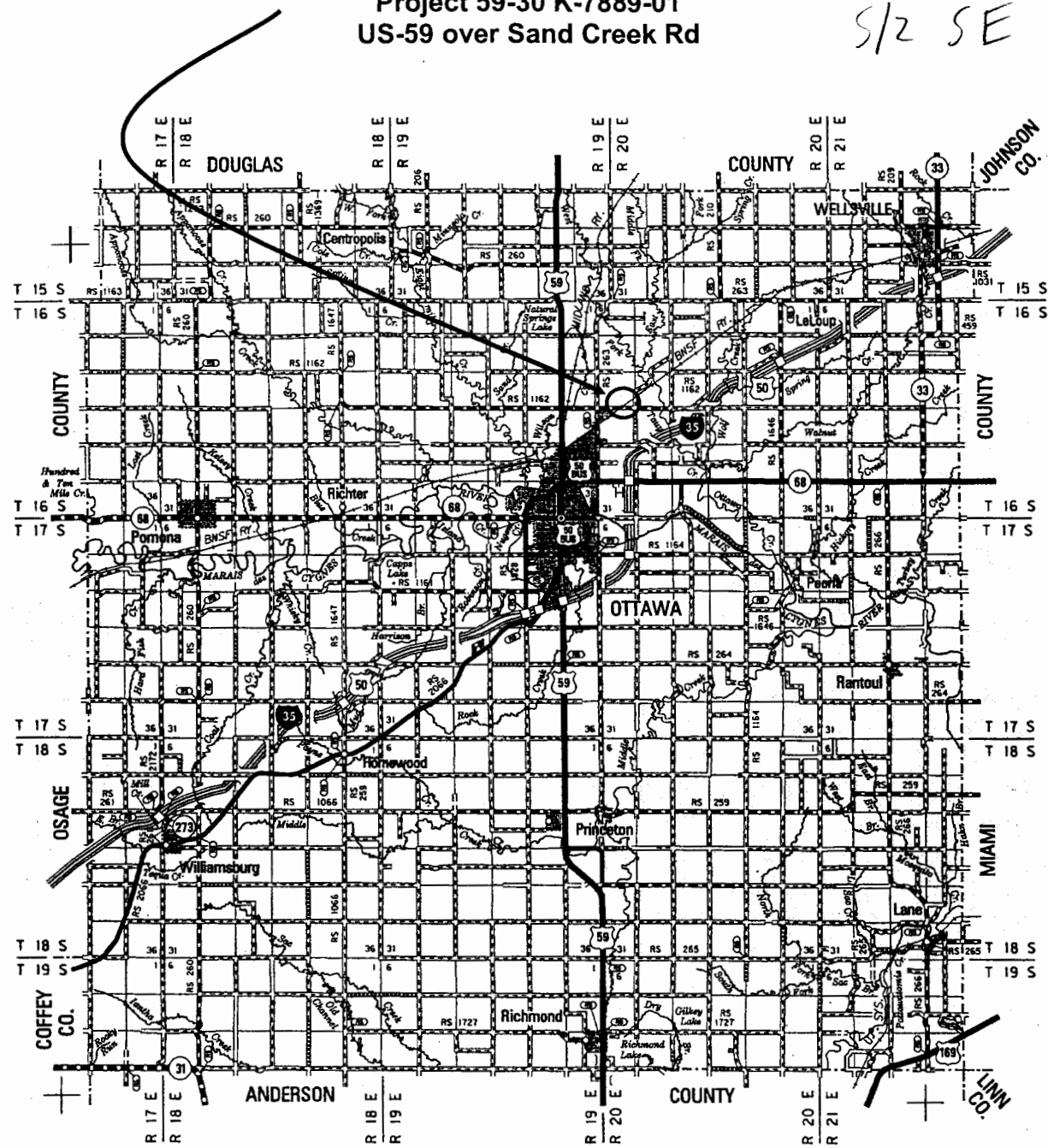


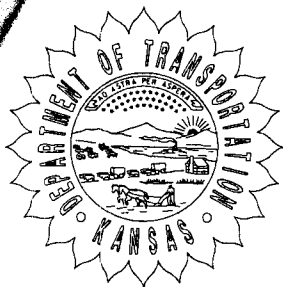
18-16-20E
S/2 SE

Project 59-30 K-7889-01
US-59 over Sand Creek Rd



Franklin County

KANSAS DEPARTMENT OF TRANSPORTATION



RTE./CO.	59-30	SOUNDING NO.	CD	SHEET 1 OF 2	
BRIDGE STA.	110+87.12; 30.0' Rt. 111+45.74; 30.0' Lt.	PROJ. NO.	K-7889-01	BRIDGE NO. 59-30-19.9(105) 59-30-19.92(106)	
SITE NAME	US-59 over Sand Creek Road			HOLE STA. 111+43.00; 24.0' Rt.	
GEOLOGIST	B. Henthorne	SCALE	1 unit = 2 feet	DATE	June 7, 2004
DRILLER	J. Burns	RIG TYPE	CME-75	TOP HOLE ELEV.	922.95
GW ELEV.	H N/A	TOTAL DEPTH	43.0	M/B ELEV.	908.15

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (tsf)	ELASTIC MODULUS (tsf)	ELEVATION	
			0.0		T.H.E. = 922.95				
Augers	Soil Mantle			922	Silty Clay, black to brown, moist, brown-orange-brown mottles in lower 6'. 920			922	
				918		Shelby #1		918	
				916		1.44	43.2	915.95	916
			8.2	914.75					
Core Barrel	Weston Shale Mbr.			914	Clay, brown, isolated sand and limestone pebbles. 912			914	
				910		Shelby #2		912	
				908.15		2.705	124.5	912.95	910
			14.8	908					908
	South Bend Limestone Fm.			15.0	908	Shale, weathered, brown to gray to orange-gray, soft, becomes clayey in basal 3.6'. 906			908
				18.0		2.135	86.1	905.45	906
				21.6					904
				23.0					902
Rock Lake Sh. Fm.			26.6	902	901.35 Limestone, thin bedded, fossiliferous, gray, very hard, coarse grained. 900			902	
			28.0					900	
			898					898	
			896.35		353.5	45150	896.95	896	
							896		
					1.55	80.85	895.45	896	
							895.45		

<Sample Cont. on Page 2 of 2>



KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	59-30	SOUNDING NO.	CD
BRIDGE STA.	110+87.12; 30.0' Rt. 111+45.74; 30.0' Lt.	PROJ. NO.	K-7889-01
SITE NAME	US-59 over Sand Creek Road		HOLE STA. 111+43.00; 24.0' Rt.

