

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. 020543

FEDERAL AID PROJECT NO. NHPP-0002(31)

CO. RD. 411 – HWY. 425 (EAST OF CROSSETT) (S)

STATE HIGHWAY 82 SECTION 8

IN ASHLEY COUNTY

LETTING OF NOVEMBER 2, 2016

The information contained herein was obtained by the Department for design and estimating purposes only. It is being furnished with the express understanding that said information does not constitute a part of the Proposal or Contract and represents only the best knowledge of the Department as to the location, character and depth of the materials encountered. The information is only included and made available so that bidders may have access to subsurface information obtained by the Department and is not intended to be a substitute for personal investigation, interpretation and judgment of the bidder. The bidder should be cognizant of the possibility that conditions affecting the cost and/or quantities of work to be performed may differ from those indicated herein.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

October 7, 2013

TO: Mr. Carl Fuselier, Bridge Engineer

SUBJECT: Job No. 020534
Co. Rd. 411 – Hwy. 425 (East of Crossett) (S)
Route 82, Section 8
Ashley County

Transmitted herewith is a brief summary of the geology and site conditions, D50 analysis test results, along with the logs of the rotary wash borings conducted in the vicinity of the bridges and approaches of the above referenced job. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel to verify the field identification.

It is anticipated that the bridges over Hank's Creek, Middle Fork of the West Creek, and East Fork of the West Creek will be founded on concrete pile trestle bents.

Embankment analysis was performed independently for all three bridges, utilizing 2H:1V bridge end slopes. Seismic analysis included a coefficient of horizontal acceleration of 0.159 as provided by Bridge Design. This configuration provides for a satisfactory Factor of Safety for seismic and static conditions for all three bridges.



Michael C. Benson
Materials Engineer

MCB:rpt

Attachment

cc: State Construction Engineer – Master File Copy
District 2 Engineer
G. C. File

GEOLOGY AND SITE CONDITIONS

Job No. 020534

Co. Rd. 411 - Hwy. 425 (East of Crossett) (S)

Ashley County

Route 82 Section 8

Site Conditions

There are three bridge structures associated with this job. **Bridge 1**, the westernmost bridge, is a three span bridge over the Middle Fork of the West Creek. The existing bridge is constructed of concrete deck, concrete octagonal trestle pilings with concrete caps, and concrete end walls. The guardrail is composed of steel leading up to the bridge and aluminum on the bridge. Rock riprap and concrete has been placed on the abutment slopes. Overhead power lines parallel the bridge on the south. There is a buried telecom line that also parallels the south side of the roadway. County Road 255 intersects Hwy 82 to the west of the bridge on the south side of the roadway. The stream flows to the northwest. However, water in the channel appeared stagnate at the time of the subsurface investigation. Vegetation adjacent to the bridge consists of grasses. The area north and south of the bridge is moderately to heavily wooded.

Bridge 2 is a three span bridge over the East Fork of the West Creek. The existing bridge is constructed of concrete deck, concrete octagonal trestle pilings with concrete caps, and concrete end walls. The guardrail is composed of steel leading up to the bridge and aluminum on the bridge. Rock riprap and concrete has been placed on the abutment slopes. Overhead power lines parallel the bridge on the south. There is a buried telecom line that also parallels the south side of the roadway. The stream flows to the north. However, water in the channel appeared stagnate at the time of the subsurface investigation. Vegetation adjacent to the bridge consists of grasses. The area south of the bridge is moderately to heavily wooded; the area northeast of the bridge is moderately to heavily wooded; and, the area northwest of the bridge is wooded adjacent to the roadway and the channel with some pastureland beyond. A private residence is located a short distance northeast.

Bridge 3 is a five span bridge over Hank's Creek. The existing bridge is constructed of concrete deck, concrete octagonal trestle pilings with concrete caps, and concrete end walls. The guardrail is composed of steel leading up to the bridge and aluminum on the bridge. Overhead power lines parallel the bridge on the south. There is a buried telecom line that also parallels the south side of the roadway. The stream flows to the north. However, water in the channel appeared stagnate at the time of the subsurface investigation. Vegetation adjacent to the bridge consists of grasses. The area north and south of the bridge is moderately wooded.

Site Geology

The job site is located on alluvial deposits. Alluvial deposits at the job site are composed of sands and clays. The alluvial deposits at this location overlie deposits of the Prairie Terrace. The Prairie Terrace deposits were encountered in five of the six borings at a depth between 21.5 and 25 feet below ground level. However, one boring encountered the terrace deposits between 16.5 and 20 feet below ground level. The Prairie Terrace is composed of valley train deposits. A valley train is a gently sloping plain underlain by glacial outwash and confined by valley walls. These deposits are underlain by Paleogene age sediment.

The Paleogene deposits at the job site are composed primarily of unconsolidated, silty and fine sandy clays with some lignite. In borings 1 through 4, Paleogene deposits were encountered at depths ranging from below 81.5 feet to above 100 feet below ground level. The Paleogene deposits were not encountered in borings 5 and 6.

Subsurface Conditions

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

- 0 to 20 Feet: Consists of moist to wet, soft to very stiff, gray **clay with some organic matter to clay with sand** to moist, medium dense, brown and gray **silt with sand**.
- 20 to 35 Feet: Varies from moist to wet, stiff to very stiff, gray **clay with some organic matter** to medium dense, reddish brown silt with sand to medium dense to dense, brown sand.
- 35 to 85 Feet: Consists of wet, medium dense to very dense, brown **sand to sand with silt**. Some samples in this zone contained a trace to some gravel.
- 85 to 121.5 Feet: Varies from wet, loose to very dense, gray sand to sand with gravel to moist, dense, gray sandy silt to moist, stiff to hard, gray, sandy, silty clay. Most of the Paleogene deposits had some amount of lignite. A cemented layer, approximately one foot thick, was encountered in one boring in this zone.

**D₅₀ AGGREGATE ANALYSIS
FOR SCOUR CALCULATIONS**

Job No. 020534					
Creek Name	Station	Sample Type	Location	Depth (FT)	Aggregate Size (D50) (IN)
Middle Fork of West Creek	208+40	Surface Creek Bank	C.L. Construction	N/A	Less Than 0.0029
East Fork of West Creek	261+21	Surface Creek Bank	C.L. Construction	N/A	Less Than 0.0029
Hank's Creek	378+88	Surface Creek Bank	C.L. Construction	N/A	Less Than 0.0029

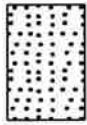
LEGEND

SOIL TYPES

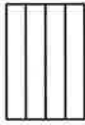
(SHOWN IN SYMBOL COLUMN)
(PREDOMINANT TYPE SHOWN HEAVY)



GRAVEL



SAND



SILT



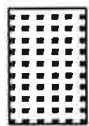
CLAY



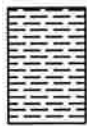
ORGANIC
MATTER

ROCK TYPES

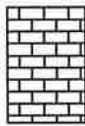
(SHOWN IN SYMBOL COLUMN)



SANDSTONE



SHALE
or
SILTSTONE



LIMESTONE
or
DOLOMITE



ALTERNATING
LAYERS of
SHALE and
SANDSTONE



OTHER

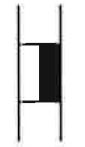
SAMPLER TYPES

(SHOWN IN SAMPLE COLUMN)

SHELBY TUBE



UNDISTURBED
SAMPLE
RECOVERY

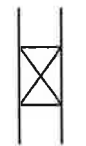


DISTURBED
SAMPLE
RECOVERY

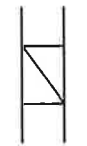


NO
RECOVERY

SPLIT SPOON

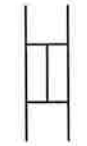


SAMPLE
RECOVERY



NO
RECOVERY

ROCK CORING



% RECOVERY
INDICATED ON LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

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

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

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value (N_f) can be obtained by

adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9 = 17 \text{ blows/ft}$. The "N" Value corrected to 60% efficiency (N_{60}) can be obtained by multiplying N_f by the hammer correction factor published on the boring log.

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

BORING NO. 1
PAGE 1 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 208+06
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: September 17-18, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
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.	% S C R	% R Q D
			SURFACE ELEVATION: 146.2									
5		X	Wet, Soft, Gray Clay with some Organic Matter							0 1-3		
10		X	Moist, Medium Stiff, Gray Clay with some Organic Matter							1 2-3		
15		X	Moist, Very Stiff, Gray and Brown Clay with some Organic Matter							6 9-9		
20		X	Moist, Very Stiff, Light Gray Clay with some Organic Matter							3 8-8		
25		X								7 11-13		
30		X	Wet, Medium Dense, Brown Sand							7 9-13		
35												

REMARKS: Hollow stem augers were utilized to a depth of 8.7'.

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

BORING NO. 1
PAGE 2 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 208+06
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: September 17-18, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
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.	% S C C R	% R O D
			SURFACE ELEVATION: 146.2									
40		X								7 12-15		
45		X	Wet, Dense, Brown Sand							9 14-18		
50		X	Wet, Medium Dense, Brown Sand							6 13-19		
55		X	Wet, Dense, Brown Sand							7 10-11		
60		X	Wet, Medium Dense, Brown Sand with Trace of Cemented Sand							7 14-30		
65		X	Wet, Very Dense, Brown and Gray Sand with Trace of Gravel							15 15-14		
70		X								16 27-26		

REMARKS: Hollow stem augers were utilized to a depth of 8.7'.

