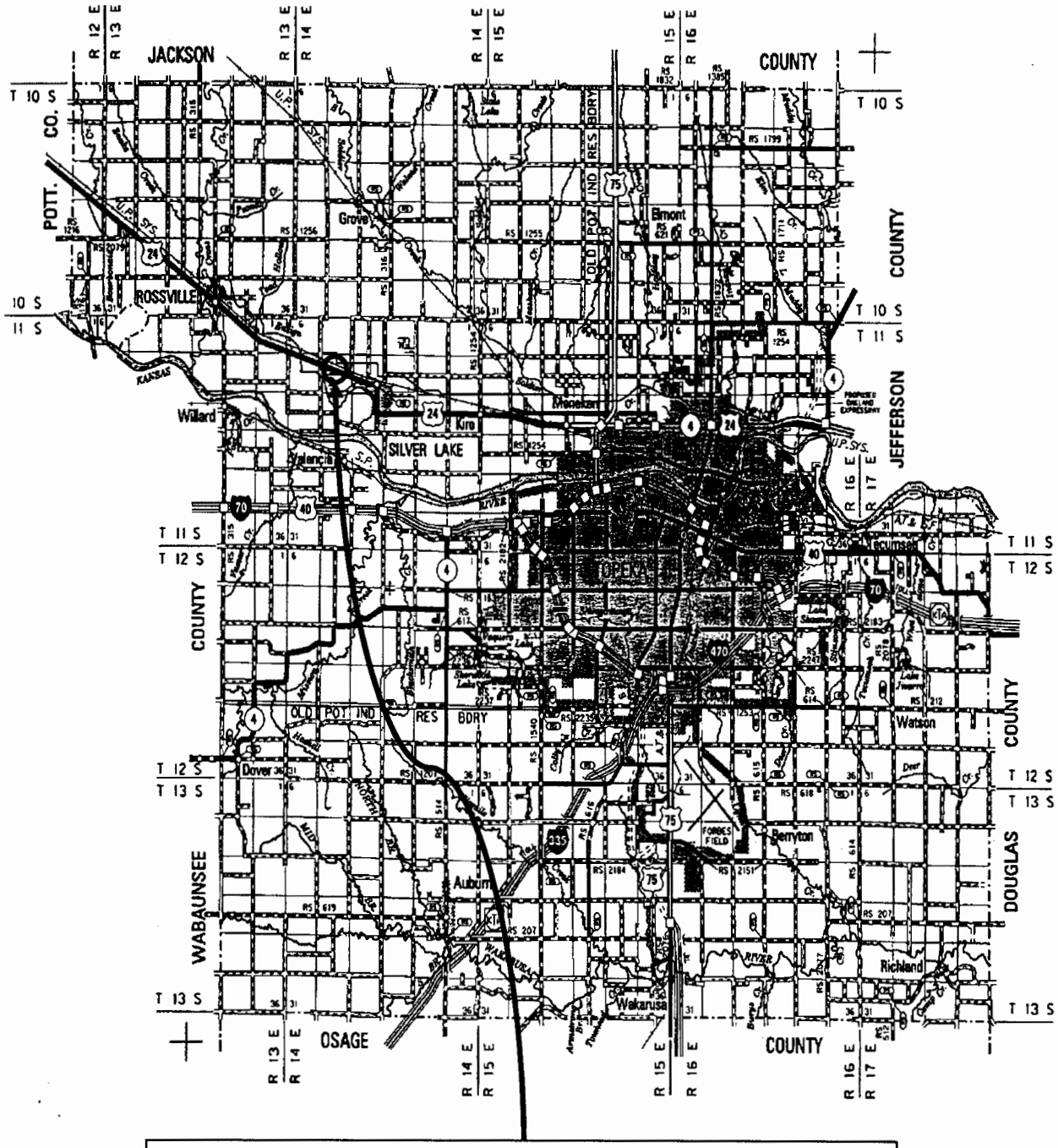

24-89 KA-0711-01 *US*-24 over Ensign Creek

Bridge No. 24-89-8.42(299)

Shawnee County

CD 01

N: 39.116250 E: -95.903002

SW ¼ , SE ¼ , SW ¼, Section 06 T11S, R14E

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	24-89	SOUNDING NO.	CD1	SHEET 1 of 4	
BRIDGE STA.	523+61.75	PROJ. NO.	KA-0711-01	BRIDGE NO.	24-89-8.42 (299)
SITE NAME	US-24 over Ensign Ck			HOLE STA.	524+08, 30.5' Lt CL
GEOLOGIST	R. Crow	SCALE 1 inch = 5.0 feet		DATE	April 28, 2010
DRILLER	R. Hinderliter	RIG TYPE	CME 75	TOP HOLE ELEV.	912.11
GW ELEV.	N/A	TOTAL DEPTH	92.8	M/B ELEV.	843.71

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			912.1	Silt, black, moist				
			5.3	906.8	Sand, tan, medium to coarse, wet				

910
905
900
895
890
885

BOREHOLE REPORT - KANSAS DOT.GDT - 7/6/10 15:41 - Q:\GEOLOGY\BRIDGE\24-89 KA-0711-01\ENSIGN CREEK SOUNDINGS.GPJ

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	24-89	SOUNDING NO.	CD1	SHEET 2 of 4	
BRIDGE STA.	523+61.75	PROJ. NO.	KA-0711-01	BRIDGE NO.	24-89-8.42 (299)
SITE NAME	US-24 over Ensign Ck			HOLE STA.	524+08, 30.5' 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			880 875 870 865 860 855 850	Sand, tan, medium to coarse, wet				

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KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	24-89	SOUNDING NO.	CD1	SHEET 3 of 4	
BRIDGE STA.	523+61.75	PROJ. NO.	KA-0711-01	BRIDGE NO.	24-89-8.42 (299)
SITE NAME	US-24 over Ensign Ck			HOLE STA.	524+08, 30.5' 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
	Alluvium			845	Sand, tan, medium to coarse, wet				
Diamond	White Cloud Shale Member	1	68.4	843.7	Shale, clayey, gray				
			68.8	843.3	Shale, limy, gray				
			69.2	842.9	Shale, highly calcareous, laminar, hard, occasional vertical fractures	111.5	7.92E+07		840.91
		2	74.8	840					
			75.3	837.3	Shale, gray	59	1.42E+07		836.81
				836.8	Shale, limy, greenish-gray				
		3	77.8	835	Shale, clayey, gray w/green tint, shear planes	1.105	85600		831.81
		4		834.3					
			82.8	830	Shale, greenish-gray w/limestone nodules	4.225	604000		828.01
		5	85.5	829.3					
				826.6	Shale, greenish-gray, clayey, shear planes, Orbiculoidias				
		6		825					
				820		25.5	4450000		819.31
			92.8	819.31	T.D. = 92.8				

KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	24-89	SOUNDING NO.	CD1	SHEET 4 of 4	
BRIDGE STA.	523+61.75	PROJ. NO.	KA-0711-01	BRIDGE NO.	24-89-8.42 (299)
SITE NAME	US-24 over Ensign Ck			HOLE STA.	524+08, 30.5' 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	68.8	843.31	4.0	3.9	98	85%
2	72.8	839.31	5.0	4.8	96	72%
3	77.8	834.31	4.2	4.2	100	78%
4	82.0	830.11	0.8	1.1	138	100%
5	82.8	829.31	5.0	4.9	98	72%
6	87.8	824.31	5.0	5.2	104	88%
Total	**92.8**	**819.31**	**24.0**	**24.1**	**100**	**79%**