

ARKANSAS DEPARTMENT OF TRANSPORTATION



**SUBSURFACE INVESTIGATION**

STATE JOB NO. 100632

FEDERAL AID PROJECT NO. STPC-9332(14)

CO. RD. 845 – HWY. 135 (PARAGOULD) (S)

STATE HIGHWAY 49 SECTION 2

IN GREENE 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

December 13, 2016

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 100632  
Co. Rd. 845 – Hwy. 135 (Paragould) (S)  
Route 49 Section 2  
Greene 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 4.2 miles of Highway 49 from two lanes to five lanes. Samples were obtained in the existing travel lanes, shoulders and ditch line.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of moderately to highly plastic clays containing varying amounts of sand. The subgrade soils are expected to provide a stable working platform with normal drying and compactive efforts, if the weather is favorable during construction.

Based on currently available cross sections, a maximum embankment height of approximately 30 feet is proposed between stations 253+00 to 272+00. Embankment and slope recommendations will be made when the subsurface investigation is completed. The remaining embankments may be constructed with locally available material utilizing the 3:1 slope configuration shown in the cross sections.

The proposed cut slopes are acceptable as shown in the currently available 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 near Black Rock.
2. Asphalt Concrete Hot Mix

<u>Type</u>	<u>Asphalt Cement %</u>	<u>Mineral Aggregate %</u>
Surface Course	5.1	94.9
Binder Course	4.2	95.8
Base Course	4.1	95.9

  
Michael C. Benson  
Materials Engineer

MCB:pt:bjj  
Attachment

cc: State Constr. Eng. – Master File Copy  
District 10 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 - 12/01/2016  
JOB NUMBER - 100632

SEQUENCE NO. - 1  
MATERIAL CODE - SSRV  
SPEC. YEAR - 2014  
SUPPLIER ID. - 1  
COUNTY/STATE - 28  
DISTRICT NO. - 10

JOB NAME - CO. RD 835 - HWY. 135 (PARAGOULD) (S)

\*\*\*\*\*  
\* STATION LIMITS R-VALUE AT 240 psi \*  
\*\*\*\*\*

BEGIN JOB - END JOB LESS THAN 5

RESILENT MODULUS  
STA. 141+00 5524  
STA. 205+00 8072  
STA. 274+00 6762  
STA. 315+00 6351

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REMARKS -

AASHTO TESTS : T190

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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	141+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	25'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b> GREENE	
<b>Sampled By:</b>	THORNTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163773	<b>AASHTO Class:</b>	A-6(11)
<b>Sample ID:</b>	RV464	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**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	3.95
Middle	3.95
Bottom	3.96
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):	12.20
Initial Volume, AoLo (cu. in):	97.97

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	2988.90
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**4. Soil Properties:**

Optimum Moisture Content (%):	18.3
Maximum Dry Density (pcf):	101.9
95% of MDD (pcf):	96.8
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	2988.90
Compaction Moisture content (%):	18.4
Compaction Wet Density (pcf):	116.24
Compaction Dry Density (pcf):	98.18
Moisture Content After Mr Test (%):	18.5

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

**7. Resilient Modulus, Mr:**  $7531(S_c)^{-0.23128}(S_3)^{0.26168}$

**8. Comments**

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\_\_\_\_\_

**9. Tested By:** DEB **Date:** November 29, 2016

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

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

**Job No.** 100632      **Material Code** SSRVPS  
**Date Sampled:** 11/29/16      **Station No.:** 141+00  
**Date Tested:** November 29, 2016      **Location:** 25'LT

**Name of Project:** CO.RD 835 - HWY.135 (PARAGOULD)(S)  
**County:** Code: 28      **Name:** GREENE

**Sampled By:** THORNTON      **Depth:** 0-5  
**Lab No.:** 20163773      **AAASHTO Class:** A-6(11)  
**Sample ID:** RV464      **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. LVD1 and 2	Resilient Strain	Resilient Modulus
	S <sub>3</sub> psi	S <sub>cyclic</sub> psi	P <sub>max</sub> lbs	P <sub>cyclic</sub> lbs	P <sub>contact</sub> lbs	S <sub>max</sub> psi	S <sub>cyclic</sub> psi	S <sub>contact</sub> psi	H <sub>avg</sub> in	ε <sub>r</sub> in/in	M <sub>r</sub> psi
Sequence 1	6.0	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00141	0.00018	10,442
Sequence 2	6.0	4.0	47.5	44.7	2.8	3.9	3.7	0.2	0.00305	0.00038	9,636
Sequence 3	6.0	6.0	70.0	66.3	3.7	5.7	5.4	0.3	0.00510	0.00063	8,566
Sequence 4	6.0	8.0	93.2	87.1	6.1	7.6	7.1	0.5	0.00771	0.00096	7,431
Sequence 5	6.0	10.0	115.6	107.1	8.6	9.5	8.8	0.7	0.01060	0.00132	6,645
Sequence 6	4.0	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00160	0.00020	9,201
Sequence 7	4.0	4.0	47.2	44.4	2.8	3.9	3.6	0.2	0.00352	0.00044	8,295
Sequence 8	4.0	6.0	68.6	65.8	2.8	5.6	5.4	0.2	0.00576	0.00072	7,508
Sequence 9	4.0	8.0	91.6	86.3	5.2	7.5	7.1	0.4	0.00831	0.00103	6,839
Sequence 10	4.0	10.0	114.5	106.8	7.7	9.4	8.8	0.6	0.01117	0.00139	6,292
Sequence 11	2.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00203	0.00025	7,232
Sequence 12	2.0	4.0	46.9	44.0	2.9	3.8	3.6	0.2	0.00422	0.00053	6,868
Sequence 13	2.0	6.0	67.9	65.0	2.9	5.6	5.3	0.2	0.00678	0.00084	6,314
Sequence 14	2.0	8.0	89.8	85.4	4.4	7.4	7.0	0.4	0.00951	0.00118	5,916
Sequence 15	2.0	10.0	112.1	105.3	6.8	9.2	8.6	0.6	0.01255	0.00156	5,524

TESTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

DEB      November 29, 2016

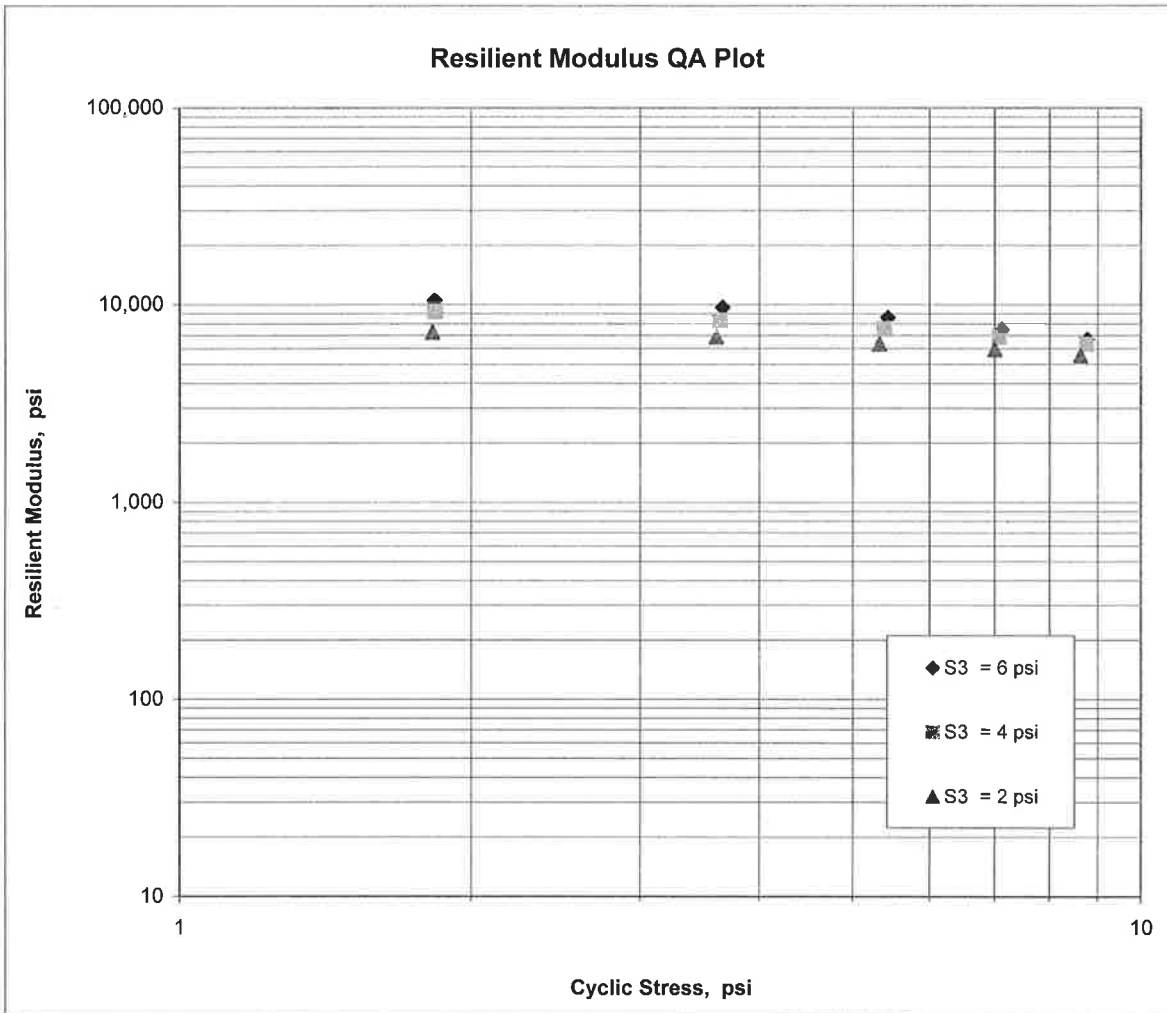
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
MATERIALS DIVISION**