JOB NO. 020534 Ashley County JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett) U.S. 82 - STATION: 208+06 LOCATION: 3' Left of Center Line of Construction LOGGED BY: Paul Christenberry	DATE: September 17-18, 2013 TYPE OF DRILLING: Rotary Wash EQUIPMENT: CME 750 w/ CME Automatic Hammer HAMMER CORRECTION FACTOR: 1.23
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COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.2									
75		X	Wet, Very Dense, Gray Sand							18 26-37		
80		X	Wet, Dense, Gray Sand							11 15-26		
85		X	Wet, Very Dense, Gray Sand							10 20-38		
90		X	Moist, Hard, Gray and Brown Clay with Lignite							23 43-57		
95		X	Moist, Hard, Gray Sandy, Silty Clay with Trace of Lignite							11 16-21		
100		X	Moist, Hard, Gray Sandy, Silty Clay							12 20-24		
105			Boring Terminated							9 15-17		

REMARKS: Hollow stem augers were utilized to a depth of 8.7'.

ARKANSAS HWY. & TRANS. DEPARTMENT MATERIALS DIVISION - GEOTECHNICAL SEC.						BORING NO. 2 PAGE 1 OF 3					
JOB NO. 020534 Ashley County JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett) U.S. 82 - STATION: 209+00 LOCATION: 6' Left of Center Line of Construction LOGGED BY: Paul Christenberry				DATE: September 16-17, 2013 TYPE OF DRILLING: Rotary Wash EQUIPMENT: CME 750 w/ CME Automatic Hammer 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.	% S C R	% R Q D
			SURFACE ELEVATION: 146.1								
5		X	Wet, Soft, Gray Clay with some Organic Matter	CL	12		29		$\frac{1}{2-2}$		
10		X	Moist, Stiff, Gray Clay with some Organic Matter	CL	15		31		$\frac{4}{6-7}$		
15		X	Moist, Stiff, Light Brown Silty Clay with some Sand and Organic Matter	CL-ML	4		22		$\frac{10}{9-5}$		
20		X	Moist, Stiff, Light Brown Clay with Sand	-							
25		X	Moist, Stiff, Light Gray Clay with Trace of Sand and Iron Nodules	CH	37		51		$\frac{4}{5-10}$		
30		X	Wet, Medium Dense, Brown Sand with Silt	SW-SM	NP				$\frac{6}{9-10}$		
35		X		-							
		X		SW-SM	NP				$\frac{7}{10-11}$		
		X		-							

REMARKS: Hollow stem augers were utilized to a depth of 8.9'.

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

BORING NO. 2
PAGE 2 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 209+00
LOCATION: 6' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: September 16-17, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
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.	% S C R	% R O D
			SURFACE ELEVATION: 146.1									
40		X	Wet, Medium Dense, Brown Sand	SW	NP					4 8-12		
45		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					13 20-17		
50		X	Wet, Medium Dense, Brown Silty Sand with Trace of Gravel	SM	NP					4 5-6		
55		X	Wet, Medium Dense, Brown Sand	SW	NP					8 13-16		
60		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					13 15-18		
65		X	Wet, Medium Dense, Brown Sand with Silt	SW-SM	NP					7 8-10		
70		X	Wet, Dense, Gray Sand	SW	NP					11 19-22		

REMARKS: Hollow stem augers were utilized to a depth of 8.9'.

ARKANSAS HWY. & TRANS. DEPARTMENT		BORING NO. 2
MATERIALS DIVISION - GEOTECHNICAL SEC.		PAGE 3 OF 3
JOB NO. 020534 Ashley County	DATE: September 16-17, 2013	
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)	TYPE OF DRILLING: Rotary Wash	
U.S. 82 -	EQUIPMENT: CME 750 w/ CME Automatic Hammer	
STATION: 209+00	HAMMER CORRECTION FACTOR: 1.23	
LOCATION: 6' Left of Center Line of Construction		
LOGGED BY: Paul Christenberry		

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.1									
75		X	Wet, Very Dense, Gray Sand	SW	NP					11 18-34		
80		X	Wet, Very Dense, Gray Sand with Silt	SW-SM	NP					28 45-50		
85		X	Wet, Dense, Gray Sand with Silt	SW-SM	NP					13 15-24		
90		X	Moist, Hard, Gray and Brown Clay with Silt Partings and Trace of Lignite	CL	17		42			11 16-20		
95		X	Moist, Hard, Gray and Brown Clay with Lignite and Silt Partings	CL	20		37			9 14-19		
100		X	Moist, Hard, Gray Clay with Lignite and Silt Partings	CL	17		38			10 15-22		
		X	Moist, Hard, Gray Clay with Sand	CL	8		29			9 15-24		
			Boring Terminated									
105												

REMARKS: Hollow stem augers were utilized to a depth of 8.9'.

ARKANSAS HWY. & TRANS. DEPARTMENT MATERIALS DIVISION - GEOTECHNICAL SEC.		BORING NO. 3 PAGE 1 OF 4
JOB NO. 020534 Ashley County	DATE: September 9-11, 2013	
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett) U.S. 82 -	TYPE OF DRILLING: Rotary Wash	
STATION: 260+86	EQUIPMENT: CME 750 w/ CME Automatic Hammer	
LOCATION: 5' Left of Center Line of Construction	HAMMER CORRECTION FACTOR: 1.23	
LOGGED BY: Paul Christenberry		

COMPLETION DEPTH: 121.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.2									
5		X	Moist, Soft, Brown Clay with some Organic Matter							$\frac{2}{2-2}$		
10		X	Moist, Soft, Brown and Gray Clay with some Organic Matter							$\frac{2}{1-3}$		
15		X	Moist, Medium Stiff, Reddish Brown and Gray Clay with Sand and some Iron Nodules							$\frac{2}{3-4}$		
20		X	Moist, Stiff, Gray and Brown Clay with some Sand and Iron Nodules							$\frac{3}{3-6}$		
25		X	Wet, Medium Dense, Reddish Brown and Gray Sand							$\frac{6}{9-11}$		
30		X								$\frac{5}{6-9}$		
35		X										

REMARKS: Hollow stem augers were utilized to a depth of 8.6'.

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

BORING NO. 3
PAGE 2 OF 4

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 260+86
LOCATION: 5' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: September 9-11, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.23

COMPLETION DEPTH: 121.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 146.2									
40		X	Wet, Medium Dense, Brown Sand							11 15-15		
		X								3 7-7		
45		X								3 6-9		
50		X								5 6-10		
55		X	Wet, Dense, Brown Sand							11 18-20		
60		X								11 19-29		
65		X								2 6-11		
70		X										

REMARKS: Hollow stem augers were utilized to a depth of 8.6'.

ARKANSAS HWY. & TRANS. DEPARTMENT MATERIALS DIVISION - GEOTECHNICAL SEC.	BORING NO. 3 PAGE 3 OF 4
JOB NO. 020534 Ashley County JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett) U.S. 82 - STATION: 260+86 LOCATION: 5' Left of Center Line of Construction LOGGED BY: Paul Christenberry	DATE: September 9-11, 2013 TYPE OF DRILLING: Rotary Wash EQUIPMENT: CME 750 w/ CME Automatic Hammer HAMMER CORRECTION FACTOR: 1.23

COMPLETION DEPTH: 121.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 146.2									
75			Wet, Medium Dense, Brown Sand							12 13-17		
80			Wet, Dense, Brown Sand with Trace of Gravel							10 14-17		
85			Wet, Dense, Brown Sand							12 15-21		
			Gravel							10 13-20		
90			Wet, Medium Dense, Brown Sand with Trace of Gravel							15 16-11		
95			Wet, Loose, Brown Sand with Gravel							8 5-5		
100			Moist, Very Dense, Dark Gray Clayey, Silty Sand with Trace of Lignite							9 17-37		
105												

REMARKS: Hollow stem augers were utilized to a depth of 8.6'.

JOB NO. 020534 Ashley County JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett) U.S. 82 - STATION: 260+86 LOCATION: 5' Left of Center Line of Construction LOGGED BY: Paul Christenberry	DATE: September 9-11, 2013 TYPE OF DRILLING: Rotary Wash EQUIPMENT: CME 750 w/ CME Automatic Hammer HAMMER CORRECTION FACTOR: 1.23
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COMPLETION DEPTH: 121.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.2									
110		X	Wet, Very Dense, Dark Gray Silty Sand with Trace of Lignite							16 22-30		
115		X	Moist, Very Dense, Dark Gray Clayey, Silty Sand with Trace of Lignite							10 32-38		
120		X	Moist, Hard, Dark Gray Clay with Silt and Sand Partings							11 18-23		
		X	Moist, Hard, Dark Brown Clay with Trace of Lignite							12 16-22		
125			Boring Terminated									
130												
135												
140												

REMARKS: Hollow stem augers were utilized to a depth of 8.6'.

ARKANSAS HWY. & TRANS. DEPARTMENT		BORING NO. 4
MATERIALS DIVISION - GEOTECHNICAL SEC.		PAGE 1 OF 3
JOB NO. 020534 Ashley County	DATE: September 11-12, 2013	
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)	TYPE OF DRILLING: Rotary Wash	
STATION: 261+75	EQUIPMENT: CME 750 w/ CME Automatic Hammer	
LOCATION: 3' Left of Center Line of Construction	HAMMER CORRECTION FACTOR: 1.23	
LOGGED BY: Troy Frazier		

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.5									
5			Dry, Very Stiff, Reddish Brown Clay with Sand	CL	14		25			$\frac{6}{10-9}$		
10			Wet, Medium Stiff, Gray and Brown Silty Clay	CL-ML	17		22			$\frac{3}{3-5}$		
15			Moist, Medium Dense, Brown and Gray Silt with Sand	ML	NP					$\frac{5}{8-7}$		
20			Moist, Stiff, Gray and Brown Clay with Sand and Iron Nodules	CL	10		32			$\frac{3}{4-5}$		
25			Moist, Very Stiff, Brown Silty Clay	CL-ML	14		20			$\frac{3}{8-10}$		
30			Wet, Medium Dense, Reddish Brown Silt with Sand	ML	NP					$\frac{4}{4-7}$		

REMARKS: Hollow stem augers were utilized to a depth of 13.8'.

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

BORING NO. 4
PAGE 2 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 261+75
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Troy Frazier

DATE: September 11-12, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
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.	% S C R	% R O D
			SURFACE ELEVATION: 146.5									
40		X	Wet, Medium Dense, Brown Sand with Silt	SW-SM	NP					$\frac{6}{8-13}$		
				-								
45		X	Wet, Medium Dense, Brown Sand with Silt	SW-SM	NP					$\frac{7}{8-13}$		
				-								
50		X	Wet, Medium Dense, Brown Sand	SW	NP					$\frac{7}{9-12}$		
				-								
55		X	Wet, Medium Dense, Brown Sand	SW	NP					$\frac{8}{11-14}$		
				-								
60		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					$\frac{12}{23-24}$		
				-								
65		X	Wet, Medium Dense, Brown Sand	SW	NP					$\frac{7}{12-16}$		
				-								
70		X		SW-SM	NP					$\frac{13}{16-18}$		
				-								

REMARKS: Hollow stem augers were utilized to a depth of 13.8'.

ARKANSAS HWY. & TRANS. DEPARTMENT		BORING NO. 4
MATERIALS DIVISION - GEOTECHNICAL SEC.		PAGE 3 OF 3
JOB NO. 020534	Ashley County	DATE: September 11-12, 2013
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)	U.S. 82 -	TYPE OF DRILLING: Rotary Wash
STATION: 261+75		EQUIPMENT: CME 750 w/ CME Automatic Hammer
LOCATION: 3' Left of Center Line of Construction		HAMMER CORRECTION FACTOR: 1.23
LOGGED BY: Troy Frazier		

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 146.5									
		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					12 20-24		
75		X	Wet, Very Dense, Brown Sand with Silt	SW-SM	NP					12 23-34		
80		X	Wet, Dense, Brown Sand with Silt and Trace of Gravel	SW-SM	NP					18 23-14		
85		X	Wet, Medium Dense, Brown Sand	SW	NP					7 9-16		
90		X	Wet, Very Dense, Brown Sand with Silt and Trace of Lignite	SW-SM	NP					11 23-33		
95		X	Wet, Very Dense, Brown Sand with Gravel and Trace of Lignite									
		X	Moist, Very Dense, Dark Gray Silty Sand	SM	NP					14 25-29		
100		X	Hard, Brown and Gray Cemented Sand									
		X	Moist, Dense, Gray Sandy Silt	ML	NP					12 20-27		
			Boring Terminated									
105												

REMARKS: Hollow stem augers were utilized to a depth of 13.8'.

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

BORING NO. 5
PAGE 1 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 377+53
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: August 28, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% C C R	% R Q D
5		X	Moist, Loose, Brown and Gray Silt with some Organic Matter	ML	NP					3 3-4		
10		X	Moist, Medium Stiff, Light Brown and Gray Clay with some Organic Matter	CL	19		28			2 3-3		
15		X	Moist, Stiff, Light Brown and Gray Clay with Sand	CL	15		23			4 5-7		
20		X	Moist, Dense, Light Gray Clayey Sand	SC	NP					11 18-19		
25		X	Wet, Medium Dense, Brown Silty Sand	SM	NP					9 8-9		
30		X	Wet, Medium Dense, Light Gray and Brown Sand with Silt	SW-SM	NP					4 5-6		
35												

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

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

BORING NO. 5
PAGE 2 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 377+53
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: August 28, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 136.5									
40		X	Wet, Medium Dense, Light Gray and Brown Sand with Silt and Trace of Organic Matter	SW-SM	NP					4 5-6		
45		X	Wet, Medium Dense, Brown Sand with Silt	SW-SM	NP					6 7-7		
50		X	Wet, Medium Dense, Light Brown Sand with Silt	SW-SM	NP					4 6-8		
55		X	Wet, Medium Dense, Light Brown Sand with Silt	SW-SM	NP					5 6-7		
60		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					8 18-24		
65		X	Wet, Medium Dense, Brown Sand	SW	NP					8 11-13		
70												

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

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

BORING NO. 5
PAGE 3 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 377+53
LOCATION: 3' Left of Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: August 28, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 75 w/ CME Automatic Hammer
HAMMER CORRECTION FACTOR: 1.37

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 136.5									
75		X	Wet, Medium Dense, Brown Sand with Silt and some Gravel	SW-SM	NP					11 12-15		
			Gravel									
80		X	Wet, Dense, Brown Sand with Silt and Trace of Gravel	SW-SM	NP					11 17-24		
85		X	Wet, Dense, Brown Sand with Silt	SW-SM	NP					12 16-28		
90		X	Wet, Dense, Brown Sand	SW	NP					11 16-21		
95		X	Wet, Dense, Brown Sand with Silt and some Gravel	SW-SM	NP					17 22-27		
100		X	Wet, Dense, Brown and Gray Sand with Gravel	SW	NP					13 20-16		
		X	Wet, Dense, Brown and Gray Sand with some Gravel	SW	NP					12 12-23		
			Boring Terminated									
105												

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

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

BORING NO. 6
PAGE 1 OF 3

JOB NO. 020534 Ashley County
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)
U.S. 82 -
STATION: 379+06
LOCATION: Center Line of Construction
LOGGED BY: Paul Christenberry

DATE: Aug. 26 & Sept. 4, 2013
TYPE OF DRILLING: Rotary Wash
EQUIPMENT: CME 750 w/ CME Automatic Hammer
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.	% S C R	% R O D
			SURFACE ELEVATION: 136.8									
5		X	Moist, Soft, Reddish Brown and Gray Clay with some Organic Matter							1 2-2		
10		X	Moist, Soft, Reddish Brown Clay with some Organic Matter							2 2-2		
15		X	Moist, Very Stiff, Light Gray Clay							6 8-8		
20		X	Moist, Stiff, Reddish Brown and Light Gray Clay							3 5-5		
25		X	Wet, Medium Dense, Reddish Brown Sand							12 13-11		
30		X								4 5-6		
35		X										

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

ARKANSAS HWY. & TRANS. DEPARTMENT		BORING NO. 6
MATERIALS DIVISION - GEOTECHNICAL SEC.		PAGE 2 OF 3
JOB NO. 020534	Ashley County	DATE: Aug. 26 & Sept. 4, 2013
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)	U.S. 82 -	TYPE OF DRILLING: Rotary Wash
STATION: 379+06		EQUIPMENT: CME 750 w/ CME Automatic Hammer
LOCATION: Center Line of Construction		HAMMER CORRECTION FACTOR: 1.23
LOGGED BY: Paul Christenberry		

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R O D
			SURFACE ELEVATION: 136.8									
		X	Wet, Medium Dense, Light Brown Sand							6 8-9		
40		X								7 8-12		
45		X								7 8-9		
50		X								5 8-10		
55		X	Wet, Medium Dense, Brown Sand							8 6-9		
60		X								5 9-10		
65		X								12 21-26		
			Wet, Dense, Brown Sand									
70			Gravel									

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

ARKANSAS HWY. & TRANS. DEPARTMENT		BORING NO. 6
MATERIALS DIVISION - GEOTECHNICAL SEC.		PAGE 3 OF 3
JOB NO. 020534	Ashley County	DATE: Aug. 26 & Sept. 4, 2013
JOB NAME: Co. Rd. 411 - Hwy. 425 (East of Crossett)	U.S. 82 -	TYPE OF DRILLING: Rotary Wash
STATION: 379+06		EQUIPMENT: CME 750 w/ CME Automatic Hammer
LOCATION: Center Line of Construction		HAMMER CORRECTION FACTOR: 1.23
LOGGED BY: Paul Christenberry		

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% S C R	% R Q D
			SURFACE ELEVATION: 136.8									
75		X	Wet, Dense, Brown Sand with Trace of Gravel							13 19-25		
80		X	Wet, Very Dense, Brown Sand							11 23-36		
85		X	Wet, Very Dense, Brown Sand with some Gravel							18 26-32		
90		X	Wet, Dense, Brown Sand with some Gravel							13 16-19		
95		X	Wet, Dense, Brown and Gray Sand with some Gravel							17 21-28		
100		X	Wet, Dense, Gray Sand with Gravel							13 19-29		
			Boring Terminated							12 18-17		
105												

REMARKS: Hollow stem augers were utilized to a depth of 9.2'.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

August 12, 2013

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 020534
Co. Rd. 411 – Hwy. 425 (East of Crossett) (S)
Route 82 Section 8
Ashley County

Transmitted herewith is the requested Soil Survey, Strength Data and Resilient Modulus test results for the above referenced job. The project consists of widening approximately 6.1 miles of Highway 82 from two lanes to five lanes. Samples were obtained in the existing travel lanes, shoulders and ditch line. Locations were measured from centerline of construction and should be noted as such on the logs.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of low to moderately plastic sandy clay. Based on currently available cross-sections, the 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. No slide areas were observed within the project limits.

The maximum embankment height is approximately 9 feet. The proposed widening will encroach into the existing ditch line. All soft unstable organic material will need to be undercut a maximum depth of two feet prior to embankment construction. The embankment may be constructed with locally available unspecified material utilizing the 3:1 slope configuration shown in the cross-sections.

The proposed 3:1 cut slopes are acceptable as shown in the cross-sections.

