

NE 1/4, NW 1/4, Sec. 34, T23S, R24E Bourbon County

KANSAS DEPARTMENT OF TRANSPORTATION



RTE./CO.	31-Bourbon	SOUNDING NO.	CD 2	SHEET 1 of 3
		PROJ. NO.	31-6 KA-2052-01	BRIDGE NO. 31-6-09.13(090)
SITE NAME	K-31 over Clever Creek			HOLE STA. 22+02, 24.0' Rt CL
GEOLOGIST	G. Worthington, G.A.	SCALE	1 inch = 5.0 feet	DATE January 19, 2012
DRILLER	J. Burns	RIG TYPE	CME 55	TOP HOLE ELEV. 816.66
GW ELEV.	809.4	TOTAL DEPTH	52.3	M/B ELEV. 796.96

N = 38.008271
E = -94.761021

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
8" Hollowstem Augers	Fill			816.7	Fill, yellow-brown, clay, silt, sand				
				815					
				810		1.44	155000		810.66
	Alluvium		9.0	807.7	clay, medium brown	0.5	28000		805.66
			12.0	804.7	Clay, silty, bluish-brown, soft, moist				
			14.0	802.7	Shale, brown to gray, very soft, weathered	1	138000		800.96
NQ2 Diamond	Bandera Shale Fm		20.0	796.7	Shale, med dark gray to med bluish-gray, soft to med hard				
			1	795		10.8	789000		794.56
			2	790		2.9	221000		789.26
			3						

BOREHOLE REPORT - KANSAS DOT GDT - 9/13/12 15:06 - C:\DENNY\BRIDGES\31-6 KA-2052-01\31-06 KA-2052-01 CLEVERCRK\31-06 KA-2052-01 CLEVER CRK.GPJ



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	31-Bourbon	SOUNDING NO.	CD 2	SHEET 2 of 3
		PROJ. NO.	31-6 KA-2052-01	BRIDGE NO. 31-6-09.13(090)
SITE NAME	K-31 over Clever Creek			HOLE STA. 22+02, 24.0' Rt CL

BOREHOLE REPORT - KANSAS DOT.GDT - 9/13/12 15:06 - C:\DENNY\BRIDGES\31-6 KA-2052-01\31-06 KA-2052-01 CLEVER CRK.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
NQ2 Diamond	Bandera Shale Fm		30.9	785	Shale, med dark gray to med bluish-gray, soft to med hard	69	1.99E+07		785.26
				785.8	MULBERRY COAL BED, black, firm to hard				
			32.6	784.1	underclay, light gray				
			34.1	782.6	Shale, dark-gray, medium hard				
	Laberdie Limestone Mbr		35.9	780	Limestone, sometimes shaley, gray to dark-gray, hard to very hard, fossiliferous, oil stains present	470	1.81E+08		779.06
						257	1.13E+08		776.56
				775					
				770		321	1.59E+08		770.96
				765		356	1.98E+08		764.96
			52.0 52.3	764.7 764.36	MINE CREEK SHALE MEMBER Shale, dark-gray, medium hard T.D. = 52.3				



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	31-Bourbon	SOUNDING NO.	CD 2	SHEET 3 of 3
		PROJ. NO.	31-6 KA-2052-01	BRIDGE NO. 31-6-09.13(090)
SITE NAME	K-31 over Clever Creek			HOLE STA. 22+02, 24.0' 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																																																														
					<table><tr><th>Core</th><th>Depth</th><th>Elev.</th><th>Cut</th><th>Rec</th><th>Rec %</th><th>RQD</th></tr><tr><td>1</td><td>20.0</td><td>796.66</td><td>2.6</td><td>2.5</td><td>96</td><td>27□</td></tr><tr><td>2</td><td>22.6</td><td>794.06</td><td>4.9</td><td>5.3</td><td>108</td><td>88□</td></tr><tr><td>3</td><td>27.5</td><td>789.16</td><td>5.1</td><td>5.2</td><td>102</td><td>20□</td></tr><tr><td>4</td><td>32.6</td><td>784.06</td><td>5.0</td><td>5.0</td><td>100</td><td>72□</td></tr><tr><td>5</td><td>37.6</td><td>779.06</td><td>5.0</td><td>5.0</td><td>100</td><td>66□</td></tr><tr><td>6</td><td>42.6</td><td>774.06</td><td>5.0</td><td>5.0</td><td>100</td><td>100□</td></tr><tr><td>7</td><td>47.6</td><td>769.06</td><td>4.7</td><td>4.7</td><td>100</td><td>91□</td></tr><tr><td>Total</td><td>52.3</td><td>764.36</td><td>32.3</td><td>32.7</td><td>101</td><td>□□□□□□</td></tr></table>	Core	Depth	Elev.	Cut	Rec	Rec %	RQD	1	20.0	796.66	2.6	2.5	96	27□	2	22.6	794.06	4.9	5.3	108	88□	3	27.5	789.16	5.1	5.2	102	20□	4	32.6	784.06	5.0	5.0	100	72□	5	37.6	779.06	5.0	5.0	100	66□	6	42.6	774.06	5.0	5.0	100	100□	7	47.6	769.06	4.7	4.7	100	91□	Total	52.3	764.36	32.3	32.7	101	□□□□□□			
Core	Depth	Elev.	Cut	Rec	Rec %	RQD																																																																	
1	20.0	796.66	2.6	2.5	96	27□																																																																	
2	22.6	794.06	4.9	5.3	108	88□																																																																	
3	27.5	789.16	5.1	5.2	102	20□																																																																	
4	32.6	784.06	5.0	5.0	100	72□																																																																	
5	37.6	779.06	5.0	5.0	100	66□																																																																	
6	42.6	774.06	5.0	5.0	100	100□																																																																	
7	47.6	769.06	4.7	4.7	100	91□																																																																	
Total	52.3	764.36	32.3	32.7	101	□□□□□□																																																																	

BOREHOLE REPORT - KANSAS DOT GDT - 9/13/12 15:06 - C:\DENNY\BRIDGES\31-6 KA-2052-01\31-06 KA-2052-01 CLEVER CRK GP.J