

N2 S2 13-12-21E

KANSAS DEPARTMENT OF TRANSPORTATION



RTE/CO. 32-52	SOUNDING NO. 1	SHEET / OF 2
BRIDGE STA. 16+053.500	PROJ. NO. 1C-7388-01	BRIDGE NO. 8.65 (280)
SITE NAME K-32 over Stranger Creek		HOLE STA. 16+028.5, 7.7m Rt.
GEOLOGIST David Schwieff	SCALE: 1:100 (10mm = 1 Meter)	DATE 8/18/03
DRILLER Rob Vannynck	RIG TYPE B-61	TOP HOLE ELEV. 242.343
GROUNDWATER ELEV 231.68	TOTAL DEPTH 28.64m	M/B ELEV. 228.20

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV
					THE 242.343			
				242	Mantle - Silty, loam, dark brown, becoming moist with graded silt, sand and gravel at the base. Poorly sorted quartz grains, and rock fragments, glacial outwash.			242
				241			241	
				240			240	
				239			239	
				238			238	
				237			237	
				236			236	
				235			235	
				234			234	
				233			233	
			10.70	232	231.58		232	
				231	Sand, Graded, wet, poorly sorted, quartz grains, dirty sand, containing other rock fragments, glacial fill or outwash.	11.37	47	231
				230			230	
				229			229	
			14.18	228	M/B 228.20		228	
15 sand OK Mem					Shale - blue-green to blue gray. Silty at the top, firm at the base. Limer shale, dark brown, with broken fossil clasts at base.			

		SOUNDING NO. 1		PROJECT NO. K-7388-01		SHEET 2 OF 2			
DATE 8/18/03		RTE./CO. 32-52		TOTAL DEPTH 28.64m		THE 242.343			
BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE		
							BLOWS	ELEV	
				227				227	
	15 Creek A			226	Shale - continued			226	
			17.37	225	224.97			225	
	Argentine Limestone Member			224	Limestone, Cherty, light grey, minor shale seams, calcite crystals in void spaces. Fossiliferous - bryozoans, and brachiopods.	17.67	99000 KPa	224	
				19.66	223	222.68			223
				20.46	222	Limestone, light grey, wavy bedded, minor shale seams	19.89	83000 KPa	222
				21.19	221	221.88 Limestone, light grey, calcite veins, few fossil clasts.			221
				22.71	220	221.15 Limestone, light grey, wavy bedded, calcite veins, calcareous nodules, abundant shale seams.			220
					219	219.63 Limestone, light grey, calcite veins, shale seams, fossiliferous - brachiopods.	23.18	10500 KPa	219
					218				218
			217				217		
			216				216		
			26.61	215	215.73 Shale, grey, wavy bedded, calcareous nodules, fossils - bryozoans, brachiopods	26.25	16000 KPa	215	
	Quincy Shale Member			214	214.94 Shale, grey, wavy bedded, inter-bedded thin limestone layers	26.86	19000 KPa	214	
				28.64	213	213.53 SIS	28.36	1970 KPa	213
				212		28.64	2120 KPa	212	

Core and power auger logs.
 32-52 K-7388-01
 Br. No. 32-52-8.65(080)
 32 Highway over Stranger Creek
 Leavenworth County

August 1, 2003

Logs	Elevation	Depth	Description
CD-1 16+028.50	242.34	0.00	Soil mantle, silty, dark brown, moist.
7.7 m Rt, THE=242.34			
Core #1	225.73	16.61	Shale, grey firm.
16.61-18.14	225.01	17.33	Limey shale, dark brown, broken fossil clasts.
Cut 1.52, rec. 1.52	224.97	17.37	Cherty limestone, light grey to light brown.
	224.83	17.51	Limestone, light grey, minor shale seams.
	224.48	17.86	Limestone, light grey, fractured with shale seams, and small chert nodules.
	224.20	18.14	RQD=8%
Core #2	224.20	18.14	Limestone, light grey, crystalline, cherty, bryozoans.
18.14-19.66	224.03	18.31	Limestone, light grey, horizontally fractured.
Cut 1.52, rec. 1.52	223.85	18.49	Limestone, light grey, cherty.
	223.74	18.60	Limestone, light grey, shale seams, brachiopods, bryozoans, calcite crystals in void spaces, crumbly.
	222.91	19.43	Limestone, light grey, minor shale seams.
	222.69	19.65	Argillaceous shale, dark brown.
	222.68	19.66	RQD=0%
Core #3	222.68	19.66	Limestone, light grey, shale seams, wavy bedded, Firm.
19.66-21.19	221.88	20.46	Limestone, more shale seams, calcite veins, fossiliferous.
Cut 1.52, rec. 1.52	221.41	20.93	Limestone, light grey, badly broken, calcite with rhombohedral crystals in veins, brachiopods
	221.15	21.19	RQD=15%
Core #4	221.15	21.19	Limestone, light grey, shale seams, wavy bedded.
21.19-22.71	220.67	21.67	Limestone, light grey, abundant shale seams, wavy bedded.
Cut 1.52, rec. 1.52	220.07	22.27	Limestone, light grey, shale seams, wavy bedded, calcareous nodules, crystallized calcite veins.
	219.63	22.71	RQD=0%
Core #5	219.63	22.71	Limestone, light grey, abundant shale seams, broken, Calcite veins, brachiopods, calcareous nodules.
22.71-24.24			
Cut 1.52, rec. 1.52	218.10	24.24	RQD=24%
Core #6	218.10	24.24	Limestone, light grey, abundant shale seams, broken, calcite veins, fossiliferous, calcareous nodules, large shale seams last 0.2 m.
24.24-25.76			
Cut 1.52, rec. 1.52	216.58	25.76	RQD=0%

Core #7	216.58	25.76	Limestone, light grey, shale seams, calcareous
25.76-27.29			nodules.
Cut 1.52, rec. 1.52	215.73	26.61	Limey shale, grey, wavy bedded.
	215.66	26.68	Shale, grey, crinoid fragments, wavy bedded, sandy.
	215.05	27.29	RDQ=83%
Core #8	215.05	27.29	Shale, grey, crinoid fragments, wavy bedded, sandy.
27.29-28.81	214.94	27.40	Limestone, light grey, small shale seams.
Cut 1.52, rec. 1.52	214.86	27.48	Alternating shale/limestone, grey to light grey.
	214.60	27.74	Shale, grey, wavy bedded.
	214.37	27.97	Limestone, light grey, shale lense in the middle.
	214.17	28.17	Shale, grey, wavy bedded.
	213.91	28.43	Limestone, light grey, inter-bedded shale seams.
	213.70	28.64	Shale, olive-grey, wavy bedded.
	213.53	28.81	RQD=62.2%

Logs	Elevation	Depth	Descriptions
PA #1	242.24	0.00	Mantle, silty clay, brown, moist.
16+012, 21 m Lt	228.74	13.50	Shale, firm, limey zones, Island Creek Shale Member
	225.44	16.80	Limestone, Argentine Limestone Member.
	224.74	17.50-TD	
PA #2	242.48	0.00	Mantle, silty clay, brown, moist.
16+012, 18.5 m Rt	228.78	13.70	Shale, firm, limey zones, Island Creek Shale Member.
	225.68	16.80	Limey shale.
	225.38	17.10	Limestone, firm, Argentine Limestone Member.
	220.48	22.00-TD	SIS
PA #3	240.15	0.00	Mantle, silty clay, dark brown, soft, moist.
16+093, centerline.	228.65	11.50	Shale, firm, limey, Island Creek Shale Member.
	225.15	15.00	Limestone, Argentine Limestone Member.
	218.35	21.80-TD	SIS
PA #4	241.71	0.00	Mantle, Silty clay, brown.
16+125, 21 m Lt	228.61	13.10	Shale, firm, Island Creek Shale Member.
	224.21	17.50	Limestone, Argentine Limestone Member.
	223.81	17.90	SIS
PA #5	247.04	0.00	Mantle, silty clay, dark brown, gravel, moist.
16+000.87, 5.9 m Rt	227.84	19.20	Shale, firm, Island Creek Shale Member.
	225.44	21.60	Limestone, Argentine Limestone Member.
	225.14	21.90-TD	SIS
PA #6	246.94	0.00	Mantle, silty clay, brown.
15+999.27, 8.4 m Lt	228.04	18.90	Shale, firm, Island Creek Shale Member.
	225.64	21.30	Limestone, Argentine Limestone Member.
	225.44	21.50	SIS
PA #7	245.95	0.00	Mantle, silty clay, brown.
16+119.00, 8.3 m Lt	231.35	14.60	Gravel.
	228.15	17.80	Shale, firm, Island Creek Shale Member.
	224.25	21.70	Limestone, Argentine Limestone Member.
	224.03	21.90	SIS
PA #8	240.50	0.00	Mantle, silty clay, brown.
16+097.7, 3.2 m Lt	229.10	11.40	Gravel.
	227.60	12.90	Shale, Island Creek Shale Member.
	224.40	16.10	Limestone, Argentine Limestone Member.
	224.20	16.30	SIS
PA #9	242.78	0.00	Mantle, silty clay, brown.
16+026, 8.5 m Lt.	229.18	13.60	Shale, Island Creek Shale Member.
	225.40	17.30	Limestone, Argentine Limestone Member.
	223.88	18.90	SIS
PA #10	242.58	0.00	Mantle, silty clay, brown.
15+988.32, 18.9 m Lt	230.78	11.8	Gravel.
	228.98	13.6	Shale, Island Creek Shale Member.
	225.78	16.5	Limestone, Argentine Limestone Member.

	225.58	17.0	SIS
PA #11	243.04	0.00	Mantle, silty clay, brown.
15+988.3, 17.2 m Rt	231.84	11.20	Gravel.
	229.14	13.90	Shale, Island Creek Shale Member.
	225.44	17.6	Limestone, Argentine Limestone Member.
	225.24	17.8	SIS