

ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO. CA0705

FEDERAL AID PROJECT NO. ACNHPP-0014(28)

CO. RD. 27 – HWY. 79 (WIDENING) (S)

STATE HIGHWAY 82 SECTION 3

IN COLUMBIA COUNTY

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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

November 17, 2016.

TO: Mr. Rick Ellis, Bridge Engineer

SUBJECT: Job No. CA0705
Hwy. 98 – Hwy. 79 (Widening) (S)
Route 82 Section 3
Columbia County

Transmitted herewith are a brief summary of the geology and site conditions, D50 analysis test results, and the logs of the borings conducted for the structures and approaches of the above referenced project. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel to confirm the field identifications.

Preliminary design submitted by Bridge Division indicates that all bents will be founded on piling. Three intermediate bent footings, east of Big Creek, were inaccessible due to high water present during drilling. Subsurface conditions do not vary widely across the site.

A slope stability analysis was performed for this project, utilizing 2:1 bridge end slopes. Seismic analysis included a coefficient of horizontal acceleration of 0.085 as provided by Bridge Design. This configuration provides for a satisfactory Factor of Safety for seismic and static conditions.

If you have any questions concerning these recommendations, please contact the Geotechnical Section.


Michael C. Benson
Materials Engineer

MCB:rpt:mlg
cc: State Construction Engineer - Master File Copy
District 7 Engineer
G.C. File

GEOLOGY AND SITE CONDITIONS

Job No. CA0705

Hwy 98 - Hwy. 79 (Widening) (S)

Columbia County

Route 82 Section 3

Site Conditions

The proposed bridge is to cross over Big Creek on Hwy 82. The existing bridge is a twelve span structure constructed of concrete deck, supported by concrete octagonal trestle pilings and caps. The guardrail is constructed of metal pipe on the bridge and metal guardrail held up by metal posts leading up to the bridge. A buried telecommunication parallels the right side of the roadway. The stream flows to the south and is located primarily under span 7. The areas north and south of the bridge are moderately to heavily wooded.

Site Geology

The project alignment is located over alluvial deposits, mapped as Qal on geologic maps. Alluvial deposits are typically composed of gravels, sands, silts, clays, and mixtures of any and all of these. The alluvial deposits encountered at the job site consist of loose to dense, brown clayey sand, silty sand, sand, and soft, clay with sand. The alluvial deposits are located over the Claiborne Group of Paleogene age.

The Claiborne is composed of unconsolidated, medium to very-fine sands, silts, and silty clays. This unit also contains lignite beds. The Claiborne has been divided into, from oldest to youngest, the Carrizo Sand, Cane River Formation, Sparta Sand, Cook Mountain Formation, and Cockfield Formation. The thickness of the Claiborne ranges from a thin edge to as much as 1,500 feet. The Claiborne deposits are encountered from approximately 20 to approximately 35 feet below ground level (elevation of 231.2 to 237 feet above MSL). The contact between the alluvial deposits and the Claiborne Group is an erosional surface. Due to the erosion, the elevation of the contact can potentially be quite variable even between adjacent borings.

A persistent cemented layer was encountered in all borings with an average thickness of 0.7 feet. This layer was encountered at depths ranging from 38.1 to 52.5 feet below ground level (elevation 213.7 to 219.7 feet above MSL). This layer has an apparent dip of 0.8° from boring 1 to boring 5. Only one split spoon sample was attempted in this cemented layer, resulting in split spoon refusal without penetration.

Subsurface Conditions

Based on the results of the borings, the subsurface stratigraphy may be generalized as follows:

- 0 to 8.8 Feet: Consists of moist to wet, loose to dense, brown **silty sand to sandy silt to sand with clay**. Some samples from this zone contain some organic matter.
- 8.8 to 20 Feet: Varies from moist to wet, loose to medium dense, gray **silty sand to sand** to soft to stiff, brown **sandy clay**. Some samples from this zone contain some organic matter.
- 20 to 35 Feet: Varies from moist to wet, loose to dense, gray **silty sand to clayey sandy** to stiff to hard, gray **sandy clay**.
- 35 to 53.3 Feet: Varies from moist, dense to very dense, gray **clayey sand to silty sand to sandy silt** to very stiff to very hard, gray **clay with sand**. A 0.6 to 1.0 foot thick **cemented sand layer** occurs in this zone.
- 53.3 to 101.5 Feet: Varies from moist, dense to very dense, gray **silt to silty sand** to hard to very hard, gray **clay to silty clay**. Some samples in this zone contain some **lignite**. One boring encountered cemented sand 0.4 feet thick at 78 feet bgl.

**D₅₀ AGGREGATE ANALYSIS
FOR SCOUR CALCULATIONS**

Job No. CA0705					
Creek Name	Station	Sample Type	Location	Depth (FT)	Aggregate Size (D50) (IN)
Big Creek	491+31	Creek Bank	53' Rt. of Construction C.L.	N/A	0.0035

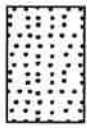
LEGEND

SOIL TYPES

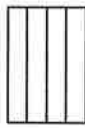
(SHOWN IN SYMBOL COLUMN)
(PREDOMINANT TYPE SHOWN HEAVY)



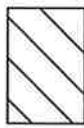
GRAVEL



SAND



SILT



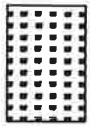
CLAY



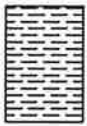
ORGANIC
MATTER

ROCK TYPES

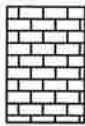
(SHOWN IN SYMBOL COLUMN)



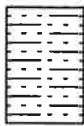
SANDSTONE



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

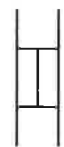


SAMPLE
RECOVERY



NO
RECOVERY

ROCK CORING



% RECOVERY
INDICATED ON LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANULAR SOIL		CLAY		CLAY-SHALE		SHALE	
*N ^o Value	Density	*N ^o Value	Consistency	*N ^o Value	Consistency	*N ^o 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: $\frac{6}{8-9} \Rightarrow 8 + 9 = 17 \text{ blows} / \text{ft}$. The "N" Value corrected to 60% efficiency (N₆₀) 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. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 489+33
LOCATION: 37' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 25 and 26, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

COMPLETION DEPTH: 100.9

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.	% T C C R	% R O D
			SURFACE ELEVATION: 261.2									
5		X	Moist, Medium Dense, Brown Sandy Silt with Some Organic Matter							11 9-10		
10		X	Moist, Stiff, Brown Sandy Clay							2 4-5		
15		X	Wet, Loose, Brown Silty Sand							4 3-3		
20		X	Wet, Medium Dense, Brown Sand with Silt							4 8-13		
25		X	Wet, Medium Dense, Gray Silty Sand with Some Gravel							3 7-7		
30		X								13 19-18		
35			Moist, Hard, Gray Sandy Clay									

REMARKS:

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

BORING NO. 1
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JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
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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.	% T C R	% R O D
			SURFACE ELEVATION: 261.2									
40										4 15-22		
			Cemented Sand (41.5'-42.1')							10 17-23		
45			Moist, Dense, Gray Sandy Silt							11 17-23		
50										16 36-60 (10")		
55			Moist, Very Dense, Gray Sandy Silt							15 20-31		
60			Moist, Very Hard, Gray Sandy Clay							22 41-60		
65			Moist, Hard, Gray Sandy Clay							13 23-29		
70												

REMARKS:

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

BORING NO. 1
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			SURFACE ELEVATION: 261.2									
75			Moist, Very Hard, Gray Sandy Clay							15 29-45		
80			Moist, Hard, Gray Silty Clay							18 25-33		
85			Moist, Hard, Gray Sandy Clay							19 24-29		
90			Moist, Very Dense, Gray Sandy Silt							18 20-31		
95			Moist, Very Dense, Gray Silty Sand							21 28-60 (11")		
100			Moist, Very Dense, Gray Silty Sand							31 60 (5")		
100.9			Boring Terminated							23 60 (5")		
105												

REMARKS:

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

BORING NO. 2
PAGE 1 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 489+87
LOCATION: 41' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 18 and 19, 201
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R O D
			SURFACE ELEVATION: 256.8									
5		X	Wet, Loose, Light Brown Sand with Clay and Some Organic Matter							$\frac{4}{3-3}$		
10		X	Wet, Loose, Light Brown Silty Sand*							$\frac{2}{3-4}$		
15		X	Wet, Medium Dense, Brown Silty Sand with Trace Organic (Wood)							$\frac{0}{4-8}$		
20		X	Wet, Medium Dense, Brown Sand with Silt and Some Gravel							$\frac{4}{8-8}$		
25		X	Moist, Hard, Sandy Clay with Cemented Layers							$\frac{5}{13-18}$		
30		X	Moist, Medium Dense, Gray Clayey Sand							$\frac{6}{10-20}$		
35												

REMARKS: Water was encountered at 9.0 feet below ground level.

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

BORING NO. 2
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DATE: October 18 and 19, 201
TYPE OF DRILLING:
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EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 256.8									
			Moist, Hard, Gray Clay with Sand							9 14-18		
			Cemented Sand (38.1'-38.7')									
40			Moist, Hard, Gray Clay with Sand							17 16-18		
45			Moist, Very Dense, Gray Sandy Silt							15 33-60 (11")		
50			Moist, Dense, Gray Silt							11 18-23		
55			Moist, Very Dense, Gray Sandy Silt							15 30-33		
60			Moist, Hard, Gray Clay							14 22-32		
65			Moist, Very Dense, Gray Sandy Silt							14 25-42		
70												

REMARKS: Water was encountered at 9.0 feet below ground level.

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

BORING NO. 2
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HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 256.8									
75			Moist, Hard, Gray Sandy Clay							14 25-35		
			Cemented Sand (78.0'-78.4')							18 27-32		
80			Moist, Hard, Gray Silty Clay							16 22-31		
85			Moist, Dense, Gray Silty Sand							13 20-28		
90			Moist, Very Dense, Gray Silty Sand							20 60 (5")		
95			Moist, Very Dense, Gray Silty Sand							20 58-60 (7")		
100			Moist, Dense, Gray Silty Sand							13 18-26		
			Boring Terminated									
105												

REMARKS: Water was encountered at 9.0 feet below ground level.







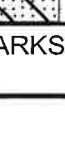
**ARKANSAS HWY. & TRANS. DEPARTMENT
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. 3
PAGE 1 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 490+43
LOCATION: 47' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 12 and 18, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

COMPLETION DEPTH: 101.5

DEPTH FT.	SAMPLES SYMBOL	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% T C C R	% R O D
		SURFACE ELEVATION: 256.1									
5		Moist, Loose, Light Brown Sand with Clay							$\frac{1}{2-4}$		
10		Wet, Loose, Light Brown Silty Sand							$\frac{2}{3-2}$		
15		Wet, Medium Dense, Brown Sand with Some Organic (Wood)							$\frac{5}{6-7}$		
20		Wet, Medium Dense, Brown Sand with Some Gravel							$\frac{3}{3-8}$		
25		Moist, Stiff, Gray Sandy Clay							$\frac{6}{11-16}$		
30		Moist, Very Stiff, Gray Sandy Clay							$\frac{7}{15-20}$		
35		Moist, Hard, Gray Sandy Clay									

REMARKS:

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

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EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 256.1									
		X	Moist, Hard, Gray Clay with Sand							6 13-18		
			Cemented Sand (38.4'-39.1')									
40		X	Moist, Hard, Gray Clay with Sand							13 19-24		
45		X	Moist, Very Dense, Gray Sandy Silt with Trace Lignite							10 25-50		
50		X	Moist, Dense, Gray Sandy Silt							11 18-25		
55		X	Moist, Very Dense, Gray Sandy Silt							19 21-56		
60		X	Moist, Hard, Gray Clay with Some Sand							13 18-27		
65		X	Moist, Dense, Gray Silt							13 17-30		
70												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
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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.	% T C R	% R Q D
			SURFACE ELEVATION: 256.1									
75		X	Moist, Hard, Gray Sandy Clay							13 25-28		
80		X	Moist, Hard, Gray Clay with Sand							20 25-30		
85		X	Moist, Hard, Gray Sandy Clay							16 20-25		
90			No Sample - Driller Error									
95		X	Moist, Very Dense, Gray Silty Sand							30 60 (5")		
100		X								14 40-60 (10")		
105			Boring Terminated							14 20-31		

REMARKS:

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

BORING NO. 4
PAGE 1 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 491+05
LOCATION: 63' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 11 and 12, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 257.0									
5		X	Moist, Medium Dense, Light Brown Silty Sand with Some Organic Matter							6 8-8		
10		X	Wet, Loose, Light Brown Sand with Some Organic Matter							3 2-4		
15		X	Wet, Medium Dense, Brown Sand with Trace Gravel							2 8-8		
20		X	Moist, Very Stiff, Gray Sandy Clay							6 9-13		
25		X	Moist, Dense, Gray Clayey Sand with Gravel							8 16-22		
30		X	Moist, Dense, Gray Sand with Clay							8 17-22		
35												

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
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JOB NO. CA0705 Columbia County
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COMPLETION DEPTH: 101.5

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			SURFACE ELEVATION: 257.0									
		X	Moist, Dense, Gray Clayey Sand							8 20-22		
40			Moist, Very Hard, Brown Clay with Sand Cemented Sand (40.2'-41.2')							60 (2")		
45		X	Moist, Very Dense, Gray Silty Sand							13 30-40		
50		X	Moist, Very Dense, Gray Silty Sand							13 33-40		
55		X	Moist, Dense, Gray Clayey Sand							12 20-30		
60		X	Moist, Hard, Brown Clay							13 20-30		
65		X	Moist, Hard, Brown Clay							12 18-30		
70		X										

REMARKS:

**ARKANSAS HWY. & TRANS. DEPARTMENT
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STATION: 491+05
LOCATION: 63' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 11 and 12, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 257.0									
75		X	Moist, Hard, Gray Silty Clay							14 23-37		
80		X	Moist, Hard, Silty Clay with Trace Lignite							16 28-32		
85		X	Moist, Hard, Gray Silty Clay							13 22-28		
90		X	Moist, Very Dense, Gray Silty Sand							16 22-32		
95		X	Moist, Very Dense, Gray Silty Sand with Some Lignite							18 44-60 (8")		
100		X	Boring Terminated							12 23-59		
105										17 40-30		

REMARKS:

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

BORING NO. 5
PAGE 1 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 493+70
LOCATION: 13' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 31 and November 1, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 266.2									
5		X	Moist, Dense, Gray Silty Sand							$\frac{9}{19-16}$		
10		X	Wet, Soft, Gray Clay with Sand and Some Organic Matter (Wood)							$\frac{0}{1-2}$		
15		X	Wet, Loose, Gray Silty Sand							$\frac{2}{2-6}$		
20		X	Wet, Medium Dense, Light Brown Sand							$\frac{7}{6-6}$		
25		X	Wet, Loose, Gray Sand							$\frac{2}{4-5}$		
30		X	Wet, Medium Dense, Brown Clayey Sand							$\frac{6}{10-15}$		
35												

REMARKS:

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

BORING NO. 5
PAGE 2 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 493+70
LOCATION: 13' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 31 and November 1, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R O D
			SURFACE ELEVATION: 266.2									
40			Moist, Very Stiff to Hard, Brown and Gray Sandy Clay							8 10-16		
45										7 12-17		
50			Moist, Hard, Dark Brown Silty Clay							9 16-22		
			Cemented Sand (52.5'-53.3')							11 17-22		
55			Moist, Dense, Dark Brown Sandy Silt with Some Lignite							11 17-22		
60			Moist, Very Dense, Gray Sandy Silt with Trace Lignite							17 34-60		
65			Moist, Very Dense, Gray Sandy Silt							15 22-36		
70												

REMARKS:

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

BORING NO. 5
PAGE 3 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 493+70
LOCATION: 13' Right of Construction Centerline
LOGGED BY: Troy Frazier

DATE: October 31 and November 1, 2016
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: CME 750
HAMMER CORRECTION FACTOR: 1.23

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.	% T C R	% R Q D
			SURFACE ELEVATION: 266.2									
75		X	Moist, Very Hard, Dark Brown and Gray Silty Clay							18 32-60		
80		X	Moist, Hard, Dark Brown Clay							15 17-26		
85		X	Moist, Very Dense, Gray Silt							22 50-60 (11")		
90		X	Moist, Hard, Brown and Gray Silty Clay							18 25-32		
95		X								18 23-29		
100		X	Moist, Very Dense, Gray Sandy Silt							16 22-30		
		X	Moist, Hard, Dark Gray Clay							14 22-33		
			Boring Terminated									
105												

REMARKS:

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

December 22, 2015

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: CA0705
Hwy. 98 – Hwy. 79 (Widening) (S)
Route 82 Section 3
Columbia County

Transmitted herewith are the requested Soil Survey, Strength Data, and Resilient Modulus test results for the above referenced job. The project consists of widening approximately 5.5 miles of Highway 82 from two lanes to five lanes. Samples were obtained in the existing travel lanes, shoulder and ditch line.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of low plasticity sand with some clay. The proposed construction grade line closely matches that of the existing roadway. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction. If soil remediation is needed to allow construction to proceed during adverse weather conditions or if a stable working platform cannot be obtained with normal drying and compactive effort, stabilization with Portland Cement is the most appropriate remediation technique. It is recommended that the addition of 9% Portland Cement (by dry weight) mixed to a depth of 12 inches be used for soil stabilization quantity estimation purposes; however, if the Engineer determines that stabilization is necessary, field trials or local experience may dictate that a stable working platform can be achieved at a lower cement content.

Based on currently available cross-sections the maximum embankment height is approximately 15 feet. Locally available unspecified material may be used to construct the embankments utilizing a 3:1 slope configuration. The proposed 3:1 cut slopes are acceptable as shown in the cross-sections.

There is a pond in the vicinity of station 645+00, approximately 60 feet left of centerline and is within the construction limits. The pond should be drained prior to embankment construction. The pond area where embankment will be placed should be undercut 2' and replaced with Stone Backfill.

Listed below is the additional information requested for use in developing the plans:

1. The Qualified Products List (QPL) indicates that Aggregate Base Course (Class CL-7) is available from commercial producers located in the vicinity of Jones Mill.

2. Asphalt Concrete Hot Mix

<u>Type</u>	<u>Asphalt Cement %</u>	<u>Mineral Aggregate %</u>
Surface Course	5.3	94.7
Binder Course	4.3	95.7
Base Course	4.0	96.0



Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 7 Engineer
System Information and Research Div.
G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION
 MICHAEL BENSON, MATERIALS ENGINEER
 *** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 12/07/2015	SEQUENCE NO. - 1
JOB NUMBER - CA0705	MATERIAL CODE - SSRVPS
	SPEC. YEAR - 2014
	SUPPLIER ID. - 1
	COUNTY/STATE - 14
	DISTRICT NO. - 07

JOB NAME - HWY.98 - HWY.79 (WIDENING) (S)

 * STATION LIMITS R-VALUE AT 240 psi *

BEGIN JOB - END JOB	18
RESILIENT MODULUS	
379+00	5852
462+00	7676
610+00	9466
656+00	9458

 REMARKS -

AASHTO TESTS : T190

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	379+00
Date Tested:	December 3, 2015	Location:	27 th RT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153704	AASHTO Class:	A-4(3)
Sample ID:	RV661	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.97
Middle	3.97
Bottom	3.97
Average	3.97
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.04
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.04
Initial Area, Ao (sq. in):	12.30
Initial Volume, AoLo (cu. in):	98.87

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3082.90
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4. Soil Properties:

Optimum Moisture Content (%):	17.4
Maximum Dry Density (pcf):	107.7
95% of MDD (pcf):	102.3
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3082.90
Compaction Moisture content (%):	17.6
Compaction Wet Density (pcf):	118.80
Compaction Dry Density (pcf):	101.02
Moisture Content After Mr Test (%):	17.5

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 8509(Sc)^{-0.26592}(S3)^{0.29991}

8. Comments _____

9. Tested By: GREG **Date:** December 3, 2015

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No. CA0705 **Material Code** SSRVPS
Date Sampled: 12/03/15 **Station No.:** 379+00
Date Tested: December 3, 2015 **Location:** 27'RT
Name of Project: HWY.98 - HWY.79(WIDENING)(S)
County: Code: 14 Name: COLUMBIA
Sampled By: DICKERSON **Depth:** 0-5
Lab No.: 20153704 **AASHTO Class:** A-4(3)
Sample ID: RV661 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
	S ₃ psi	S _{cyclic} psi	P _{max} lbs	P _{cyclic} lbs	P _{contact} lbs	S _{max} psi	S _{cyclic} psi	S _{contact} psi	H _{avg} in	ε _r in/in	M _r psi
Sequence 1	6.0	2.0	25.3	22.5	2.8	2.1	1.8	0.2	0.00126	0.00016	11,730
Sequence 2	6.0	4.0	47.5	44.7	2.8	3.9	3.6	0.2	0.00266	0.00033	10,990
Sequence 3	6.0	6.0	70.2	66.5	3.7	5.7	5.4	0.3	0.00436	0.00054	9,981
Sequence 4	6.0	8.0	93.5	87.3	6.2	7.6	7.1	0.5	0.00662	0.00082	8,619
Sequence 5	6.0	10.0	116.6	107.9	8.7	9.5	8.8	0.7	0.00897	0.00112	7,871
Sequence 6	4.0	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00138	0.00017	10,648
Sequence 7	4.0	4.0	47.1	44.2	2.9	3.8	3.6	0.2	0.00309	0.00038	9,344
Sequence 8	4.0	6.0	68.3	65.4	3.0	5.6	5.3	0.2	0.00516	0.00064	8,280
Sequence 9	4.0	8.0	91.7	86.3	5.4	7.5	7.0	0.4	0.00742	0.00092	7,607
Sequence 10	4.0	10.0	114.9	107.0	7.9	9.3	8.7	0.6	0.00997	0.00124	7,012
Sequence 11	2.0	2.0	25.1	22.2	2.9	2.0	1.8	0.2	0.00161	0.00020	9,006
Sequence 12	2.0	4.0	46.4	43.5	2.9	3.8	3.5	0.2	0.00370	0.00046	7,679
Sequence 13	2.0	6.0	67.0	64.1	3.0	5.5	5.2	0.2	0.00614	0.00076	6,817
Sequence 14	2.0	8.0	88.9	84.3	4.6	7.2	6.9	0.4	0.00883	0.00110	6,239
Sequence 15	2.0	10.0	111.5	104.5	7.0	9.1	8.5	0.6	0.01167	0.00145	5,852

TESTED BY _____ DATE _____
 REVIEWED BY _____ DATE _____

GREG

December 3, 2015

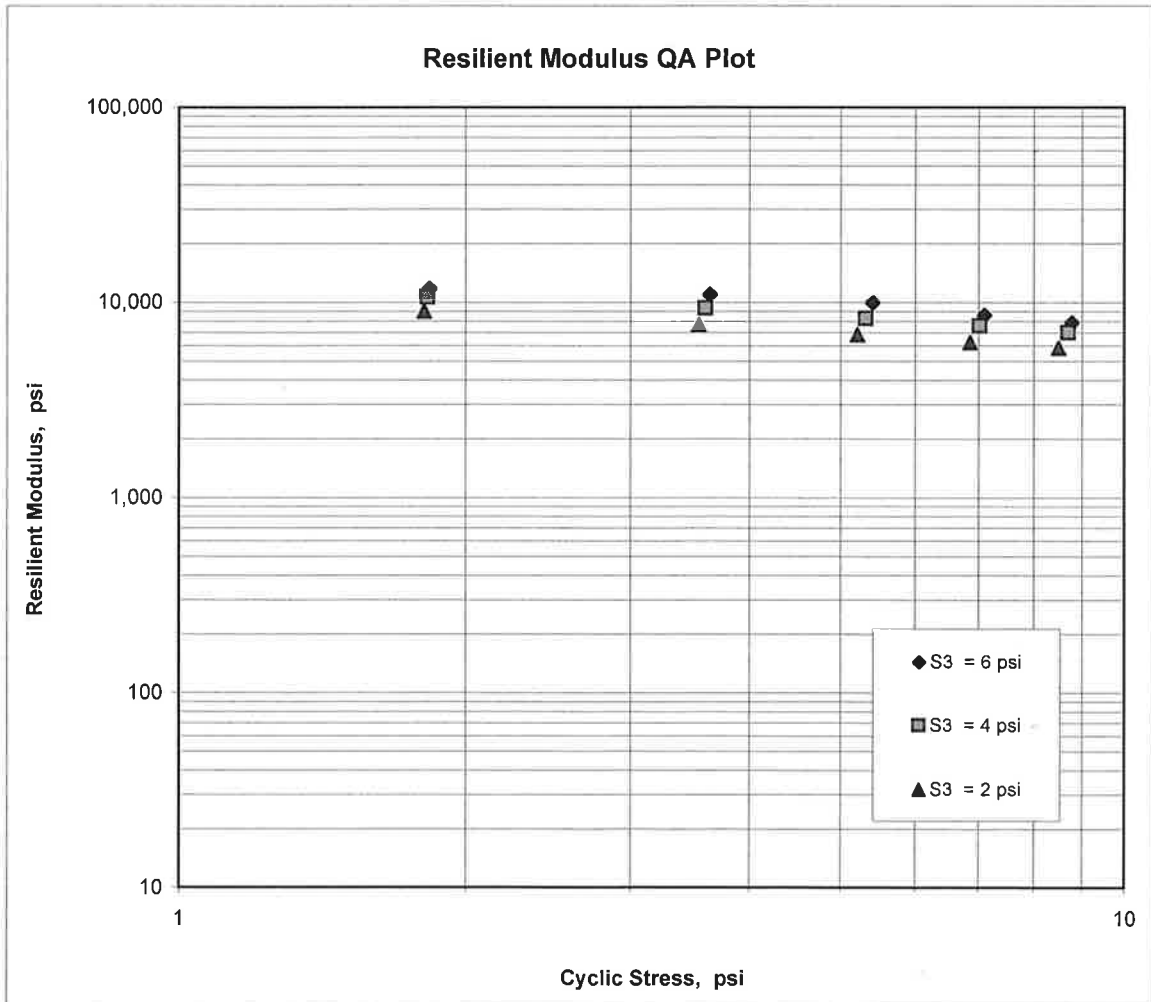
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED / THINWALL TUBE SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	379+00
Date Tested:	December 3, 2015	Location:	27'RT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153704	AASHTO Class:	A-4(3)
Sample ID:	RV661	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

K1 =	<u>8,509</u>
K2 =	<u>-0.26592</u>
K5 =	<u>0.29991</u>
R² =	<u>0.97</u>



**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	462+00
Date Tested:	December 3, 2015	Location:	36'LT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153705	AASHTO Class:	A-4(0)
Sample ID:	RV662	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8
Initial Area, Ao (sq. in):	12.24
Initial Volume, AoLo (cu. in):	97.88

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3750.00
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4. Soil Properties:

Optimum Moisture Content (%):	13.5
Maximum Dry Density (pcf):	113.9
95% of MDD (pcf):	108.2
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3750.00
Compaction Moisture content (%):	13.4
Compaction Wet Density (pcf):	145.97
Compaction Dry Density (pcf):	128.72
Moisture Content After Mr Test (%):	13.4

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: $9313(S_c)^{-0.22780}(S_3)^{0.40493}$

8. Comments

9. Tested By: DEB **Date:** December 3, 2015

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AAASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No. CA0705 **Material Code** SSRVPS
Date Sampled: 12/03/15 **Station No.:** 462+00
Date Tested: December 3, 2015 **Location:** 36'LT
Name of Project: HWY. 98 - HWY. 79(WIDENING)(S)
County: Code: 14 Name: COLUMBIA
Sampled By: DICKERSON **Depth:** 0-5
Lab No.: 20153705 **AAASHTO Class:** A-4(0)
Sample ID: RV662 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
DESIGNATION	S ₃	S _{cyclic}	P _{max}	P _{cyclic}	P _{contact}	S _{max}	S _{cyclic}	S _{contact}	H _{avg}	ε _r	M _r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.3	22.6	2.7	2.1	1.8	0.2	0.00091	0.00011	16,159
Sequence 2	6.0	4.0	47.3	44.6	2.8	3.9	3.6	0.2	0.00195	0.00024	14,967
Sequence 3	6.0	6.0	70.0	66.4	3.6	5.7	5.4	0.3	0.00313	0.00039	13,852
Sequence 4	6.0	8.0	93.3	87.2	6.0	7.6	7.1	0.5	0.00459	0.00057	12,416
Sequence 5	6.0	10.0	115.9	107.4	8.5	9.5	8.8	0.7	0.00613	0.00077	11,451
Sequence 6	4.0	2.0	25.0	22.2	2.8	2.0	1.8	0.2	0.00103	0.00013	14,159
Sequence 7	4.0	4.0	46.5	43.8	2.7	3.8	3.6	0.2	0.00238	0.00030	12,055
Sequence 8	4.0	6.0	67.6	64.8	2.8	5.5	5.3	0.2	0.00387	0.00048	10,947
Sequence 9	4.0	8.0	90.9	85.7	5.1	7.4	7.0	0.4	0.00547	0.00068	10,257
Sequence 10	4.0	10.0	113.4	105.7	7.7	9.3	8.6	0.6	0.00705	0.00088	9,799
Sequence 11	2.0	2.0	24.7	21.9	2.8	2.0	1.8	0.2	0.00131	0.00016	10,897
Sequence 12	2.0	4.0	45.4	42.6	2.8	3.7	3.5	0.2	0.00296	0.00037	9,400
Sequence 13	2.0	6.0	65.1	62.3	2.9	5.3	5.1	0.2	0.00482	0.00060	8,439
Sequence 14	2.0	8.0	86.8	82.5	4.3	7.1	6.7	0.4	0.00670	0.00084	8,048
Sequence 15	2.0	10.0	108.5	101.6	6.9	8.9	8.3	0.6	0.00866	0.00108	7,676