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	141+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	25'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b>	GREENE
<b>Sampled By:</b>	THORNTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163773	<b>AASHTO Class:</b>	A-6(11)
<b>Sample ID:</b>	RV464	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

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

$K_1 =$	<u>7,531</u>
$K_2 =$	<u>-0.23128</u>
$K_5 =$	<u>0.26168</u>
$R^2 =$	<u>0.94</u>



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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	205+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	30LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b> GREENE	
<b>Sampled By:</b>	THORTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163774	<b>AASHTO Class:</b>	A-6-(9)
<b>Sample ID:</b>	RV465	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**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	3.95
Middle	3.94
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.00
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):	12.23
Initial Volume, AoLo (cu. in):	98.11

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	3043.40
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**4. Soil Properties:**

Optimum Moisture Content (%):	16.6
Maximum Dry Density (pcf):	105.5
95% of MDD (pcf):	100.2
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	3043.40
Compaction Moisture content (%):	16.7
Compaction Wet Density (pcf):	118.19
Compaction Dry Density (pcf):	101.28
Moisture Content After Mr Test (%):	16.7

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

#VALUE!

**7. Resilient Modulus, Mr:**

8506(Sc)^-0.14885(S3)^0.31661

**8. Comments**

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\_\_\_\_\_

**9. Tested By:**

DEB \_\_\_\_\_

**Date:** November 29, 2016 \_\_\_\_\_

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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	205+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	30'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)	<b>Depth:</b>	0-5
<b>County:</b>	Code: 28 GREENE	<b>AAASHTO Class:</b>	A-6-(9)
<b>Sampled By:</b>	THORTON	<b>Material Type (1 or 2):</b>	2
<b>Lab No.:</b>	20163774	<b>LONGITUDE:</b>	
<b>Sample ID:</b>	RV465		
<b>LATITUDE:</b>			

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 <sub>3</sub> psi	S <sub>cyclic</sub> psi	P <sub>max</sub> lbs	P <sub>cyclic</sub> lbs	P <sub>contact</sub> lbs	S <sub>max</sub> psi	S <sub>cyclic</sub> psi	S <sub>contact</sub> psi	H <sub>avg</sub> in	ε <sub>r</sub> in/in	M <sub>r</sub> psi
Sequence 1	6.0	2.0	24.7	22.1	2.6	2.0	1.8	0.2	0.00104	0.00013	13,899
Sequence 2	6.0	4.0	46.1	43.4	2.7	3.8	3.5	0.2	0.00218	0.00027	13,057
Sequence 3	6.0	6.0	67.6	64.0	3.6	5.5	5.2	0.3	0.00343	0.00043	12,250
Sequence 4	6.0	8.0	88.7	82.7	6.0	7.2	6.8	0.5	0.00493	0.00061	11,003
Sequence 5	6.0	10.0	109.2	100.6	8.5	8.9	8.2	0.7	0.00659	0.00082	10,005
Sequence 6	4.0	2.0	24.5	21.9	2.6	2.0	1.8	0.2	0.00116	0.00014	12,367
Sequence 7	4.0	4.0	45.2	42.6	2.6	3.7	3.5	0.2	0.00247	0.00031	11,280
Sequence 8	4.0	6.0	64.9	62.2	2.7	5.3	5.1	0.2	0.00388	0.00048	10,523
Sequence 9	4.0	8.0	86.1	81.0	5.2	7.0	6.6	0.4	0.00538	0.00067	9,870
Sequence 10	4.0	10.0	107.1	99.5	7.6	8.8	8.1	0.6	0.00703	0.00088	9,274
Sequence 11	2.0	2.0	23.7	21.0	2.7	1.9	1.7	0.2	0.00156	0.00019	8,829
Sequence 12	2.0	4.0	44.0	41.2	2.8	3.6	3.4	0.2	0.00308	0.00038	8,770
Sequence 13	2.0	6.0	63.2	60.4	2.8	5.2	4.9	0.2	0.00458	0.00057	8,649
Sequence 14	2.0	8.0	82.8	78.4	4.4	6.8	6.4	0.4	0.00619	0.00077	8,297
Sequence 15	2.0	10.0	103.6	96.6	7.0	8.5	7.9	0.6	0.00784	0.00098	8,072

TESTED BY	DEB	DATE	November 29, 2016
REVIEWED BY		DATE	



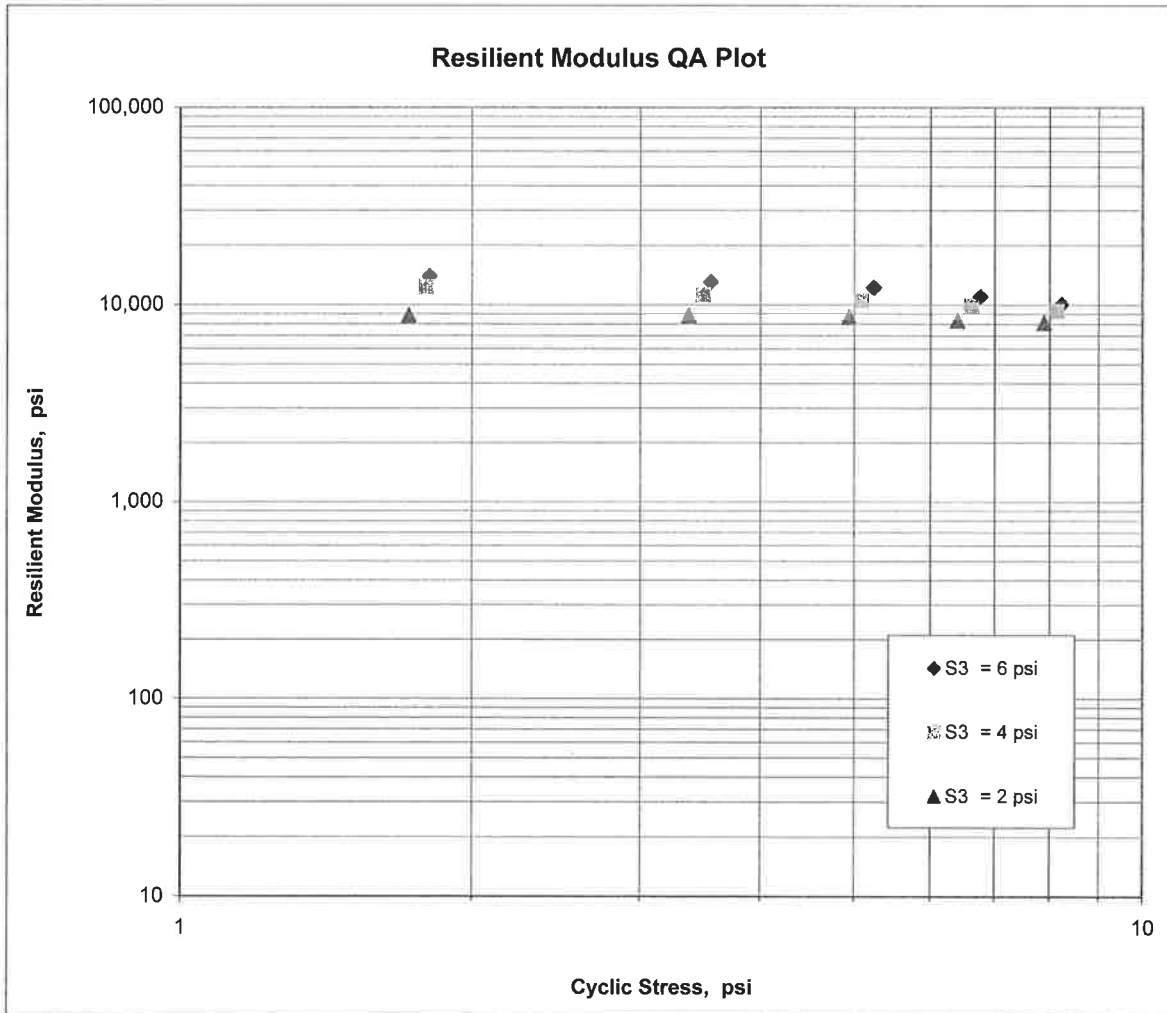
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
MATERIALS DIVISION**

