

75-66 KA-7048-01

Nemaha County

CD 02

N: 39.999697 E: -95.797402 (Approximate)

NW ¼. NW ¼. NE ¼, Sect 1, T01S, R14E

5/19/2010

# KANSAS DEPARTMENT OF TRANSPORTATION



RTE./CO.	75-66	SOUNDING NO.	CD2	SHEET 1 of 3
BRIDGE STA.	584+79.33	PROJ. NO.	KA-0748-01	BRIDGE NO. 75-66-1.00(042)
SITE NAME	US-75 over Rock Creek Bridge			HOLE STA. 584+17.3, 68.0' Lt CL
GEOLOGIST	K. Halverson	SCALE	1 inch = 5.0 feet	DATE May 19, 2010
DRILLER	R. Vervynck	RIG TYPE	CME 55	TOP HOLE ELEV. 1067.92
GW ELEV.	N/A	TOTAL DEPTH	31.4	M/B ELEV. 1057.52

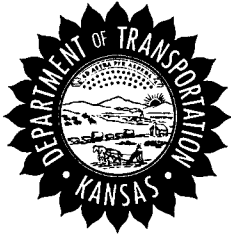
	Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION	
BOREHOLE REPORT - KANSAS DOT.GDT - 11/9/10 08:29 - Q:\GEOLOGY\BRIDGE\75-66 KA-0748-01\CORES ROCK CREEK BRIDGE.GPJ	8" Hollow Augers	Mantle	Mantle		1067.9	Silty clay, dark brown to black, slightly moist, organics	1.02	59100		1061.92	
				8.5	1059.4		0.64	44500	1058.92		
				Howe Limestone	Howe Limestone	1	1057.5	Shale, black, fissile, thin calcite seams	7.2	940000	1055.42
						13.1	1054.8	Limestone, gray, very hard, fossiliferous, shaly			
				Diamond	Bennett Shale Member	2	1053.8	Shale, brown, slightly weathered			
						14.1	1053.3	Shale, grayish brown to grayish green	6.25	2150000	1051.22
						14.6			12.1	1670000	1047.22
						3					
						4					
						5			8.95	2800000	1039.72



# KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	75-66	SOUNDING NO.	CD2	SHEET 2 of 3	
BRIDGE STA.	584+79.33	PROJ. NO.	KA-0748-01	BRIDGE NO.	75-66-1.00(042)
SITE NAME	US-75 over Rock Creek Bridge			HOLE STA.	584+17.3, 68.0' Lt CL

Bit Type	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION (TSF)	ELASTIC MODULUS (PSF)	N60 COUNT (SPT)	ELEVATION
		5			Shale, grayish brown to grayish green				
			31.4	1036.52	T.D. = 31.4				
				1035					



# KANSAS DEPARTMENT OF TRANSPORTATION

RTE./CO.	75-66	SOUNDING NO.	CD2	SHEET 3 of 3	
BRIDGE STA.	584+79.33	PROJ. NO.	KA-0748-01	BRIDGE NO.	75-66-1.00(042)
SITE NAME	US-75 over Rock Creek Bridge			HOLE STA.	584+17.3, 68.0' Lt CL

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					<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>Core</th> <th>Depth</th> <th>Elev.</th> <th>Cut</th> <th>Rec</th> <th>Rec %</th> <th>RQD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10.4</td> <td>1057.52</td> <td>1.4</td> <td>1.1</td> <td>79</td> <td>0%</td> </tr> <tr> <td>2</td> <td>11.8</td> <td>1056.12</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>50%</td> </tr> <tr> <td>3</td> <td>16.8</td> <td>1051.12</td> <td>4.8</td> <td>4.8</td> <td>100</td> <td>63%</td> </tr> <tr> <td>4</td> <td>21.6</td> <td>1046.32</td> <td>5.0</td> <td>5.0</td> <td>100</td> <td>58%</td> </tr> <tr> <td>5</td> <td>26.6</td> <td>1041.32</td> <td>4.8</td> <td>2.7</td> <td>56</td> <td>31%</td> </tr> <tr> <td><b>Total</b></td> <td><b>31.4</b></td> <td><b>1036.52</b></td> <td><b>21.0</b></td> <td><b>18.6</b></td> <td><b>89</b></td> <td><b>47%</b></td> </tr> </tbody> </table>	Core	Depth	Elev.	Cut	Rec	Rec %	RQD	1	10.4	1057.52	1.4	1.1	79	0%	2	11.8	1056.12	5.0	5.0	100	50%	3	16.8	1051.12	4.8	4.8	100	63%	4	21.6	1046.32	5.0	5.0	100	58%	5	26.6	1041.32	4.8	2.7	56	31%	<b>Total</b>	<b>31.4</b>	<b>1036.52</b>	<b>21.0</b>	<b>18.6</b>	<b>89</b>	<b>47%</b>				
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BOREHOLE REPORT - KANSAS DOT.GDT - 11/9/10 08:29 - Q:\GEOLOGY\BRIDGE\75-66 KA-0748-01\CORES ROCK CREEK BRIDGE.GPJ

# Kansas Department of Transportation

Report of sample of Geology Cores

Laboratory No. 10-1343

Date Reported: 5/26/2010

Date Received: 5/20/2010

Quantity: 4

County: Nemaha

Specification No. ASTM D 2938

Source of Material 75-66 KA-0748-01

Sampled from 75-66 KA-0748-01

Submitted by: Kyle Halverson (Sampled by Kyle Halverson)

Identification marks: Tags on samples

Project or POV 75-66 KA-0748-01

Description of site: Bridge over Rock Creek, CD-2

Type of Construction Bridge

## TEST RESULTS

Sample No.	Station	CL Offset (FT)	Depth (FT)	Description	Unconfined Compression Qu (psf)	Elastic Modulus E (psf)	Dry Density $\gamma_d$ (pcf)	Moisture Percent w %
Sample 1	584+17.3	68.0 Lt.	12.1-12.5	Howe Limestone Mbr. Shale, Black	14400	940000	103.4	22.8
Sample 2	584+17.3	68.0 Lt.	15.9-16.7	Grayish green shale (Bennett Shale Mbr.)	12500	2150000	104.6	22.9
Sample 3	584+17.3	68.0 Lt.	20.0-20.7	Grayish green shale (Bennett Shale Mbr.)	24200	1670000	106.5	22.8
Sample 4	584+17.3	68.0 Lt.	27.7-28.2	Grayish green shale (Bennett Shale Mbr.)	17900	2800000	129.6	12.3

Note: Results of the two Shelby tube samples to be reported separately.

cc: R. Kreider  
L. Metheny  
R. Henthorne  
D. Thompson  
Soil Section  
File 18-3

Reported by: \_\_\_\_\_

Title: Luke Metheny, P.E., Soils Engineer