

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. 020419

FEDERAL AID PROJECT NO. STPR-0040(23)

WELLS BAYOU STR. & APPRS. (S)

STATE HIGHWAY 54 SECTION 3

IN LINCOLN COUNTY

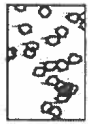
LETTING OF FEBRUARY 10, 2016

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.

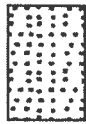
LEGEND

SOIL TYPES

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



GRAVEL



SAND



SILT



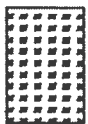
CLAY



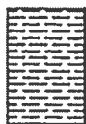
ORGANIC
MATTER

ROCK TYPES

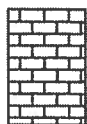
(SHOWN IN SYMBOL COLUMN)



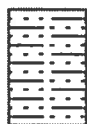
SANDSTONE



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 elevation at date or time shown on drilling 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 30.0 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 6.0 inches of penetration on the drill log (The 'N' Value can be obtained by adding the bottom two numbers (i.e. $\frac{6}{8-9}$, $8+9 = 17$ blows/ft). Unless otherwise noted on the

drill log, the Standard Penetration Test was performed utilizing a Central Mine Equipment (CME) automatic hammer.

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

BORING NO. 1
PAGE 1 OF 2

JOB NO. 020419 Lincoln County
JOB NAME: Wells Bayou Str. & Apprs.
S.H. 54
STATION: 19+20
LOCATION: 14' Right of Center Line of Construction

DATE: August 9-10, 2005
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: Failing 1500 w/ Dietrich Automatic Hammer
LOGGED BY: Richard Martin

COMPLETION DEPTH: 61.3

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: 169.0									
5			Moist, Soft, Brown Sandy Clay with Traces of Gravel									
10		X	Wet, Soft, Brown Sandy Clay with Traces of Gravel *							0 2-1		
15		X	Moist, Stiff, Brown and Gray Sandy Clay *							3 4-5		
20		X	Moist, Medium Stiff, Reddish Brown and Gray Clay with some Sand *							2 3-4		
25		X	Moist, Medium Stiff, Reddish Brown Clay *							3 4-4		
30		X	Moist, Stiff, Brown and Gray Sandy Clay *							4 4-5		
35												

REMARKS: 6" pipe casing was utilized to a depth of 4.0'. Hole caved in to 4.0' at completion of drilling. * Drilling circulation fluid loss was encountered from 6.5' to 35.0'.

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

BORING NO. 1
PAGE 2 OF 2

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			SURFACE ELEVATION: 169.0									
40		X	Wet, Very Dense, Brown Sand							23 31-35		
45		X								19 27-44		
50		X								22 36-34		
55		X								13 32-64		
60		X	Wet, Very Dense, Brown Sand with Pea Gravel							36 60 (5")		
61.3		X	Boring Terminated							45 60-60 (4")		
65												
70												

REMARKS: 6" pipe casing was utilized to a depth of 4.0'. Hole caved in to 4.0' at completion of drilling. * Drilling circulation fluid loss was encountered from 6.5' to 35.0'.

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

BORING NO. 2
PAGE 1 OF 3

JOB NO. 020419 Lincoln County
JOB NAME: Wells Bayou Str. & Apprs.
S.H. 54
STATION: 20+05
LOCATION: 14' Left of Center Line of Construction

DATE: August 8-9, 2005
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: Failing 1500 w/ Dietrich Automatic Hammer
LOGGED BY: Richard Martin

COMPLETION DEPTH: 86.5

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: 169.1									
5		X	Moist, Stiff, Reddish Brown Sandy Clay							$\frac{4}{4-5}$		
10		X	Wet, Very Loose, Gray Sand with some Clay and Traces of Organic Matter							$\frac{1}{1-2}$		
15		X	Wet, Medium Stiff, Gray and Brown Clay							$\frac{2}{2-3}$		
20		X	Moist, Medium Stiff, Gray Sandy Clay							$\frac{2}{3-3}$		
25		X	Moist, Stiff, Gray Clay with some Sand							$\frac{3}{4-5}$		
30		X								$\frac{4}{5-9}$		
35			Wet, Medium Dense, Gray Sand									

REMARKS: 6" pipe casing was utilized to a depth of 4.0'. Hole caved in to 6.0' at completion of drilling.

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

BORING NO. 2
PAGE 2 OF 3

JOB NO. 020419 Lincoln County
JOB NAME: Wells Bayou Str. & Apprs.
S.H. 54
STATION: 20+05
LOCATION: 14' Left of Center Line of Construction

DATE: August 8-9, 2005
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LOGGED BY: Richard Martin

COMPLETION DEPTH: 86.5

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			SURFACE ELEVATION: 169.1									
40		X	Wet, Very Dense, Brown and Gray Sand with some Clay							17 31-38		
45		X	Wet, Very Dense, Brown Sand with Traces of Clay							18 23-32		
50		X	Wet, Very Dense, Brown and Gray Sand with Clay Seams							7 24-38		
55		X	Wet, Very Dense, Brown Sand							22 32-53		
60		X	Wet, Very Dense, Brown Sand with Traces of Clay							28 28-26		
65		X	Wet, Very Dense, Brown Sand with Traces of Gravel							11 11-15		
70		X	Wet, Medium Dense, Brown Sand with Gravel							10 10-40		
		X	Wet, Very Dense, Brown and Gray Sand with Traces of Gravel									

REMARKS: 6" pipe casing was utilized to a depth of 4.0'. Hole caved in to 6.0' at completion of drilling.

ARKANSAS HWY. & TRANS. DEPARTMENT MATERIALS DIVISION - GEOTECHNICAL SEC.		BORING NO. 2 PAGE 3 OF 3	
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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: 169.1									
75		X	Wet, Very Dense, Brown and Gray to Gray Sand with Gravel							31 42-49		
80		X	Wet, Dense, Gray Sand with Gravel							20 26-28		
85		X	Wet, Very Dense, Gray Sand with Gravel							19 23-17		
90			Boring Terminated							27 43-62		
95												
100												
105												

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