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 at the Yellow Bend river port near the vicinity of McGehee.
2. Asphalt Concrete Hot Mix

PG64-22		
Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.3	94.7
Binder Course	4.2	95.8
Base Course	3.8	96.2

PG70-22		
Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.4	94.6
Binder Course	4.4	95.6
Base Course	4.0	96.0

PG76-22		
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 2 Engineer
Planning 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 - 08/02/2013
JOB NUMBER - 020534

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2003
SUPPLIER ID. - 1
COUNTY/STATE - 02
DISTRICT NO. - 02

JOB NAME - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)

* STATION LIMITS R-VALUE AT 240 psi *

BEGIN JOB - END JOB 8

RESILIENT MODULUS
STA.144+00 8772
STA.375+00 9128

REMARKS -

-
AASHTO TESTS : T190

JOB: 020534
JOB NAME: CO.RD.411 - HWY.425(EAST OF CROSSETT)(S)

Arkansas State Highway Transportation Department

Materials Division

Michael Benson, Materials Engineer

DATE TESTED
8/5/2013

COUNTY NO. 2

STA.# LOC

PAVEMENT SOUNDINGS

120+00	6RT	ACHMSC	AGG.BASE CRS, CL-5	11.0W	---	---	---
120+00	18RT	ACHMSC	AGG.BASE CRS, CL-5	8.25W	3.0	---	---
120+00	45RT	ACHMSC	AGG.BASE CRS, CL-5	---	---	---	---
128+00	6LT	ACHMSC	AGG.BASE CRS, CL-5	4.0W	1.75	---	---
128+00	15LT	ACHMSC	AGG.BASE CRS, CL-5	4.0W	---	3.0	---
128+00	25LT	ACHMSC	AGG.BASE CRS, CL-5	---	---	---	---
136+00	6RT	ACHMSC	AGG.BASE CRS, CL-5	6.5W	---	---	---
136+00	15RT	ACHMSC	AGG.BASE CRS, CL-5	4.0W	3.0	---	---
136+00	25RT	ACHMSC	AGG.BASE CRS, CL-5	---	---	---	---
144+00	6LT	ACHMSC	AGG.BASE CRS, CL-5	4.75W	1.25	---	---
144+00	15LT	ACHMSC	AGG.BASE CRS, CL-5	3.75W	---	3.0	---
144+00	25LT	ACHMSC	AGG.BASE CRS, CL-5	---	---	---	---
152+00	6RT	ACHMSC	AGG.BASE CRS, CL-5	9.0W	---	---	---
152+00	15RT	ACHMSC	AGG.BASE CRS, CL-5	6.25W	3.0	---	---
152+00	25RT	ACHMSC	AGG.BASE CRS, CL-5	---	---	---	---
160+00	6LT	ACHMSC	AGG.BASE CRS, CL-5	4.75W	2.25	---	---
160+00	15LT	ACHMSC	AGG.BASE CRS, CL-5	4.75	---	3.0	---

Comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

160+00	25 LT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
168+00	35 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
168+00	44 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
168+00	65 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
176+00	25 RT	ACHMSC	ACHMBC	
176+00	35 RT	ACHMSC	ACHMBC	
176+00	48 RT	ACHMSC	ACHMBC	
184+00	55 RT	ACHMSC	AC-IMBC	AGG. BASE CRS, CL-5
184+00	64 RT	ACHMSC	AC-IMBC	AGG. BASE CRS, CL-5
184+00	75 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
192+00	20 RT	ACHMSC		
192+00	34 RT	ACHMSC		
200+00	10 RT	ACHMSC		
200+00	19 RT	ACHMSC		
200+00	CL	ACHMSC		
207+00	26 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
207+00	35 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5
207+00	45 RT	ACHMSC	ACHMBC	AGG. BASE CRS, CL-5

Comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

216+00	5RT	ACHMSC	AGG.BASE CRS, CL-5
		5.75W	---
216+00	5LT	ACHMSC	AGG.BASE CRS, CL-5
		4.0	3.0
216+00	15RT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
224+00	6RT	ACHMSC	AGG.BASE CRS, CL-5
		4.5	3.75
224+00	15RT	ACHMSC	AGG.BASE CRS, CL-5
		5.5W	---
224+00	25RT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
232+00	6LT	ACHMSC	AGG.BASE CRS, CL-5
		4.5	3.75
232+00	15LT	ACHMSC	AGG.BASE CRS, CL-5
		5.5W	---
232+00	25LT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
240+00	6RT	ACHMSC	AGG.BASE CRS, CL-5
		4.0W	2.25
240+00	15RT	ACHMSC	AGG.BASE CRS, CL-5
		4.75W	---
240+00	25RT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
248+00	6LT	ACHMSC	AGG.BASE CRS, CL-5
		3.5W	2.5
248+00	15LT	ACHMSC	AGG.BASE CRS, CL-5
		4.0W	---
248+00	25LT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
256+00	18RT	ACHMSC	AGG.BASE CRS, CL-5
		4.0W	2.5
256+00	28RT	ACHMSC	AGG.BASE CRS, CL-5
		4.0W	---
256+00	38RT	ACHMSC	AGG.BASE CRS, CL-5
		---	---
265+00	6RT	ACHMSC	AGG.BASE CRS, CL-5
		6.0W	1.75

Comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION

W=MULTIPLE LAYERS, X=STRIPPED

265+00	4LT	ACHMSC 6.5W	ACHMBC ---	AGG.BASE CRS, CL-5 4.0	
265+00	14LT	ACHMSC ---	ACHMBC ---	AGG.BASE CRS, CL-5 ---	
272+00	6RT	ACHMSC 5.0W	ACHMSC 3.0X	ACHMBC 1.75	AGG.BASE CRS, CL-5 ---
272+00	15RT	ACHMSC 6.5W	ACHMSC ---	ACHMBC ---	AGG.BASE CRS, CL-5 4.0
272+00	25RT	ACHMSC ---	ACHMSC ---	ACHMBC ---	AGG.BASE CRS, CL-5 ---
280+00	6LT	ACHMSC 5.5W	ACHMBC 2.0	AGG.BASE CRS, CL-5 ---	
280+00	15LT	ACHMSC 4.75W	ACHMBC ---	AGG.BASE CRS, CL-5 5.0	
280+00	25LT	ACHMSC ---	ACHMBC ---	AGG.BASE CRS, CL-5 ---	
288+00	6RT	ACHMSC 5.25	ACHMBC 1.75	AGG.BASE CRS, CL-5 ---	
288+00	15RT	ACHMSC 4.5W	ACHMBC ---	AGG.BASE CRS, CL-5 5.0	
288+00	25RT	ACHMSC ---	ACHMBC ---	AGG.BASE CRS, CL-5 ---	
296+00	6LT	ACHMSC 2.5	ACHMSC 4.75X	ACHMSC ---	
296+00	15LT	ACHMSC 3.5W	ACHMSC 4.0	ACHMSC ---	
296+00	25LT	ACHMSC ---	ACHMSC ---	ACHMSC ---	
304+00	6RT	ACHMSC 4.0W	ACHMSC 3.0	AGG.BASE CRS, CL-5 ---	
304+00	15RT	ACHMSC 5.25W	ACHMSC ---	AGG.BASE CRS, CL-5 4.0	
304+00	25RT	ACHMSC ---	ACHMSC ---	AGG.BASE CRS, CL-5 ---	
312+00	6LT	ACHMSC 4.25W	ACHMBC 2.0	SOIL CEMENT 4.0	AGG.BASE CRS, CL-5 ---
312+00	15LT	ACHMSC 3.5W	ACHMBC ---	SOIL CEMENT ---	AGG.BASE CRS, CL-5 4.0

Comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

312+00	25LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
320+00	6RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.25W	2.0	4.0	---
320+00	15RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		3.5W	---	---	4.0
320+00	25RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
328+00	6LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.0W	2.0X	4.0	---
328+00	15LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.5W	---	---	4.0
328+00	25LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
336+00	6RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.5W	2.5	8.0	---
336+00	15RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		3.75W	---	---	10.0
336+00	25RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
344+00	6LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.25W	3.75	5.0	---
344+00	15LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		5.25W	---	---	5.0
344+00	25LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
352+00	6RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		3.0	3.0X	10.0	---
352+00	15RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		4.75W	---	---	4.0
352+00	25RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---
360+00	6LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		5.0W	2.25	5.0	---
360+00	15LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		3.75W	---	---	5.0
360+00	25LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG. BASE CRS, CL-5
		---	---	---	---

Comments:

LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

368+00	6RT	ACHMSC 4.25W	ACHMBC 3.0	SOIL CEMENT 5.0	AGG. BASE CRS, CL-5 ---
368+00	15RT	ACHMSC 3.25	ACHMBC ---	SOIL CEMENT 10.0	AGG. BASE CRS, CL-5 ---
368+00	25RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 ---
375+00	10RT	ACHMSC 5.5W	ACHMBC 1.5	SOIL CEMENT 7.0	AGG. BASE CRS, CL-5 ---
375+00	CL	ACHMSC 5.25W	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 4.0
375+00	14LT	ACHMSC ---	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 ---
384+00	17RT	ACHMSC 6.0W	ACHMBC 2.75	SOIL CEMENT 8.0	AGG. BASE CRS, CL-5 ---
384+00	25RT	ACHMSC 5.5W	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 10.0
384+00	36RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 ---
392+00	6LT	ACHMSC 2.0	ACHMBC 4.0X	SOIL CEMENT 6.0	AGG. BASE CRS, CL-5 ---
392+00	15LT	ACHMSC 5.0W	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 5.0
392+00	25LT	ACHMSC ---	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 ---
400+00	6RT	ACHMSC 5.75W	ACHMBC 2.75	SOIL CEMENT 6.0	AGG. BASE CRS, CL-5 ---
400+00	15RT	ACHMSC 5.5W	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 10.0
400+00	25RT	ACHMSC ---	ACHMBC ---	SOIL CEMENT ---	AGG. BASE CRS, CL-5 ---

Comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION

W=MULTIPLE LAYERS, X=STRIPPED

JOB: 020534

Arkansas State Highway Transportation Department

JOB NAME: CO.RD.411 - HWY.425(EAST OF CROSSETT)(S)

Materials Division

COUNTY NO. 2 DATE TESTED 8/5/2013

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	SEVES					L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				#4	#10	#40	#80	#200					
144+00	25'LT	0-5	BROWN	99	96	97	97	89	31	14	A-6(11)	RV1435	
224+00	25'RT	0-5	GRAY				100	91	26	9	A-4(7)	RV1436	
280+00	25'LT	0-5	BROWN	99	98	100	95	90	30	11	A-6(9)	RV1437	
336+00	25'RT	0-5	BROWN	99	93	95	97	89	27	9	A-4(6)	RV1438	
375+00	14'LT	0-5	BR/GR	99	97	96	98	89	25	7	A-4(5)	RV1439	
120+00	6'RT	0-5	GRAY	98	95	97	74	86	20	5	A-4(1)	S1327	15
120+00	18'RT	0-5	GRAY	99	94	89	76	64	22	8	A-4(2)	S1328	15.3
120+00	45'RT	0-5	GRAY	98	95	90	87	84	25	7	A-4(4)	S1329	24.1
128+00	6'LT	0-5	BR/GR	100	98	95	88	86	24	6	A-4(3)	S1330	17.4
128+00	15'LT	0-5	BR/GR	99	97	93	88	86	27	8	A-4(5)	S1331	18.1
128+00	25'LT	0-5	BROWN	98	86	98	91	88	29	9	A-4(7)	S1332	19.1
136+00	6'RT	0-5	BROWN	100	97	92	85	82	24	6	A-4(3)	S1333	20
136+00	15'RT	0-5	GRAY	99	96	91	88	85	27	8	A-4(5)	S1334	20.6
136+00	25'RT	0-5	BROWN				100	98	29	10	A-4(8)	S1335	23.1
144+00	6'LT	0-5	BROWN	99	95	88	81	77	23	7	A-4(3)	S1336	19.7
144+00	15'LT	0-5	BROWN	99	92	88	72	65	23	7	A-4(2)	S1337	16.1
144+00	25'LT	0-5	BROWN				100	90	30	13	A-6(11)	S1338	21.1
152+00	6'RT	0-5	BR/GR	100	97	89	75	72	21	6	A-4(2)	S1339	18.5
152+00	15'RT	0-5	BR/GR	99	97	89	76	70	20	5	A-4(1)	S1340	15.9
152+00	25'RT	0-5	BR/GR	97	94	88	80	78	22	5	A-4(1)	S1341	16.9
160+00	6'LT	0-5	BROWN	97	95	91	86	83	24	7	A-4(4)	S1342	18.9
160+00	15'LT	0-5	GRAY	98	86	98	90	86	28	9	A-4(6)	S1343	20.8
160+00	25'LT	0-5	BROWN	97	91	91	89	86	28	9	A-4(6)	S1344	25.9
168+00	35'RT	0-5	BR/GR	100	99	96	92	89	27	11	A-6(8)	S1345	18.8
168+00	44'RT	0-5	BR/GR	99	97	96	89	86	30	14	A-6(10)	S1346	18.4
168+00	65'RT	0-5	BR/GR	100	98	96	93	89	24	6	A-4(4)	S1347	22.3

comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
176+00	25'RT	0-5	GRAY	97	97	93	89	86	27	7	A-4(5)	S1348	19.6
176+00	35'RT	0-5	GRAY	100	97	91	87	79	26	9	A-4(5)	S1349	19.4
176+00	48'RT	0-5	GRAY	100	98	92	88	83	26	8	A-4(5)	S1350	18.6
184+00	55'RT	0-5	BR/GR	99	97	91	88	80	23	7	A-4(3)	S1351	16.4
184+00	64'RT	0-5	BR/GR	97	96	88	77	68	22	7	A-4(2)	S1352	18.3
184+00	75'RT	0-5	BR/GR	98	98	94	91	88	28	9	A-4(7)	S1353	23.2
192+00	CL	0-5	BROWN				100	96	40	19	A-6(19)	S1354	25.5
192+00	20'RT	0-5	BROWN	95	92	84	77	71	31	15	A-6(8)	S1355	18
192+00	34'RT	0-5	BROWN	99	95	85	77	70	26	12	A-6(6)	S1356	19.5
200+00	10'RT	0-5	BR/GR	99	95	86	70	61	23	8	A-4(2)	S1357	13.9
200+00	19'RT	0-5	BR/GR	98	93	86	77	68	21	5	A-4(1)	S1358	20.2
200+00	CL	0-5	BR/GR	99	98	95	92	89	31	12	A-6(10)	S1359	20
207+00	28'RT	0-5	BR/GR	100	98	86	93	86	28	13	A-6(10)	S1360	17.1
207+00	35'RT	0-5	BR/GR	100	98	95	92	84	27	11	A-6(7)	S1361	15.7
207+00	45'RT	0-5	BR/GR	99	98	95	79	67	18	4	A-4(0)	S1362	18.2
216+00	5'RT	0-5	BR/GR	99	97	82	65	79	28	15	A-6(9)	S1363	16.3
216+00	5'LT	0-5	BR/GR	97	96	85	89	84	27	13	A-6(9)	S1364	17.1
216+00	15'RT	0-5	BR/GR	95	95	81	76	76	30	18	A-6(11)	S1365	17.7
224+00	6'RT	0-5	GRAY	99	96	92	88	84	24	10	A-4(6)	S1366	16.7
224+00	15'RT	0-5	GRAY	100	98	96	91	85	28	13	A-6(9)	S1367	16.4
224+00	25'RT	0-5	GRAY				100	91	27	11	A-6(8)	S1368	21.1
232+00	6'LT	0-5	BR/GR	98	89	81	77	69	23	7	A-4(2)	S1369	18.4
232+00	15'LT	0-5	BR/GR	97	93	87	89	76	26	11	A-6(6)	S1370	19.2
232+00	25'LT	0-5	BR/GR				100	97	30	10	A-4(9)	S1371	26.1
240+00	6'RT	0-5	GRAY	100	96	86	87	79	24	7	A-4(3)	S1372	19.5
240+00	15'RT	0-5	GRAY	98	94	86	80	76	25	7	A-4(3)	S1373	20.4
240+00	25'RT	0-5	BROWN	98	95	90	81	81	27	8	A-4(5)	S1374	21.4
248+00	6'LT	0-5	GRAY	96	91	82	72	70	24	8	A-4(3)	S1375	16.8

comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
248+00	15'LT	0-5	BR/GR	95	97	96	98	96	23	7	A-4(4)	S1376	17.8
248+00	25'LT	0-5	BROWN	96	94	92	99	97	27	12	A-6(8)	S1377	21
256+00	18'RT	0-5	BR/GR				100	92	23	8	A-4(5)	S1378	18.4
256+00	28'RT	0-5	BR/GR	97	98	98	99	100	22	7	A-4(4)	S1379	19.4
256+00	38'RT	0-5	GRAY	99	98	98	97	97	24	9	A-4(6)	S1380	22
265+00	6'RT	0-5	BR/GR	97	92	91	87	88	23	10	A-4(6)	S1381	17
265+00	4'LT	0-5	BR/GR	96	96	96	97	99	26	12	A-6(7)	S1382	17.7
265+00	14'LT	0-5	BR/GR	99	98	96	97	99	21	6	A-4(2)	S1383	19.5
272+00	6'RT	0-5	BR/GR				100	98	26	12	A-6(9)	S1384	19.6
272+00	15'RT	0-5	BR/GR	96	97	92	96	98	26	11	A-6(7)	S1385	20.2
272+00	25'RT	0-5	BR/GR				100	93	32	17	A-6(15)	S1386	21
280+00	6'LT	0-5	BR/GR	99	98	98	87	79	27	12	A-6(7)	S1387	15.4
280+00	15'LT	0-5	BR/GR	99	96	90	89	77	22	5	A-4(2)	S1388	18.9
280+00	25'LT	0-5	BROWN				100	90	29	10	A-4(8)	S1389	24.3
288+00	6'RT	0-5	BR/GR	99	99	96	97	87	27	9	A-4(6)	S1390	18.6
288+00	15'RT	0-5	BR/GR	99	97	94	97	87	27	8	A-4(6)	S1391	22.2
288+00	25'RT	0-5	BR/GR				100	91	36	17	A-6(15)	S1392	26.3
296+00	6'LT	0-5	BR/GR	98	98	97	99	96	24	7	A-4(3)	S1393	19.1
296+00	15'LT	0-5	GRAY				100	91	28	10	A-4(8)	S1394	20
296+00	25'LT	0-5	BROWN				100	92	28	9	A-4(7)	S1395	22.3
304+00	6'RT	0-5	GRAY	99	97	96	97	96	26	10	A-4(6)	S1396	15.2
304+00	15'RT	0-5	GRAY	99	98	92	89	76	24	7	A-4(3)	S1397	21.7
304+00	25'RT	0-5	BROWN	99	97	97	89	79	28	11	A-6(7)	S1398	17.6
312+00	6'LT	0-5	GRAY	99	98	98	99	94	27	11	A-6(7)	S1399	17.2
312+00	15'LT	0-5	GRAY	97	98	98	97	96	29	14	A-6(10)	S1400	18.1
312+00	25'LT	0-5	BROWN				100	92	32	16	A-6(14)	S1401	20.1
320+00	6'RT	0-5	BR/GR	100	98	98	99	98	22	7	A-4(3)	S1402	17.2
320+00	15'RT	0-5	GRAY	98	96	88	79	71	23	8	A-4(3)	S1403	18.1

comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
320+00	25'RT	0-5	BROWN				100	90	27	9	A-4(7)	S1404	20.1
328+00	6'LT	0-5	BR/GR	99	97	92		80	25	10	A-4(6)	S1405	18.3
328+00	15'LT	0-5	GRAY	99	97	93		82	29	15	A-6(10)	S1406	18.6
328+00	25'LT	0-5	BROWN				100	90	31	14	A-6(12)	S1407	21.8
336+00	6'RT	0-5	GRAY	98	95	88		71	23	7	A-4(2)	S1408	22
336+00	15'RT	0-5	BR/GR	97	89	77		59	24	8	A-4(2)	S1409	16.8
336+00	25'RT	0-5	BROWN	100	98	96	95	85	28	12	A-6(8)	S1410	20.4
344+00	6'LT	0-5	BROWN	99	97	93		76	32	18	A-6(11)	S1411	19
344+00	15'LT	0-5	BROWN	98	96	92	89	79	23	7	A-4(3)	S1412	18.8
344+00	25'LT	0-5	BROWN	99	96	88		68	28	12	A-6(6)	S1413	21.3
352+00	6'RT	0-5	BR/GR	99	97	92	86	81	27	13	A-6(8)	S1414	16.2
352+00	15'RT	0-5	GRAY	99	93	94	89	85	30	15	A-6(11)	S1415	19.7
352+00	25'RT	0-5	BROWN				100	92	31	14	A-6(12)	S1416	20.7
360+00	6'LT	0-5	BROWN	99	97	90	85	80	24	8	A-4(4)	S1417	16.5
360+00	15'LT	0-5	GRAY	95	90	83		68	22	7	A-4(2)	S1418	18.1
360+00	25'LT	0-5	BR/GR	99	95	89		81	25	7	A-4(4)	S1419	23.2
368+00	6'RT	0-5	BR/GR	100	99	96	89	86	24	7	A-4(4)	S1420	17.2
368+00	15'RT	0-5	BR/GR	98	93	84		72	26	8	A-4(4)	S1421	21.5
368+00	25'RT	0-5	BROWN	97	95	92	90	89	30	12	A-6(10)	S1422	23.5
375+00	10'RT	0-5	BR/GR	100	99	96	92	86	24	10	A-4(6)	S1423	15.4
375+00	CL	0-5	BR/GR	98	93	89		75	23	10	A-4(5)	S1424	16.6
375+00	14'LT	0-5	BR/GR				100	90	24	9	A-4(6)	S1425	13
384+00	17'RT	0-5	BR/GR	100	99	96	89	89	28	11	A-6(8)	S1426	17.3
384+00	25'RT	0-5	BR/GR				100	90	25	10	A-4(7)	S1427	17.8
384+00	36'RT	0-5	BR/GR				100	94	26	11	A-6(8)	S1428	16.2
392+00	6'LT	0-5	BR/GR	100	99	96	89	85	23	7	A-4(4)	S1429	19
392+00	15'LT	0-5	BR/GR	99	98	95	90	84	25	10	A-4(6)	S1430	18.5
392+00	25'LT	0-5	BROWN	100	99	95	89	82	25	10	A-4(6)	S1431	17.2

comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

Page 4 of 5

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
400+00	6'RT	0-5	GRAY	100	98	96	92	88	22	8	A-4(4)	S1432	17.2
400+00	15'RT	0-5	GRAY	98	92	90	88	82	21	6	A-4(2)	S1433	18.3
400+00	25'RT	0-5	BR/GR	100	99	99	97	87	21	5	A-4(2)	S1434	17.1

comments: LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
W=MULTIPLE LAYERS, X=STRIPPED

Wednesday, August 07, 2013

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

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

Job No.	020534	Material Code	SSRVPS
Date Sampled:	07/31/2013	Station No.:	375+00
Date Tested:	July 31, 2013	Location:	14'LT
Name of Project:	CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)		
County:	Code: 2	Name:	ASHLEY
Sampled By:	FAULKNER	Depth:	0-5
Lab No.:	20133184	AASHTO Class:	A-4(5)
Sample ID:	RV1439	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	3.95
Bottom	3.95
Average	3.95
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):	12.19
Initial Volume, AoLo (cu. in):	97.92

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3145.50
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	14.4
Maximum Dry Density (pcf):	110.8
95% of MDD (pcf):	105.3
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3145.50
Compaction Moisture content (%):	14.3
Compaction Wet Density (pcf):	122.40
Compaction Dry Density (pcf):	107.08
Moisture Content After Mr Test (%):	14.1

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

7. Resilient Modulus, Mr: 11069(Sc)^{-0.19191}(S3)^{0.30435}

8. Comments

9. Tested By:

DEB _____

Date: July 31, 2013 _____

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

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

Job No. 020534 **Material Code** SSRVPS
Date Sampled: 07/31/2013 **Station No.:** 375+00
Date Tested: July 31, 2013 **Location:** 14'LT
Name of Project: CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)
County: Code: 2 **Name:** ASHLEY
Sampled By: FAULKNER **Depth:** 0-5
Lab No.: 20133184 **AASHTO Class:** A-4(5)
Sample ID: RV1439 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load		Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress		Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
			P _{max} lbs	P _{cyclic} lbs			P _{contact} lbs	S _{max} psi			
Sequence 1	6.0	2.0	25.1	22.4	2.7	2.1	1.8	0.2	0.0089	0.00011	16,590
Sequence 2	6.0	4.0	47.3	44.5	2.7	3.9	3.7	0.2	0.00189	0.00023	15,548
Sequence 3	6.0	6.0	69.9	66.3	3.6	5.7	5.4	0.3	0.00297	0.00037	14,696
Sequence 4	6.0	8.0	93.2	87.1	6.1	7.6	7.1	0.5	0.00434	0.00054	13,218
Sequence 5	6.0	10.0	115.8	107.3	8.6	9.5	8.8	0.7	0.00588	0.00073	12,012
Sequence 6	4.0	2.0	24.9	22.2	2.7	2.0	1.8	0.2	0.00099	0.00012	14,750
Sequence 7	4.0	4.0	46.8	44.0	2.8	3.8	3.6	0.2	0.00218	0.00027	13,270
Sequence 8	4.0	6.0	68.0	65.2	2.8	5.6	5.3	0.2	0.00351	0.00044	12,227
Sequence 9	4.0	8.0	91.0	85.9	5.1	7.5	7.0	0.4	0.00495	0.00062	11,419
Sequence 10	4.0	10.0	113.6	105.9	7.7	9.3	8.7	0.6	0.00651	0.00081	10,706
Sequence 11	2.0	2.0	24.8	22.1	2.7	2.0	1.8	0.2	0.00121	0.00015	11,982
Sequence 12	2.0	4.0	46.0	43.2	2.7	3.8	3.5	0.2	0.00261	0.00032	10,929
Sequence 13	2.0	6.0	66.4	63.6	2.8	5.4	5.2	0.2	0.00415	0.00052	10,092
Sequence 14	2.0	8.0	87.8	83.5	4.3	7.2	6.8	0.4	0.00579	0.00072	9,491
Sequence 15	2.0	10.0	110.3	103.5	6.8	9.0	8.5	0.6	0.00747	0.00093	9,128

TESTED BY _____ **DATE** July 31, 2013
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.	020534	Material Code	SSRVPS
Date Sampled:	07/31/2013	Station No.:	375+00
Date Tested:	July 31, 2013	Location:	14'LT
Name of Project:	CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)		
County:	Code: 2	Name:	ASHLEY
Sampled By:	FAULKNER	Depth:	0-5
Lab No.:	20133184	AASHTO Class:	A-4(5)
Sample ID:	RV1439	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

