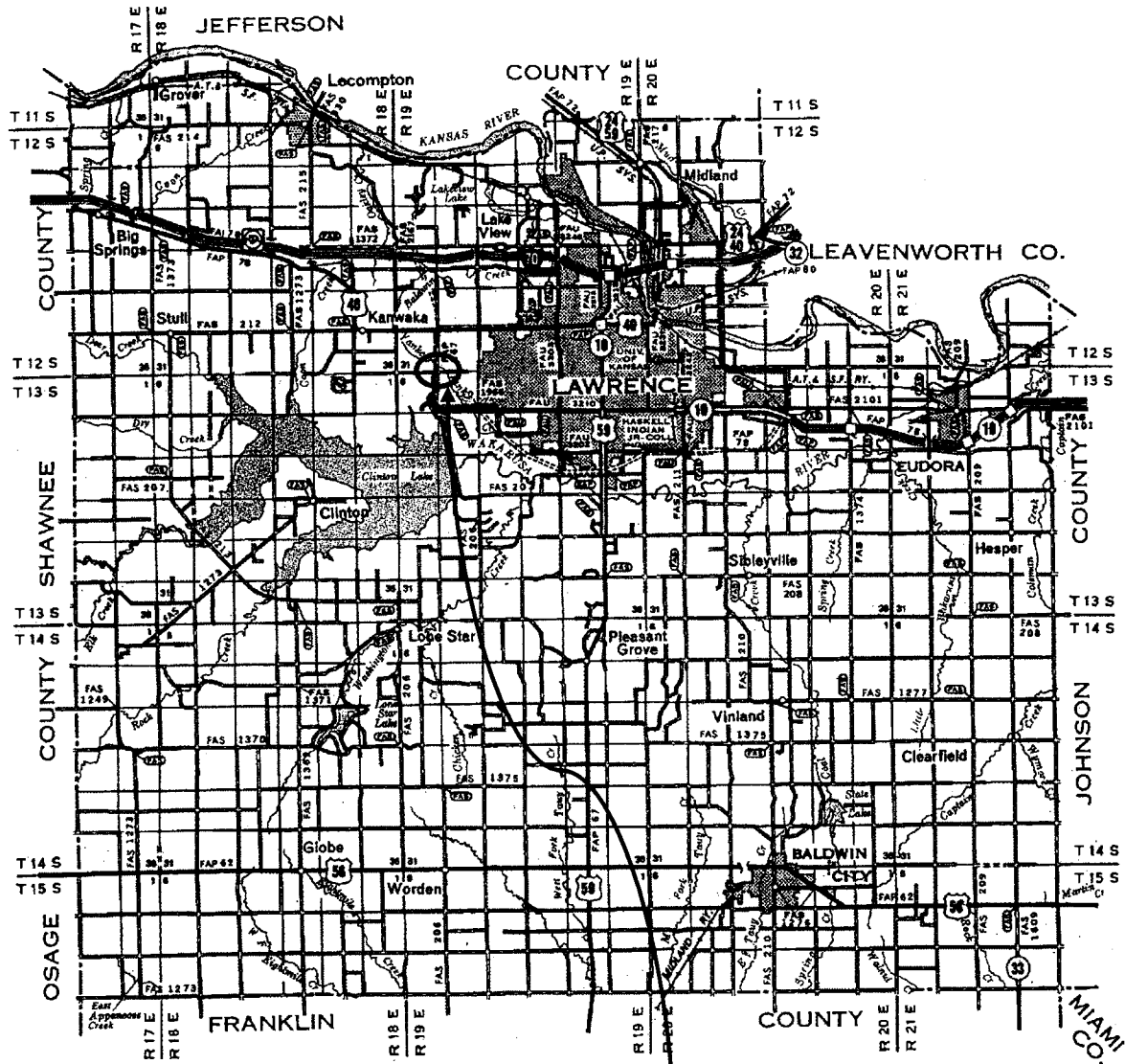




10-23 KA-1826-01

Br. No. 10-23-2.63(191)

Bob Billings Parkway over K-10

K-10 (South Lawrence Trafficway)/Bob Billings Parkway

Douglas Co

CD3

N:38.959741 E:-95.334869 (Approx.)

NW 1/4, SW 1/4, SW 1/4, S32, T12S, R19E

KANSAS DEPARTMENT OF TRANSPORTATION



RTE./CO.	K-10 / Douglas	SOUNDING NO.	CD 03	SHEET 1 of 3
		PROJ. NO.	10-23 KA-1826-01	BRIDGE NO.
SITE NAME	K-10 Bob Billings Parkway Interchange			HOLE STA.51+79, 53.0' Lt Bob Billings
GEOLOGIST	J. Barker G.I.T.	SCALE 1 inch = 5.0 feet		DATE October 22, 2012
DRILLER	R. Vervynck	RIG TYPE	CME 55	TOP HOLE ELEV. 939.69
GW ELEV.	934.7	TOTAL DEPTH	43.8	M/B ELEV. 933.69

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
NQ2 Diamond 8" Hollow Augers	Mantle			939.7	Silty clay, brown, LS gravel, slightly moist.				
	Snyderville Shale		6.0	935	Shale, highly weathered				
			1	933.7					
	Toronto Limestone Member		2	930	Limestone, gray to light, very hard, non weathered, closely to very closely fractured, fossiliferous, well cemented.				
			11.1	928.6					
			14.2	925	Limestone	192	1.48E+08		925.89
			3	925.5		328	1.28E+08		921.84
Lawrence Formation			19.8	920	Limestone, light gray, with occasional thin 1" thick shale seams, very hard, non-weathered, closely fractured well cemented fossiliferous at 23.4'.	505	1.68E+08		917.09
			23.6	915	Shale, dark gray to greenish gray, sandy, hard, well compacted, non-weathered, widely fractured. At 26.1' occasional thin, less than 1" thick sandstone stringers.	26	2020000		913.74
			5						
			6	910					

BOREHOLE REPORT - KANSAS DOT.GDT - 3/13/13 13:42 - Q:\GEOLOGY\BRIDGE\10-23 KA-1826-01\BOB BILLINGS INTERCHANGE\2.GPJ



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	K-10 / Douglas	SOUNDING NO.	CD 03	SHEET 2 of 3
		PROJ. NO.	10-23 KA-1826-01	BRIDGE NO.
SITE NAME	K-10 Bob Billings Parkway Interchange			HOLE STA.51+79, 53.0' Lt Bob Billings

BOREHOLE REPORT - KANSAS DOT.GDT - 3/13/13 13:42 - Q:\GEOLOGY\BRIDGE\10-23 KA-1826-01\BOB BILLINGS INTERCHANGE\2.GPJ

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
Lawrence Formation			30.6	909.1	Shale, dark gray to gray, clayey, non weathered closely fractured, well compacted, high swell potential.				
			6						
			32.5	907.2	Coal seam	7.6	1730000		907.19
			32.6	907.1					
			7	905	Shale, maroon to greenish brown, hard, non weathered, closely fratured, well compacted.	22	4660000		903.19
			38.8	900.9	Shale, gray, clay, high swell potential, closley fractured well compacted.				
			8	900		11.2	1540000		898.24
			43.8	895.89	T.D. = 43.8				



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	K-10 / Douglas	SOUNDING NO.	CD 03	SHEET 3 of 3
		PROJ. NO.	10-23 KA-1826-01	BRIDGE NO.
SITE NAME	K-10 Bob Billings Parkway Interchange			HOLE STA.51+79, 53.0' Lt Bob Billings

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION																																																																					
					<table><thead><tr><th>Core</th><th>Depth</th><th>Elev.</th><th>Cut</th><th>Rec</th><th>Rec %</th><th>RQD</th></tr></thead><tbody><tr><td>1</td><td>6.8</td><td>932.89</td><td>2.0</td><td>0.0</td><td>0</td><td>0%</td></tr><tr><td>2</td><td>8.8</td><td>930.89</td><td>5.0</td><td>3.3</td><td>66</td><td>49%</td></tr><tr><td>3</td><td>13.8</td><td>925.89</td><td>5.0</td><td>5.0</td><td>100</td><td>98%</td></tr><tr><td>4</td><td>18.8</td><td>920.89</td><td>5.0</td><td>5.0</td><td>100</td><td>94%</td></tr><tr><td>5</td><td>23.8</td><td>915.89</td><td>5.0</td><td>5.0</td><td>100</td><td>100%</td></tr><tr><td>6</td><td>28.8</td><td>910.89</td><td>5.0</td><td>5.0</td><td>100</td><td>96%</td></tr><tr><td>7</td><td>33.8</td><td>905.89</td><td>5.0</td><td>4.6</td><td>92</td><td>70%</td></tr><tr><td>8</td><td>38.8</td><td>900.89</td><td>5.0</td><td>3.0</td><td>60</td><td>40%</td></tr><tr><td>Total</td><td>43.8</td><td>895.89</td><td>37.0</td><td>30.9</td><td>84</td><td>74%</td></tr></tbody></table>	Core	Depth	Elev.	Cut	Rec	Rec %	RQD	1	6.8	932.89	2.0	0.0	0	0%	2	8.8	930.89	5.0	3.3	66	49%	3	13.8	925.89	5.0	5.0	100	98%	4	18.8	920.89	5.0	5.0	100	94%	5	23.8	915.89	5.0	5.0	100	100%	6	28.8	910.89	5.0	5.0	100	96%	7	33.8	905.89	5.0	4.6	92	70%	8	38.8	900.89	5.0	3.0	60	40%	Total	43.8	895.89	37.0	30.9	84	74%			
Core	Depth	Elev.	Cut	Rec	Rec %	RQD																																																																								
1	6.8	932.89	2.0	0.0	0	0%																																																																								
2	8.8	930.89	5.0	3.3	66	49%																																																																								
3	13.8	925.89	5.0	5.0	100	98%																																																																								
4	18.8	920.89	5.0	5.0	100	94%																																																																								
5	23.8	915.89	5.0	5.0	100	100%																																																																								
6	28.8	910.89	5.0	5.0	100	96%																																																																								
7	33.8	905.89	5.0	4.6	92	70%																																																																								
8	38.8	900.89	5.0	3.0	60	40%																																																																								
Total	43.8	895.89	37.0	30.9	84	74%																																																																								