



351-11-152

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH Meters	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION kPa	STANDARD PENETRATION OR CASING DRIVE	
							BLANKS	ELEV (Base of Sample)
					Top Hole = 269.85 meters			
			1.48	268.37	Silt to Sandy Silt	Too Fragile for Qu.	Shelby 1	269.25
			2.75	267.1	Sand & gravel which was dumped in when current bridge was built	Sand. No qu	Shelby 2	267.72
			3.30	266.55	Silt, gray	41.1	Shelby 3	267.0
						Sand. No qu	Shelby 4	266.5
					Sand, fairly clean but some zones have a clay binder. Fine to coarse grained.	Sand. No qu.	Shelby 5	263.15
			13.51	256.34				
			14.98	255	Shale, firm, gray, clayey to sandy	228.5	Sample 1	255.55
			15.15	254.7	Coal Seam at 254.87 to 254.84			
					Sandstone, gray, some shaly lenses	15096.2	Sample 2	254.28

		SOUNDING NO. <u>CD #1</u>		PROJECT NO. <u>K-5666-01</u>		SHEET <u>2</u> OF <u>2</u>	
DATE <u>6-29-98</u>		RTE./CO. <u>75-89</u>		TOTAL DEPTH <u>34.34</u>		THE <u>269.85</u>	
BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	Meters		CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION kPa	STANDARD PENETRATION OR CASING DRIVE
			DEPTH	ELEVATION			BLOWS ELEV
			<u>16.15</u>	<u>253.7</u>	Sandstone, gray		
					Shale, very sandy, gray, numerous thin sandstone lenses.		
						<u>2004.4</u>	<u>Sample 3</u>
							<u>251.0</u>
			<u>21.64</u>	<u>248.21</u>	Sandstone, gray, shaly numerous sandy shale lenses		
			<u>23.07</u>	<u>246.78</u>			
					Sandstone, a few very thin shaly lenses		
			<u>31.4</u>	<u>238.45</u>			
					Limestone, gray, blocky to massive.	<u>51151.7</u>	<u>Sample 4</u>
							<u>238.03</u>
						<u>21151.1</u>	<u>Sample 5</u>
							<u>236.25</u>
			<u>34.34</u>	<u>235.51</u>	Total Depth of Hole		
				<u>235</u>			

Date: 6/29/98

Project No. 75-89 K-5666-01

Bridge No. 75-89-18.01(263)

**Location: N.B. US-75 over the Kansas River
Core Hole #1**

Core 1	Core 2	Core 3	Core 4	Core 5
13.51 to 15.03	15.03 to 16.55	16.55 to 18.03	18.03 to 18.45	18.45 to 19.25
256.34 to 254.82	254.82 to 253.30	253.30 to 251.82	251.82 to 251.40	251.4 to 250.6
Cut 1.52	Cut 1.52	Cut 1.48	Cut 0.42	Cut 0.80
Recov. 1.55	Recov. 1.47	Recov. 0.44	Recov. 0.40	Recov. 0.80
RQD= 100%	RQD= 26%	RQD= 0%	RQD= 0%	RQD= 88%

Core 6	Core 7	Core 8	Core 9	Core 10
19.25 to 20.73	20.73 to 22.25	22.25 to 23.07	23.07 to 24.59	24.59 to 26.11
250.60 to 249.12	249.12 to 247.60	247.60 to 246.78	246.78 to 245.26	245.26 to 243.74
Cut 1.48	Cut 1.52	Cut 0.82	Cut 1.52	Cut 1.52
Recov. 1.48	Recov. 0.83	Recov. 0.45	Recov. 0.0	Recov. 0.0
RQD= 47%	RQD= 0%	RQD= 0%	RQD= 0%	RQD= 0%

Core 11	Core 12	Core 13	Core 14	
26.11 to 27.63	27.63 to 29.15	31.40 to 32.92	32.92 to 34.34	
243.74 to 242.22	242.22 to 240.70	238.45 to 236.93	236.93 to 235.51	
Cut 1.52	Cut 1.52	Cut 1.52	Cut 1.42	
Recov. 0.32	Recov. 0.14	Recov. 1.52	Recov. 1.39	
RQD= 0%	RQD= 0%	RQD= 88%	RQD= 51%	

Note: The RQD for the above cores are probably much higher than recorded. Some of the low RQD values are partially due to trouble with the core barrel.