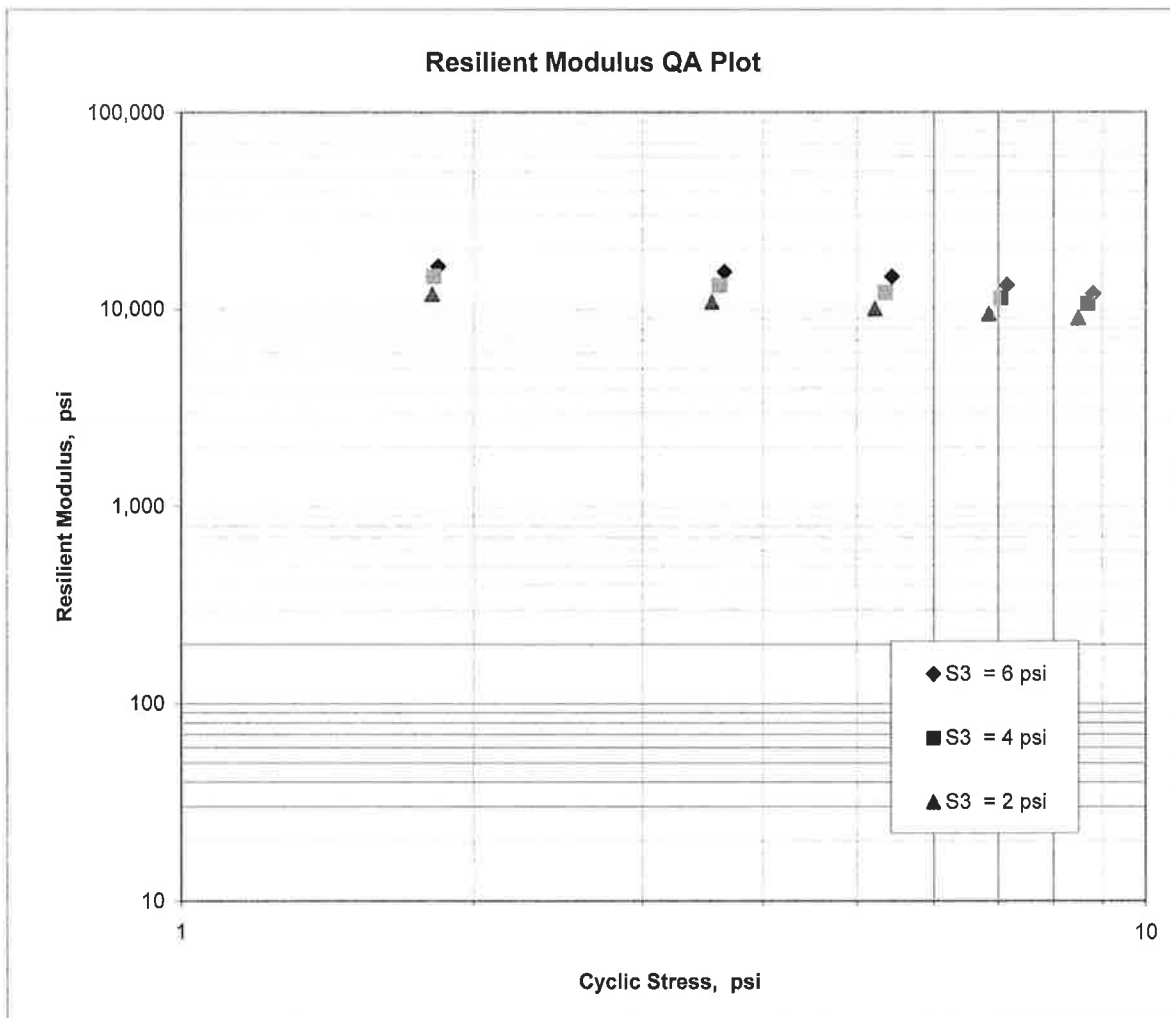
$$M_R = K_1 (S_C)^{K_2} (S_3)^{K_5}$$

$$K_1 = 11,069$$

$$K_2 = -0.19191$$

$$K_5 = 0.30435$$

$$R^2 = 0.97$$



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

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

Job No.	020534	Material Code	SSRVPS
Date Sampled:	07/31/2013	Station No.:	144+00
Date Tested:	July 31, 2013	Location:	25'LT
Name of Project:	CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)		
County:	Code: 2	Name: ASHLEY	
Sampled By:	FAULKNER	Depth:	0-5
Lab No.:	20133180	AASHTO Class:	A-6(11)
Sample ID:	RV1435	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):	8.05
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.05
Initial Area, Ao (sq. in):	12.24
Initial Volume, AoLo (cu. in):	98.50

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3074.20
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	14.8
Maximum Dry Density (pcf):	109.9
95% of MDD (pcf):	104.4
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3074.20
Compaction Moisture content (%):	14.3
Compaction Wet Density (pcf):	118.92
Compaction Dry Density (pcf):	104.04
Moisture Content After Mr Test (%):	14.3

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

#VALUE!

7. Resilient Modulus, Mr:

8768(S_c)^{-0.12795}(S₃)^{0.34275}

8. Comments

9. Tested By:

DEB _____

Date: July 31, 2013 _____

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

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

Job No. 020534 **Material Code** SSRVPS
Date Sampled: 07/31/2013 **Station No.:** 144+00
Date Tested: July 31, 2013 **Location:** 25'LT
Name of Project: CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)
County: Code: 2 **Name:** ASHLEY
Sampled By: FAULKNER **Depth:** 0-5
Lab No.: 20133180 **AASHTO Class:** A-6(11)
Sample ID: RV1435 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
	S ₃ psi	S _{cyclic} psi	P _{max} lbs	P _{cyclic} lbs	P _{contact} lbs	S _{max} psi	S _{cyclic} psi	S _{contact} psi	H _{avg} in	ε _r in/in	M _r psi
Sequence 1	6.0	2.0	25.3	22.6	2.7	2.1	1.9	0.2	0.00099	0.00012	15,107
Sequence 2	6.0	4.0	47.3	44.7	2.6	3.9	3.7	0.2	0.00204	0.00025	14,406
Sequence 3	6.0	6.0	70.0	66.5	3.6	5.7	5.4	0.3	0.00328	0.00041	13,330
Sequence 4	6.0	8.0	93.7	87.7	6.0	7.7	7.2	0.5	0.00480	0.00060	12,015
Sequence 5	6.0	10.0	116.9	108.4	8.5	9.6	8.9	0.7	0.00631	0.00078	11,296
Sequence 6	4.0	2.0	25.2	22.5	2.7	2.1	1.8	0.2	0.00108	0.00013	13,649
Sequence 7	4.0	4.0	47.1	44.4	2.7	3.8	3.6	0.2	0.00234	0.00029	12,495
Sequence 8	4.0	6.0	68.6	65.8	2.7	5.6	5.4	0.2	0.00370	0.00046	11,706
Sequence 9	4.0	8.0	92.1	86.9	5.2	7.5	7.1	0.4	0.00524	0.00065	10,920
Sequence 10	4.0	10.0	115.4	107.7	7.7	9.4	8.8	0.6	0.00686	0.00085	10,327
Sequence 11	2.0	2.0	24.9	22.1	2.8	2.0	1.8	0.2	0.00161	0.00020	9,043
Sequence 12	2.0	4.0	46.8	43.9	2.9	3.8	3.6	0.2	0.00302	0.00037	9,572
Sequence 13	2.0	6.0	67.8	64.9	2.9	5.5	5.3	0.2	0.00469	0.00058	9,109
Sequence 14	2.0	8.0	90.2	85.7	4.5	7.4	7.0	0.4	0.00629	0.00078	8,968
Sequence 15	2.0	10.0	113.4	106.4	7.0	9.3	8.7	0.6	0.00798	0.00099	8,772

TESTED BY DEB **DATE** July 31, 2013
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.	020534	Material Code	SSRVPS
Date Sampled:	07/31/2013	Station No.:	144+00
Date Tested:	July 31, 2013	Location:	25'LT
Name of Project:	CO.RD.411 - HWY.425 (EAST OF CROSSETT)(S)		
County:	Code: 2	Name:	ASHLEY
Sampled By:	FAULKNER	Depth:	0-5
Lab No.:	20133180	AASHTO Class:	A-6(11)
Sample ID:	RV1435	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

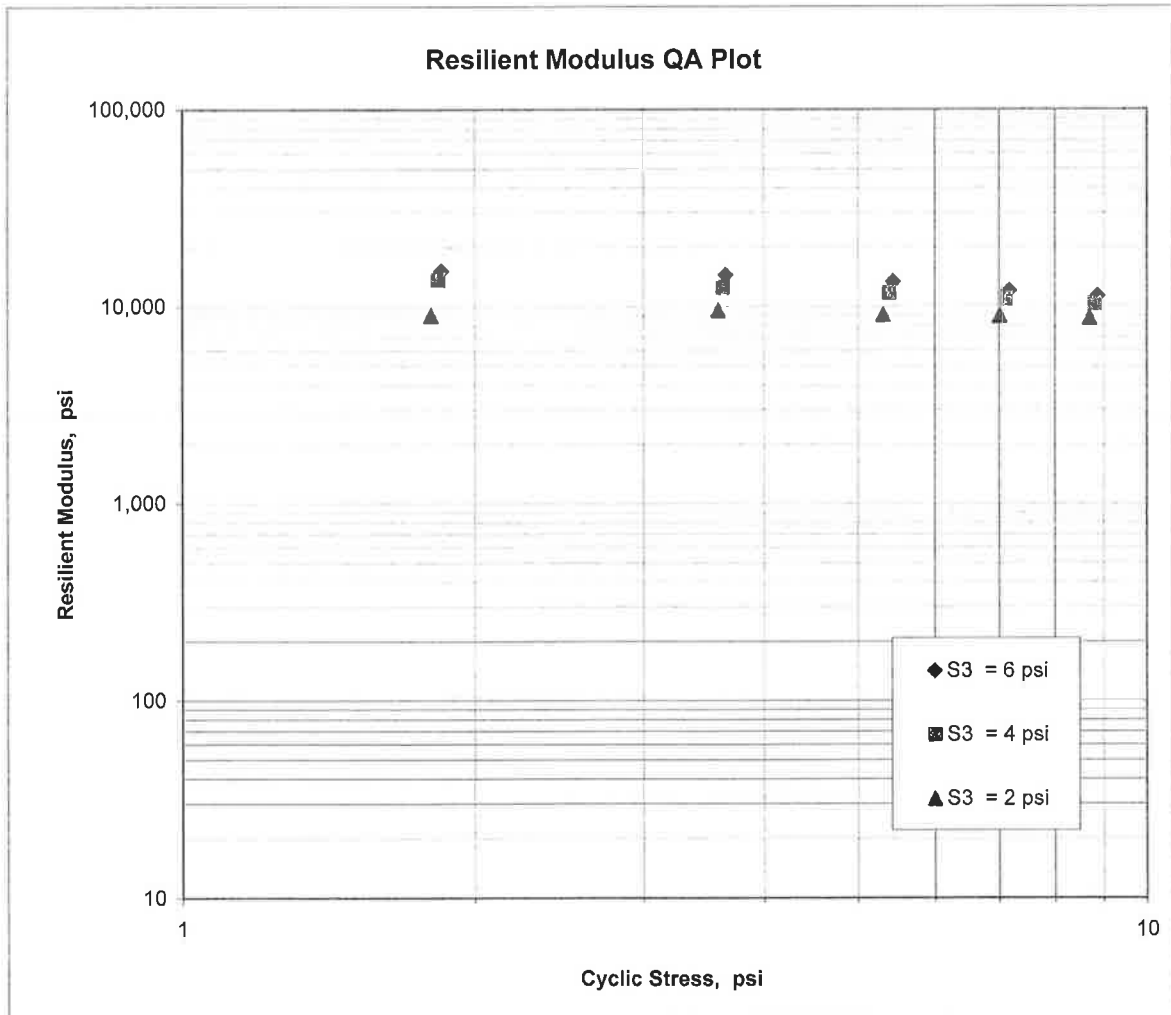
$$M_R = K_1 (S_C)^{K_2} (S_3)^{K_5}$$

$$K_1 = 8,768$$

$$K_2 = -0.12795$$

$$K_5 = 0.34275$$

$$R^2 = 0.92$$



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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 2
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20133075	-	20133076	-	20133077
SAMPLE ID	-	S1330	-	S1331	-	S1332
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	128+00	-	128+00	-	128+00
LOCATION	-	6'LT	-	15'LT	-	25'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 8 8.90	-	33 08 9.00	-	33 8 9.10
LONGITUDE DEG-MIN-SEC	-	91 54 40.40	-	91 54 40.40	-	91 54 40.40
% PASSING	2	IN. -	-		-	
	1 1/2	IN. -	-		-	
	3/4	IN. -	-		-	
	3/8	IN. -	-	100	-	100
	NO. 4	- 100	-	99	-	98
	NO. 10	- 98	-	97	-	96
	NO. 40	- 93	-	93	-	93
	NO. 80	- 88	-	88	-	91
	NO. 200	- 85	-	85	-	88
LIQUID LIMIT	-	24	-	27	-	29
PLASTICITY INDEX	-	6	-	8	-	9
AASHTO SOIL	-	A-4 (3)	-	A-4 (5)	-	A-4 (7)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	17.4	-	18.1	-	19.1
ACHMSC	(IN) -	4.0W	-	4.0W	-	----
ACHMBC	(IN) -	1.75	-	----	-	----
AGG.BASE CRS, CL-5	(IN) -	----	-	3.0	-	----