BIT TYPE	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION'	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (tsf)	ELASTIC MODULUS (tsf)	ELEVATION																																																							
Core Barrel	Stoner Limestone Member		29.8	893.15	Shale, green-gray, limestone nodules.	5.0	177.45	893.75																																																							
			4	892	Limestone, gray, coarse to medium grained, stypolitic jointing, medium bedded, fossiliferous, shale varves near bedding breaks.	316.0	76000	890.95																																																							
			33.0	890				890																																																							
			5	888				888																																																							
			38.0	886				886																																																							
			6	884			145.5	18795	884.45																																																						
			43.0	882		349.5	88500	881.65																																																							
				880	TD = 43.0'			880																																																							
				878				878																																																							
				876				876																																																							
				874				874																																																							
				872	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Core</th> <th>Depth</th> <th>Elev.</th> <th>Cut</th> <th>Rec.</th> <th>%</th> <th>ROD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>15.0</td> <td>907.95</td> <td>3.0</td> <td>3.0</td> <td>100</td> <td>100%</td> </tr> <tr> <td>2</td> <td>18.0</td> <td>904.95</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>98%</td> </tr> <tr> <td>3</td> <td>23.0</td> <td>899.95</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>97%</td> </tr> <tr> <td>4</td> <td>28.0</td> <td>894.95</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>100%</td> </tr> <tr> <td>5</td> <td>33.0</td> <td>889.95</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>100%</td> </tr> <tr> <td>6</td> <td>38.0</td> <td>884.95</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>100%</td> </tr> <tr> <td>Total</td> <td>43.0</td> <td>879.95</td> <td>28.0</td> <td>28.0</td> <td>100</td> <td>XXXXXX</td> </tr> </tbody> </table>	Core	Depth	Elev.	Cut	Rec.	%	ROD	1	15.0	907.95	3.0	3.0	100	100%	2	18.0	904.95	5.0	5.0	100	98%	3	23.0	899.95	5.0	5.0	100	97%	4	28.0	894.95	5.0	5.0	100	100%	5	33.0	889.95	5.0	5.0	100	100%	6	38.0	884.95	5.0	5.0	100	100%	Total	43.0	879.95	28.0	28.0	100	XXXXXX		872
Core	Depth	Elev.	Cut	Rec.	%	ROD																																																									
1	15.0	907.95	3.0	3.0	100	100%																																																									
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				870				870																																																							
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US-59 over Sandcreek Road

Project No. 59-30 K-7889-01

Note: All measurements are in English

	<u>Elevation</u>	<u>Depth</u>		
Core Hole #1	922.95	0.00	Silty clay, black to brown, moist.	Mantle
Sta. 111+43	920.85	2.10	Silty clay, mottled brown and brown-orange.	
24 Rt of centerline	917.95	5.00	Pushed shelby #1. Orange-brown silty clay. Pushed 2.0 ft.	
	915.95	7.00	Silty clay, brown, isolated sandstone and limestone pebbles.	
Date Drilled 6/7/04	912.95	10.00	Pushed shelby #2. Pushed 2.0 ft. Brown silty clay.	
Geologist:	910.95	12.00	Silty clay, brown, isolated sandstone and limestone pebbles.	
Bob Henthorne	908.15	14.80	Shale, weathered.	
Driller: Jim Burns	907.95	15.00	Begin coring.	
Core # 1	907.95	15.00	Shale, weathered, soft, brown to gray-brown.	
15.0 to 18.0 ft.	904.95	18.00	End Core 1.	Weston Shale Mbr.
Cut 3.0 ft.				
Recovered 3.0 ft.				
RQD = 100%				
Core # 2	904.95	18.00	Shale, weathered, soft, clayey, orange-gray.	
18.0 to 23.0 ft.	901.35	21.60	Limestone, weathered, thin bedded, fossils.	
Cut 5.0 ft.	900.85	22.10	Limestone, gray, coarse grained. Very hard, fossils.	
Recovered 5.0 ft.	899.95	23.00	End Core 2.	South Bend LS. Formation
RQD = 98%				
Core # 3	899.95	23.00	Limestone, gray to blue-gray.	
23.0 to 28.0 ft.	896.35	26.60	Coal seam.	Rock Lake Shale Formation
Cut 5.0 ft.	896.25	26.70	Shale, dark gray, clayey, fissile.	
Recovered 5.0 ft.	894.95	28.00	End Core 3.	
RQD = 97%				
			Sample 2 25.6 to 26.0 Limestone	
			Sample 3 27.0 to 27.5 Shale.	
Core # 4	894.95	28.00	Shale, gray-green, limestone nodules.	
28.0 to 33.0 ft.	893.15	29.80	Limestone, gray, medium to coarse grained, medium bedded.	
Cut 5.0 ft.	889.95	33.00	End core 4.	Stoner Ls. Mbr.
Recovered 5.0 ft.				
RQD = 100%				
			Sample 4 28.5 to 29.2 Shale.	
			Sample 5 31.4 to 32.0 Limestone	