TESTED BY _____ **DATE** December 3, 2015
REVIEWED BY _____ **DATE** _____

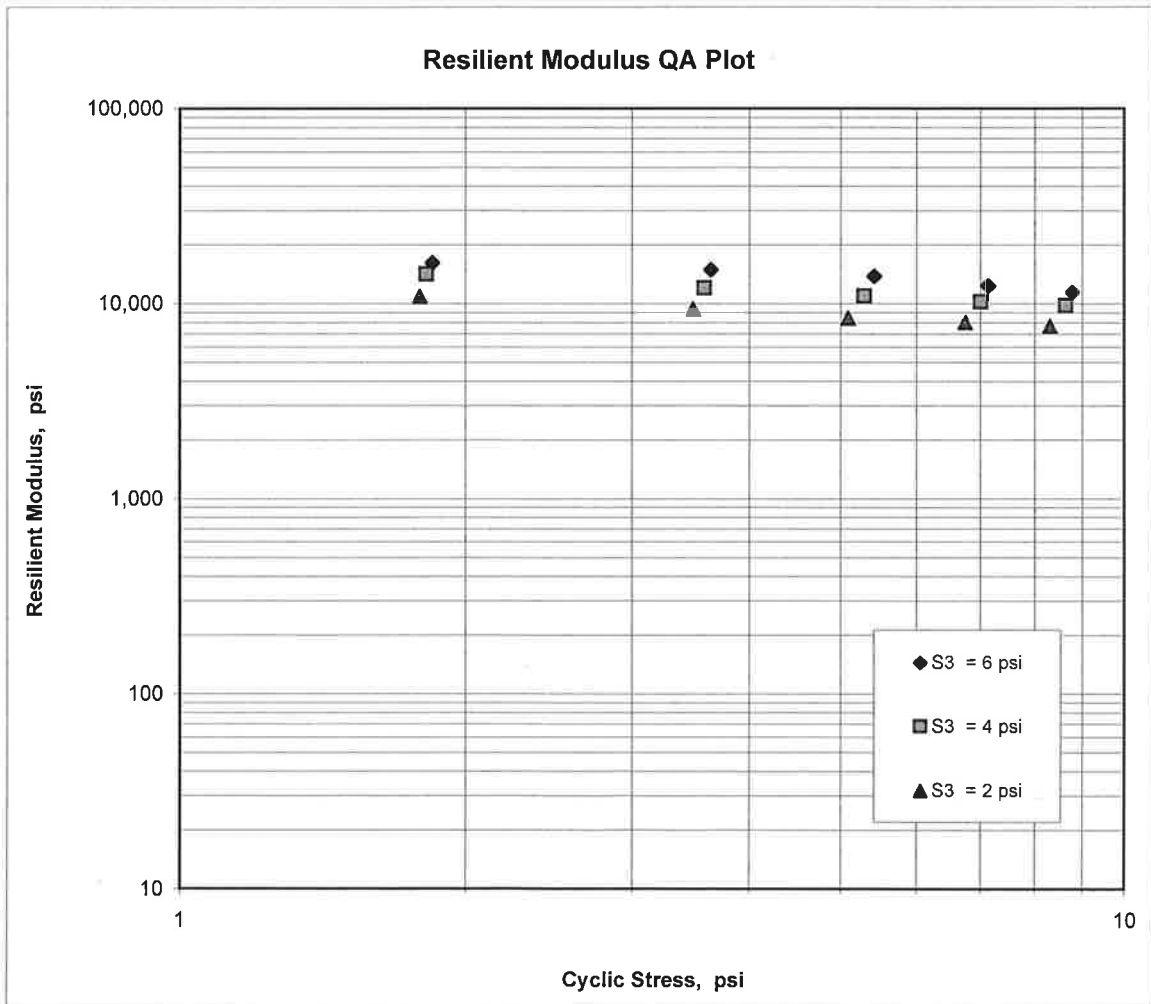
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED / THINWALL TUBE SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	462+00
Date Tested:	December 3, 2015	Location:	36'LT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153705	AASHTO Class:	A-4(0)
Sample ID:	RV662	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

K1 =	<u>9,313</u>
K2 =	<u>-0.22780</u>
K5 =	<u>0.40493</u>
R² =	<u>0.99</u>



**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	610+00
Date Tested:	December 3, 2015	Location:	27RT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153705	AASHTO Class:	A-4(0)
Sample ID:	RV663	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.93
Bottom	3.94
Average	3.94
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.13
Initial Volume, AoLo (cu. in):	97.30

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3286.40
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4. Soil Properties:

Optimum Moisture Content (%):	13.4
Maximum Dry Density (pcf):	116.9
95% of MDD (pcf):	111.1
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3286.40
Compaction Moisture content (%):	14.0
Compaction Wet Density (pcf):	128.69
Compaction Dry Density (pcf):	112.89
Moisture Content After Mr Test (%):	13.6

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 12524(Sc)^{-0.22047}(S3)^{0.29768}

8. Comments

9. Tested By: GREG **Date:** December 3, 2015

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	610+00
Date Tested:	December 3, 2015	Location:	27'RT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)	Depth:	0-5
County:	Code: 14 COLUMBIA	AASHTO Class:	A-4(0)
Sampled By:	DICKERSON	Material Type (1 or 2):	2
Lab No.:	20153705	LONGITUDE:	
Sample ID:	RV663		

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
	S ₃ psi	S _{cyclic} psi	P _{max} lbs	P _{cyclic} lbs	P _{contact} lbs	S _{max} psi	S _{cyclic} psi	S _{contact} psi	H _{avg} in	ε _r in/in	M _r psi
Sequence 1	6.0	2.0	25.0	22.2	2.8	2.1	1.8	0.2	0.00081	0.00010	18,219
Sequence 2	6.0	4.0	46.9	44.1	2.8	3.9	3.6	0.2	0.00170	0.00021	17,148
Sequence 3	6.0	6.0	69.1	65.5	3.6	5.7	5.4	0.3	0.00270	0.00034	16,051
Sequence 4	6.0	8.0	92.0	85.9	6.1	7.6	7.1	0.5	0.00408	0.00051	13,928
Sequence 5	6.0	10.0	114.0	105.5	8.4	9.4	8.7	0.7	0.00561	0.00070	12,438
Sequence 6	4.0	2.0	24.8	22.1	2.7	2.0	1.8	0.2	0.00094	0.00012	15,599
Sequence 7	4.0	4.0	46.2	43.4	2.8	3.8	3.6	0.2	0.00199	0.00025	14,414
Sequence 8	4.0	6.0	67.3	64.5	2.8	5.5	5.3	0.2	0.00325	0.00040	13,128
Sequence 9	4.0	8.0	90.0	84.8	5.2	7.4	7.0	0.4	0.00462	0.00058	12,133
Sequence 10	4.0	10.0	112.1	104.5	7.6	9.2	8.6	0.6	0.00613	0.00076	11,273
Sequence 11	2.0	2.0	24.5	21.7	2.8	2.0	1.8	0.2	0.00107	0.00013	13,389
Sequence 12	2.0	4.0	45.5	42.8	2.8	3.8	3.5	0.2	0.00234	0.00029	12,103
Sequence 13	2.0	6.0	65.7	62.9	2.8	5.4	5.2	0.2	0.00379	0.00047	10,966
Sequence 14	2.0	8.0	86.9	82.6	4.2	7.2	6.8	0.3	0.00538	0.00067	10,158
Sequence 15	2.0	10.0	108.7	101.9	6.7	9.0	8.4	0.6	0.00712	0.00089	9,466

TESTED BY _____ DATE _____
 REVIEWED BY _____ DATE _____

GREG

December 3, 2015

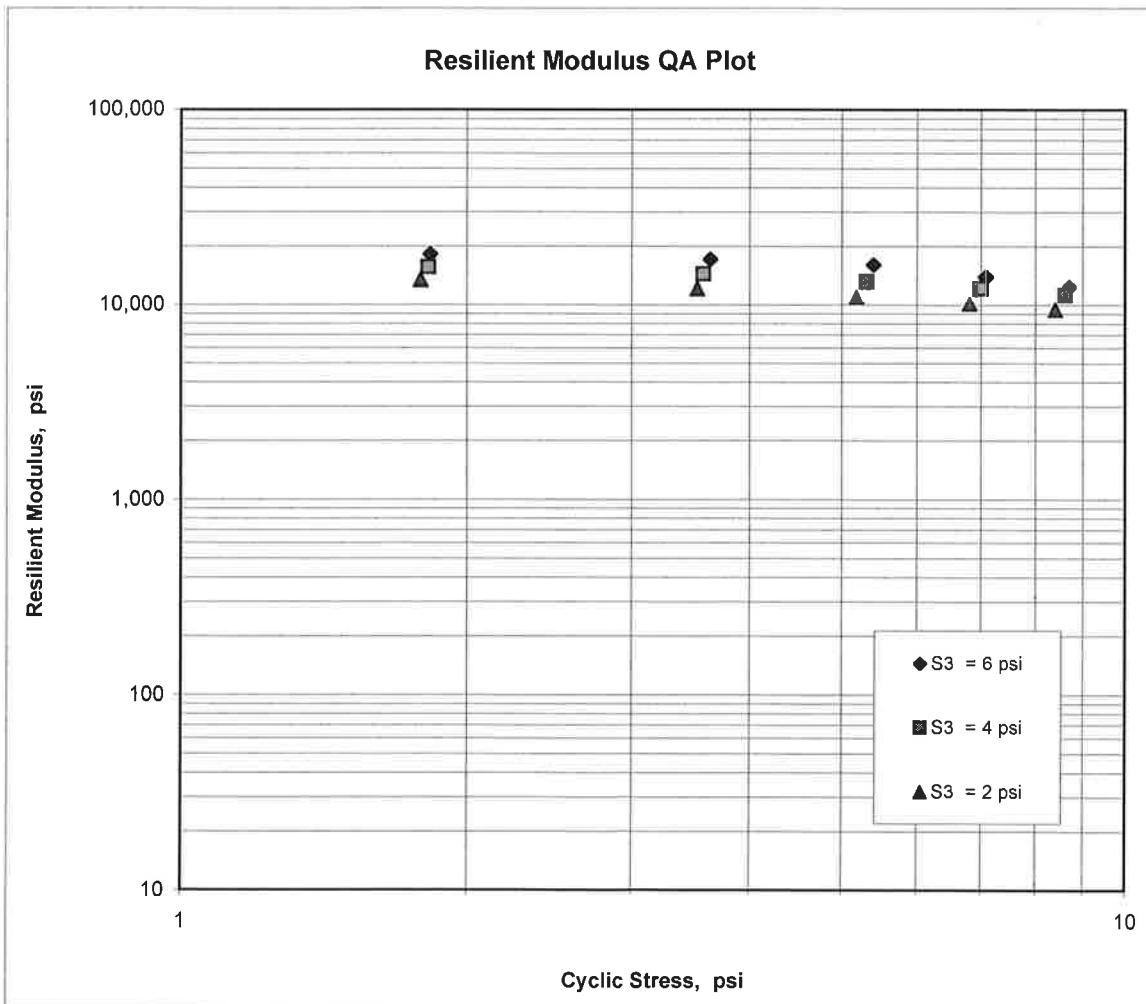
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED / THINWALL TUBE SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	12/03/15	Station No.:	610+00
Date Tested:	December 3, 2015	Location:	27'RT
Name of Project:	HWY.98 - HWY.79(WIDENING)(S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5
Lab No.:	20153705	AASHTO Class:	A-4(0)
Sample ID:	RV663	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$K_1 = \frac{12,524}{\quad}$
 $K_2 = \frac{-0.22047}{\quad}$
 $K_5 = \frac{0.29768}{\quad}$
 $R^2 = \frac{0.95}{\quad}$



**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	11/3/15	Station No.:	656+00
Date Tested:	December 2, 2015	Location:	27'RT
Name of Project:	HWY. 98 - HWY. 79 (WIDENING) (S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON		
Lab No.:	20153704	Depth:	0-5'
Sample ID:	RV664	AASHTO Class:	A-4(0)
LATITUDE:		Material Type (1 or 2):	2
		LONGITUDE:	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.98
Middle	3.98
Bottom	3.97
Average	3.98
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.03
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.03
Initial Area, Ao (sq. in):	12.34
Initial Volume, AoLo (cu. in):	99.08

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3343.20
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	10.5
Maximum Dry Density (pcf):	119.9
95% of MDD (pcf):	113.9
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3343.20
Compaction Moisture content (%):	10.4
Compaction Wet Density (pcf):	128.56
Compaction Dry Density (pcf):	116.45
Moisture Content After Mr Test (%):	10.3

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 7568(Sc)^{-0.02744}(S3)^{0.41595}

8. Comments

9. Tested By: CG **Date:** December 2, 2015

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AAASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED SAMPLES**