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 08/06/13	SEQUENCE NO.	- 9
JOB NUMBER	- 020534	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2003
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 02
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- ASHLEY COUNTY	DATE SAMPLED	- 06/18/13
SAMPLED BY	- FAULKNER/BOUGHNER	DATE RECEIVED	- 06/20/13
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 08/05/13
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20133096	- 20133097	- 20133098
SAMPLE ID	- S1351	- S1352	- S1353
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 184+00	- 184+00	- 184+00
LOCATION	- 55'RT	- 64'RT	- 75'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 8 7.10	- 33 08 7.10	- 33 8 7.00
LONGITUDE DEG-MIN-SEC	- 91 53 34.50	- 91 53 34.50	- 91 53 34.60
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	- 100
	NO. 4 - 99	- 97	- 99
	NO. 10 - 97	- 93	- 98
	NO. 40 - 91	- 83	- 94
	NO. 80 - 83	- 71	- 91
	NO. 200 - 80	- 64	- 88
LIQUID LIMIT	- 23	- 22	- 28
PLASTICITY INDEX	- 7	- 7	- 9
AASHTO SOIL	- A-4 (3)	- A-4 (2)	- A-4 (7)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 16.4	- 18.3	- 23.2
ACHMSC (IN)	- 5.5W	- 5.5W	- ----
ACHMBC (IN)	- 2.0	- ----	- ----
AGG.BASE CRS, CL-5 (IN)	- ----	- 3.0	- ----
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 11
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20133102	20133103	20133104
SAMPLE ID	S1357	S1358	S1359
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	200+00	200+00	200+00
LOCATION	10'RT	19'RT	CL
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 8 7.10	33 08 7.00	33 8 7.20
LONGITUDE DEG-MIN-SEC	91 53 16.00	91 53 16.00	91 53 16.00
% PASSING			
2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.	100	100	100
NO. 4	99	98	99
NO. 10	95	93	98
NO. 40	83	83	95
NO. 80	70	71	93
NO. 200	61	63	89
LIQUID LIMIT	23	21	31
PLASTICITY INDEX	8	5	12
AASHTO SOIL	A-4 (2)	A-4 (1)	A-6 (10)
UNIFIED SOIL			
% MOISTURE CONTENT	13.9	20.2	20.0
ACHMSC (IN)	4.0W	5.75W	----
AGG.BASE CRS, CL-5 (IN)	3.0	----	----

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 12
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20133105	-	20133106	-	20133107
SAMPLE ID	-	S1360	-	S1361	-	S1362
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	207+00	-	207+00	-	207+00
LOCATION	-	26'RT	-	35'RT	-	45'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 8 6.60	-	33 08 6.60	-	33 8 6.50
LONGITUDE DEG-MIN-SEC	-	91 53 7.80	-	91 53 7.80	-	91 53 7.80
% PASSING	2	IN.	-	-	-	-
	1 1/2	IN.	-	-	-	-
	3/4	IN.	-	-	-	-
	3/8	IN.	-	-	-	100
	NO. 4	-	100	-	100	99
	NO. 10	-	99	-	98	98
	NO. 40	-	96	-	95	96
	NO. 80	-	93	-	92	79
	NO. 200	-	88	-	84	57
LIQUID LIMIT	-	28	-	27	-	18
PLASTICITY INDEX	-	13	-	11	-	4
AASHTO SOIL	-	A-6(10)	-	A-6(7)	-	A-4(0)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	17.1	-	15.7	-	18.2
ACHMSC	(IN)	-	2.0	-	6.25W	-
ACHMBC	(IN)	-	2.0	-	----	-
AGG.BASE CRS, CL-5	(IN)	-	----	-	2.0	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED
-
-
-
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 - 08/06/13 SEQUENCE NO. - 24
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20133141	20133142	20133143
SAMPLE ID	S1396	S1397	S1398
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	304+00	304+00	304+00
LOCATION	6'RT	15'RT	25'RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	GRAY	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	33 8 3.70	33 08 3.70	33 8 3.60
LONGITUDE DEG-MIN-SEC	91 51 13.20	91 51 13.10	91 51 13.10
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	100	100	100
NO. 4	99	99	99
NO. 10	97	96	97
NO. 40	95	92	97
NO. 80	92	89	88
NO. 200	80	76	79
LIQUID LIMIT	26	24	28
PLASTICITY INDEX	10	7	11
AASHTO SOIL	A-4 (6)	A-4 (3)	A-6 (7)
UNIFIED SOIL			
% MOISTURE CONTENT	15.2	21.7	17.6
ACHMSC (IN)	4.0W	5.25W	----
ACHMSC (IN)	3.0	----	----
AGG.BASE CRS, CL-5 (IN)	----	4.0	----

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 26
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20133147	20133148	20133149
SAMPLE ID	S1402	S1403	S1404
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	320+00	320+00	320+00
LOCATION	6'RT	15'RT	25'RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	GRAY	BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	33 8 3.50	33 08 3.40	33 8 3.30
LONGITUDE DEG-MIN-SEC	91 50 54.70	91 50 54.60	91 50 54.70
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	-	-
3/8 IN.	-	100	-
NO. 4	100	98	-
NO. 10	98	95	-
NO. 40	94	88	-
NO. 80	89	79	100
NO. 200	83	71	90
LIQUID LIMIT	22	23	27
PLASTICITY INDEX	7	8	9
AASHTO SOIL	A-4 (3)	A-4 (3)	A-4 (7)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	17.2	18.1	20.1
ACHMSC (IN)	4.25W	3.5W	----
ACHMBC (IN)	2.0	----	----
SOIL CEMENT (IN)	4.0	----	----
AGG.BASE CRS, CL-5 (IN)	----	4.0	----
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 27
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20133150	-	20133151	-	20133152
SAMPLE ID	-	S1405	-	S1406	-	S1407
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	328+00	-	328+00	-	328+00
LOCATION	-	6'LT	-	15'LT	-	25'LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	GRAY	-	BROWN
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	33 8 3.40	-	33 08 3.70	-	33 8 3.70
LONGITUDE DEG-MIN-SEC	-	91 50 45.30	-	91 50 45.30	-	91 50 45.20
% PASSING	2	IN.	-	-	-	-
	1 1/2	IN.	-	-	-	-
	3/4	IN.	-	-	-	-
	3/8	IN.	-	100	-	-
	NO. 4	-	-	99	-	-
	NO. 10	-	-	97	-	-
	NO. 40	-	-	93	-	-
	NO. 80	-	-	87	-	100
	NO. 200	-	-	82	-	90
LIQUID LIMIT	-	25	-	29	-	31
PLASTICITY INDEX	-	10	-	15	-	14
AASHTO SOIL	-	A-4 (6)	-	A-6 (10)	-	A-6 (12)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	18.3	-	18.6	-	21.8
ACHMSC	(IN)	-	4.0W	-	4.5W	-
ACHMBC	(IN)	-	2.0X	-	----	-
SOIL CEMENT	(IN)	-	4.0	-	----	-
AGG.BASE CRS, CL-5	(IN)	-	----	-	4.0	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 08/06/13 SEQUENCE NO. - 29
JOB NUMBER - 020534 MATERIAL CODE - SSRVPS
FEDERAL AID NO. - TO BE ASSIGNED SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 02
SUPPLIER NAME - STATE DISTRICT NO. - 02
NAME OF PROJECT - CO.RD.411 - HWY.425 (EAST OF CROSSETT) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - ASHLEY COUNTY DATE SAMPLED - 06/18/13
SAMPLED BY - FAULKNER/BOUGHNER DATE RECEIVED - 06/20/13
SAMPLE FROM - TEST HOLE DATE TESTED - 08/05/13
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20133156	-	20133157	-	20133158
SAMPLE ID	-	S1411	-	S1412	-	S1413
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	344+00	-	344+00	-	344+00
LOCATION	-	6'LT	-	15'LT	-	25'LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	33 8 3.30	-	33 08 3.40	-	33 8 3.50
LONGITUDE DEG-MIN-SEC	-	91 50 26.20	-	91 50 26.20	-	91 50 26.20
% PASSING	2 IN.	-	-	-	-	-
	1 1/2 IN.	-	-	-	-	-
	3/4 IN.	-	-	100	-	-
	3/8 IN.	-	100	99	-	100
	NO. 4	-	99	98	-	99
	NO. 10	-	97	96	-	96
	NO. 40	-	93	92	-	88
	NO. 80	-	87	83	-	79
	NO. 200	-	76	79	-	68
LIQUID LIMIT	-	32	-	23	-	28
PLASTICITY INDEX	-	18	-	7	-	12
AASHTO SOIL	-	A-6(11)	-	A-4(3)	-	A-6(6)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	19.0	-	18.8	-	21.3
ACHMSC	(IN)	-	4.25W	-	525W	-
ACHMBC	(IN)	-	3.75	-	-----	-
SOIL CEMENT	(IN)	-	5.0	-	-----	-
AGG.BASE CRS, CL-5	(IN)	-	-----	-	5.0	-
		-		-		-
		-		-		-
		-		-		-
		-		-		-
		-		-		-

REMARKS - LOCATIONS MEASURED FROM CENTERLINE OF CONSTRUCTION
- W=MULTIPLE LAYERS, X=STRIPPED

