

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. BR5611

FEDERAL AID PROJECT NO. STPB-0056(31)

LEFT HAND CHUTE OF LITTLE RIVER STR. & APPRS. (S)

COUNTY ROAD NO. 105

IN POINSETT COUNTY

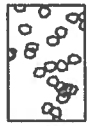
LETTING OF JANUARY 13, 2016

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.

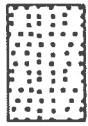
LEGEND

SOIL TYPES

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



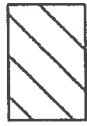
GRAVEL



SAND



SILT



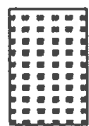
CLAY



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' 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. 1
PAGE 1 OF 3

JOB NO. BR5611 Poinsett County
JOB NAME: Left Hand Chute Little River Str. & Apprs.
County Road 105
STATION: 105+32
LOCATION: 35' Left of Center Line of Construction
LOGGED BY: Stanley Bates

DATE: January 26-27, 2015
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 W/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

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.	% C R	% R D
			SURFACE ELEVATION: 216.5									
5		X	Moist, Loose, Brown Sand with Clay							5 4-3		
10		X	Moist, Soft, Brown and Gray Sandy Clay with Trace of Gravel							2 2-2		
15		X	Moist, Medium Stiff, Gray Clay	CH	34		88			1 3-3		
20		X		-								
25		X	Wet, Loose, Brown and Gray Clayey Sand	CH	35		80			1 2-3		
30		X		-								
35		X	Wet, Medium Dense, Brown Sand with Silt	SC	46		87			1 2-3		
		X		-								
				SW-SM	NP					6 10-11		
				-								

REMARKS: Hollow stem augers were utilized to a depth of 9.5'.

**ARKANSAS HWY. & TRANS. DEPARTMENT
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BORING NO. 1
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			SURFACE ELEVATION: 216.5									
		X	Wet, Dense, Gray Sand with Silt	SW-SM	NP					11 18-16		
40				-								
		X	Wet, Medium Dense, Gray Sand	SW	NP					9 12-13		
45				-								
		X	Wet, Medium Dense, Gray Sand with Silt	SW-SM	NP					9 10-12		
50				-								
		X	Wet, Medium Dense, Gray Sand	SW	NP					5 9-9		
55				-								
		X	Wet, Medium Dense, Gray Sand	SW	NP					10 14-12		
60				-								
		X	Wet, Medium Dense, Gray Sand	SW	NP					9 10-12		
65				-								
		X	Wet, Medium Dense, Gray Sand	SW	NP					7 14-18		
70				-								

REMARKS: Hollow stem augers were utilized to a depth of 9.5'.

**ARKANSAS HWY. & TRANS. DEPARTMENT
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BORING NO. 1
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			SURFACE ELEVATION: 216.5									
		X	Wet, Dense, Gray Sand	SW	NP					10 15-21		
75		X	Wet, Medium Dense, Gray Sand	SW	NP					10 11-14		
80		X	Wet, Very Dense, Gray Sand with Silt	SW-SM	NP					14 29-34		
85		X	Wet, Medium Dense, Gray Sand	SW	NP					10 14-14		
90		X	Wet, Medium Dense, Gray Sand	SW	NP					7 12-13		
95		X	Wet, Medium Dense, Gray Sand with Gravel	SW	NP					13 15-15		
100		X	Wet, Dense, Gray Sand	SW	NP					10 20-22		
105			Boring Terminated									

REMARKS: Hollow stem augers were utilized to a depth of 9.5'.

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

BORING NO. 2
PAGE 1 OF 3

JOB NO. BR5611 Poinsett County
JOB NAME: Left Hand Chute Little River Str. & Apprs.
County Road 105
STATION: 107+38
LOCATION: 30' Left of Center Line of Construction
LOGGED BY: Stanley Bates

DATE: January 28, 2015
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 W/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

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: 216.5									
5		X	Moist, Stiff, Brown Sandy Clay with Gravel							5 5-5		
10		X	Moist, Stiff, Gray Clay							5 5-5		
15		X	Moist, Medium Stiff, Gray Clay	CH	35		90			3 4-4		
20		X		-								
25		X	Moist, Soft, Gray Clay with Sand	CH	32		89			1 4-3		
30		X		-								
35		X	Wet, Medium Dense, Gray Silty Sand	CH	18		59			2 2-2		
		X		SM	NP						2 11-10	

REMARKS: Hollow stem augers were utilized to a depth of 9.4'.

**ARKANSAS HWY. & TRANS. DEPARTMENT
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BORING NO. 2
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JOB NAME: Left Hand Chute Little River Str. & Apprs.
County Road 105
STATION: 107+38
LOCATION: 30' Left of Center Line of Construction
LOGGED BY: Stanley Bates

DATE: January 28, 2015
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 W/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

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: 216.5									
40		X	Wet, Medium Dense, Gray Sand with Silt	SW-SM	NP					9 9-12		
				-								
45		X		SW	NP					6 8-9		
				-								
50		X		SW	NP					7 9-10		
				-								
55		X		SW	NP					6 10-13		
				-								
60		X	Wet, Medium Dense, Gray Sand	SW	NP					5 6-9		
				-								
65		X		SW	NP					9 11-18		
				-								
70		X		SW	NP					11 13-16		
				-								

REMARKS: Hollow stem augers were utilized to a depth of 9.4'.

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			SURFACE ELEVATION: 216.5									
75	[Symbol]	X		SW	NP					7 11-11		
80	[Symbol]	X		SW	NP					9 13-17		
85	[Symbol]	X	Wet, Dense, Gray Sand	SW	NP					14 18-20		
90	[Symbol]	X	Wet, Very Dense, Gray Sand with Silt	SW-SM	NP					18 28-30		
95	[Symbol]	X	Wet, Medium Dense, Gray Sand	SW	NP					12 12-14		
100	[Symbol]	X	Wet, Medium Dense, Gray Sand with Silt	SW-SM	NP					10 12-13		
	[Symbol]	X	Wet, Dense, Gray Sand with Silt	SW-SM	NP					11 16-20		
			Boring Terminated									
105												

REMARKS: Hollow stem augers were utilized to a depth of 9.4'.