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.

D_{50} AGGREGATE ANALYSIS FOR SCOUR CALCULATIONS

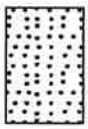
Job No. CA0705					
Creek Name	**Station**	**Sample Type**	**Location**	**Depth (FT)**	**Aggregate Size (D50) (IN)**
Big Creek	491+31	Creek Bank	53' Rt. of Construction C.L.	N/A	0.0035

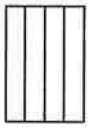
LEGEND

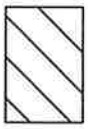
SOIL TYPES

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


GRAVEL


SAND

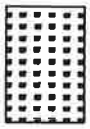

SILT

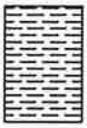

CLAY

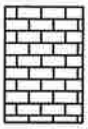

ORGANIC MATTER

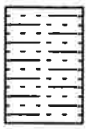
ROCK TYPES

(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" Value	Density	"N" Value	Consistency	"N" Value	Consistency	"N" Value	Consistency
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft		
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	Over 60	
31-50	Dense	9-15	Stiff	9-15	Stiff	More than 2"	
Over 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetration	
		31-60	Hard	31-60	Hard	in 60 Blows:	Medium Hard
		Over 60	Very Hard	Over 60	Very Hard	Less than 2"	
						Penetration	
						in 60 Blows:	Hard

1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
3. Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value (N_f) can be obtained by adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9=17 blows/ft$. The "N" Value corrected to 60% efficiency (N_{60}) can be obtained by multiplying N_f by the hammer correction factor published on the boring log.

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

BORING NO. 1
PAGE 1 OF 3

JOB NO. 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.	% TCR	% RQD
			SURFACE ELEVATION: 261.2								
5			Moist, Medium Dense, Brown Sandy Silt with Some Organic Matter						11 9-10		
10			Moist, Stiff, Brown Sandy Clay						2 4-5		
15											
20			Wet, Loose, Brown Silty Sand						4 3-3		
25			Wet, Medium Dense, Brown Sand with Silt						4 8-13		
			Wet, Medium Dense, Gray Silty Sand with Some Gravel						3 7-7		
30									13 19-18		
35			Moist, Hard, Gray Sandy Clay								

REMARKS:

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

BORING NO. 1
PAGE 2 OF 3

JOB NO. CA0705 Columbia County
JOB NAME: Hwy. 98 - Hwy. 79 (Widening)(S)
Route 82 Section 3
STATION: 489+33
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DATE: October 25 and 26, 2016
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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.	% TCR	% RQD
			SURFACE ELEVATION: 261.2								
									4 15-22		
40									10 17-23		
			Cemented Sand (41.5'-42.1')								
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									22 41-60		
65			Moist, Very Hard, Gray Sandy Clay						13 23-29		
70			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
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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.	% TCR	% RQD
			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									21 28-60 (11")		
100			Moist, Very Dense, Gray Silty Sand						31 60 (5")		
105			Boring Terminated						23 60 (5")		

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 SURFACE ELEVATION: 256.8	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5		X	Wet, Loose, Light Brown Sand with Clay and Some Organic Matter						4 3-3		
10		X	Wet, Loose, Light Brown Silty Sand*						2 3-4		
15		X	Wet, Medium Dense, Brown Silty Sand with Trace Organic (Wood)						0 4-8		
20		X	Wet, Medium Dense, Brown Sand with Silt and Some Gravel						4 8-8		
25		X	Moist, Hard, Sandy Clay with Cemented Layers						5 13-18		
30		X	Moist, Medium Dense, Gray Clayey Sand						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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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.	% TCR	% RQD
			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
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BORING NO. 2
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JOB NO. CA0705 Columbia County
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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 SURFACE ELEVATION: 256.8	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
75			Moist, Hard, Gray Sandy Clay						14 25-35 18 27-32		
			Cemented Sand (78.0'-78.4')								
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									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.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 256.1	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5			Moist, Loose, Light Brown Sand with Clay						1 2-4		
10			Wet, Loose, Light Brown Silty Sand						2 3-2		
15											
20			Wet, Medium Dense, Brown Sand with Some Organic (Wood)						5 6-7		
			Wet, Medium Dense, Brown Sand with Some Gravel						3 3-8		
25			Moist, Stiff, Gray Sandy Clay								
30			Moist, Very Stiff, Gray Sandy Clay						6 11-16		
35			Moist, Hard, Gray Sandy Clay						7 15-20		

REMARKS:

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

BORING NO. 3
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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.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 256.1	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			Moist, Hard, Gray Clay with Sand						6 13-18		
			Cemented Sand (38.4'-39.1')								
40			Moist, Hard, Gray Clay with Sand						13 19-24		
45			Moist, Very Dense, Gray Sandy Silt with Trace Lignite						10 25-50		
50			Moist, Dense, Gray Sandy Silt						11 18-25		
55			Moist, Very Dense, Gray Sandy Silt						19 21-56		
60			Moist, Hard, Gray Clay with Some Sand						13 18-27		
65			Moist, Dense, Gray Silt						13 17-30		
70											

REMARKS:

ARKANSAS HWY. & TRANS. DEPARTMENT
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JOB NO. CA0705 Columbia County
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EQUIPMENT: CME 750

HAMMER CORRECTION FACTOR: 1.23

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 256.1	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
75			Moist, Hard, Gray Sandy Clay						13 25-28		
80			Moist, Hard, Gray Clay with Sand						20 25-30		
85			Moist, Hard, Gray Sandy Clay						16 20-25		
90			No Sample - Driller Error								
95			Moist, Very Dense, Gray Silty Sand						30 60 (5")		
100									14 40-60 (10")		
105			Boring Terminated						14 20-31		

REMARKS:

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

BORING NO. 4
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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.	% TCR	% RQD
			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									
20		X	Wet, Medium Dense, Brown Sand with Trace Gravel						2 8-8		
25		X	Moist, Very Stiff, Gray Sandy Clay						6 9-13		
30		X	Moist, Dense, Gray Clayey Sand with Gravel						8 16-22		
35		X	Moist, Dense, Gray Sand with Clay						8 17-22		

REMARKS:

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

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

REMARKS:

ARKANSAS HWY. & TRANS. DEPARTMENT
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JOB NO. CA0705 Columbia County
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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.	% TCR	% RQD
			SURFACE ELEVATION: 257.0								
75			Moist, Hard, Gray Silty Clay						14 23-37 16 28-32		
80			Moist, Hard, Silty Clay with Trace Lignite						13 22-28		
85			Moist, Hard, Gray Silty Clay						16 22-32		
90			Moist, Very Dense, Gray Silty Sand						18 44-60 (8")		
95			Moist, Very Dense, Gray Silty Sand with Some Lignite						12 23-59		
100									17 40-30		
105			Boring Terminated								

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.	% TCR	% RQD
			SURFACE ELEVATION: 266.2								
5		X	Moist, Dense, Gray Silty Sand						9 19-16		
10		X	Wet, Soft, Gray Clay with Sand and Some Organic Matter (Wood)						0 1-2		
15		X									
20		X	Wet, Loose, Gray Silty Sand						2 2-6		
25		X	Wet, Medium Dense, Light Brown Sand						7 6-6		
30		X	Wet, Loose, Gray Sand						2 4-5		
35		X	Wet, Medium Dense, Brown Clayey Sand						6 10-15		

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.	% TCR	% RQD
			SURFACE ELEVATION: 266.2								
40			Moist, Very Stiff to Hard, Brown and Gray Sandy Clay						8 10-16 7 12-17		
45									9 16-22		
50			Moist, Hard, Dark Brown Silty Clay						11 17-22		
			Cemented Sand (52.5'-53.3')								
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.	% TCR	% RQD
			SURFACE ELEVATION: 266.2								
75			Moist, Very Hard, Dark Brown and Gray Silty Clay						18 32-60		
80			Moist, Hard, Dark Brown Clay						15 17-26		
85			Moist, Very Dense, Gray Silt						22 50-60 (11")		
90			Moist, Hard, Brown and Gray Silty Clay						18 25-32		
95									18 23-29		
100			Moist, Very Dense, Gray Sandy Silt						16 22-30		
			Moist, Hard, Dark Gray Clay						14 22-33		
105			Boring Terminated								

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

Type	Asphalt Cement %	Mineral Aggregate %
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
JOB NUMBER - CA0705

SEQUENCE NO. - 1
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'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

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*
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	22.5	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 GREG 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.:**	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:**	

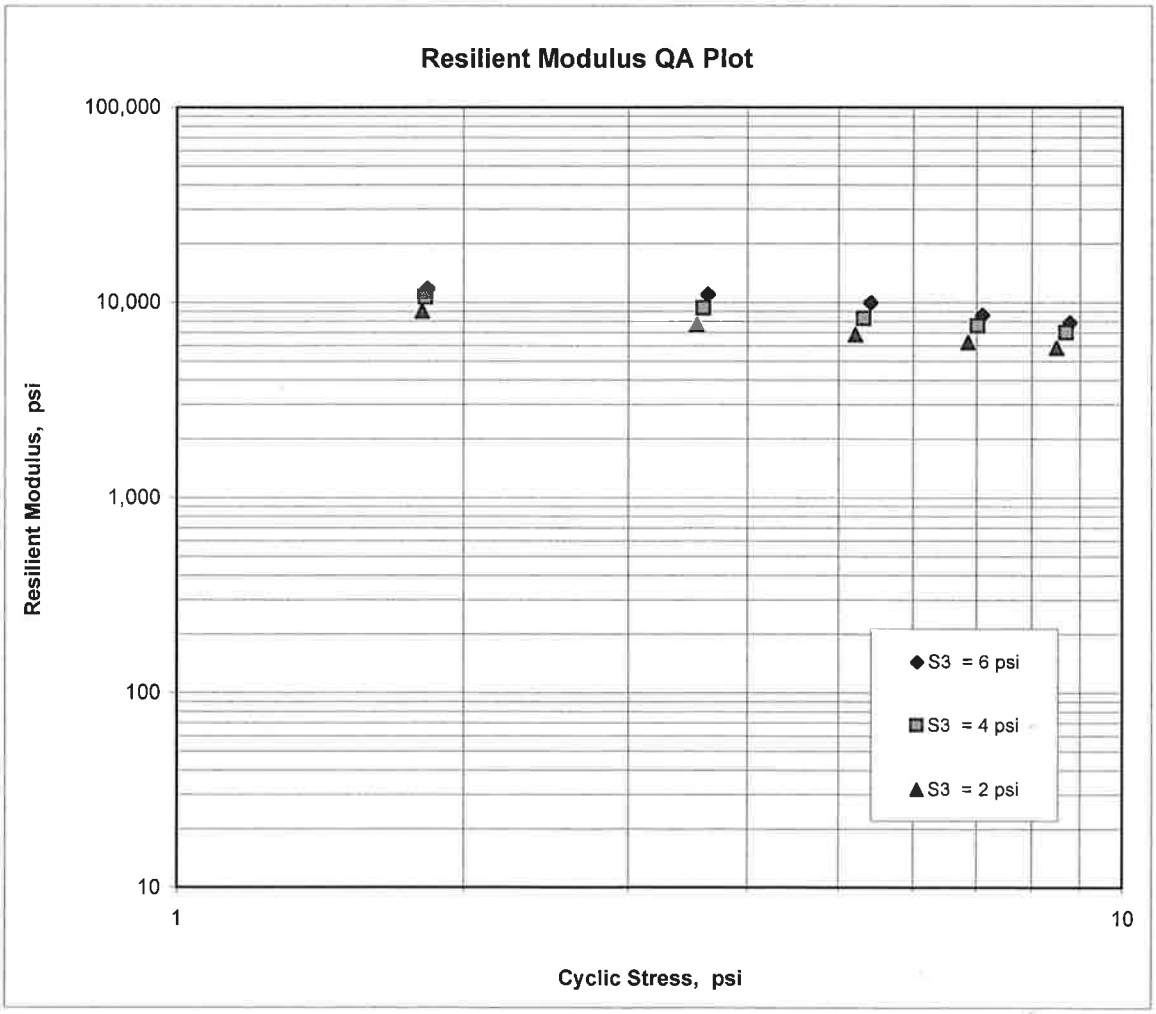
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 8,509

K2 = -0.26592

K5 = 0.29991

R^2 = 0.97



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

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(Sc)^-0.22780(S3)^0.40493

8. Comments

9. Tested By: DEB **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.:**	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:**	

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 DEB 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:**	

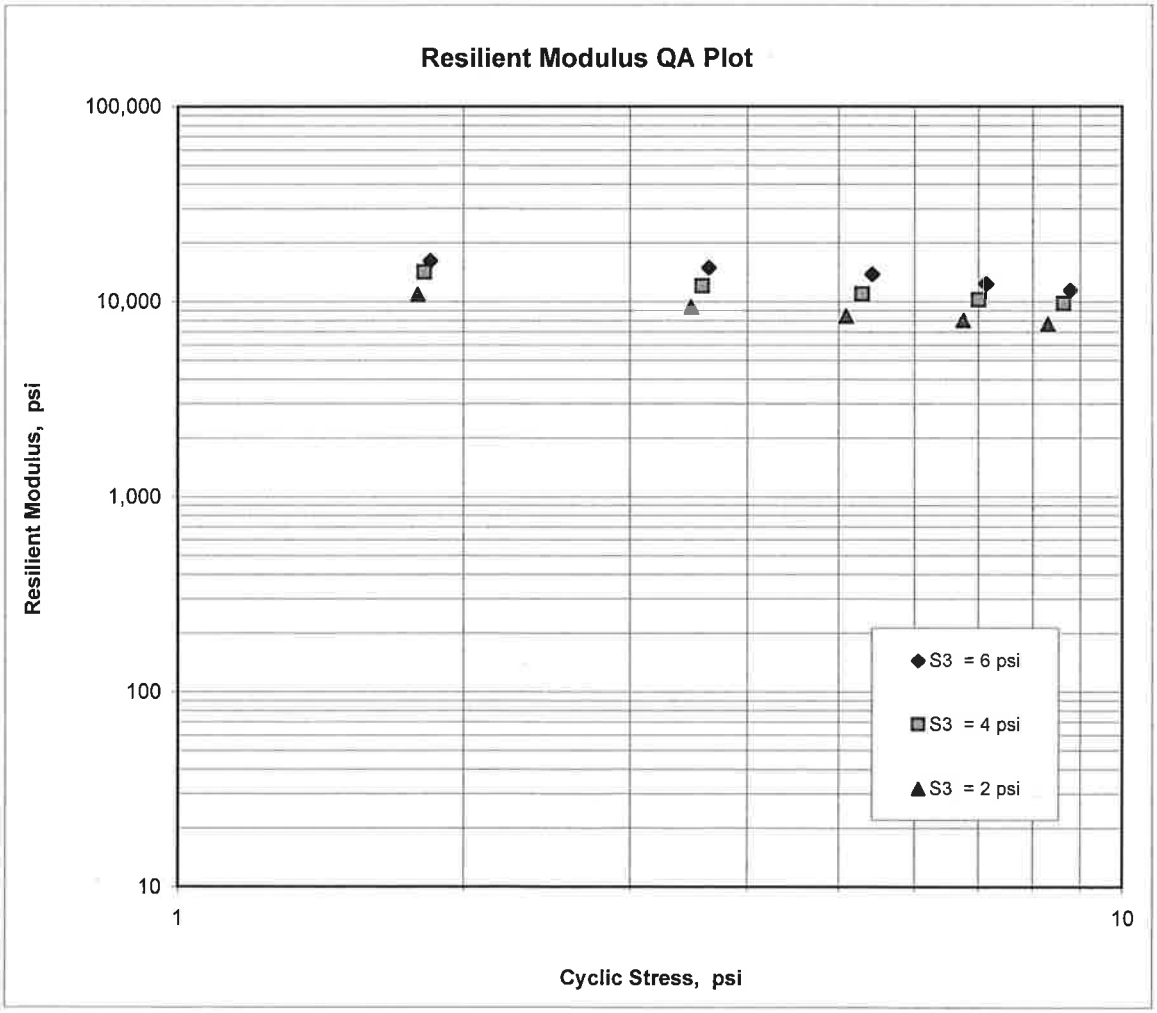
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 9,313

K2 = -0.22780

K5 = 0.40493

R^2 = 0.99



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)		
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

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)		
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:**	

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	25.0	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 GREG DATE December 3, 2015

REVIEWED BY _____ DATE _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

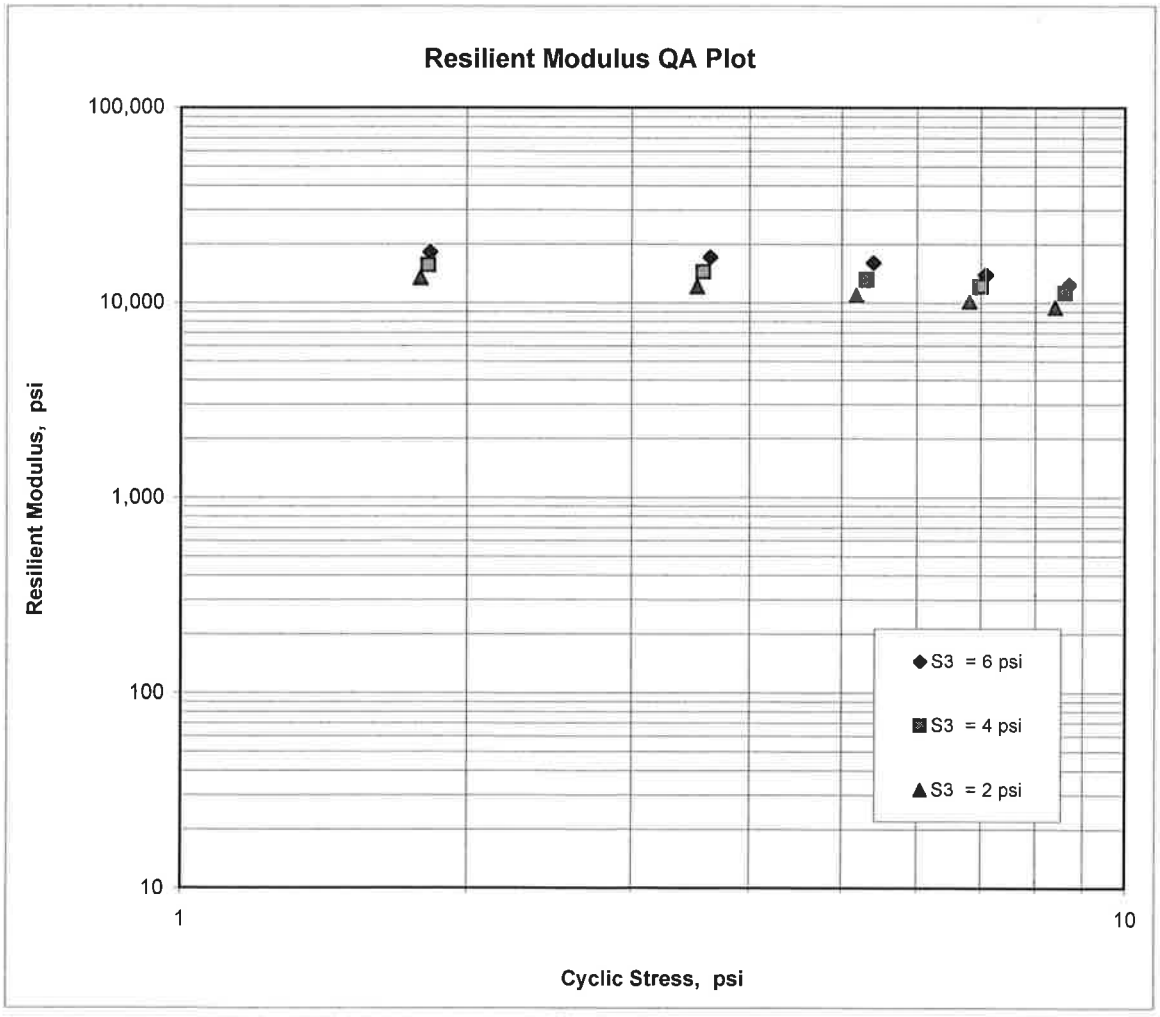
MATERIALS DIVISION

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.:**	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:**	

$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 =	12,524
K2 =	-0.22047
K5 =	0.29768
R^2 =	0.95



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	**Depth:**	0-5'
Lab No.:	20153704	**AASHTO Class:**	A-4(0)
Sample ID:	RV664	**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	3.98
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

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	**Depth:**	0-5'
Lab No.:	20153704	**AASHTO 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*
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	25.1	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