Kansas Department of Transportation

Report of sample of Geology Cores

Laboratory No. 98-2642

Date Reported. 7-14-98

Date Received. July 8, 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, US-75 over the Kansas River

Type of construction Bridge # 75-89-18.01 CP# / bedrock samples

TEST RESULTS

Sample No.	Station	CL Dist. m	Depth m	Description	Qu. kPa	Dry Unit Weight kg/m ³	Moisture (% of Dry Wt.)
				T.H.E.=269.85			
S1	99 + 727	8 m RT	14.10-14.30	Shale, gray, clay	228.5	1771	17.6
S2	"	"	15.44-15.57	Sandstone, gray	15096.2	1980	12.5
S3	"	"	18.67-18.85	Shale, sandy, gray	2004.4	2156	9.3
S4	"	"	31.58-31.82	LS, gray	51151.7	2607	1.3
S5	"	"	33.41-33.60	LS, gray	21151.1	2529	4.7

	TSF	lbs/sq ²
#1	2.38	110.56
#2	157.52	123.6
#3	20.91	134.6
#4	533.7	162.75
#5	220.7	157.88

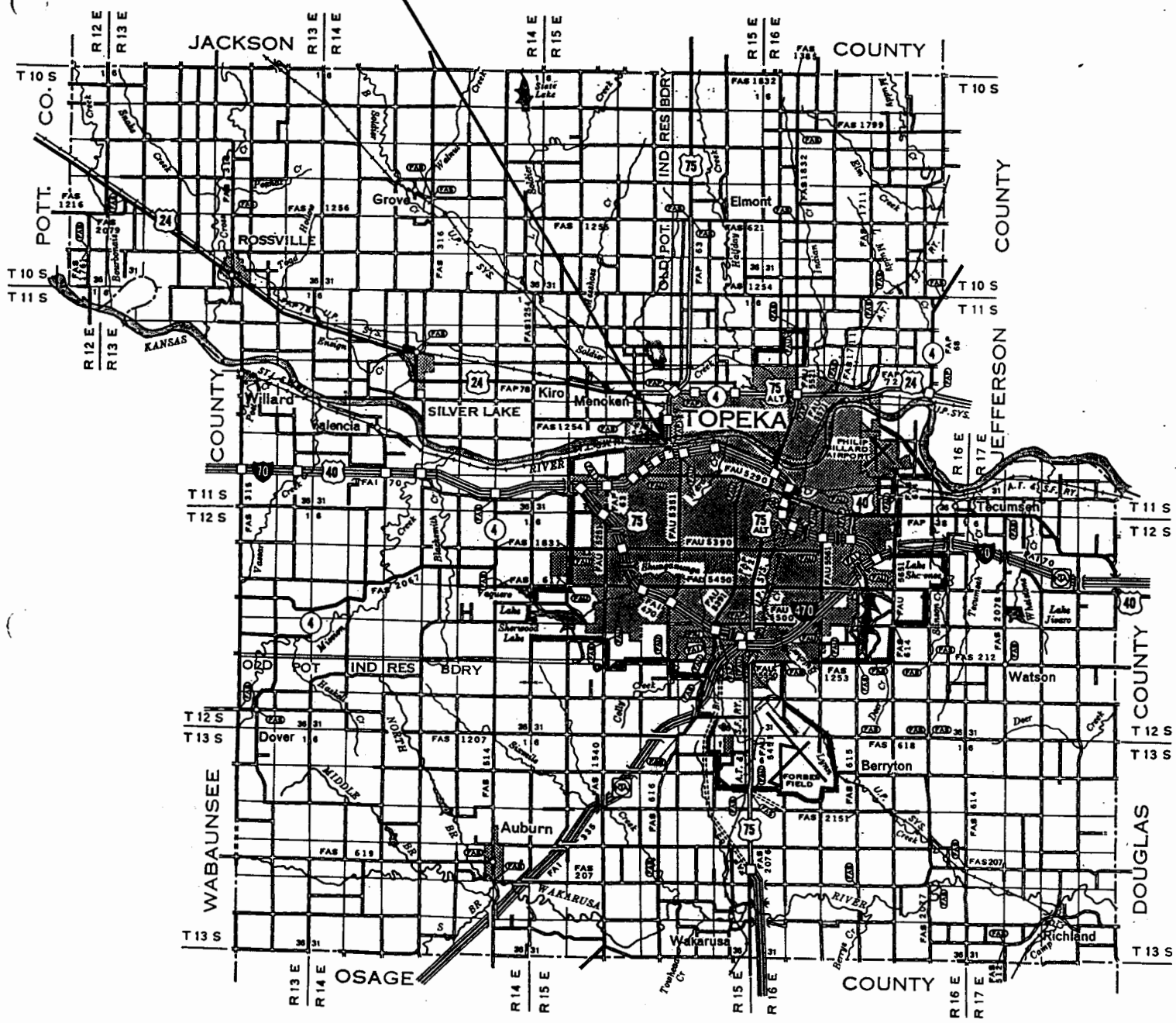
cc: L.S. Ingram
G.R. Koontz
D. Thompson
J.J. Brennan
Soil Section
File