Job No. CA0705 **Material Code** SSRVPS
Date Sampled: 11/3/15 **Station No.:** 656+00
Date Tested: December 2, 2015 **Location:** 27'RT
Name of Project: HWY. 98 - HWY. 79 (WIDENING) (S)
County: Code: 14 **Name:** COLUMBIA
Sampled By: DICKERSON **Depth:** 0-5'
Lab No.: 20153704 **AAASHTO Class:** A-4(0)
Sample ID: RV664 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
	S ₃ psi	S _{eyclic} psi	P _{max} lbs	P _{eyclic} lbs	P _{contact} lbs	S _{max} psi	S _{eyclic} psi	S _{contact} psi	H _{avg} in	ε _r in/in	M _r psi
Sequence 1	6.0	2.0	25.1	22.3	2.8	2.0	1.8	0.2	0.00092	0.00011	15,729
Sequence 2	6.0	4.0	46.9	44.1	2.9	3.8	3.6	0.2	0.00186	0.00023	15,397
Sequence 3	6.0	6.0	69.7	65.9	3.8	5.7	5.3	0.3	0.00277	0.00034	15,495
Sequence 4	6.0	8.0	93.7	87.4	6.3	7.6	7.1	0.5	0.00371	0.00046	15,329
Sequence 5	6.0	10.0	117.6	108.8	8.7	9.5	8.8	0.7	0.00469	0.00058	15,093
Sequence 6	4.0	2.0	24.7	21.9	2.8	2.0	1.8	0.2	0.00105	0.00013	13,579
Sequence 7	4.0	4.0	46.0	43.1	2.9	3.7	3.5	0.2	0.00220	0.00027	12,758
Sequence 8	4.0	6.0	67.0	64.1	2.9	5.4	5.2	0.2	0.00337	0.00042	12,368
Sequence 9	4.0	8.0	90.8	85.4	5.4	7.4	6.9	0.4	0.00445	0.00055	12,492
Sequence 10	4.0	10.0	113.9	106.0	8.0	9.2	8.6	0.6	0.00544	0.00068	12,673
Sequence 11	2.0	2.0	23.7	20.9	2.8	1.9	1.7	0.2	0.00135	0.00017	10,046
Sequence 12	2.0	4.0	43.7	40.7	2.9	3.5	3.3	0.2	0.00276	0.00034	9,596
Sequence 13	2.0	6.0	63.4	60.5	3.0	5.1	4.9	0.2	0.00416	0.00052	9,458
Sequence 14	2.0	8.0	85.8	81.2	4.6	7.0	6.6	0.4	0.00543	0.00068	9,725
Sequence 15	2.0	10.0	108.3	101.2	7.1	8.8	8.2	0.6	0.00665	0.00083	9,909

TESTED BY _____ CG _____ DATE December 2, 2015
 REVIEWED BY _____ DATE _____

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

**AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS
RECOMPACTED / THINWALL TUBE SAMPLES**

Job No.	CA0705	Material Code	SSRVPS
Date Sampled:	11/3/15	Station No.:	656+00
Date Tested:	December 2, 2015	Location:	27'RT
Name of Project:	HWY. 98 - HWY. 79 (WIDENING) (S)		
County:	Code: 14	Name:	COLUMBIA
Sampled By:	DICKERSON	Depth:	0-5'
Lab No.:	20153704	AASHTO Class:	A-4(0)
Sample ID:	RV664	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

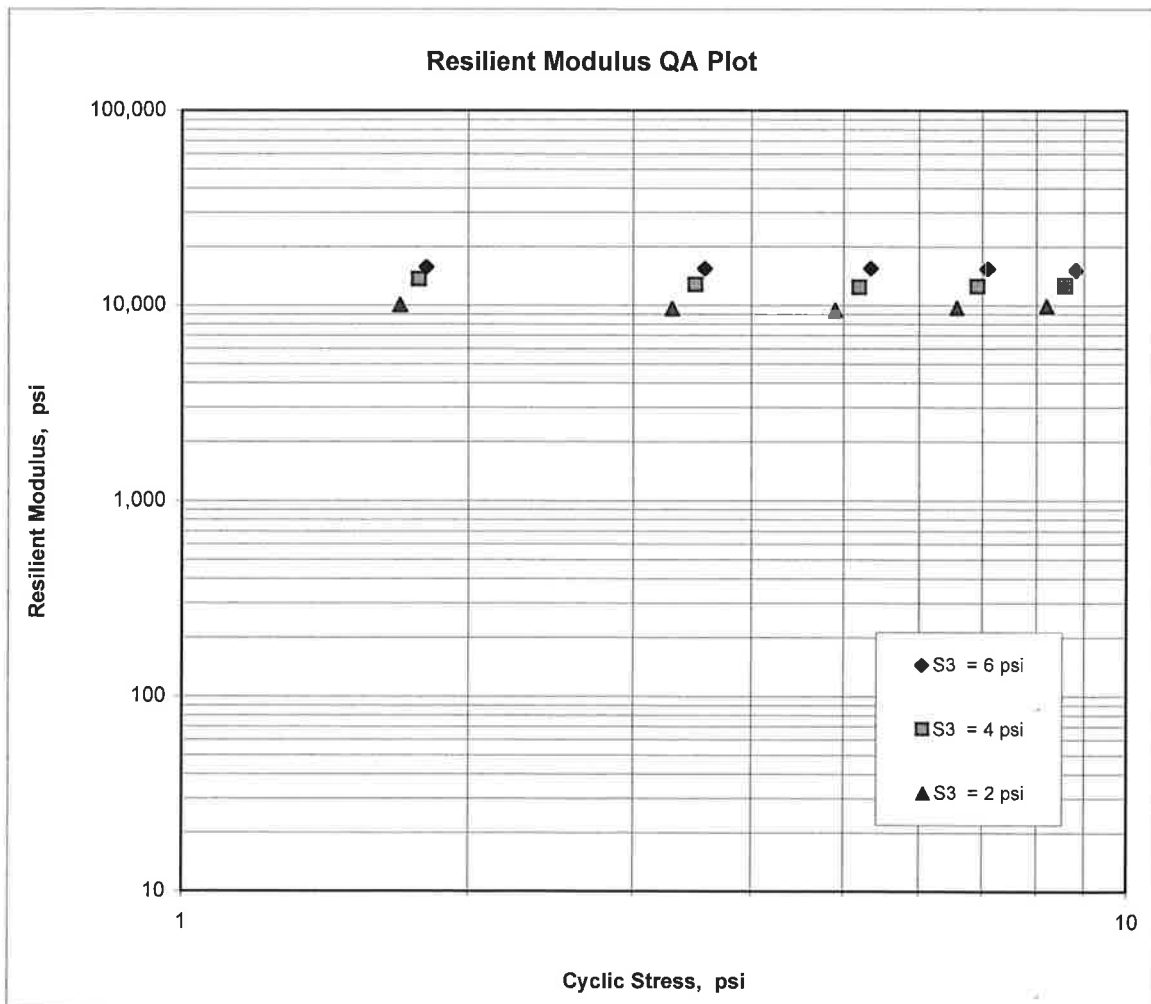
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = 7,568$$

$$K_2 = -0.02744$$

$$K_5 = 0.41595$$

$$R^2 = 0.99$$



JOB: CA0705

JOB NAME: HWY.98 - HWY.79 (WIDENING) (S)

COUNTY NO. 14

STA# LOC.

Arkansas State Highway Transportation Department

Materials Division

Michael Benson, Materials Engineer

DATE TESTED

11/30/2015

PAVEMENT SOUNDINGS

371+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		3.0W	---	2.0	---
371+00	27' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		---	---	---	---
371+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		4.0W	2.0	7.0	---
379+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		4.0W	2.5	6.0	---
379+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		2.5	---	6.0	---
379+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		---	---	---	---
390+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		3.5W	2.5W	6.0	---
390+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		2.5W	---	7.0	---
390+00	27' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		---	---	---	---
398+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		4.25W	2.0	8.0	---
398+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		3.0	---	6.0	---
398+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		---	---	---	---
406+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		5.5W	---	6.0	---
406+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		3.75W	---	6.0	---
414+00	21' LT	ACHMSC	ASHMBC	SOIL CEMENT BASE	---
		2.5	---	10.0	---
414+00	33' LT	ACHMSC	ASHMBC	SOIL CEMENT BASE	---
		---	---	AGG. BASE CRS. CL5	---
414+00	12' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	---
		4.5W	10.5W	SAND	6.0

Comments:

W=MULTIPLE LAYERS, X=STRIPPED
ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

Wednesday, December 09, 2015

422+00	06 RT	ACHMSC	ASHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		6.5W	7.0W	6.0	---
422+00	15 RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		4.25W	5.5W	6.0	
422+00	27 RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	
430+00	18 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		5.75W	10.0W	---	
430+00	27 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		2.0	---	---	AGG. BASE CRS. CL5
				12.0	
430+00	36 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	AGG. BASE CRS. CL5
438+00	06 RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		3.5W	8.0W	6.0	AGG. BASE CRS. CL5
438+00	15 RT	ACHMSC	ACHMBC	CHIP SEAL	
		2.25	7.5	0.25	SOIL CEMENT BASE
				8.0	
438+00	27 RT	ACHMSC	ACHMBC	CHIP SEAL	
		---	---	---	SOIL CEMENT BASE
446+00	36 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	AGG. BASE CRS. CL5
446+00	18 LT	ACHMSC	ACHMBC	CHIP SEAL	
		6.0W	9.25W	---	SOIL CEMENT BASE
446+00	27 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		2.25	---	---	AGG. BASE CRS. CL5
				11.0	
454+00	06 RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		2.5W	1.5W	4.0	AGG. BASE CRS. CL5
454+00	15 RT	ACHMSC	ACHMBC	CHIP SEAL	
		1.5X	6.5WX	1.5X	SOIL CEMENT BASE
				6.0	
454+00	24 RT	ACHMSC	ACHMBC	CHIP SEAL	
		---	---	---	SOIL CEMENT BASE
462+00	18 LT	ACHMSC	ACHMBC	CHIP SEAL	
		6.0W	10.0W	---	SOIL CEMENT BASE
462+00	27 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		2.25	---	---	AGG. BASE CRS. CL5
				8.0	
462+00	36 LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	AGG. BASE CRS. CL5
470+00	06 RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		2.5	12.0W	6.0	AGG. BASE CRS. CL5

Comments: W=MULTIPLE LAYERS, X=STRIPPED

ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

470+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		2.5	6.5WX	4.0
470+00	24' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		---	---	---
478+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		13.0W	---	7.0
478+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		8.5W	6.0	---
478+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		---	---	---
486+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		2.0	8.0W	7.0
486+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.75W	---	6.0
486+00	27' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		---	---	---
496+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.5W	4.5W	7.0
496+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.0	---	6.0
496+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		---	---	---
504+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		4.5WX	3.0W	7.0
504+00	15' RT	ACHMSC	SOIL CEMENT BASE	
		3.25W	6.0	
504+00	24' RT	ACHMSC	SOIL CEMENT BASE	
		---	---	
512+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.0X	---	7.0
512+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		---	---	---
512+00	06' LT	ACHMSC	SOIL CEMENT BASE	
		5.0WX	7.0	
520+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.75WX	3.25WX	6.0
520+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE
		3.0W	---	6.0

Comments: W=MULTIPLE LAYERS, X=STRIPPED

ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

520+00	27' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
528+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
528+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
528+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
538+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
538+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
538+00	27' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
545+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
545+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
545+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
545+00	45' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
554+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
554+00	24' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
568+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
568+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
568+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
576+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
576+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
576+00	30' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	

Comments: W=MULTIPLE LAYERS, X=STRIPPED
 ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

592+00	06' RT	ACHMSC 4.0W	ACHMBC 2.0	SOIL CEMENT BASE 6.0	
592+00	15' RT	ACHMSC 2.5W	ACHMBC ---	SOIL CEMENT BASE 6.0	
592+00	27' RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT BASE ---	
600+00	18' LT	ACHMSC 3.0W	ACHMBC 1.5	SOIL CEMENT BASE 7.0	
600+00	33' LT	ACHMSC ---	ACHMBC ---	SOIL CEMENT BASE ---	
600+00	27' LT	ACHMSC 2.0	ACHMBC ---	SOIL CEMENT BASE 7.0	
610+00	06' RT	ACHMSC 3.25W	ACHMBC 2.0	SOIL CEMENT BASE 7.0	
610+00	15' RT	ACHMSC 2.5	ACHMBC ---	SOIL CEMENT BASE 6.0	
610+00	27' RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT BASE ---	
616+00	06' LT	ACHMSC 3.75W	ACHMBC 2.5	SOIL CEMENT BASE 7.0	
616+00	15' LT	ACHMSC 3.0W	ACHMBC ---	SOIL CEMENT BASE 7.0	
616+00	27' LT	ACHMSC ---	ACHMBC ---	SOIL CEMENT BASE ---	
624+00	06' RT	ACHMSC 4.0W	ACHMBC 2.75	SOIL CEMENT BASE 8.25	
624+00	15' RT	ACHMSC 3.0W	ACHMBC ---	SOIL CEMENT BASE 7.0	SAND ---
624+00	27' RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT BASE ---	SAND ---
632+00	15' LT	ACHMSC 3.0W	ACHMBC ---	SAND 7.0	
632+00	27' LT	ACHMSC ---	ACHMBC ---	SAND ---	
632+00	06' LT	ACHMSC 5.5WX	ACHMBC 4.5	SOIL CEMENT BASE ---	SAND 5.0
640+00	15' RT	ACHMSC 3.5W	ACHMBC ---	SAND 4.0	

Comments: W=MULTIPLE LAYERS, X=STRIPPED
ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

640+00	27' RT	ACHMSC	ACHMBC	SAND
640+00	06' RT	ACHMSC	ACHMBC	SAND
648+00	06' LT	ACHMSC	ACHMBC	SAND
648+00	15' LT	ACHMSC	ACHMBC	SAND
648+00	27' LT	ACHMSC	ACHMBC	SAND
656+00	06' RT	ACHMSC	ACHMBC	SAND
656+00	15' RT	ACHMSC	ACHMBC	SAND
656+00	27' RT	ACHMSC	ACHMBC	SAND
664+00	27' LT	ACHMSC	SAND	
664+00	06' LT	ACHMSC	ACHMBC	SAND
664+00	15' LT	ACHMSC	SAND	

Comments:

W=MULTIPLE LAYERS, X=STRIPPED
 ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

