

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. 090427

FEDERAL AID PROJECT NO. STPE-ENHN(479)

ARKANSAS WELCOME CENTER RECONST. (HARRISON) (S)

STATE HIGHWAY 65 SECTION 1

IN BOONE COUNTY

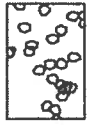
LETTING OF FEBRUARY 10, 2016

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.

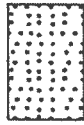
LEGEND

SOIL TYPES

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



GRAVEL



SAND



SILT



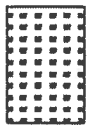
CLAY



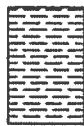
ORGANIC
MATTER

ROCK TYPES

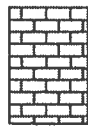
(SHOWN IN SYMBOL COLUMN)



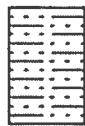
SANDSTONE



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' Value	Density	'N' Value	Consistency	'N' Value	Consistency	'N' 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. 3
PAGE 1 OF 1

JOB NO. 090427 Boone County
JOB NAME: Arkansas Welcome Center Reconstr. (Harrison)

DATE: March 10, 2015
TYPE OF DRILLING: Hollow Stem Auger

STATION:
LOCATION: NW Corner Ditchline
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 O D
			SURFACE ELEVATION: 1207.3										
			Moist, Medium Stiff, Brown Clay with White Gravel (Chert Fragments) and some Organic Matter (Grassroots)							2			
			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							3-2			
										16			
										17-8			
5			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							5			
										6-8			
										8			
										8-7			
10			White Gravel (Chert Fragments) with Reddish Brown Clay							15			
										17-11			
			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							3			
										4-15			
										9			
										12-6			
15			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							3			
										5-6			
										5			
										5-7			
										2			
20										3-7			
										4			
										5-6			
			Boring Terminated										
25													
30													
35													

REMARKS:

JOB NO. 090427 Boone County
 JOB NAME: Arkansas Welcome Center Reconstr. (Harrison)
 STATION:
 LOCATION: Front of Building
 LOGGED BY: Raymond Taylor

DATE: March 3, 2015
 TYPE OF DRILLING: Hollow Stem Auger
 EQUIPMENT: CME 45 w/ CME Automatic
 HAMMER CORRECTION FACTOR: NA

COMPLETION DEPTH: 25.5

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: 1215.8										
			Moist, Very Stiff, Brown Clay with White Gravel (Chert Fragments) and some Organic Matter (Grassroots)							12			
										12-9			
										6			
										10-8			
5			Moist, Very Stiff, Brown Clay with White Gravel (Chert Fragments)							4			
										7-9			
			Moist, Medium Stiff, Brown Clay with Sand							3			
										3-3			
10			Moist, Very Hard, Brown Clay with White Gravel (Chert Fragments)							13			
										37-42			
			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							16			
										11-16			
			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							4			
										5-6			
15			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							4			
										4-5			
			Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							2			
										2-3			
20			Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							2			
										2-4			
										4			
										3-2			
25			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							8			
										3-7			
										6			
										5-5			
			Boring Terminated										
30													
35													

REMARKS:

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

BORING NO. 5
PAGE 1 OF 1

JOB NO. 090427 Boone County
JOB NAME: Arkansas Welcome Center Reconstr. (Harrison)

DATE: March 9, 2015
TYPE OF DRILLING: Hollow Stem Auger

STATION:
LOCATION: Behind Building
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: 1220.9									
5			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							9 8-12 6 15-11 4 10-14 4 15-11		
10			Moist, Very Hard, Reddish Brown Clay with White Gravel (Chert Fragments)							8 17-66		
			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							10 10-8		
			Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							5 6-7		
15			Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)							4 7-9 4 6-10 4 9-15 5 8-8		
20												
25												
30												
35			Boring Terminated									

REMARKS: