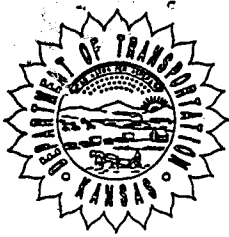


Core Box



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO. 75-89	SOUNDING NO. CD #3	SHEET 1 OF 3
BRIDGE STA. 99+490.118	PROJ. NO. K-5666-01	BRIDGE NO. 75-89-18.01
SITE NAME N.B. US-75 over Ks. River		HOLE STA. 99+222.7, 18m R+ NB
GEOLOGIST David Streiler Randy Billinger	SCALE: 1:100 (10mm = 1 Meter)	DATE 7-20-98
DRILLER Rob Veruynck Bob Bergman	RIG TYPE Mobile B-61	TOP HOLE ELEV. 282.59
GROUNDWATER ELEV 272.84	TOTAL DEPTH 43.88	M/B ELEV. 280.19

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH Meters	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION kPa	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV
			0.0		Top Hole Elevation 282.59			
Casing	Mantle		2.40	280.19	Silty clay			
Utah Mbr.			2.95	279.64	Limestone, Shaly, weathered.	135.6		279.41
Winkler Mbr.			3.60	278.99	Shale, brown-gray, weathered	40697.3		278.54
Church Mbr.			4.49	278.10	Limestone, gray, very hard			
Arden Mbr.			5.37	277.22	Shale, dark gray to black	3557.0		277.22
			5.76	276.83	Coal			
				275				
				270				
			14.78	267.81	coal bed 0.10m thick			
				267	Shale, gray clayey			

			SOUNDING NO. <u>CD #3</u>		PROJECT NO. <u>K-5666-01</u>		SHEET <u>2</u> OF <u>3</u>	
DATE <u>7-20-98</u>			RTE./CO. <u>75-89</u>		TOTAL DEPTH <u>43.88</u>		THE <u>282.59</u>	
BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV
				<u>267.0</u>				
	Severy Fm.		<u>17.66</u>	<u>264.93</u>	Shale, gray, clayey	<u>3876.9</u>		<u>264.92</u>
	Creek Mbr.		<u>18.9</u>	<u>263.69</u>	Limestone, gray. upper portion shaly	<u>25682.9</u>		<u>264.0</u>
	Hot Creek Mbr.		<u>19.54</u>	<u>263.05</u>	Shale, black, fissile	<u>48825.1</u>		<u>262.8</u>
	Du Bois Mbr.		<u>20.56</u>	<u>262.03</u>	Limestone, gray			
	Turner Mbr.		<u>20.81</u>	<u>261.78</u>	shale, dark gray, limy	<u>19692.7</u>		<u>261.59</u>
	Sheldon Mbr.		<u>21.47</u>	<u>261.12</u>	Limestone, light gray to gray-green			
	Jones Point Mbr.		<u>22.41</u>	<u>260.18</u>	Shale, gray-green	<u>1865.0</u>		<u>260.37</u>
						<u>41439.7</u>		<u>259.99</u>
	Curzon Mbr.				Limestone, gray	<u>30821.7</u>		<u>259.3</u>
			<u>25.41</u>	<u>257.18</u>		<u>54515.5</u>		<u>257.58</u>
	Isaba Point Mbr.		<u>25.79</u>	<u>256.8</u>	Shale, gray-green	<u>14869.8</u>		<u>256.63</u>
	Hot Creek Mbr.				Limestone, gray	<u>35753.7</u>		<u>255.66</u>
			<u>27.35</u>	<u>255.24</u>		<u>3416.3</u>		<u>255.03</u>
	Calhoun Formation				Shale, gray, sandy. Thin sandstone lenses.			
				<u>252</u>				
				<u>250</u>				
			<u>34.40</u>	<u>248.19</u>				
				<u>247</u>	Sandstone, shaly. Sandy shale lenses.			

DATE		SOUNDING NO.		PROJECT NO.		SHEET	
7-20-98		CD #3		K-5666-01		3 OF 3	
RTE./CO.		TOTAL DEPTH		THE			
75-89		43.88		282.59			
BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE
							BLOWS ELEV
			247			4066.8	246.93
					Sandstone, shaly. Sandy shale lenses.	4643.7	245.6
			37.59	245.0			
					Sandstone, gray. Some thin sandy shale breaks.	5216.3	242.83
						4158.2	241.09
			42.77	240			
				239.82			
					Limestone, gray, blocky to massive.	32768.2	238.87
			43.88	238.71			

Kansas Department of Transportation

Report of sample of Geology Cores

Laboratory No. 98-3022

Date Reported. August 14, 1998

Date Received. July 29, 1998

Specification No. -- Quantity ---

Source of material Project

Sample from Project

Submitted by Delmar Thompson, Lawrence Geology Office

Identification marks Tags with Samples

Project or POV 75-89 K-5666-01

Type of construction Bridge #75-89-18.01

TEST RESULTS

Sample No.	Station	CL Dist. m	Depth m	Description	Qu. kPa	Dry Unit Weight kg/m ³	Moisture (% of Dry Wt.)	
Core Hole #3 T.H.E.=282.59								
S1	99+222.7	18m Rt of CL of NB lane	2.73-2.87 <u>3.04-3.18</u>	Shale Winzler	135.6	1740	20.2	#1
S2	"	"	3.44-3.57 <u>3.98-4.05</u>	Limestone Church	40697.3	2669	1.2	#2
S3	"	"	5.16-5.39	Shale Aarde	3557.0	1895	11.2	#3
S4	"	"	17.48-17.67	Shale Coal Creek	3896.9	2311	6.2	#4
S5	"	"	18.34-18.59	Limestone Coal Creek	25682.9	2568	2.0	#5
S6	"	"	19.54-19.79	Limestone Du Bois	48825.1	2576	1.9	#6
S7	"	"	21.12-21.25 <u>20.87-21.0</u>	Limestone Sheldon	19692.7	2307	7.2	7
S8	"	"	22.43-22.64 <u>22.01-22.22</u>	Shale Jones Point	1865.0	2066	11.8	8
S9	"	"	22.83-23.02 <u>22.41-22.60</u>	Limestone Curzon	41439.7	2520	3.2	9
S10	"	"	23.69-23.87 <u>23.11-23.29</u>	Limestone Curzon	30821.7	2412	4.7	10
S11	"	"	24.79-25.01	Limestone Curzon	54515.5	2452	4.0	11
S12	"	"	27.14-27.34 <u>25.79-25.96</u>	Limestone Hartford	14869.8	2407	5.4	12
S13	"	"	26.93-27.06 <u>26.80-26.93</u>	Limestone Hartford	35753.7	2538	4.2	13
S14	"	"	27.48-27.69 <u>27.35-27.56</u>	Shale Calhoun	3416.3	2157	9.7	14
S15	"	"	35.50-35.66	Shale, Sandy "	4066.8	2224	8.5	
S16	"	"	36.85-36.99	Shale, Sandy "	4643.7	2275	6.9	
S17	"	"	39.55-39.76	Sandstone "	5216.3	1861	15.5	
S18	"	"	41.33-41.50	Shale, Sandy "	4158.2	2230	7.8	
S19	"	"	43.50-43.72	Limestone Ervine Creek	32768.2	2470	3.9	#19

