



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 16-75	SOUNDING NO. 20#1	SHEET 1 OF 2
BRIDGE STA. 10+548.500	PROJ. NO. K-5654-01	BRIDGE NO. 16-75-3652(023)
SITE NAME K-16 over Vermillion Creek		HOLE STA. 10+584.6, 6.1Rt
GEOLOGIST D. Streiter	SCALE: 1:100 (10mm = 1 Meter)	DATE 4-99
DRILLER B. Bergman	RIG TYPE B-61	TOP HOLE ELEV. 328.171
GROUNDWATER ELEV 325.18	TOTAL DEPTH 28.76	M/B ELEV. 309.83

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (kPa)	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS sample #	ELEV
			0.00	328.171	THE			
			0.60	327.57	Dark Brown silty clay	118.9	Sh-1	327.57
				327	Gray-Brown silty clay			
				326				
			2.83	325.34 325.18 325.55	light brown silty clay - moist, soft	181.1	Sh-2	324.74
				325				
				324				
				323				
			6.46	321.71	Gray silty clay - wet	34.6	Sh-3	321.71
				322				
				321				
				320				
				319				
				318				
				317				
			11.94	316.23	Dark Gray silty clay	94.4	Sh-5	315.63
			12.54	315.63	Gray-Green silty clay w/ some sand			
				316				
				315				
				314				
			14.28	313.19	Gray-green silty clay - med. sand @ base			
				315				

Carbide

Soil Mantle



KANSAS DEPARTMENT OF TRANSPORTATION

RTE/CO. 16-75	SOUNDING NO. CD#1	SHEET 2 OF 2
BRIDGE STA. 10+548.500	PROJ. NO. K-5654-01	BRIDGE NO. 16-75-36.52 (023)
SITE NAME K-16 over Vermillion Creek		HOLE STA. 10+584.6, 6.1 RT
GEOLOGIST D. Streiler	SCALE: 1:100 (10mm = 1 Meter)	DATE 4-99
DRILLER B. Bergman	RIG TYPE B-61	TOP HOLE ELEV. 328.171
GROUNDWATER ELEV 325.18	TOTAL DEPTH 28.76	M/B ELEV. 309.83

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION KPa	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS Sample #	ELEV
Carbide	Soil Mantle		15.58	312.59	Gray, Medium Sand	87.1	Sh-6	312.59
				312				
Diamond	Shale Formation		18.94	309.83	Gray shale	329.0	S-1	309.22
			19.54	308.63	Gray shale - ripple drift cross laminations	2686.0	S-2	308.42
			20.17	308.00	Gray sandstone - shaly			
			21.37	307	Gray shale w/ ss lenses			
			22.95	306	Gray shale - ripple drift cross laminations			
			24.32	305	Gray shale - varved, gypsum layer @ 23.30	1771.7	S-3	305.02
			25.02	304	Light Gray shale - blocky, soft, poorly lithified	2050.3	S-4	303.85
			25.85	303	Gray shale, ripple drift x-lam w/ varved zones			
			26.30	302	Gray shale - blocky			
			28.13	301	Gray shale - ripple drift x-lam	1774.2	S-5	301.38
			28.63	300	Gray shale - blocky			
			28.76 TD	299	Gray shale - ripple drift x-lam			

Core Description

CD #1 T.H.E. 328.171

Water Level----325.18

Core #1 18.64-20.17 (309.53-308.00)

Cut 1.53 **Rec.** 1.20 **RQD** 100%

18.64-18.94 gray shale (Sample #1 18.81-18.95)

18.94-19.54 gray shale-ripple drift cross laminations

19.54-19.61 gray shale-blocky

19.61-20.17 gray sandstone-shaly (Sample #2 19.61-19.75)

Core #2 20.17-21.33 (308.00-306.80)

Cut 1.11 **Rec.** 0.30 **RQD** 0%

20.17-21.33 gray shale with sandstone lenses

Core #3 21.37-22.95 (306.80-305.22)

Cut 1.58 **Rec.** 1.60 **RQD** 88%

21.37-22.95 gray shale-ripple drift cross laminations

Core #4 22.95-24.32 (305.22-303.85)

Cut 1.37 **Rec.** 1.37 **RQD** 100%

22.95-24.32 gray shale- varved (gypsum layer @ 23.30)

(Sample #3 22.95-23.15)

(Sample #4 24.16-24.32)

Core #5 24.32-25.85 (303.85-302.32)

Cut 1.53 **Rec.** 1.37 **RQD** 44%

24.32-25.02 light gray shale-blocky, soft, poorly lithified

25.02-25.85 gray shale- ripple drift cross laminations, varved zones

Core #6 25.85-27.23 (302.32-300.94)

Cut 1.38 **Rec.** 1.54 **RQD** 100%

25.85-26.30 gray shale-blocky

26.30-27.23 gray shale-ripple drift cross laminations (Sample #5 26.64-26.79)

Core #7 27.23-28.76 (300.94-299.41)

Cut 1.53 **Rec.** 1.49 **RQD** 100%

27.23-28.13 gray shale-ripple drift cross laminations

28.13-28.63 gray shale-blocky

28.63-28.76 gray shale-ripple drift cross laminations

28.76 Total Depth—Stopped in same

Level Run

Point	Forward	H.I.	Back	Elev.
BM # 19	square cut on NW corner of abutment			
Sta. 10+511.900, 4.90 m Lt Baseline.				
Inst.	1.33	330.721		329.391
CD #1			2.55	328.171
BM #19			1.33	329.391

PA#1	Elevation	Depth	Remarks
Station 10+512	325.021	0.00-2.00	Dark brown silty clay
On Centerline	323.02	2.00-6.00	no return
	319.02	6.00-12.35	gray/brown silty clay-wet
	312.67	12.35-15.72	gray/brown sandy, silty clay w/ some gravel
	309.30	15.72-17.78	firm
	307.24	17.78 TD	stopped in same

Level Run

Point	Forward	H.I.	Back	Elev.
BM # 19	square cut on NW corner of abutment			
Sta. 10+511.900, 4.90 m Lt Baseline.				
Inst.	1.12	330.511		329.391
PA#1			5.49	325.021
BM#19			1.12	329.391

PA#2	Elevation	Depth	Remarks
Station 10+520.8	325.32	0.00-5.00	Dark brown silty clay
On Centerline	320.32	5.00-14.67	gray/brown sandy, silty clay-wet
	310.65	14.67-15.30	sandy, silty clay w/gravel
	310.02	15.30-15.80	shale-weathered, soft
	309.52	15.80-16.33	shale-firm
	308.99	16.33 TD	stopped in same

Level Run

Point	Forward	H.I.	Back	Elev.
BM # 19	square cut on NW corner of abutment			
Sta. 10+511.900, 4.90 m Lt Baseline.				
Inst.	1.43	330.82		329.391
PA#2			5.50	325.32
BM#19			1.43	329.39

	Elevation	Depth	Remarks
PA#3			
Station 10+584	329.63	0.00-2.00	Dark brown silty clay
5.0 m Lt.	327.67	2.00-18.36	gray/brown silty clay
	311.27	18.36-19.29	shale-gray
	310.34	19.29 TD	stopped in same

Level Run

Point	Forward	H.I.	Back	Elev.
BM # 20	square cut on SE corner of abutment			
Sta. 10+584.600, 5.30 m Rt. Baseline .				
Inst.	1.08	330.708		329.628
PA#3			2.84	327.87
BM#20			1.08	329.628