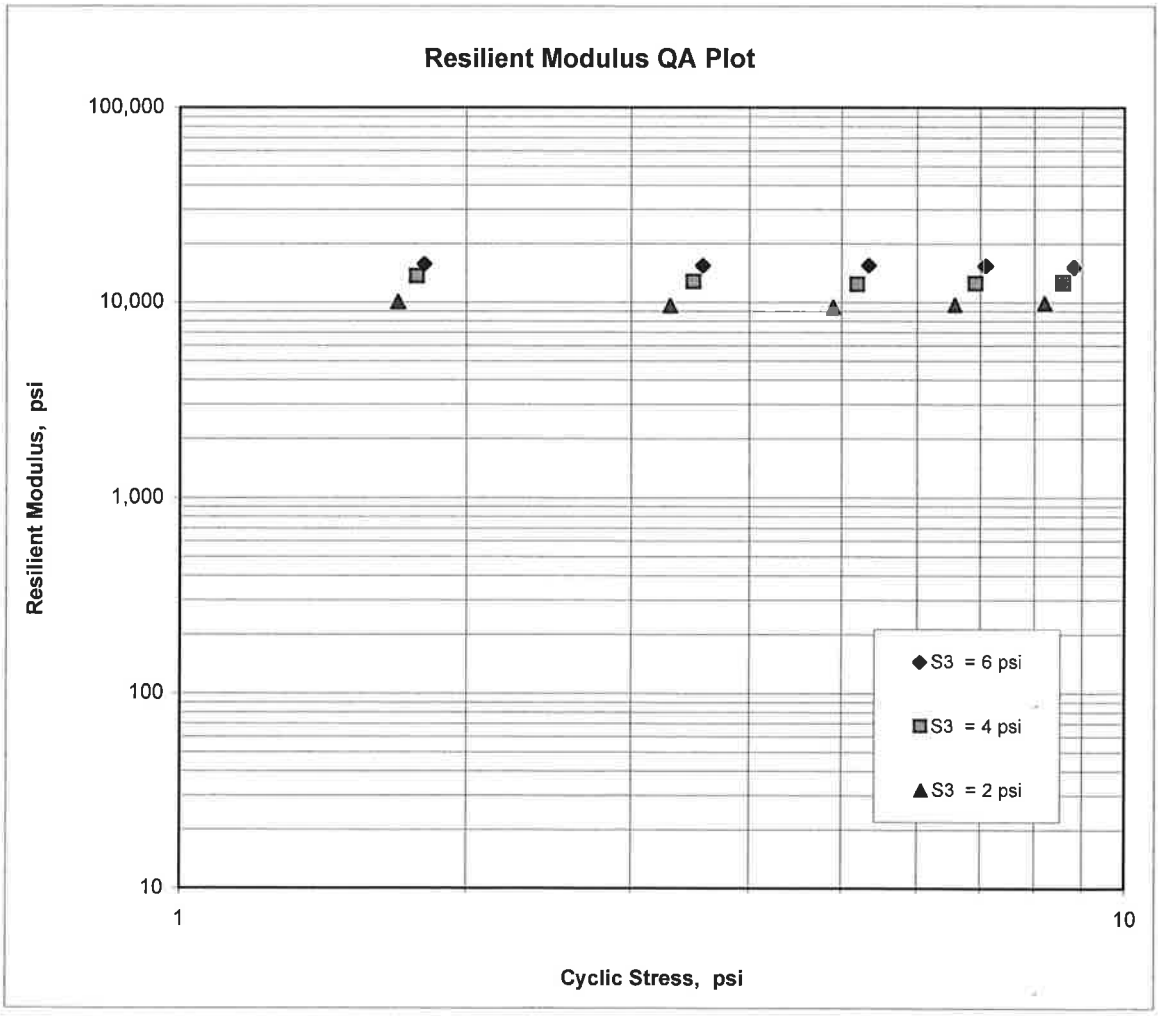
MATERIALS DIVISION

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:**	

$$M_R = K1\,(S_C)^{K2}\,(S_3)^{K5}$$

K1 =	7,568
K2 =	-0.02744
K5 =	0.41595
R^2 =	0.99



JOB: CA0705
JOB NAME: HWY.98 - HWY.79 (WIDENING) (S)

COUNTY NO. 14

Arkansas State Highway Transporation Department
Materials Division
Michael Benson, Materials Engineer

DATE TESTED
11/30/2015

STA.# LOC.

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	SAND
		5.5W	---	**6.0**	---
406+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	SAND
		3.75W	---	**6.0**	---
414+00	21' LT	ACHMSC	ASHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		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	SAND
		4.5W	**10.5W**	---	**6.0**

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

Wednesday, December 09, 2015

STA.#	LOC.	PAVEMENT SOUNDINGS			
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	AGG. BASE CRS. CL5
		2.0	---	---	**12.0**
430+00	36' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		---	---	---	---
438+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		3.5W	**8.0W**	**6.0**	---
438+00	15' RT	ACHMSC	ACHMBC	CHIP SEAL	SOIL CEMENT BASE
		2.25	**7.5**	**0.25**	**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	SOIL CEMENT BASE
		6.0W	**9.25W**	---	---
446+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		2.25	---	---	**11.0**
454+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		2.5W	**1.5W**	**4.0**	---
454+00	15' RT	ACHMSC	ACHMBC	CHIP SEAL	SOIL CEMENT BASE
		1.5X	**6.5WX**	**1.5X**	**6.0**
454+00	24' RT	ACHMSC	ACHMBC	CHIP SEAL	SOIL CEMENT BASE
		---	---	---	---
462+00	18' LT	ACHMSC	ACHMBC	CHIP SEAL	SOIL CEMENT BASE
		6.0W	**10.0W**	---	---
462+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		2.25	---	---	**8.0**
462+00	36' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		---	---	---	---
470+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	AGG. BASE CRS. CL5
		2.5	**12.0W**	**6.0**	---

