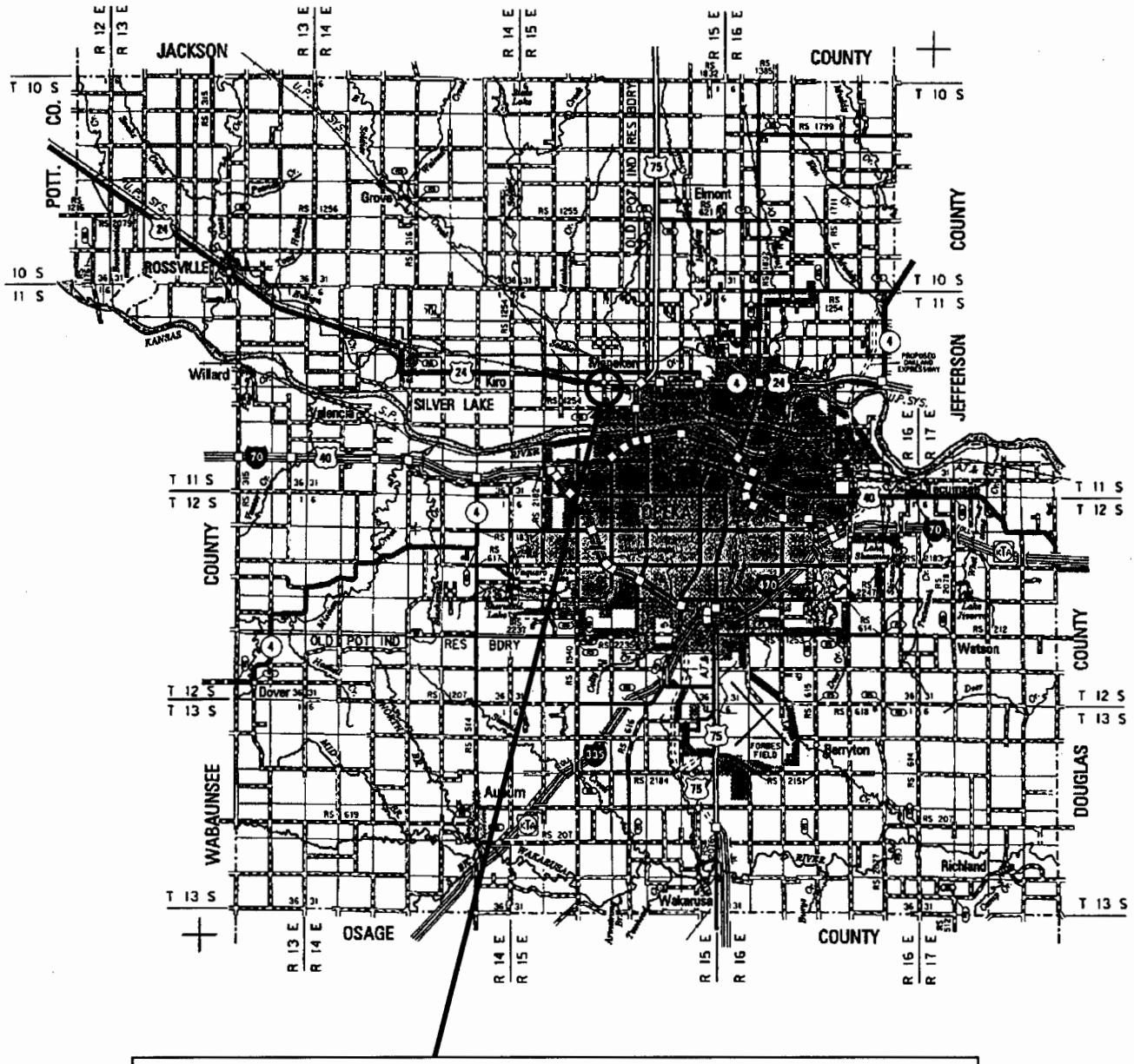

24-89 K-7431-01

US-24 over UP Railroad

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

Shawnee County

CD 02

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.	CD2	SHEET 1 of 4	
BRIDGE STA.	120+70	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	121+95, 64.0' Lt CL
GEOLOGIST	R. Crow	SCALE 1 inch = 5.0 feet		DATE	October 13, 2010
DRILLER	R. Hinderliter	RIG TYPE	CME 75	TOP HOLE ELEV.	896.28
GW ELEV.	N/A	TOTAL DEPTH	88.1	M/B ELEV.	834.28

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			896.3	Silt and fine sand with some clay binder				
			15.0	881.3	Sand fine to medium with occasional clay binder				

895
890
885
880
875
870

BOREHOLE REPORT - KANSAS DOT.GDT - 11/22/10 14:45 - Q:\GEOLOGY\BRIDGE\24-89 K-7431-01\UPRR\US24OVERUPRR.GPJ

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD2	SHEET 2 of 4	
BRIDGE STA.	120+70	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	121+95, 64.0' Lt 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			865	Sand fine to medium with occasional clay binder				
				860					
				855					
				850					
				845					
				840					
				835					
Diamond			62.0	834.3	Shale, washed out Severy Shale Formation				
	Coal Ck. Limestone	1	63.0	833.3	Limestone, hard, fossiliferous	167.5	1.11E+08		831.78
		2							

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KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD2	SHEET 3 of 4	
BRIDGE STA.	120+70	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	121+95, 64.0' Lt 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
Diamond	Holt Shale	2	65.7	830.6	Shale, gray	15.95	1610000		829.98
			65.9	830.4	Shale, black				
	Du Bois Limestone	3	68.2	828.1	Limestone, gray, fossiliferous				
			69.0	827.3	Shale, very limy, gray	160.5	6.02E+07		825.78
			70.5	825.8	Shale, gray, sandy				
	Shellon LS		71.4	824.9	Limestone, gray				
			71.8	824.5	Shale, gray, becoming nearly black Turner Creek				
			72.9	823.4	Limestone, white to light gray, micritic				
	Jones Point Shale	4	74.5	821.8	Shale, clayey				
	Curzon Limestone Member		76.8	819.5	Limestone, shaley, fossiliferous	316	2.3E+08		818.58
			78.1	818.2	Shale, very limy, fossil shell debris	124.5	9.11E+07		816.78
		5	80.3	816.0	Limestone, shaly, fossiliferous				
			83.1	813.2	Limestone, fossiliferous, gray				
		6	85.0	811.3	Limestone, fossiliferous, gray, shaly	376	1.89E+08		810.88
			85.4	810.9	Limestone, fossiliferous, gray shaly @ 85.6				
	Iowa Point Shale		85.9	810.4	Shale, sandy, limy, gray				
			88.1	808.18	T.D. = 88.1				

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KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	US-24-Shawnee	SOUNDING NO.	CD2	SHEET 4 of 4	
BRIDGE STA.	120+70	PROJ. NO.	K-7431-01	BRIDGE NO.	24-89-17.22(282)WB
SITE NAME	US-24 over UP Railroad			HOLE STA.	121+95, 64.0' Lt 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	62.0	834.28	3.0	2.0	67	67%
2	65.0	831.28	3.1	2.9	94	94%
3	68.1	828.18	5.0	5.0	100	94%
4	73.1	823.18	5.0	5.0	100	88%
5	78.1	818.18	5.0	5.0	100	100%
6	83.1	813.18	5.0	4.9	98	98%
Total	**88.1**	**808.18**	**26.1**	**24.8**	**95**	**92%**