cc: L.S. Ingram

G.R. Koontz

J.J. Brennan

Soil Section

File 18-3

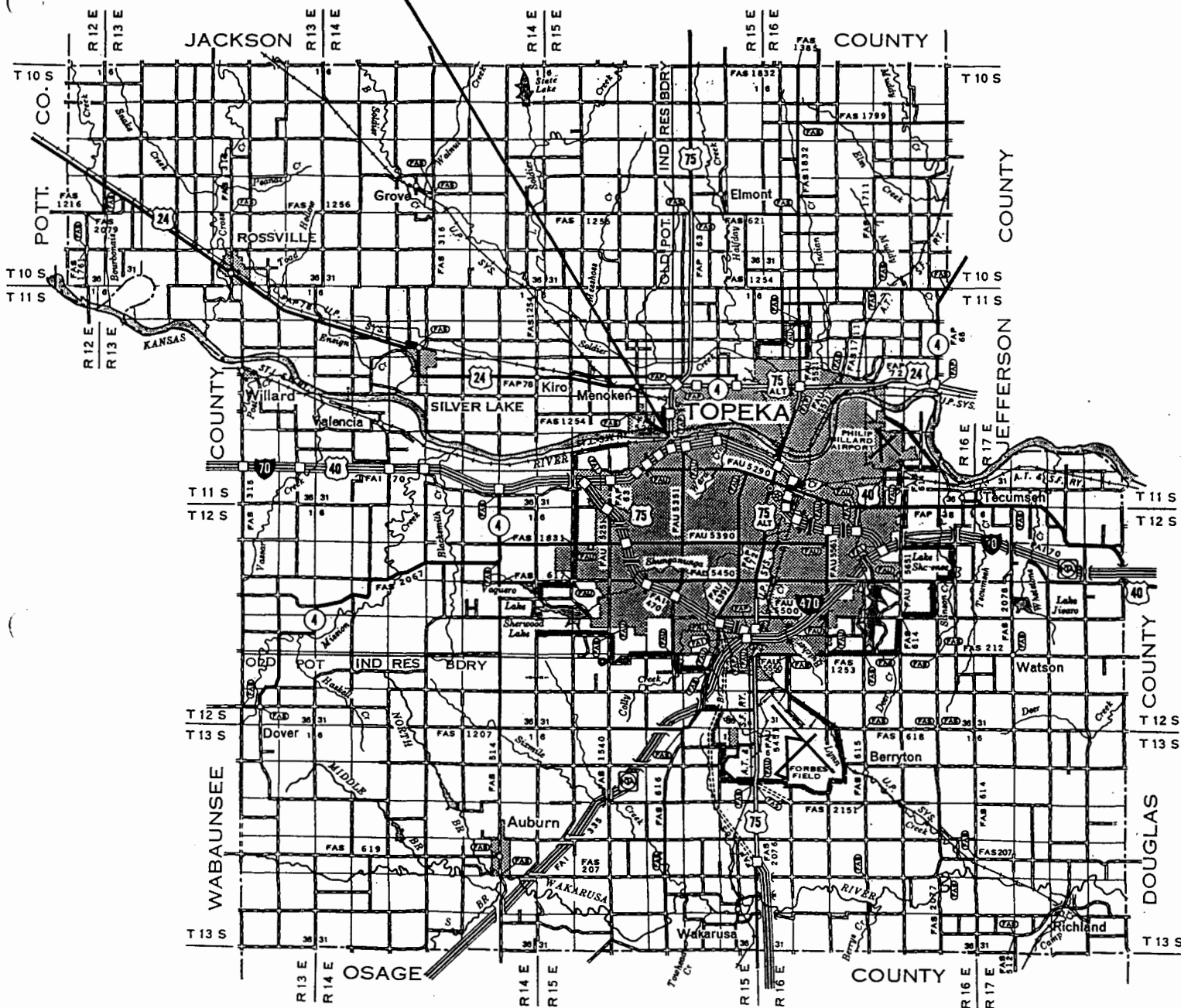
Reported by: Walter C Von Deman for

Title James J. Brennan, Soils Engineer

	tsf	lbs/ft ³	
#1	1.41	108.63	Winzeler
#2	424.67	166.62	Church
3	37.12	118.30	Aarde
4	40.66	144.27	Coal Creek
5	268.0	160.32	"
6	509.48	160.82	Du Bois
7	205.49	144.02	Sheldon
8	19.46	128.98	Jones Point
9	432.42	157.32	Carzon
10	321.62	150.58	"
11	568.86	153.07	"
12	155.16	150.26	Hartford
13	373.08	158.44	"
14	35.65	134.66	Calhoun
15	42.44	138.84	"
16	48.46	142.02	"
17	54.43	116.18	"
18	43.39	139.22	"
19	341.93	154.20	Ervine Creek

75-89 K-5666-01

N.B. 45-75 over the Kansas River



THIS RISE
SECT 27 NE

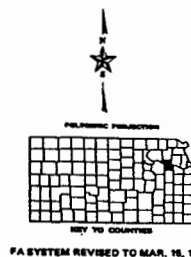
LEGEND

ROADS AND ROADWAY FEATURES

- PRIMITIVE ROAD.....
- UNIMPROVED ROAD.....
- GRADED AND DRAINED ROAD.....
- GRAVEL OR STONE ROAD.....
- GRAVEL OR STONE ROAD - NOT GRADED OR DRAINED.....
- GRAVEL OR STONE ROAD - GRADED AND DRAINED.....
- LEVEL OR STONE ROAD WITH TABULATED SURFACE.....
- CONTINUOUS ROAD-LOW TYPE.....
- PAVED ROAD.....
- DIVIDED HIGHWAY.....
- HIGHWAY WITH FULL CONTROL OF ACCESS AND INTERCHANGE.....

ROAD SYSTEM DESIGNATION

- FEDERAL-AID INTERSTATE HIGHWAY SYSTEM.....
- FEDERAL-AID PRIMARY HIGHWAY SYSTEM.....
- FEDERAL-AID SECONDARY HIGHWAY SYSTEM.....
- INTERSTATE NUMBERED HIGHWAY.....
- U.S. NUMBERED HIGHWAY.....
- STATE HIGHWAY SYSTEM OR STATE NUMBERED HIGHWAY.....
- END OF DESIGNATED SYSTEM OR MARKED ROUTE.....



GENERAL HIGHWAY MAP SHAWNEE COUNTY KANSAS

PREPARED BY THE
KANSAS DEPARTMENT OF TRANSPORTATION
BUREAU OF TRANSPORTATION PLANNING
IN COOPERATION WITH THE
U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE
1986

FA SYSTEM REVISED TO MAR. 16, 1986

2480