STA.#	LOC.	DEPTH	COLOR						L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				#4	#10	#40	#80	#200					
379+00	27' LT	0-5	BROWN	97	96	95	92	77	27	05	A-4(3)	RV661	
462+00	36' LT	0-5	BROWN	93	91	89	83	68	22	03	A-4(0)	RV662	
610+00	27' RT	0-5	RD/BR	96	95	93	74	52	23	06	A-4(0)	RV663	
656+00	27' RT	0-5	BROWN	97	97	96	89	62	ND	NP	A-4(0)	RV664	
371+00	06' RT	0-5	BROWN	99	99	93	81	45	29	14	A-6(3)	S557	17.4
371+00	15' RT	0-5	BROWN	100	99	91	79	45	27	11	A-6(2)	S558	16.1
371+00	27' RT	0-5	RD/BR	99	99	88	75	39	27	12	A-6(1)	S559	17.6
379+00	06' LT	0-5	RD/BR	100	99	98	93	80	31	12	A-6(8)	S560	22.5
379+00	15' LT	0-5	BROWN	100	99	97	88	68	23	07	A-4(2)	S561	18
379+00	27' LT	0-5	BROWN		100	99	98	91	34	14	A-6(13)	S562	24.3
390+00	06' RT	0-5	BROWN	100	99	98	90	62	28	08	A-4(3)	S563	20.6
390+00	15' RT	0-5	BROWN	99	99	97	87	59	27	08	A-4(2)	S564	19
390+00	27' RT	0-5	RD/BR	95	93	92	88	67	29	08	A-4(4)	S565	19.7
398+00	06' LT	0-5	RD/BR	100	99	99	94	69	33	15	A-6(8)	S566	23
398+00	15' LT	0-5	RD/BR	99	99	98	90	65	27	07	A-4(3)	S567	19.5
398+00	27' LT	0-5	BR/GR	99	99	98	93	65	30	10	A-4(5)	S568	23.2
406+00	06' RT	0-5	RD/BR	99	99	98	84	53	23	07	A-4(1)	S569	17.2
406+00	15' RT	0-5	BROWN	99	99	99	86	59	26	11	A-6(4)	S570	17.6
414+00	12' LT	0-5	BR/GR	99	99	96	86	61	25	07	A-4(2)	S571	20.9
414+00	21' LT	0-5	BR/GR	98	94	89	78	53	25	08	A-4(1)	S572	16.6
414+00	33' LT	0-5	BR/GR	96	95	87	80	65	23	05	A-4(1)	S573	19.5
422+00	06' RT	0-5	RD/BR	99	99	99	93	75	27	09	A-4(5)	S574	23.1
422+00	15' RT	0-5	BROWN	98	96	94	89	79	24	06	A-4(3)	S575	20.7
422+00	27' RT	0-5	RD/BR	97	95	92	89	72	23	05	A-4(1)	S576	17.9
430+00	18' LT	0-5	BR/GR	100	99	98	90	49	ND	NP	A-4(0)	S577	15.5
430+00	27' LT	0-5	BR/GR	97	93	89	83	48	18	04	A-4(0)	S578	12

comments: W=MULTIPLE LAYERS, X=STRIPPED
 ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

Wednesday, December 09, 2015

STA.#	LOC.	DEPTH	COLOR						L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				#4	#10	#40	#80	#200					
				S	I	E	V	E	S				
430+00	36' LT	0-5	BR/GR	99	98	95	88	45	ND	NP	A-4(0)	S579	14.3
438+00	06' RT	0-5	BROWN	99	99	98	92	60	27	09	A-4(3)	S580	18.1
438+00	15' RT	0-5	BROWN	100	99	98	90	64	28	14	A-6(6)	S581	18.5
438+00	27' RT	0-5	RD/BR	99	99	98	94	66	26	10	A-4(4)	S582	15.8
446+00	18' LT	0-5	BR/GR	98	96	94	84	63	24	07	A-4(2)	S583	21.3
446+00	27' LT	0-5	BR/GR	98	95	89	84	59	23	08	A-4(2)	S584	14.4
446+00	36' LT	0-5	BR/GR	97	96	93	82	56	17	03	A-4(0)	S585	14.2
454+00	06' RT	0-5	BR/GR	99	97	94	83	55	22	08	A-4(1)	S586	20.1
454+00	15' RT	0-5	BR/GR	99	97	95	84	62	25	11	A-6(4)	S587	19.6
454+00	24' RT	0-5	BR/GR	99	98	96	80	52	18	04	A-4(0)	S588	19
462+00	18' LT	0-5	BROWN	99	98	97	84	59	19	03	A-4(0)	S589	27.5
462+00	27' LT	0-5	BROWN	97	93	88	74	49	20	04	A-4(0)	S590	13.6
462+00	36' LT	0-5	BROWN	99	96	92	78	58	22	05	A-4(0)	S591	19
470+00	06' RT	0-5	BROWN	99	99	98	86	56	18	02	A-4(0)	S592	14.7
470+00	15' RT	0-5	BR/GR	99	99	98	86	60	18	03	A-4(0)	S593	13
470+00	24' RT	0-5	BR/GR	99	98	97	81	49	17	01	A-4(0)	S594	13.4
478+00	06' LT	0-5	BR/GR	99	99	97	87	63	20	05	A-4(0)	S595	14.1
478+00	15' LT	0-5	BR/GR	99	97	95	85	57	19	04	A-4(0)	S596	14.2
478+00	27' LT	0-5	BR/GR	99	98	96	85	60	18	04	A-4(0)	S597	14.9
486+00	06' RT	0-5	BR/GR	100	99	99	92	65	17	03	A-4(0)	S598	16.3
486+00	15' RT	0-5	BR/GR	100	99	99	88	56	17	03	A-4(0)	S599	14.3
486+00	27' RT	0-5	BR/GR	100	99	98	89	61	18	03	A-4(0)	S600	15.7
496+00	06' LT	0-5	BR/GR	100	99	98	87	59	17	04	A-4(0)	S601	13.6
496+00	15' LT	0-5	BR/GR	99	99	97	81	54	ND	NP	A-4(0)	S602	12.9
496+00	27' LT	0-5	BR/GR	98	97	96	83	55	ND	NP	A-4(0)	S603	13.8
504+00	06' RT	0-5	BR/GR	100	99	98	86	62	16	02	A-4(0)	S604	15.3
504+00	15' RT	0-5	BR/GR	99	98	96	82	56	18	02	A-4(0)	S605	14.9
504+00	24' RT	0-5	BR/GR	98	97	95	82	57	17	02	A-4(0)	S606	14.7

comments: W=MULTIPLE LAYERS, X=STRIPPED
ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

Wednesday, December 09, 2015

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
512+00	06' LT	0-5	BR/GR	99	99	98	84	56	19	03	A-4(0)	S607	17.1
512+00	15' LT	0-5	BR/GR	100	99	98	82	55	ND	NP	A-4(0)	S608	20
512+00	27' LT	0-5	BR/GR	97	93	90	78	51	17	02	A-4(0)	S609	15.9
520+00	06' RT	0-5	BR/GR	98	97	94	79	54	ND	NP	A-4(0)	S610	15.7
520+00	15' RT	0-5	BR/GR	100	99	98	85	59	17	04	A-4(0)	S611	12
520+00	27' RT	0-5	BR/GR	99	99	97	79	50	15	01	A-4(0)	S612	8.9
528+00	06' LT	0-5	BROWN	99	99	98	81	51	ND	NP	A-4(0)	S613	15.5
528+00	15' LT	0-5	BROWN	99	98	96	78	50	ND	NP	A-4(0)	S614	11.5
528+00	27' LT	0-5	BROWN	100	98	95	78	46	ND	NP	A-4(0)	S615	15.6
538+00	06' RT	0-5	RD/BR	99	99	97	79	55	19	03	A-4(0)	S616	18.7
538+00	15' RT	0-5	RD/BR	100	99	97	82	56	ND	NP	A-4(0)	S617	19.1
538+00	27' RT	0-5	BROWN	100	99	97	71	52	19	03	A-4(0)	S618	21.4
545+00	06' LT	0-5	RD/BR	99	98	95	78	56	23	07	A-4(1)	S619	18
545+00	15' LT	0-5	BROWN	99	98	95	77	55	20	4	A-4(0)	S620	18.7
545+00	27' LT	0-5	BROWN	96	92	70	64	53	24	8	A-4(1)	S621	16.1
554+00	15' RT	0-5	BROWN	99	99	98	85	60	22	7	A-4(1)	S622	19.1
554+00	24' RT	0-5	BROWN	99	99	96	82	15	19	4	A-4(1)	S623	16
554+00	45' RT	0-5	BROWN	99	98	96	88	69	27	12	A-6(6)	S624	17.7
568+00	06' LT	0-5	BROWN	100	99	97	77	52	18	4	A-4(0)	S625	13.6
568+00	15' LT	0-5	BROWN	99	98	95	77	56	17	5	A-4(0)	S626	11.9
568+00	27' LT	0-5	BROWN	99	99	98	82	59	17	2	A-4(0)	S627	12.1
576+00	06' RT	0-5	BR/GR	97	96	93	78	57	18	4	A-4(0)	S628	15.2
576+00	15' RT	0-5	BROWN	98	98	95	61	44	31	17	A-6(3)	S629	15.4
576+00	30' RT	0-5	BROWN	87	83	80	63	47	18	3	A-4(0)	S630	18.3
592+00	06' RT	0-5	RD/BR	100	99	97	67	45	26	13	A-6(2)	S631	15.5
592+00	15' RT	0-5	RD/BR	100	99	97	69	44	27	14	A-6(2)	S632	17.7
592+00	27' RT	0-5	RD/BR	100	99	97	83	60	20	7	A-4(1)	S633	20.2
600+00	18' LT	0-5	RD/BR	100	98	93	46	29	28	13	A-2-6(0)	S634	19.9

comments: W=MULTIPLE LAYERS, X=STRIPPED

ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY.

Wednesday, December 09, 2015

Page 3 of 4

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
600+00	27' LT	0-5	RD/BR	99	98	92	47	35	30	17	A-2-6(1)	S635	18.5
600+00	33' LT	0-5	RD/BR	100	99	92	46	35	31	15	A-2-6(1)	S636	18
610+00	06' RT	0-5	RD/BR	100	99	91	55	41	39	25	A-6(5)	S637	19.2
610+00	15' RT	0-5	RD/BR	99	98	92	66	46	25	9	A-4(1)	S638	17.5
610+00	27' RT	0-5	RD/BR	99	97	95	75	51	25	13	A-6(3)	S639	16.9
616+00	06' LT	0-5	RD/BR	99	99	97	78	54	26	13	A-6(4)	S640	23.2
616+00	15' LT	0-5	RD/BR	98	98	95	76	53	24	9	A-4(6)	S641	16.5
616+00	27' LT	0-5	RD/BR	97	95	92	69	50	24	11	A-6(2)	S642	18.8
624+00	06' RT	0-5	RD/BR	100	99	98	84	65	24	11	A-6(4)	S643	19.9
624+00	15' RT	0-5	RD/BR	99	99	97	84	68	24	9	A-4(3)	S644	16.9
624+00	27' RT	0-5	RD/BR	99	99	97	78	57	20	5	A-4(0)	S645	17.2
632+00	06' LT	0-5	BROWN	99	99	98	90	69	20	6	A-4(1)	S646	17.7
632+00	15' LT	0-5	BROWN	93	92	90	84	68	21	07	A-4(2)	S647	16.3
632+00	27' LT	0-5	BROWN	99	99	99	92	74	21	06	A-4(2)	S648	14.1
640+00	06' RT	0-5	BROWN	99	99	97	90	59	23	08	A-4(2)	S649	18.1
640+00	15' RT	0-5	BROWN	99	98	97	90	62	24	09	A-4(3)	S650	21.1
640+00	27' RT	0-5	BROWN	99	98	92	93	46	23	06	A-4(0)	S651	17.3
648+00	06' LT	0-5	BROWN	99	99	98	81	59	16	03	A-4(0)	S652	11
648+00	15' LT	0-5	BR/GR	99	98	97	77	54	16	03	A-4(0)	S653	14.1
648+00	27' LT	0-5	BR/GR	100	99	98	77	53	ND	NP	A-4(0)	S654	11.8
656+00	06' RT	0-5	BROWN	99	99	98	88	60	17	02	A-4(0)	S655	15
656+00	15' RT	0-5	BR/GR	99	95	94	86	53	ND	NP	A-4(0)	S656	14.3
656+00	27' RT	0-5	BROWN	99	97	96	86	55	ND	NP	A-4(0)	S657	16.6
664+00	06' LT	0-5	BR/GR	100	99	98	86	58	19	04	A-4(0)	S658	14.2
664+00	15' LT	0-5	BR/GR	99	99	98	88	60	17	04	A-4(0)	S659	15.8
664+00	27' LT	0-5	BROWN	97	95	93	84	63	17	04	A-4(0)	S660	15

comments: W=MULTIPLE LAYERS, X=STRIPPED
ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

Wednesday, December 09, 2015

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 1
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153600	- 20153601	- 20153602
SAMPLE ID	- S557	- S558	- S559
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 371+00	- 371+00	- 371+00
LOCATION	- 06' RT	- 15' RT	- 27' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 19 27.60	- 33 19 27.50	- 33 19 27.40
LONGITUDE DEG-MIN-SEC	- 93 18 1.90	- 93 18 1.90	- 93 18 2.00
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	-	- 100
	NO. 4 - 99	- 100	- 99
	NO. 10 - 99	- 99	- 99
	NO. 40 - 93	- 91	- 88
	NO. 80 - 81	- 79	- 75
	NO. 200 - 45	- 45	- 39
LIQUID LIMIT	- 29	- 27	- 27
PLASTICITY INDEX	- 14	- 11	- 12
AASHTO SOIL	- A-6(3)	- A-6(2)	- A-6(1)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 17.4	- 16.1	- 17.6
ACHMSC (IN)	- 4.0W	- 3.0W	- ---
ACHMBC (IN)	- 2.0	- ---	- ---
SOIL CEMENT BASE (IN)	- 7.0	- 2.0	- ---
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 2
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153603	- 20153604	- 20153605
SAMPLE ID	- S560	- S561	- S562
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 379+00	- 379+00	- 379+00
LOCATION	- 06' LT	- 15' LT	- 27' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- RD/BR	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 19 22.60	- 33 19 22.70	- 33 19 22.80
LONGITUDE DEG-MIN-SEC	- 93 17 54.50	- 93 17 54.40	- 93 17 54.30
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	-
	NO. 10 - 99	- 99	- 100
	NO. 40 - 98	- 97	- 99
	NO. 80 - 93	- 88	- 98
	NO. 200 - 80	- 68	- 91
LIQUID LIMIT	- 31	- 23	- 34
PLASTICITY INDEX	- 12	- 07	- 14
AASHTO SOIL	- A-6(8)	- A-4(2)	- A-6(13)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 22.5	- 18.0	- 24.3
ACHMSC	(IN) - 4.0W	- 2.5	- ---
ACHMBC	(IN) - 2.5	- ---	- ---
SOIL CEMENT BASE	(IN) - 6.0	- 6.0	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W= MULTIPLE LAYERS, X= STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 3
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153606	- 20153607	- 20153608
SAMPLE ID	- S563	- S564	- S565
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 390+00	- 390+00	- 390+00
LOCATION	- 06' RT	- 15' RT	- 27' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 19 15.50	- 33 19 15.50	- 33 19 15.50
LONGITUDE DEG-MIN-SEC	- 93 17 44.60	- 93 17 44.70	- 93 17 44.80
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	- 100
	3/8 IN. -	- 100	- 98
	NO. 4 - 100	- 99	- 95
	NO. 10 - 99	- 99	- 93
	NO. 40 - 98	- 97	- 92
	NO. 80 - 90	- 87	- 88
	NO. 200 - 62	- 59	- 67
LIQUID LIMIT	- 28	- 27	- 29
PLASTICITY INDEX	- 08	- 08	- 08
AASHTO SOIL	- A-4 (3)	- A-4 (2)	- A-4 (4)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 20.6	- 19.0	- 19.7
ACHMSC	(IN) - 3.5W	- 2.5W	- ---
ACHMBC	(IN) - 2.5W	- ---	- ---
SOIL CEMENT BASE	(IN) - 6.0	- 7.0	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 4
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153609	-	20153610	-	20153611
SAMPLE ID	-	S566	-	S567	-	S568
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	398+00	-	398+00	-	398+00
LOCATION	-	06' LT	-	15' LT	-	27' LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	RD/BR	-	RD/BR	-	BR/GR
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	33 19 10.60	-	33 19 10.70	-	33 19 10.70
LONGITUDE DEG-MIN-SEC	-	93 17 37.30	-	93 17 37.20	-	93 17 37.10
% PASSING	2	IN. -	-	-	-	-
	1 1/2	IN. -	-	-	-	-
	3/4	IN. -	-	-	-	-
	3/8	IN. -	-	100	-	100
	NO. 4	- 100	-	99	-	99
	NO. 10	- 99	-	99	-	99
	NO. 40	- 99	-	98	-	98
	NO. 80	- 94	-	90	-	93
	NO. 200	- 69	-	65	-	65
LIQUID LIMIT	-	33	-	27	-	30
PLASTICITY INDEX	-	15	-	07	-	10
AASHTO SOIL	-	A-6 (8)	-	A-4 (3)	-	A-4 (5)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	23.0	-	19.5	-	23.2
ACHMSC	(IN) -	4.25W	-	3.0	-	---
ACHMBC	(IN) -	2.0	-	---	-	---
SOIL CEMENT BASE	(IN) -	8.0	-	6.0	-	---
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 5
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20153612	20153613	20153614
SAMPLE ID	S569	S570	S571
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	406+00	406+00	414+00
LOCATION	06' RT	15' RT	12' LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	RD/BR	BROWN	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	33 19 5.40	33 19 5.40	33 19 .50
LONGITUDE DEG-MIN-SEC	93 17 30.20	93 17 30.20	93 17 22.60
% PASSING			
2 IN.			
1 1/2 IN.			
3/4 IN.			100
3/8 IN.	100	100	99
NO. 4	99	99	99
NO. 10	99	99	99
NO. 40	98	99	96
NO. 80	84	86	86
NO. 200	53	59	61
LIQUID LIMIT	23	26	25
PLASTICITY INDEX	07	11	07
AASHTO SOIL	A-4 (1)	A-6 (4)	A-4 (2)
UNIFIED SOIL			
% MOISTURE CONTENT	17.2	17.6	20.9
ACHMSC (IN)	5.5W	3.75W	4.5W
ACHMBC (IN)	---	---	10.5W
SOIL CEMENT BASE (IN)	6.0	6.0	---
SAND (IN)	---	---	6.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 6
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20153615	20153616	20153617
SAMPLE ID	S572	S573	S574
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	414+00	414+00	422+00
LOCATION	21' LT	33' LT	06' RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BR/GR	RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	33 19 .60	33 19 .70	33 18 55.30
LONGITUDE DEG-MIN-SEC	93 17 22.60	93 17 22.50	93 17 15.60
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	100	-
3/8 IN.	100	98	100
NO. 4	98	96	99
NO. 10	94	95	99
NO. 40	89	87	99
NO. 80	78	80	93
NO. 200	53	65	75
LIQUID LIMIT	25	23	27
PLASTICITY INDEX	08	05	09
AASHTO SOIL	A-4 (1)	A-4 (1)	A-4 (5)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	16.6	19.5	23.1
ACHMSC (IN)	2.5	---	6.5W
ASHMBC (IN)	---	---	7.0W
SOIL CEMENT BASE (IN)	---	---	6.0
AGG. BASE CRS. CL5 (IN)	10.0	---	---
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 7
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153618	- 20153619	- 20153620
SAMPLE ID	- S575	- S576	- S577
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 422+00	- 422+00	- 430+00
LOCATION	- 15' RT	- 27' RT	- 18' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- RD/BR	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 55.20	- 33 18 55.10	- 33 18 50.40
LONGITUDE DEG-MIN-SEC	- 93 17 15.70	- 93 17 15.70	- 93 17 8.10
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	- 100	- 100	-
3/8 IN.	- 99	- 99	-
NO. 4	- 98	- 97	- 100
NO. 10	- 96	- 95	- 99
NO. 40	- 94	- 92	- 98
NO. 80	- 89	- 89	- 90
NO. 200	- 79	- 72	- 49
LIQUID LIMIT	- 24	- 23	- ND
PLASTICITY INDEX	- 06	- 05	- NP
AASHTO SOIL	- A-4 (3)	- A-4 (1)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 20.7	- 17.9	- 15.5
ACHMSC (IN)	- 4.25W	- ---	- 5.75W
ACHMBC (IN)	- 5.5W	- ---	- 10.0W
SOIL CEMENT BASE (IN)	- 6.0	- ---	- ---
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCTAIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 8
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	-	20153621	-	20153622	-	20153623
SAMPLE ID	-	S578	-	S579	-	S580
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	430+00	-	430+00	-	438+00
LOCATION	-	27' LT	-	36' LT	-	06' RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	33 18 50.50	-	33 18 50.50	-	33 18 45.20
LONGITUDE DEG-MIN-SEC	-	93 17 8.10	-	93 17 8.00	-	93 17 1.00
% PASSING						
	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-		-	
		100	-		-	
	3/8	IN.	-	99	-	100
	NO. 4		-	97	-	99
	NO. 10		-	93	-	99
	NO. 40		-	89	-	98
	NO. 80		-	83	-	92
	NO. 200		-	48	-	60
LIQUID LIMIT	-	18	-	ND	-	27
PLASTICITY INDEX	-	04	-	NP	-	09
AASHTO SOIL	-	A-4 (0)	-	A-4 (0)	-	A-4 (3)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	12.0	-	14.3	-	18.1
ACHMSC	(IN)	2.0	-	---	-	3.5W
ACHMBC	(IN)	---	-	---	-	8.0W
SOIL CEMENT BASE	(IN)	---	-	---	-	6.0
AGG. BASE CRS. CL5	(IN)	12.0	-	---	-	---
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 9
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153624	- 20153625	- 20153626
SAMPLE ID	- S581	- S582	- S583
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 438+00	- 438+00	- 446+00
LOCATION	- 15' RT	- 27' RT	- 18' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- RD/BR	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 45.10	- 33 18 45.00	- 33 18 40.30
LONGITUDE DEG-MIN-SEC	- 93 17 1.10	- 93 17 1.20	- 93 16 53.50
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	- 100
	NO. 10 - 99	- 99	- 98
	NO. 40 - 98	- 98	- 96
	NO. 80 - 90	- 94	- 94
	NO. 200 - 64	- 66	- 63
LIQUID LIMIT	- 28	- 26	- 24
PLASTICITY INDEX	- 14	- 10	- 07
AASHTO SOIL	- A-6(6)	- A-4(4)	- A-4(2)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 18.5	- 15.8	- 21.3
ACHMSC	(IN) - 2.25	- ---	- 6.0W
ACHMBC	(IN) - 7.5	- ---	- 9.25W
CHIP SEAL	(IN) - 0.25	- ---	- ---
SOIL CEMENT BASE	(IN) - 8.0	- ---	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
 -
 -
 -

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 10
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)			
PROJECT ENGINEER - NOT APPLICABLE			
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS			

LAB NUMBER	-	20153627	-	20153628	-	20153629
SAMPLE ID	-	S584	-	S585	-	S586
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	446+00	-	446+00	-	454+00
LOCATION	-	27' LT	-	36' LT	-	06' RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR	-	BR/GR
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	33 18 40.40	-	33 18 40.40	-	33 18 35.00
LONGITUDE DEG-MIN-SEC	-	93 16 53.50	-	93 16 53.40	-	93 16 46.50
% PASSING	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-	100	-	
	3/8	IN.	-	98	-	100
	NO. 4	-		97	-	99
	NO. 10	-		96	-	97
	NO. 40	-		93	-	94
	NO. 80	-		82	-	83
	NO. 200	-		56	-	55
LIQUID LIMIT	-	23	-	17	-	22
PLASTICITY INDEX	-	08	-	03	-	08
AASHTO SOIL	-	A-4 (2)	-	A-4 (0)	-	A-4 (1)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	14.4	-	14.2	-	20.1
ACHMSC	(IN)	- 2.25	-	---	-	2.5W
ACHMBC	(IN)	- ---	-	---	-	1.5W
SOIL CEMENT BASE	(IN)	- ---	-	---	-	4.0
AGG. BASE CRS. CL5	(IN)	- 11.0	-	---	-	---
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 11
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153630	- 20153631	- 20153632
SAMPLE ID	- S587	- S588	- S589
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 454+00	- 454+00	- 462+00
LOCATION	- 15' RT	- 24' RT	- 18' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 35.00	- 33 18 34.90	- 33 18 30.10
LONGITUDE DEG-MIN-SEC	- 93 16 46.60	- 93 16 46.60	- 93 16 38.90
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	- 99
	NO. 4 - 99	- 99	- 99
	NO. 10 - 97	- 98	- 98
	NO. 40 - 95	- 96	- 97
	NO. 80 - 84	- 80	- 84
	NO. 200 - 62	- 52	- 59
LIQUID LIMIT	- 25	- 18	- 19
PLASTICITY INDEX	- 11	- 04	- 03
AASHTO SOIL	- A-6 (4)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 19.6	- 19.0	- 27.5
ACHMSC	(IN) - 1.5X	- ---	- 6.0W
ACHMBC	(IN) - 6.5WX	- ---	- 10.0W
CHIP SEAL	(IN) - 1.5X	- ---	- ---
SOIL CEMENT BASE	(IN) - 6.0	- ---	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 11/30/15	SEQUENCE NO.	- 12
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153633	- 20153634	- 20153635
SAMPLE ID	- S590	- S591	- S592
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 462+00	- 462+00	- 470+00
LOCATION	- 27' LT	- 36' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 30.20	- 33 18 30.20	- 33 18 24.80
LONGITUDE DEG-MIN-SEC	- 93 16 38.90	- 93 16 38.80	- 93 16 31.90
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	-	-
	3/8 IN. - 99	100	100
	NO. 4 - 97	99	99
	NO. 10 - 93	96	99
	NO. 40 - 88	92	98
	NO. 80 - 74	78	86
	NO. 200 - 49	58	56
LIQUID LIMIT	- 20	- 22	- 18
PLASTICITY INDEX	- 04	- 05	- 02
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 13.6	- 19.0	- 14.7
ACHMSC (IN)	- 2.25	- ---	- 2.5
ACHMBC (IN)	- ---	- ---	- 12.0W
SOIL CEMENT BASE (IN)	- ---	- ---	- 6.0
AGG. BASE CRS. CL5 (IN)	- 8.0	- ---	- ---
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 13
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153636	-	20153637	-	20153638
SAMPLE ID	-	S593	-	S594	-	S595
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	470+00	-	470+00	-	478+00
LOCATION	-	15' RT	-	24' RT	-	06' LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR	-	BR/GR
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	33 18 24.70	-	33 18 24.70	-	33 18 20.00
LONGITUDE DEG-MIN-SEC	-	93 16 31.90	-	93 16 32.00	-	93 16 24.60
% PASSING						
2 IN.	-		-		-	
1 1/2 IN.	-		-		-	
3/4 IN.	-		-		-	
3/8 IN.	-	100	-	100	-	100
NO. 4	-	99	-	99	-	99
NO. 10	-	99	-	98	-	99
NO. 40	-	98	-	97	-	97
NO. 80	-	86	-	81	-	87
NO. 200	-	60	-	49	-	63
LIQUID LIMIT	-	18	-	17	-	20
PLASTICITY INDEX	-	03	-	01	-	05
AASHTO SOIL	-	A-4(0)	-	A-4(0)	-	A-4(0)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	13.0	-	13.4	-	14.1
ACHMSC (IN)	-	2.5	-	---	-	13.0W
ACHMBC (IN)	-	6.5WX	-	---	-	---
SOIL CEMENT BASE (IN)	-	4.0	-	---	-	7.0
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 14
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153639	- 20153640	- 20153641
SAMPLE ID	- S596	- S597	- S598
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 478+00	- 478+00	- 486+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 20.10	- 33 18 20.10	- 33 18 14.70
LONGITUDE DEG-MIN-SEC	- 93 16 24.60	- 93 16 24.50	- 93 16 17.40
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	-
	NO. 4 - 99	- 99	- 100
	NO. 10 - 97	- 98	- 99
	NO. 40 - 95	- 96	- 99
	NO. 80 - 85	- 85	- 92
	NO. 200 - 57	- 60	- 65
LIQUID LIMIT	- 19	- 18	- 17
PLASTICITY INDEX	- 04	- 04	- 03
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 14.2	- 14.9	- 16.3
ACHMSC (IN)	- 8.5W	- ---	- 2.0
ACHMBC (IN)	- 6.0	- ---	- 8.0W
SOIL CEMENT BASE (IN)	- ---	- ---	- 7.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/09/15 SEQUENCE NO. - 15
 JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
 FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
 PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
 SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
 SUPPLIER NAME - STATE DISTRICT NO. - 07
 NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
 SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
 SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20153642	20153643	20153644
SAMPLE ID	S599	S600	S601
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	486+00	486+00	496+00
LOCATION	15' RT	27' RT	06' LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BR/GR	BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	33 18 14.60	33 18 14.60	33 18 8.60
LONGITUDE DEG-MIN-SEC	93 16 17.40	93 16 17.50	93 16 8.30
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	-	-	-
NO. 4	100	100	100
NO. 10	99	99	99
NO. 40	99	98	98
NO. 80	88	89	87
NO. 200	56	61	59
LIQUID LIMIT	17	18	17
PLASTICITY INDEX	03	03	04
AASHTO SOIL	A-4 (0)	A-4 (0)	A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	14.3	15.7	13.6
ACHMSC (IN)	3.75W	---	3.5W
ACHMBC (IN)	---	---	4.5W
SOIL CEMENT BASE (IN)	6.0	---	7.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 16
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153645	- 20153646	- 20153647
SAMPLE ID	- S602	- S603	- S604
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 496+00	- 496+00	- 504+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 18 8.70	- 33 18 8.80	- 33 18 3.40
LONGITUDE DEG-MIN-SEC	- 93 16 8.30	- 93 16 8.20	- 93 16 1.20
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	-
	NO. 4 - 99	- 98	- 100
	NO. 10 - 99	- 97	- 99
	NO. 40 - 97	- 96	- 98
	NO. 80 - 81	- 83	- 86
	NO. 200 - 54	- 55	- 62
LIQUID LIMIT	- ND	- ND	- 16
PLASTICITY INDEX	- NP	- NP	- 02
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 12.9	- 13.8	- 15.3
ACHMSC	(IN) - 3.0	- ---	- 4.5WX
ACHMBC	(IN) - ---	- ---	- 3.0W
SOIL CEMENT BASE	(IN) - 6.0	- ---	- 7.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/01/15 SEQUENCE NO. - 17
 JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
 FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
 PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
 SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
 SUPPLIER NAME - STATE DISTRICT NO. - 07
 NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
 SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
 SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153648	-	20153649	-	20153650
SAMPLE ID	-	S605	-	S606	-	S607
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	504+00	-	504+00	-	512+00
LOCATION	-	15' RT	-	24' RT	-	06' LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR	-	BR/GR
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	33 18 3.40	-	33 18 3.30	-	33 17 58.60
LONGITUDE DEG-MIN-SEC	-	93 16 1.30	-	93 16 1.30	-	93 15 53.90
% PASSING						
2 IN.	-	-	-	-	-	-
1 1/2 IN.	-	-	-	-	-	-
3/4 IN.	-	-	-	-	-	-
3/8 IN.	-	100	-	100	-	100
NO. 4	-	99	-	98	-	99
NO. 10	-	98	-	97	-	99
NO. 40	-	96	-	95	-	98
NO. 80	-	82	-	82	-	84
NO. 200	-	56	-	57	-	56
LIQUID LIMIT	-	18	-	17	-	19
PLASTICITY INDEX	-	02	-	02	-	03
AASHTO SOIL	-	A-4 (0)	-	A-4 (0)	-	A-4 (0)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	14.9	-	14.7	-	17.1
ACHMSC (IN)	-	3.25W	-	---	-	5.0WX
SOIL CEMENT BASE (IN)	-	6.0	-	---	-	7.0
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 18
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153651	- 20153652	- 20153653
SAMPLE ID	- S608	- S609	- S610
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 512+00	- 512+00	- 520+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 58.70	- 33 17 58.70	- 33 17 54.30
LONGITUDE DEG-MIN-SEC	- 93 15 53.80	- 93 15 53.70	- 93 15 46.40

% PASSING	2 IN.	-	-
	1 1/2 IN.	-	-
	3/4 IN.	-	-
	3/8 IN.	-	-
		100	100
NO. 4	- 100	- 97	- 98
NO. 10	- 99	- 93	- 97
NO. 40	- 98	- 90	- 94
NO. 80	- 82	- 78	- 79
NO. 200	- 55	- 51	- 54

LIQUID LIMIT	- ND	- 17	- ND
PLASTICITY INDEX	- NP	- 02	- NP
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 20.0	- 15.9	- 15.7

ACHMSC	(IN) - 3.0X	- ---	- 3.75WX
ACHMBC	(IN) - ---	- ---	- 3.25WX
SOIL CEMENT BASE	(IN) - 7.0	- ---	- 6.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 19
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153654	- 20153655	- 20153656
SAMPLE ID	- S611	- S612	- S613
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 520+00	- 520+00	- 528+00
LOCATION	- 15' RT	- 27' RT	- 06' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 54.20	- 33 17 54.10	- 33 17 51.00
LONGITUDE DEG-MIN-SEC	- 93 15 46.50	- 93 15 46.50	- 93 15 37.80
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	-	-	-
NO. 4	- 100	- 100	- 100
NO. 10	- 99	- 99	- 99
NO. 40	- 98	- 97	- 98
NO. 80	- 85	- 79	- 81
NO. 200	- 59	- 50	- 51
LIQUID LIMIT	- 17	- 15	- ND
PLASTICITY INDEX	- 04	- 01	- NP
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 12.0	- 8.9	- 15.5
ACHMSC (IN)	- 3.0W	- ---	- 3.25W
ACHMBC (IN)	- ---	- ---	- 2.25
SOIL CEMENT BASE (IN)	- 6.0	- ---	- 7.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 20
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153657	- 20153658	- 20153659
SAMPLE ID	- S614	- S615	- S616
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 528+00	- 528+00	- 538+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 51.10	- 33 17 51.20	- 33 17 48.20
LONGITUDE DEG-MIN-SEC	- 93 15 37.80	- 93 15 37.70	- 93 15 26.90
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	- 100	-	- 100
NO. 4	- 99	- 100	- 99
NO. 10	- 98	- 98	- 99
NO. 40	- 96	- 95	- 97
NO. 80	- 78	- 78	- 79
NO. 200	- 50	- 46	- 55
LIQUID LIMIT	- ND	- ND	- 19
PLASTICITY INDEX	- NP	- NP	- 03
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 11.5	- 15.6	- 18.7
ACHMSC (IN)	- 3.0	- ---	- 4.5W
ACHMBC (IN)	- ---	- ---	- 4.0W
SOIL CEMENT BASE (IN)	- 7.0	- ---	- 6.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/01/15 SEQUENCE NO. - 21
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153660	-	20153661	-	20153662	
SAMPLE ID	-	S617	-	S618	-	S619	
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY	
STATION	-	538+00	-	538+00	-	545+00	
LOCATION	-	15' RT	-	27' RT	-	06' LT	
DEPTH IN FEET	-	0-5	-	0-5	-	0-5	
MAT'L COLOR	-	RD/BR	-	BROWN	-	RD/BR	
MAT'L TYPE	-	-	-	-	-	-	
LATITUDE DEG-MIN-SEC	-	33 17 48.10	-	33 17 47.90	-	33 17 47.20	
LONGITUDE DEG-MIN-SEC	-	93 15 26.90	-	93 15 26.90	-	93 15 18.70	
% PASSING	2	IN.	-	-	-	-	
	1 1/2	IN.	-	-	-	-	
	3/4	IN.	-	-	-	-	
	3/8	IN.	-	-	-	100	
	NO. 4	-	100	-	100	-	99
	NO. 10	-	99	-	99	-	98
	NO. 40	-	97	-	97	-	95
	NO. 80	-	82	-	71	-	78
	NO. 200	-	56	-	52	-	56
LIQUID LIMIT	-	ND	-	19	-	23	
PLASTICITY INDEX	-	NP	-	03	-	07	
AASHTO SOIL	-	A-4 (0)	-	A-4 (0)	-	A-4 (1)	
UNIFIED SOIL	-	-	-	-	-	-	
% MOISTURE CONTENT	-	19.1	-	21.4	-	18.0	
ACHMSC	(IN)	-	3.0W	-	---	-	5.25W
ACHMBC	(IN)	-	---	-	---	-	2.25
SOIL CEMENT BASE	(IN)	-	6.0	-	---	-	7.0
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
	-	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 22
 JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
 FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
 PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
 SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
 SUPPLIER NAME - STATE DISTRICT NO. - 07
 NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
 SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
 SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20153663	20153664	20153665
SAMPLE ID	S620	S621	S622
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	545+00	545+00	554+00
LOCATION	15' LT	27' LT	15' RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	33 17 47.30	33 17 47.40	33 17 47.00
LONGITUDE DEG-MIN-SEC	93 15 18.70	93 15 18.70	93 15 8.20
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	100	-
3/8 IN.	100	98	100
NO. 4	99	96	99
NO. 10	98	92	99
NO. 40	95	70	98
NO. 80	77	64	85
NO. 200	55	53	60
LIQUID LIMIT	20	24	22
PLASTICITY INDEX	4	8	7
AASHTO SOIL	A-4 (0)	A-4 (1)	A-4 (1)
UNIFIED SOIL			
% MOISTURE CONTENT	18.7	16.1	19.1
ACHMSC (IN)	5.5W	---	4.5W
ACHMBC (IN)	---	---	2.25W
SOIL CEMENT BASE (IN)	7.0	---	4.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/09/15 SEQUENCE NO. - 23
JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
SUPPLIER NAME - STATE DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153666	-	20153667	-	20153668
SAMPLE ID	-	S623	-	S624	-	S625
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	554+00	-	554+00	-	568+00
LOCATION	-	24' RT	-	45' RT	-	06' LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	33 17 46.90	-	33 17 46.70	-	33 17 48.20
LONGITUDE DEG-MIN-SEC	-	93 15 8.10	-	93 15 8.10	-	93 14 51.70
% PASSING						
2 IN.	-	-	-	-	-	-
1 1/2 IN.	-	-	-	-	-	-
3/4 IN.	-	-	-	-	-	-
3/8 IN.	-	100	-	100	-	-
NO. 4	-	99	-	99	-	100
NO. 10	-	99	-	98	-	99
NO. 40	-	96	-	96	-	97
NO. 80	-	82	-	88	-	77
NO. 200	-	15	-	69	-	52
LIQUID LIMIT	-	19	-	27	-	18
PLASTICITY INDEX	-	4	-	12	-	4
AASHTO SOIL	-	A-4 (1)	-	A-6 (6)	-	A-4 (0)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	16.0	-	17.7	-	13.6
ACHMSC	(IN)	6.0W	-	---	-	5.5WX
ACHMBC	(IN)	2.25W	-	---	-	2.0
SOIL CEMENT BASE	(IN)	2.0	-	---	-	---
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/30/15 SEQUENCE NO. - 24
 JOB NUMBER - CA0705 MATERIAL CODE - SSRVPS
 FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2014
 PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
 SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 14
 SUPPLIER NAME - STATE DISTRICT NO. - 07
 NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - COLUMBIA, COUNTY DATE SAMPLED - 11/03/15
 SAMPLED BY - T.FRAZIER DATE RECEIVED - 11/05/15
 SAMPLE FROM - TEST HOLE DATE TESTED - 11/30/15
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20153669	-	20153670	-	20153671	
SAMPLE ID	-	S626	-	S627	-	S628	
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY	
STATION	-	568+00	-	568+00	-	576+00	
LOCATION	-	15' LT	-	27' LT	-	06' RT	
DEPTH IN FEET	-	0-5	-	0-5	-	0-5	
MAT'L COLOR	-	BROWN	-	BROWN	-	BR/GR	
MAT'L TYPE	-		-		-		
LATITUDE DEG-MIN-SEC	-	33 17 48.30	-	33 17 48.40	-	33 17 48.60	
LONGITUDE DEG-MIN-SEC	-	93 14 51.70	-	93 14 51.70	-	93 14 42.40	
% PASSING							
	2	IN.	-		-		
	1 1/2	IN.	-		-		
		3/4	IN.	-		100	
		3/8	IN.	-	100	98	
	NO. 4	-	99	-	99	97	
	NO. 10	-	98	-	99	96	
	NO. 40	-	95	-	98	93	
	NO. 80	-	77	-	82	78	
	NO. 200	-	56	-	59	57	
LIQUID LIMIT	-	17	-	17	-	18	
PLASTICITY INDEX	-	5	-	2	-	4	
AASHTO SOIL	-	A-4 (0)	-	A-4 (0)	-	A-4 (0)	
UNIFIED SOIL	-		-		-		
% MOISTURE CONTENT	-	11.9	-	12.1	-	15.2	
ACHMSC	(IN)	-	1.5	-	---	-	4.5W
ACHMBC	(IN)	-	---	-	---	-	2.5
SOIL CEMENT BASE	(IN)	-	7.0	-	---	-	7.0
CHIP SEAL	(IN)	-	1.0	-	---	-	---

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 25
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)			
PROJECT ENGINEER - NOT APPLICABLE			
PIT/QUARRY - ARKANSAS			
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS			

LAB NUMBER	- 20153672	- 20153673	- 20153674
SAMPLE ID	- S629	- S630	- S631
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 576+00	- 576+00	- 592+00
LOCATION	- 15' RT	- 30' RT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 48.50	- 33 17 48.40	- 33 17 49.80
LONGITUDE DEG-MIN-SEC	- 93 14 42.40	- 93 14 42.40	- 93 14 23.70
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	100	-
	3/8 IN. - 100	93	-
	NO. 4 - 98	87	100
	NO. 10 - 98	83	99
	NO. 40 - 95	80	97
	NO. 80 - 61	63	67
	NO. 200 - 44	47	45
LIQUID LIMIT	- 31	- 18	- 26
PLASTICITY INDEX	- 17	- 3	- 13
AASHTO SOIL	- A-6(3)	- A-4(0)	- A-6(2)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 15.4	- 18.3	- 15.5
ACHMSC (IN)	- 3.0W	- ---	- 4.0W
ACHMBC (IN)	- ---	- ---	- 2.0
SOIL CEMENT BASE (IN)	- 7.0	- ---	- 6.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/09/15	SEQUENCE NO. - 26
JOB NUMBER - CA0705	MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED	SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE	SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK	COUNTY/STATE - 14
SUPPLIER NAME - STATE	DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)	
PROJECT ENGINEER - NOT APPLICABLE	
PIT/QUARRY - ARKANSAS	
LOCATION - COLUMBIA, COUNTY	DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER	DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE	DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS	

LAB NUMBER	-	20153675	-	20153676	-	20153677
SAMPLE ID	-	S632	-	S633	-	S634
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	592+00	-	592+00	-	600+00
LOCATION	-	15' RT	-	27' RT	-	18' LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	RD/BR	-	RD/BR	-	RD/BR
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	33 17 49.70	-	33 17 49.60	-	33 17 50.60
LONGITUDE DEG-MIN-SEC	-	93 14 23.70	-	93 14 23.60	-	93 14 14.20
% PASSING						
	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-		-	
	3/8	IN.	-		-	
	NO. 4	-		100	-	100
	NO. 10	-		99	-	98
	NO. 40	-		97	-	93
	NO. 80	-		83	-	46
	NO. 200	-		60	-	29
LIQUID LIMIT	-	27	-	20	-	28
PLASTICITY INDEX	-	14	-	7	-	13
AASHTO SOIL	-	A-6(2)	-	A-4(1)	-	A-2-6(0)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	17.7	-	20.2	-	19.9
ACHMSC	(IN)	-		2.5W	-	3.0W
ACHMBC	(IN)	-		---	-	1.5
SOIL CEMENT BASE	(IN)	-		6.0	-	7.0
		-			-	
		-			-	
		-			-	
		-			-	
		-			-	
		-			-	
		-			-	
		-			-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY.
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 12/09/15	SEQUENCE NO. - 27
JOB NUMBER - CA0705	MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED	SPEC. YEAR - 2014
PURPOSE - SOIL SURVEY SAMPLE	SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK	COUNTY/STATE - 14
SUPPLIER NAME - STATE	DISTRICT NO. - 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)	
PROJECT ENGINEER - NOT APPLICABLE	
PIT/QUARRY - ARKANSAS	
LOCATION - COLUMBIA, COUNTY	DATE SAMPLED - 11/03/15
SAMPLED BY - T.FRAZIER	DATE RECEIVED - 11/05/15
SAMPLE FROM - TEST HOLE	DATE TESTED - 11/30/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS	

LAB NUMBER	- 20153678	- 20153679	- 20153680	
SAMPLE ID	- S635	- S636	- S637	
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY	
STATION	- 600+00	- 600+00	- 610+00	
LOCATION	- 27' LT	- 33' LT	- 06' RT	
DEPTH IN FEET	- 0-5	- 0-5	- 0-5	
MAT'L COLOR	- RD/BR	- RD/BR	- RD/BR	
MAT'L TYPE	-	-	-	
LATITUDE DEG-MIN-SEC	- 33 17 50.70	- 33 17 50.70	- 33 17 51.00	
LONGITUDE DEG-MIN-SEC	- 93 14 14.30	- 93 14 14.20	- 93 14 2.50	
% PASSING				
	2 IN. -	-	-	
	1 1/2 IN. -	-	-	
	3/4 IN. -	-	-	
	3/8 IN. - 100	-	-	
	NO. 4 - 99	- 100	- 100	
	NO. 10 - 98	- 99	- 99	
	NO. 40 - 92	- 92	- 91	
	NO. 80 - 47	- 46	- 55	
	NO. 200 - 35	- 35	- 41	
LIQUID LIMIT	- 30	- 31	- 39	
PLASTICITY INDEX	- 17	- 15	- 25	
AASHTO SOIL	- A-2-6(1)	- A-2-6(1)	- A-6(5)	
UNIFIED SOIL	-	-	-	
% MOISTURE CONTENT	- 18.5	- 18.0	- 19.2	
ACHMSC (IN)	- 2.0	- ---	- 3.25W	
ACHMBC (IN)	- ---	- ---	- 2.0	
SOIL CEMENT BASE (IN)	- 7.0	- ---	- 7.0	
	-	-	-	
	-	-	-	
	-	-	-	
	-	-	-	
	-	-	-	
	-	-	-	
	-	-	-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY.
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 28
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/30/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153681	- 20153682	- 20153683
SAMPLE ID	- S638	- S639	- S640
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 610+00	- 610+00	- 616+00
LOCATION	- 15' RT	- 27' RT	- 06' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- RD/BR	- RD/BR	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 51.00	- 33 17 50.80	- 33 17 51.60
LONGITUDE DEG-MIN-SEC	- 93 14 2.50	- 93 14 2.50	- 93 13 55.40
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	-	-
	3/8 IN. - 99	-	-
	NO. 4 - 99	- 100	- 100
	NO. 10 - 98	- 99	- 99
	NO. 40 - 92	- 97	- 99
	NO. 80 - 66	- 95	- 97
	NO. 200 - 46	- 75	- 78
		- 51	- 54
LIQUID LIMIT	- 25	- 25	- 26
PLASTICITY INDEX	- 9	- 13	- 13
AASHTO SOIL	- A-4 (1)	- A-6 (3)	- A-6 (4)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 17.5	- 16.9	- 23.2
ACHMSC	(IN) - 2.5	- ---	- 3.75W
ACHMBC	(IN) - ---	- ---	- 2.5
SOIL CEMENT BASE	(IN) - 6.0	- ---	- 7.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 29
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153684	- 20153685	- 20153686
SAMPLE ID	- S641	- S642	- S643
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 616+00	- 616+00	- 624+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- RD/BR	- RD/BR	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 51.70	- 33 17 51.80	- 33 17 52.00
LONGITUDE DEG-MIN-SEC	- 93 13 55.40	- 93 13 55.40	- 93 13 46.00
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	-	-
	3/8 IN. - 99	100	-
	NO. 4 - 98	97	100
	NO. 10 - 98	95	99
	NO. 40 - 95	92	98
	NO. 80 - 76	69	84
	NO. 200 - 53	50	65
LIQUID LIMIT	- 24	- 24	- 24
PLASTICITY INDEX	- 9	- 11	- 11
AASHTO SOIL	- A-4 (6)	- A-6 (2)	- A-6 (4)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 16.5	- 18.8	- 19.9
ACHMSC (IN)	- 3.0W	- ---	- 4.0W
ACHMBC (IN)	- ---	- ---	- 2.75
SOIL CEMENT BASE (IN)	- 7.0	- ---	- 8.25
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM EXISTING CENTERLINE OF HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 30
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)			
PROJECT ENGINEER - NOT APPLICABLE			
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS			

LAB NUMBER	20153687	20153688	20153689
SAMPLE ID	S644	S645	S646
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	624+00	624+00	632+00
LOCATION	15' RT	27' RT	06' LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	RD/BR	RD/BR	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	33 17 51.90	33 17 51.90	33 17 52.70
LONGITUDE DEG-MIN-SEC	93 13 46.00	93 13 46.00	93 13 36.60
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	- 100	- 100	- 100
NO. 4	- 99	- 99	- 99
NO. 10	- 99	- 99	- 99
NO. 40	- 97	- 97	- 98
NO. 80	- 84	- 78	- 90
NO. 200	- 68	- 57	- 69
LIQUID LIMIT	- 24	- 20	- 20
PLASTICITY INDEX	- 9	- 5	- 6
AASHTO SOIL	- A-4 (3)	- A-4 (0)	- A-4 (1)
UNIFIED SOIL			
% MOISTURE CONTENT	- 16.9	- 17.2	- 17.7
ACHMSC (IN)	- 3.0W	- ---	- 5.5WX
ACHMBC (IN)	- ---	- ---	- 4.5
SOIL CEMENT BASE (IN)	- 7.0	- ---	- ---
SAND (IN)	- ---	- ---	- 5.0
-			
-			
-			
-			
-			
-			

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 31
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153690	- 20153691	- 20153692
SAMPLE ID	- S647	- S648	- S649
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 632+00	- 632+00	- 640+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 52.80	- 33 17 52.90	- 33 17 52.30
LONGITUDE DEG-MIN-SEC	- 93 13 36.70	- 93 13 36.60	- 93 13 27.20
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	- 100	-	-
3/8 IN.	- 95	- 100	- 100
NO. 4	- 93	- 99	- 99
NO. 10	- 92	- 99	- 99
NO. 40	- 90	- 99	- 97
NO. 80	- 84	- 92	- 90
NO. 200	- 68	- 74	- 59
LIQUID LIMIT	- 21	- 21	- 23
PLASTICITY INDEX	- 07	- 06	- 08
AASHTO SOIL	- A-4 (2)	- A-4 (2)	- A-4 (2)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 16.3	- 14.1	- 18.1
ACHMSC (IN)	- 3.0W	- ---	- 4.5W
ACHMBC (IN)	- ---	- ---	- 4.5W
SAND (IN)	- 7.0	- ---	- ---
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 32
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153693	- 20153694	- 20153695
SAMPLE ID	- S650	- S651	- S652
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 640+00	- 640+00	- 648+00
LOCATION	- 15' RT	- 27' RT	- 06' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 52.30	- 33 17 52.20	- 33 17 51.20
LONGITUDE DEG-MIN-SEC	- 93 13 27.20	- 93 13 27.20	- 93 13 17.80
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	- 100	- 100	- 100
NO. 4	- 99	- 99	- 99
NO. 10	- 98	- 98	- 99
NO. 40	- 97	- 92	- 98
NO. 80	- 90	- 93	- 81
NO. 200	- 62	- 46	- 59
LIQUID LIMIT	- 24	- 23	- 16
PLASTICITY INDEX	- 09	- 06	- 03
AASHTO SOIL	- A-4 (3)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 21.1	- 17.3	- 11.0
ACHMSC (IN)	- 3.5W	- ---	- 5.0W
ACHMBC (IN)	- ---	- ---	- 2.25
SAND (IN)	- 4.0	- ---	- 4.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
 - ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/09/15	SEQUENCE NO.	- 33
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153696	- 20153697	- 20153698
SAMPLE ID	- S653	- S654	- S655
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 648+00	- 648+00	- 656+00
LOCATION	- 15' LT	- 27' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BR/GR	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 51.40	- 33 17 51.50	- 33 17 49.80
LONGITUDE DEG-MIN-SEC	- 93 13 17.80	- 93 13 17.80	- 93 13 8.70
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	-	- 100
	NO. 4 - 99	- 100	- 99
	NO. 10 - 98	- 99	- 99
	NO. 40 - 97	- 98	- 98
	NO. 80 - 77	- 77	- 88
	NO. 200 - 54	- 53	- 60
LIQUID LIMIT	- 16	- ND	- 17
PLASTICITY INDEX	- 03	- NP	- 02
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 14.1	- 11.8	- 15.0
ACHMSC (IN)	- 3.25W	- ---	- 5.5W
ACHMBC (IN)	- ---	- ---	- 2.0
SAND (IN)	- 6.0	- ---	- 6.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 34
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/01/15
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153699	- 20153700	- 20153701
SAMPLE ID	- S656	- S657	- S658
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 656+00	- 656+00	- 664+00
LOCATION	- 15' RT	- 27' RT	- 06' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BROWN	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 49.80	- 33 17 49.70	- 33 17 48.60
LONGITUDE DEG-MIN-SEC	- 93 13 8.60	- 93 13 8.60	- 93 12 59.20
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	-
	NO. 4 - 99	- 99	- 100
	NO. 10 - 95	- 97	- 99
	NO. 40 - 94	- 96	- 98
	NO. 80 - 86	- 86	- 86
	NO. 200 - 53	- 55	- 58
LIQUID LIMIT	- ND	- ND	- 19
PLASTICITY INDEX	- NP	- NP	- 04
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 14.3	- 16.6	- 14.2
ACHMSC	(IN) - 3.0W	- ---	- 6.0W
ACHMBC	(IN) - 6.0	- ---	- 1.5
SAND	(IN) - ---	- ---	- 4.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/01/15	SEQUENCE NO.	- 35
JOB NUMBER	- CA0705	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	-
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	-
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20153702	- 20153703	-
SAMPLE ID	- S659	- S660	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	-
STATION	- 664+00	- 664+00	-
LOCATION	- 15' LT	- 27' LT	-
DEPTH IN FEET	- 0-5	- 0-5	-
MAT'L COLOR	- BR/GR	- BROWN	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 17 48.80	- 33 17 48.90	-
LONGITUDE DEG-MIN-SEC	- 93 12 59.30	- 93 12 59.20	-
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	- 100	-
	3/8 IN. - 100	- 99	-
	NO. 4 - 99	- 97	-
	NO. 10 - 99	- 95	-
	NO. 40 - 98	- 93	-
	NO. 80 - 88	- 84	-
	NO. 200 - 60	- 63	-
LIQUID LIMIT	- 17	- 17	-
PLASTICITY INDEX	- 04	- 04	-
AASHTO SOIL	- A-4 (0)	- A-4 (0)	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 15.8	- 15.0	-
ACHMSC	(IN) - 3.75W	- ---	-
SAND	(IN) - 4.0	- ---	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED
- ALL LOCATIONS MEASURED FROM CENTERLINE OF EXISTING HIGHWAY

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
 MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/07/15	SEQUENCE NO.	- 1
JOB NUMBER	- CA0705	MATERIAL CODE	- RV
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/04/15
MATERIAL DESC.	- SOIL SURVEY - RESISTANCE R-VALUE	ACTUAL RESULTS	

LAB NUMBER	- 20153704	- 20153705	- 20153706
SAMPLE ID	- RV661	- RV662	- RV663
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 379+00	- 462+00	- 610+00
LOCATION	- 27' LT	- 36' LT	- 27' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- RD/BR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 33 19 22.80	- 33 18 30.20	- 33 17 50.80
LONGITUDE DEG-MIN-SEC	- 93 17 54.30	- 93 16 38.80	- 93 14 2.50
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	100	-
3/8 IN.	- 100	95	100
NO. 4	- 97	93	96
NO. 10	- 96	91	95
NO. 40	- 95	89	93
NO. 80	- 92	83	74
NO. 200	- 77	68	52
LIQUID LIMIT	- 27	- 22	- 23
PLASTICITY INDEX	- 05	- 03	- 06
AASHTO SOIL	- A-4 (3)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-

REMARKS -

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 12/07/15	SEQUENCE NO.	- 2
JOB NUMBER	- CA0705	MATERIAL CODE	- RV
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 14
SUPPLIER NAME	- STATE	DISTRICT NO.	- 07
NAME OF PROJECT	- HWY.98 - HWY.79 (WIDENING) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- COLUMBIA, COUNTY	DATE SAMPLED	- 11/03/15
SAMPLED BY	- T.FRAZIER	DATE RECEIVED	- 11/05/15
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 12/04/15
MATERIAL DESC.	- SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS		

LAB NUMBER	-	20153707	-	-
SAMPLE ID	-	RV664	-	-
TEST STATUS	-	INFORMATION ONLY	-	-
STATION	-	656+00	-	-
LOCATION	-	27' RT	-	-
DEPTH IN FEET	-	0-5	-	-
MAT'L COLOR	-	BROWN	-	-
MAT'L TYPE	-		-	-
LATITUDE DEG-MIN-SEC	-	33 17 49.70	-	-
LONGITUDE DEG-MIN-SEC	-	93 13 8.60	-	-
% PASSING	2	IN.	-	-
	1 1/2	IN.	-	-
	3/4	IN.	- 100	-
	3/8	IN.	- 99	-
	NO. 4		- 97	-
	NO. 10		- 97	-
	NO. 40		- 96	-
	NO. 80		- 89	-
	NO. 200		- 62	-
LIQUID LIMIT	-	ND	-	-
PLASTICITY INDEX	-	NP	-	-
AASHTO SOIL	-	A-4 (0)	-	-
UNIFIED SOIL	-		-	-
% MOISTURE CONTENT	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-
	-		-	-

REMARKS -
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