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

STA.#	LOC.	PAVEMENT SOUNDINGS		
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	
		3.25W	**2.25**	**7.0**	
528+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		3.0	---	**7.0**	
528+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	
538+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		4.5W	**4.0W**	**6.0**	
538+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		3.0W	---	**6.0**	
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	
		5.25W	**2.25**	**7.0**	
545+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		5.5W	---	**7.0**	
554+00	45' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	
554+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		4.5W	**2.25W**	**4.0**	
554+00	24' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		6.0W	**2.25W**	**2.0**	
568+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		5.5WX	**2.0**	---	
568+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	CHIP SEAL
		1.5	---	**7.0**	**1.0**
568+00	27' LT	ACHMSC	ACHMBC	SOIL CEMENT BASE	CHIP SEAL
		---	---	---	---
576+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	CHIP SEAL
		4.5W	**2.5**	**7.0**	---
576+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		3.0W	---	**7.0**	
576+00	30' RT	ACHMSC	ACHMBC	SOIL CEMENT BASE	
		---	---	---	

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

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

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

STA.#	LOC.	PAVEMENT SOUNDINGS		
640+00	27' RT	ACHMSC	ACHMBC	SAND
		---	---	---
640+00	06' RT	ACHMSC	ACHMBC	SAND
		4.5W	**4.5W**	---
648+00	06' LT	ACHMSC	ACHMBC	SAND
		5.0W	**2.25**	**4.0**
648+00	15' LT	ACHMSC	ACHMBC	SAND
		3.25W	---	**6.0**
648+00	27' LT	ACHMSC	ACHMBC	SAND
		---	---	---
656+00	06' RT	ACHMSC	ACHMBC	SAND
		5.5W	**2.0**	**6.0**
656+00	15' RT	ACHMSC	ACHMBC	SAND
		3.0W	**6.0**	---
656+00	27' RT	ACHMSC	ACHMBC	SAND
		---	---	---
664+00	27' LT	ACHMSC	SAND	
		---	---	
664+00	06' LT	ACHMSC	ACHMBC	SAND
		6.0W	**1.5**	**4.0**
664+00	15' LT	ACHMSC	SAND	
		3.75W	**4.0**	

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

JOB: CA0705

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

COUNTY NO. 14 **DATE TESTED** 12/4/2015

Arkansas State Highway Transporation Department

Materials Division

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E S					
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	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				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

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				SIEVE									
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.

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E S					
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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 2
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 3
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 4
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 5
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 6
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 7
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 8
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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	100
NO. 4	97	99	99
NO. 10	93	98	99
NO. 40	89	95	98
NO. 80	83	88	92
NO. 200	48	45	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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 9
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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.		100	100
NO. 4	100	99	98
NO. 10	99	99	96
NO. 40	98	98	94
NO. 80	90	94	84
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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 10
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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.	100	98	100
NO. 4	98	97	99
NO. 10	95	96	97
NO. 40	89	93	94
NO. 80	84	82	83
NO. 200	59	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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 11
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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.			100
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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

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

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 13
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 14
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 15
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 16
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 17
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 18
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 19
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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.		100	100
NO. 4	100	99	99
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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 20
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 21
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 22
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 23
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 24
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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	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=MULTPLE 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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 25
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 26
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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	100
NO. 10	99	99	98
NO. 40	97	97	93
NO. 80	69	83	46
NO. 200	44	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.

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO. - TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 27
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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.

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 28
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 11/30/15

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	100	100
NO. 4	99	99	99
NO. 10	98	97	99
NO. 40	92	95	97
NO. 80	66	75	78
NO. 200	46	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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 29
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 30
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 31
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 32
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/09/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 33
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 34
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/01/15

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

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 - 12/01/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 35
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07
DATE SAMPLED -
DATE RECEIVED - 11/05/15
DATE TESTED -

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

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 - 12/07/15
JOB NUMBER - CA0705
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY.98 - HWY.79 (WIDENING) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - COLUMBIA, COUNTY
SAMPLED BY - T.FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

SEQUENCE NO. - 1
MATERIAL CODE - RV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 14
DISTRICT NO. - 07

DATE SAMPLED - 11/03/15
DATE RECEIVED - 11/05/15
DATE TESTED - 12/04/15

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 -

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	- 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 -

AASHTO TESTS : T24 T88 T89 T90 T265