US-59 over Sandcreek Road

Project No. 59-30 K-7889-01

	<u>Elevation</u>	<u>Depth</u>	
Core # 5	889.95	33.00	Limestone, gray to blue-gray, medium to coarse grained,
33.0 to 38.0 ft.			Medium bedded. Stoner Ls. Mbr.
Cut 5.0 ft.	886.95	36.00	End core 5.
Recovered 5.0 ft.			
RQD = 100%			
Core # 6	884.95	38.00	Limestone, gray to blue-gray, medium to coarse grained,
38.0 to 43.0 ft.			Medium bedded.
Cut 5.0 ft.	879.95	43.00	End core 6. Total Depth.
Recovered 5.0 ft.			
RQD = 100%			Sample 6 38.0 to 38.5 Limestone.
			Sample 7 40.7 to 41.3 Limestone.

Kansas Department of Transportation

Report of sample of shelly tubes

Laboratory N^o. 04-1968

Date Reported: 6/28/2004

Date Received: 6/8/2004

Specification N^o. AASHTO T-208

Quantity: 2 tubes

Source of Material 59-30 K-7889-01

County: Franklin

Sampled from 59-30 K-7889-01

Submitted by: R. Henthorne

Identification marks: tags on samples

Project or POV 59-30 K-7889-01

Description of site: 59 over Sand Creek Road

Type of Construction Bridge Foundation

TEST RESULTS

Sample N ^o	Station	Offset Feet	Depth Feet	Description	Unconfined Compression		Elastic Modulus	Dry Density	Moisture Percent
					TSF	Qu (psf)	E (psf)	γ_d (lb/ft ³)	% γ_d
SH-1	111+40	CL	5.0-7.0	Dk brown clay	1.44	2880	86400	97	26.7
SH-2	111+40	CL	10.0-12.0	Lt brown/gray mottled clay	2.71	5410	249000	113	19.3

See attached routine test results

cc: L.S. Ingram
R. Fuller
R. Henthorne
Soil Section
File 18-3

Reported by: _____

Title: Robert Fuller, Soils Engineer

Robert Fuller
6/28/04

3, 2, 1, 0

Kansas Department of Transportation

Report of sample of geology cores

Specification N°: AASHTO T-208	Laboratory N°: 04-1967
Source of Material: 59-30 K-7889-01	Date Reported: 6/24/2004
Sampled from: 59-30 K-7889-01	Date Received: 6/8/2004
Submitted by: R. Henthorne	Quantity: 7 cores
Identification marks: tags on samples	County: Franklin
Project or POV: 59-30 K-7889-01	
Description of site: Sand Creek Road	
Type of Construction: Bridge Foundations	

TEST RESULTS

Sample N°	Station	Offset (ft)	Depth (ft)	Description	Unconfined.		Elastic	Dry	Moisture
					TSF	Qu (psf)	Modulus E (psf)	Density γ_d (lb/ft ³)	Percent $\% \gamma_d$
S-1	111+40	CL	16.5-17.5	Shale, weathered	2.14	4270	172200	108	23.7
S-2	"	"	25.6-26.0	Shale LS	353.5	707000	90300000	158	1.3
S-3	"	"	26.8-27.5	Shale	1.55	3100	161700	122	13.9
S-4	"	"	28.5-29.2	Shale, LS nodules, blue/green	5.0	10000	354900	126	12.2
S-5	"	"	31.4-32.0	Limestone	216.0	632000	1.52E+08	157	2.6
S-6	"	"	38.0-38.5	Limestone	145.5	291000	37590000	136	8.0
S-7	"	"	40.7-41.3	Limestone	349.5	699000	1.77E+08	155	2.7

Robert Fuller
6/24/04
1/2

cc: L.S. Ingram
 R. Fuller
 R. Henthorne
 Soil Section
 File 18-3

Reported by: _____

Title: Robert Fuller; Soils Engineer

Project File

