

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



**SUBSURFACE INVESTIGATION**

STATE JOB NO. 061451

FEDERAL AID PROJECT NO. STPE-ENHN(481)

ARKANSAS TOURIST INFORMATION CENTER (WHITE RIVER) (S)

STATE HIGHWAY 40 SECTION 42

IN PRAIRIE COUNTY

LETTING OF JANUARY 13, 2016

The information contained herein was obtained by the Department for design and estimating purposes only. It is being furnished with the express understanding that said information does not constitute a part of the Proposal or Contract and represents only the best knowledge of the Department as to the location, character and depth of the materials encountered. The information is only included and made available so that bidders may have access to subsurface information obtained by the Department and is not intended to be a substitute for personal investigation, interpretation and judgment of the bidder. The bidder should be cognizant of the possibility that conditions affecting the cost and/or quantities of work to be performed may differ from those indicated herein.

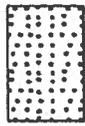
# LEGEND

## SOIL TYPES

( SHOWN IN SYMBOL COLUMN )  
( PREDOMINANT TYPE SHOWN HEAVY )



GRAVEL



SAND



SILT



CLAY



ORGANIC  
MATTER

## ROCK TYPES

( SHOWN IN SYMBOL COLUMN )



SANDSTONE



SHALE  
or  
SILTSTONE



LIMESTONE  
or  
DOLOMITE



ALTERNATING  
LAYERS of  
SHALE and  
SANDSTONE



OTHER

## SAMPLER TYPES

( SHOWN IN SAMPLE COLUMN )

### SHELBY TUBE



UNDISTURBED  
SAMPLE  
RECOVERY



DISTURBED  
SAMPLE  
RECOVERY



NO  
RECOVERY

### SPLIT SPOON



SAMPLE  
RECOVERY



NO  
RECOVERY

### ROCK CORING



% RECOVERY  
INDICATED ON LOGS

## TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANULAR SOIL		CLAY		CLAY-SHALE		SHALE	
*N <sup>o</sup> Value	Density	*N <sup>o</sup> Value	Consistency	*N <sup>o</sup> Value	Consistency	*N <sup>o</sup> Value	Consistency
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft		
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	Over 60	
31-50	Dense	9-15	Stiff	9-15	Stiff	More than 2'	
Over 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetration	
		31-60	Hard	31-60	Hard	in 60 Blows	Medium Hard
		Over 60	Very Hard	Over 60	Very Hard	Less than 2'	
						Penetration	
						in 60 Blows	Hard

1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
3. Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value ( $N_f$ ) can be obtained by

adding the bottom two numbers for example:  $\frac{6}{8-9} \Rightarrow 8+9 = 17 \text{ blows/ft}$ . The "N" Value corrected to 60% efficiency ( $N_{60}$ ) can be obtained by multiplying  $N_f$  by the hammer correction factor published on the boring log.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 5  
PAGE 1 OF 1

JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 24, 2015  
TYPE OF DRILLING: Hollow Stem Auger  
EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

STATION:  
LOCATION:

LOGGED BY: Raymond Taylor

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R D Q
			SURFACE ELEVATION: 196.4								
		X	Moist, Very Stiff, Reddish Brown and Gray Clay with some Organic Matter						3 8-10		
				CL	18	27	36	94.6			
5		X	Moist, Stiff, Reddish Brown and Gray Clay	-					4 4-5		
				CL	19	26	38	99.4			
10		X	Moist, Medium Stiff, Reddish Brown and Gray Clay	-					2 3-3		
				CL	21	28	46	94.6			
15		X	Moist, Stiff, Reddish Brown Clay	-					7 3-3		
									3 4-6		
		X	Moist, Stiff, Reddish Brown Clay	-					2 4-5		
20		X	Moist, Stiff, Reddish Brown and Gray Clay						2 5-5		
			Boring Terminated								
25											
30											
35											

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 6  
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JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 31, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 198.3									
			Moist, Medium Stiff, Reddish Brown Clay with some Organic Matter							2 3-3		
5			Moist, Medium Stiff, Reddish Brown and Gray Clay	CL	16	24	38	100.0		2 3-5		
10			Moist, Soft, Reddish Brown and Gray Clay							1 2-2		
15			Moist, Loose, Reddish Brown Sand							1 1-3		
			Moist, Stiff, Reddish Brown and Gray Clay with some Sand							3 4-5		
20			Wet, Soft, Brown Clay with some Organic Matter							1 2-1		
			Boring Terminated									
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 7  
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JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 25, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 203.5									
			Moist, Soft to Medium Stiff, Reddish Brown and Gray Clay with some Organic Matter							2 2-2 2 4-4		
5			Moist, Very Stiff, Brown Clay							5 6-10		
			Moist, Stiff, Reddish Brown and Gray Clay	CH	21	26	55	98.7		4 6-6		
10			Moist, Medium Dense, Reddish Brown Silty Sand							6 6-7 4 5-6		
15			Moist, Stiff, Reddish Brown Clay with some Sand							4 5-6		
20			Boring Terminated							4 5-6		
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 8  
PAGE 1 OF 1

JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 24, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 203.5									
			Moist, Stiff, Mottled Gray Clay with some Organic Matter							4 7-7		
			Moist, Very Stiff, Brown Clay							3 8-13		
5			Moist, Very Stiff, Brown and Gray Clay							7 11-14		
			Moist, Very Stiff, Brown and Gray Clay							5 7-9		
10			Moist, Stiff, Reddish Brown and Gray Clay							4 6-7		
			Moist, Stiff, Reddish Brown Silty Clay	CL-ML	20	11	26	100.0				
			Moist, Dense, Reddish Brown Silt							9 17-18		
15			Moist, Medium Dense, Reddish Brown Silty Sand with Clay	-						7 10-14		
			Moist, Very Stiff, Reddish Brown Clay with some Sand							5 7-11		
20			Boring Terminated							5 8-9		
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 9

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JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 30, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 21.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 198.2									
			Moist, Loose, Reddish Brown and Gray Clayey Sand with some Organic Matter							3 5-4		
5			Moist, Medium Stiff, Reddish Brown and Gray Clay	CH	18	28	50	94.8		2 3-4		
10			Moist, Stiff, Reddish Brown and Gray Clay	-						3 4-5		
15			Moist, Soft, Brown and Gray to Reddish Brown Clay	CL	17	27	49	97.4		0 1-2 1 2-2		
20			Moist, Medium Stiff, Reddish Brown and Gray Clay	-						1 2-3 1 3-3 2 2-4		
25			Boring Terminated									
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

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JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 31, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 21.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 200.0									
		X	Moist, Very Stiff, Brown and Gray Clay with Gravel							7 12-10		
		X	Moist, Loose, Reddish Brown and Gray Sand with Clay							4 5-4		
5		X	Moist, Medium Stiff, Reddish Brown and Gray Clay with Sand							2 3-3		
10		X	Moist, Medium Stiff, Reddish Brown and Gray Clay	CH	24	34	72	89.8		2 3-5		
		X		-	19	27	52	89.0		1 2-5		
15		X	Moist, Stiff, Brown Clay							3 4-7		
20		X	Wet, Medium Dense, Reddish Brown Silty Sand							6 6-5		
			Boring Terminated									
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

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JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40  
STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

DATE: March 30, 2015  
TYPE OF DRILLING: Hollow Stem Auger  
EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 21.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 203.4									
			Moist, Stiff, Gray Clay							4 4-5		
										6 7-11		
5			Moist, Very Stiff, Brown and Gray to Reddish Brown Clay							8 13-16		
										6 8-9		
10			Moist, Medium Stiff, Reddish Brown and Gray Clay							4 3-5		
			Moist, Very Stiff, Reddish Brown and Gray Clay with some Sand							4 6-11		
			Moist, Medium Dense, Reddish Brown and Gray Sand with Trace of Clay							7 7-7		
15			Moist, Medium Dense, Reddish Brown Sand							6 6-6		
			Moist, Stiff, Reddish Brown Clay with some Sand							4 6-8		
20			Moist, Stiff, Reddish Brown Clay							4 6-8		
			Moist, Stiff, Reddish Brown Clay with some Cemented Silt							4 6-8		
			Boring Terminated									
25												
30												
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

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PAGE 1 OF 1

JOB NO. 061451 Prairie County  
JOB NAME: Arkansas Tourist Information Center (White River)  
I-40

DATE: March 25, 2015  
TYPE OF DRILLING: Hollow Stem Auger

STATION:  
LOCATION:  
LOGGED BY: Raymond Taylor

EQUIPMENT: CME 45 w/ CME Automatic  
HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 20

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 203.3									
			Moist, Stiff, Brown and Gray Clay with some Organic Matter	CL	18		32			3 6-6		
			Moist, Very Stiff, Brown and Gray to Reddish Brown Clay	CH	19		53			5 9-14		
5		CH		16		50						
		CH		19		52				3 7-9		
		CH		23		71				4 5-7		
10			Moist, Stiff, Reddish Brown and Gray Clay	CH								
			Moist, Medium Dense, Reddish Brown Silt	ML						6 10-7		
15			Moist, Stiff, Reddish Brown Clay	CL	18		29			5 3-7		
		CL		17		49				4 5-8		
		CH		22		66				4 7-8		
20			Boring Terminated									
25												
30												
35												

REMARKS: