

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. BR3506

FEDERAL AID PROJECT NO. STPB-0035(47)

PLUM BAYOU STR. & APPRS. NO. 3 (S)

COUNTY ROAD NO. 69

IN JEFFERSON COUNTY

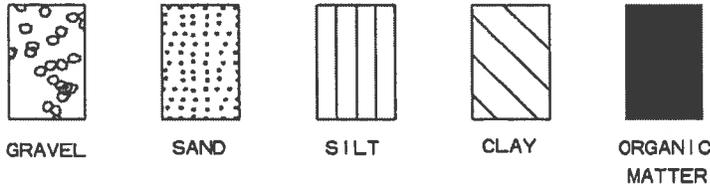
LETTING OF JANUARY 13, 2016

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

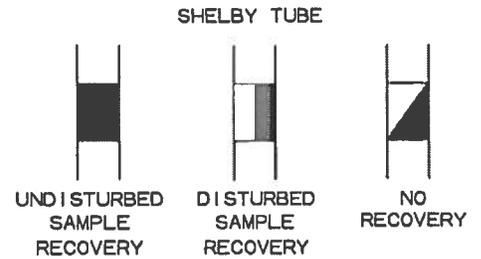
SOIL TYPES

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



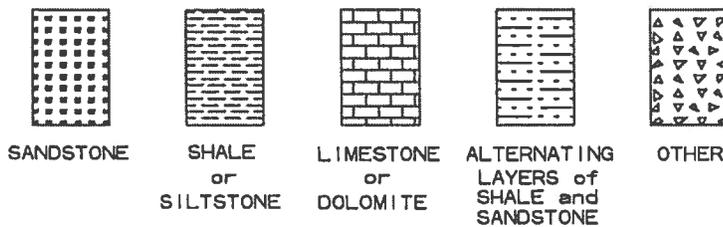
SAMPLER TYPES

(SHOWN IN SAMPLE COLUMN)



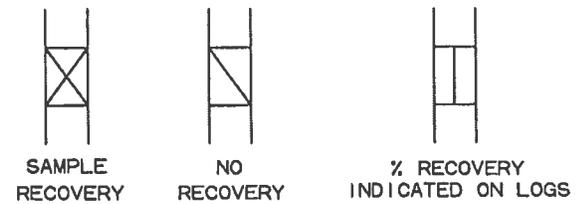
ROCK TYPES

(SHOWN IN SYMBOL COLUMN)



SPLIT SPOON

ROCK CORING



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 4

JOB NO. BR3506 Jefferson County
JOB NAME: Plum Bayou Str. & Apprs. No. 3
County Road 69
STATION: 106+31
LOCATION: 12.5' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: March 25-26, 2015
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.38

COMPLETION DEPTH: 121.5

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: 209.6									
5		X	Moist, Medium Stiff, Brown Clay with some Organic Matter and Asphalt Fragments	CL	22		46			$\frac{2}{2-4}$		
10		X	Moist, Medium Stiff, Brown Clay with some Organic Matter	-								
15		X	Moist, Very Stiff, Brown Clay with some Organic Matter	CL	22		46			$\frac{5}{9-12}$		
20		X	Moist, Loose, Brown Clayey Silt with some Organic Matter	MH	35		74			$\frac{4}{5-5}$		
25		X	Moist, Loose, Brown Clayey Silt	MH	36		77			$\frac{3}{4-6}$		
30		X	Moist, Soft, Brown Sandy Clay	CL	18		37			$\frac{2}{2-2}$		
35		X	Wet, Soft, Brown and Gray Silty Clay	-						$\frac{3}{2-2}$		

REMARKS: Hollow stem augers were utilized to a depth of 9.5'. * Partial water loss was encountered from 81.5' to 85.0'.

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			SURFACE ELEVATION: 209.6									
40		X	Wet, Medium Dense, Gray Sand with Silt	SW-SM	NP					9 10-7		
45		X	Wet, Very Loose, Gray Silty Sand with some Clay and Organic Matter	SM	NP					11 13-14		
50		X	Wet, Loose, Gray Silty Sand with some Organic Matter	SM	NP					2 1-2		
55		X	Wet, Loose, Gray Silty Sand with some Organic Matter	SM	NP					3 3-3		
60		X	Wet, Very Loose, Gray Clayey Sand	SC	13		27			1 2-2		
65		X	Wet, Medium Dense, Gray Sand with Silt, some Gravel and Organic Matter	SW-SM	NP					1 8-17		
70		X								7 12-10		

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			SURFACE ELEVATION: 209.6									
75		X	Wet, Loose, Gray Silty Sand with Clay Seams and some Gravel	SC-SM	16		22			6 4-1		
80		X	Wet, Medium Dense, Gray and Brown Sand with Silt *	SW-SM	NP					8 14-15		
85		X		SW-SM	NP					7 12-14		
90		X	Wet, Medium Dense, Gray Sand with Gravel	SW	NP					11 10-8		
95		X		SW	NP					10 8-7		
100		X	Wet, Medium Dense, Gray Sand with Trace of Gravel	SW	NP					9 10-12		
105		X		SW	NP					8 14-15		

REMARKS: Hollow stem augers were utilized to a depth of 9.5'. * Partial water loss was encountered from 81.5' to 85.0'.

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			SURFACE ELEVATION: 209.6									
110		X	Wet, Dense, Gray Sand with Trace of Gravel	SW	NP					9 15-20		
115		X	Wet, Medium Dense, Gray Sand with some Gravel	SW	NP					9 11-15		
120		X	Wet, Very Dense, Gray Sand with Trace of Gravel	SW	NP					15 24-26		
		X	Wet, Dense, Gray Sand with some Gravel	SW	NP					15 22-22		
125			Boring Terminated									
130												
135												
140												

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

BORING NO. 2
PAGE 1 OF 4

JOB NO. BR3506 Jefferson County
JOB NAME: Plum Bayou Str. & Apprs. No. 3
County Road 69
STATION: 107+60
LOCATION: 27' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: March 24-25, 2015
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.38

COMPLETION DEPTH: 116.5

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: 210.3									
5		X	Moist, Loose, Brown Silt with some Gravel and some Organic Matter							3 2-3		
10		X	Moist, Stiff to Medium Stiff, Brown Clay with some Organic Matter							2 4-5		
15		X								2 3-3		
20		X	Moist, Soft to Medium Stiff, Brown Clay							2 2-2		
25		X								2 3-4		
30		X	Moist, Medium Stiff, Gray Clay with Trace of Sand							2 3-4		
35		X										

REMARKS: Hollow stem augers were utilized to a depth of 9.4'. * Partial water loss was encountered from 72.5.5' to 75.0' and from 86.5' to 90.0'.

**ARKANSAS HWY. & TRANS. DEPARTMENT
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BORING NO. 2
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			SURFACE ELEVATION: 210.3									
40		X	Wet, Medium Dense, Gray Sand with Trace of Clay							7 8-10		
45		X	Wet, Medium Dense, Gray Sand							7 13-17		
50		X	Wet, Dense, Gray Sand with Trace of Gravel							12 16-16		
55		X	Wet, Medium Dense, Gray Sand with Trace of Gravel							8 8-12		
60		X	Wet, Dense, Gray Sand with Trace of Gravel							9 10-11		
65		X	Wet, Dense, Gray Sand with Trace of Gravel							9 17-19		
70		X	Wet, Medium Dense, Gray Sand with Trace of Gravel							11 15-15		

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			SURFACE ELEVATION: 210.3									
75		X	Wet, Medium Dense, Gray Sand with some Gravel *							10 12-8		
80		X	Wet, Very Dense, Gray Sand							11 19-27		
85		X	Wet, Medium Dense, Gray Sand with Gravel *							5 7-10		
90		X	Wet, Medium Dense, Gray Sand with Gravel *							6 8-7		
95		X	Wet, Dense, Gray Sand with Gravel							8 11-11		
100		X	Wet, Dense, Gray Sand with Gravel							6 14-21		
105		X	Wet, Dense, Gray Sand with Trace of Gravel							7 11-24		

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			SURFACE ELEVATION: 210.3									
110		X	Wet, Very Dense to Dense, Gray Sand							15 29-39		
115		X	Wet, Medium Dense, Gray Sand							16 16-17		
		X	Boring Terminated							9 12-14		
120												
125												
130												
135												
140												

REMARKS: Hollow stem augers were utilized to a depth of 9.4'. * Partial water loss was encountered from 72.5.5' to 75.0' and from 86.5' to 90.0'.