Reported by: James J. Brennan

Title James J. Brennan, Soils Engineer

75-89 K-5666-01
 N.B. US-75 over the Kansas River

Corr Box



NE sec. 27 T11S R15E

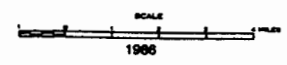
LEGEND

ROADS AND ROADWAY FEATURES		ROAD SYSTEM DESIGNATION	
PRIMITIVE ROAD	-----	FEDERAL-AID INTERSTATE HIGHWAY SYSTEM	1-4
UNIMPROVED ROAD	-----	FEDERAL-AID PRIMARY HIGHWAY SYSTEM	5-9
GRADED AND DRAINED ROAD	=====	FEDERAL-AID SECONDARY HIGHWAY SYSTEM	10-14
SOIL SURFACED ROAD	=====	INTERSTATE NUMBERED HIGHWAY	15-19
GRAVEL OR STONE ROAD	=====	U.S. NUMBERED HIGHWAY	20-24
NOT GRADED OR DRAINED	-----	STATE HIGHWAY SYSTEM OR	
GRAVEL OR STONE ROAD	=====	STATE NUMBERED HIGHWAY	
GRADED AND DRAINED	=====	END OF DESIGNATED SYSTEM OR	
LEVEL OR STONE ROAD WITH	=====	MARKED ROUTE	
TAKENED SURFACE	=====		
TURBIDIOUS ROAD-LOW TYPE	=====		
PAVED ROAD	=====		
DIVIDED HIGHWAY	=====		
HIGHWAY WITH FULL CONTROL OF	=====		
ACCESS AND INTERCHANGE	=====		



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



Kansas Department of Transportation

Report of sample of Shelby Tubes

Laboratory No. 98-2643

Date Reported. 7-31-98

Date Received. July 8, 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, N.B. US-75 over the Kansas River

Type of construction Bridge #75-89-18.01 CD #1

TEST RESULTS

Sample No.	Station	CL Dist. m	Depth m	Description	Qu. kPa	Dry Unit Weight kg/m ³	Moisture (% of Dry Wt.)
				T.H.E.=269.85			
SH1	99 + 727	8 m RT	0.00-0.60	Too fragile for QU.			
SH2	"	"	1.48-2.13	Sand, RTN. Only.			
SH3	"	"	2.31-2.85	Gray to Gray-Brn. Silt	41.1	1664	16.6
SH4	"	"	3.00-3.60	Sand, RTN Only.			
SH5	"	"	6.08-6.70	Sand, RTN Only.			

See attached gradation test results for scour analysis.

0.43 tsf 103.9 lbs/ft³

cc: L.S. Ingram
G.R. Koontz
~~Walter C. VonDenfange~~
Bridge Design
J.J. Brennan
Soil Section
File

Reported by: Walter C VonDenfange for

Title James J. Brennan, Soils Engineer

Auger hole

Elevation
meters

268.85	0.00 - 0.60
	0.60 - 1.48
268.37	1.48 - 2.13
267.72	2.13 - 2.31
267.54	2.31 - 2.85
267.0	2.85 - 3.00
	3.00 - 3.60
266.55	3.30 Sand
	3.60 - 4.61
	4.61 - 6.08
	6.08 - 6.70
263.15	6.70

Shelby #1 pushed 0.60 m Recov 0.49m

hit a rock, sand to sandy silt, fairly fine grained
Sandy silt, moist, gray brown

Shelby #2 pushed 0.65m recov 0.25m

hit a rock, sand, medium grained & some coarse
did not recover much due to damage to tube
when we went back to auger through this area,
we hit heavy gravel, pieces coming up fist size
Think this may have been ls gravel dumped in
when building existing pier.

Shelby #3 pushed 0.54m recov 0.35

hit gravel? at end of this push, trying to push 0.60m
Silt grayish to gray brown, moist
Silt grayish

Shelby #4 pushed 0.60 recov 0.60

smooth push, silt at top grading to fine grained
sand at bottom

Sand, clean, fine, (water 4.60?)

fine grained sand with clay binder, gray

Shelby #5 pushed 0.62 recovered 0.52

Sand with clay binder grading to clean
medium grained sand, hit rock near
bottom & bent Shelby tube.

Sand with very little silty binder, grayish
(tried to get split spoon at 9.13m but flowing
sand came back up the auger)

sand is fine to medium grained.

6.70

0.3

258.55 11.30

13.7m

Casing For CD #1

Casing

1 - 1.82

14.01

2 - 2.16

- 0.66

3 - 2.98

13.35

4 - 2.15

+ 0.60

had to drive casing down more

5 - 2.17

+ 0.59

drove more casing

6 - 2.40

+ 0.63

drove more casing

7 - 1.93

14.01

8 - 2.17

15.17

9 - 2.17

- 0.34

10 - 2.17

14.83

11 - 2.17

14.83

12 - 2.17

14.83

13 - 2.17

14.83

14 - 2.17

14.83

Core barrel = 2.18m

Hawthorne = 1.97m

tried split spoon at 10.67m. but flopping
Sand came up the auger again.

Tried split spoon at 11.28 with mud. sand flowed
up the hole. pull out + Drive casing to start
Core hole.

Total depth. Stopped in clean sand.

Rods

1 - 6.6

2 - 5.0

3 - 5.0

4 - 5.0

5 - 5.0

6 - 5.0

7 - 5.0

Calhoun Fm = 856.214

SS in Calhoun = 259.5 (15.4)

" " 248.87 (21.1)

Ervine creek = 237.25 (32.1)

8 - 5.52 12.16 ✓

18 - 1.52 27.36 hanging

9 - 1.52 13.68 ✓

19 - 1.52 28.88 hanging

10 - 1.52 15.20 ✓

20 - 1.52 30.40 hanging

11 - 1.52 16.72 ✓

21 - 1.52 31.92 hanging

12 - 1.52 18.24 ✓

22 hanging

13 - 1.52 19.76 ✓

14 - 1.52 21.28 ✓

15 - 1.52 22.80

16 - 1.52 24.32

17 - 1.52 25.84

Elevation
meters

CD #1 269.85 0.00 - 13.35

Sta 99+727, 8RT

*6-30-98

B. Bergman

R. Vorwink

R. Billinger

D. Karl

M. Law

D. Bayel

H₂O level - cased at 5.18m

Get on bottom so

water level is $\pm$ 5.20m

Cone #1

13.51 - 15.03

Cut 1.52m

Reco. 1.55m

RQD $\approx$ 100%

256.34 13.51 - 14.80

14.80 - 14.99

254.87 14.98 - 15.01

254.84 15.01 - 15.03

254.82 15.03

Sample #1 14.10 - 14.30

Drove casing: went in to clean out casing and had sand in casing at 9.45. Cleaned from 9.45 to 13.35. Fine to medium grained sand: hard, probably ls rock in casing from cut casing drive. lots of ls chips washing up. Got through ls gravel and hit the Calhoun shale. gray shale chips coming up

Shale, firm, gray, clayey

Shale, sandy, gray

coal seam

Shale, clayey to slightly sandy, gray

End core #1

Shale, clayey, gray

18 24
9
1.1

Core #2

15.03 - 16.55

Cut 1.52

Recov. 1.47

RQD = 0.4 / 1.52

15.03 - 15.15

254.7 15.15 - 16.15

253.7 16.15 - 16.55

253.3 16.55

Sample #2 15.44 - 15.57

Core #3

16.55 - 18.03

Cut - 1.48

Recov. 0.94

RQD = 0%

253.3 16.55 - 16.98

252.86 16.99 - 18.03

Core #4

18.03 - 18.45

Cut 0.42

Recov. 0.40

RQD = 0%

18.03 - 18.45

recovered 0.2 in
core #5

Sandy shale, gray

Sandstone, gray, some shaly lenses

Shale, gray, sandy

end core #2

0.05

Sandstone, gray

1.04

Sandstone, shaly, platy gray
slipped out (lost 1.04)

