOGIST	R. Crow	SCALE 1 inch = 5.0 feet		DATE	October 12, 2010
DRILLER	R. Hinderliter	RIG TYPE	CME 75	TOP HOLE ELEV.	894.86
GW ELEV.	874.9	TOTAL DEPTH	88.1	M/B ELEV.	837.86

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
Flush Joint Casing	Alluvium			894.9	Alluvial silt with some clay binder				
			20.0	874.9	Alluvial sand, tan, fine to coarse, with occasional clay binder zones				

890
885
880
875
870
865

BOREHOLE REPORT - KANSAS DOT.GDT - 11/22/10 14:43 - Q:\GEOLOGY\BRIDGE\24-89 K-7431-01\UPRR\US24OVERUPRR.GPJ

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD1	SHEET 2 of 4	
BRIDGE STA.	122+02.5	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	125+22.5, 64.0' Rt CL

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
Flush Joint Casing	Alluvium			860	Alluvial sand, tan, fine to coarse, with occasional clay binder zones				
				855					
				850					
				845					
				840					
	Severy Shale Formation		57.0	837.9	Shale, weathered, gray-green				
				835					
Diamond	Coal Creek Limestone	1	61.0	833.9	Limestone, gray, very hard, fossiliferous	385	1.83E+08		832.36
						281.5	1.02E+08		831.26
	Holt Shale	2	64.3	830.6	Shale, gray, clayey				
			64.7	830.2	Shale, dark gray becoming black				

BOREHOLE REPORT - KANSAS DOT.GDT - 11/22/10 14:43 - Q:\GEOLOGY\BRIDGE\24-89 K-7431-01\UPRR\US24OVERUPRR.GPJ

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD1	SHEET 3 of 4	
BRIDGE STA.	122+02.5	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	125+22.5, 64.0' Rt CL

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
						39.55	6580000		828.16
Diamond	DuBois Limestone	2	66.7	828.2	Limestone, shaly, gray				
			68.0	826.9	Shale, gray				
			68.1	826.8	Limestone, shaly, gray				
			68.3	826.6	Shale, gray				
			68.8	826.1	Limestone, shaly				
		3	69.0	825.9	Shale, gray				
			70.2	824.7	Limestone, shaly				
	Shel-don LS		70.6	824.3	Shale, gray Turner Creek Shale Member				
			71.0	823.9	Shale black, gradual transition				
			71.4	823.5	Limestone, nearly white	660	3.09E+08		821.76
	Jones Point Shale		73.3	821.6	Shale, greenish gray				
		4	75.3	819.6	Limestone, fossiliferous, slightly shaly				
			76.5	818.4	Limestone, shaly, fossiliferous	216	7.66E+07		817.66
	Curzon Limestone Member		78.1	816.8	Limestone, hard, gray				
		5				305	1.02E+08		813.26
						415	2.04E+08		810.76
	Iowa Point Shale	6	84.1	810.8	Shale, gray to dark gray, limy, sandy				
			88.1	806.76	T.D. = 88.1				

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD1	SHEET 4 of 4	
BRIDGE STA.	122+02.5	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	125+22.5, 64.0' Rt CL

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION

Core	Depth	Elev.	Cut	Rec	Rec %	RQD
1	61.0	833.86	2.1	2.1	100	57%
2	63.1	831.76	5.0	5.0	100	88%
3	68.1	826.76	5.0	5.0	100	76%
4	73.1	821.76	5.0	5.0	100	60%
5	78.1	816.76	5.0	5.0	100	96%
6	83.1	811.76	5.0	4.5	90	82%
Total	**88.1**	**806.76**	**27.1**	**26.6**	**98**	**79%**