Shale, gray sandy

1.31

Core #5

18.45-19.25

Cut 0.80

Recov. 1.00 *

RQD = 0.70/0.80

Sample #3

18.67-18.85

* recovered 0.20 from
Core #4

Core #6

19.25-20.13

Cut 1.48

Recov. 1.48

RQD = 0.7/1.48

19.25-19.70

19.70-20.73

Note: When we went back in for core

had come in bottom of casing and

21.48 0.6m more, went in and cleaned

Core #7

20.73-22.25

Cut 1.52

Recov. 0.83

RQD = 0%

(lost 0.69 from gravel)
grinding away core.

20.73-21.42

21.42-21.64

248.21

21.64-21.79

21.79-21.97

21.97-22.22

22.22-22.25

18.45
80
18.25
Shale, sandy gray, very firm

Shale, sandy, gray, very firm

Shale, sandy, gray firm

Shale, very sandy, sand-shale lenses lenticular bedded

#7, could not get to bottom of hole. sand
filled $\frac{1}{2}$ in of hole, drove casing down
out hole, ready for core #7

lost, gravel in top ground away core

Shale, very sandy, ss lenses gray

Sandstone, very shaly, gray, flaser bedded

Shale, very sandy, ss lenses, gray, lenticular bed

sandstone, shaly

Shale, sandy gray

Core #8		22.25-22.62
22.25-23.07	247.23	22.62-22.89
Cut 0.82		22.89-23.03
Recov. 0.45		23.03-23.07
RQD = 0%		23.07

Core #9	246.78	23.07-24.59
23.07-24.59		
Cut 1.52		
Recov. 0.00		
RQD ?		
	245.26	24.59

Core #10		24.59-26.11
24.59-26.11		
Cut 1.52		
Recov. 0.00		
	243.74	26.11

lost gravel in barrel ground away core
 SS, shaly stringers gray
 shale & SS beds gray
 shale, sandy, gray
 End core 8

Core slid out of core barrel
 drove more casing down & then went in
 to clean out hole with Hawthorne bit
 lots of sand & small gravel

End core 9

No core ground away due to sand
 maybe Sandstone because real fine sand
 coming up in return water.

End core 10

Core #11
 26.11-27.63
 cut 1.52
 Recov. 0.32
 RQD = 0.9%
 lost 1.20

Core #12
 27.63-29.15
 cut 1.52
 Recov. 0.14
 RQD = 0%
 29.15

Note: stopped coring & went in with the
 of Ervine Creek.

29.15-31.40

238.45 31.40

Sandstone, gray (fine grained gray sand
 lost in cuttings. No shale)

End core #11

(felt like we set back down over at least 0.40 of
 core when we went back in for core #12)

Sandstone, gray, (only fine grained, gray sand coming
 lost up in cuttings) (No shale cuttings)

End core #12

Hawthorne bit & will strat to top

Sandstone, very fine grained, gray
 No shale cuttings, water pressure staying
 steady low.

May have hit a thin shale bed $\approx$ 31.30
 15. (Started coring again)

Core #13

31.90 - 32.92

cut 1.52

Recov. 1.52

RQD = 1.33/1.52

Sample #4

31.40 - 32.30

32.30 - 32.92

32.92

31.58 - 31.82

LS, gray, blocky to massive

LS, shaly lenses, gray blocky, shaly lenses are dark gray to blackish.

End Core 13

LS gray massive

Core #14

32.92 - 34.34

cut 1.42

Recov. 1.39

RQD = 0.72/1.42

235.51

34.34

Sample #5

33.41 - 33.60

LS, gray, blocky to massive, several thin shaly stringers, fossiliferous

TD Stopped in LS.

LS, gray, massive

TBM #1

π_1

0.471

275.497

TBM #2

6.984

268.513

275.026

Set TBM #2 on Stump