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	205+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	30'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b>	GREENE
<b>Sampled By:</b>	THORTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163774	<b>AASHTO Class:</b>	A-6-(9)
<b>Sample ID:</b>	RV465	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

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

$K_1 =$	<u>8,506</u>
$K_2 =$	<u>-0.14885</u>
$K_5 =$	<u>0.31661</u>
$R^2 =$	<u>0.93</u>



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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	274+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	21LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b>	GREENE
<b>Sampled By:</b>	THORTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163775	<b>AASHTO Class:</b>	A-6-(10)
<b>Sample ID:</b>	RV466	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**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	3.94
Middle	3.95
Bottom	3.94
Average	3.94
Membrane Thickness (in):	0.00
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):	12.21
Initial Volume, AoLo (cu. in):	97.95

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	3100.10
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**4. Soil Properties:**

Optimum Moisture Content (%):	15.7
Maximum Dry Density (pcf):	107.1
95% of MDD (pcf):	101.7
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	3100.10
Compaction Moisture content (%):	15.8
Compaction Wet Density (pcf):	120.60
Compaction Dry Density (pcf):	104.14
Moisture Content After Mr Test (%):	15.9

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

#VALUE!

**7. Resilient Modulus, Mr:**

7846(Sc)^-0.17676(S3)^0.28463

**8. Comments**

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**9. Tested By:**

DEB

**Date:** November 29, 2016

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

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

**Job No.** 100632      **Material Code** SSRVPS  
**Date Sampled:** 11/29/16      **Station No.:** 274+00  
**Date Tested:** November 29, 2016      **Location:** 21'LT  
**Name of Project:** CO.RD 835 - HWY.135 (PARAGOULD)(S)  
**County:** Code: 28      **Name:** GREENE  
**Sampled By:** THORTON      **Depth:** 0-5  
**Lab No.:** 20163775      **AAASHTO Class:** A-6-(10)  
**Sample ID:** RV466      **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. LVD1 and 2	Resilient Strain	Resilient Modulus
	S <sub>3</sub> psi	S <sub>cyclic</sub> psi	P <sub>max</sub> lbs	P <sub>cyclic</sub> lbs	P <sub>contact</sub> lbs	S <sub>max</sub> psi	S <sub>cyclic</sub> psi	S <sub>contact</sub> psi	H <sub>avg</sub> in	ε <sub>r</sub> in/in	M <sub>r</sub> psi
Sequence 1	6.0	2.0	24.7	22.0	2.7	2.0	1.8	0.2	0.00123	0.00015	11,789
Sequence 2	6.0	4.0	46.1	43.3	2.9	3.8	3.5	0.2	0.00259	0.00032	10,990
Sequence 3	6.0	6.0	67.3	63.5	3.7	5.5	5.2	0.3	0.00416	0.00052	10,034
Sequence 4	6.0	8.0	89.0	82.8	6.2	7.3	6.8	0.5	0.00599	0.00075	9,071
Sequence 5	6.0	10.0	110.0	101.3	8.7	9.0	8.3	0.7	0.00790	0.00098	8,421
Sequence 6	4.0	2.0	24.7	21.8	2.8	2.0	1.8	0.2	0.00136	0.00017	10,508
Sequence 7	4.0	4.0	45.4	42.6	2.8	3.7	3.5	0.2	0.00291	0.00036	9,600
Sequence 8	4.0	6.0	65.3	62.4	2.9	5.3	5.1	0.2	0.00461	0.00057	8,891
Sequence 9	4.0	8.0	87.1	81.8	5.3	7.1	6.7	0.4	0.00647	0.00081	8,301
Sequence 10	4.0	10.0	108.0	100.2	7.8	8.8	8.2	0.6	0.00841	0.00105	7,825
Sequence 11	2.0	2.0	24.1	21.2	2.8	2.0	1.7	0.2	0.00171	0.00021	8,166
Sequence 12	2.0	4.0	44.4	41.6	2.9	3.6	3.4	0.2	0.00356	0.00044	7,659
Sequence 13	2.0	6.0	63.7	60.8	2.9	5.2	5.0	0.2	0.00550	0.00069	7,266
Sequence 14	2.0	8.0	84.0	79.6	4.4	6.9	6.5	0.4	0.00743	0.00093	7,035
Sequence 15	2.0	10.0	105.1	98.1	7.0	8.6	8.0	0.6	0.00953	0.00119	6,762

TESTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	274+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	21'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b>	GREENE
<b>Sampled By:</b>	THORTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163775	<b>AASHTO Class:</b>	A-6-(10)
<b>Sample ID:</b>	RV466	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

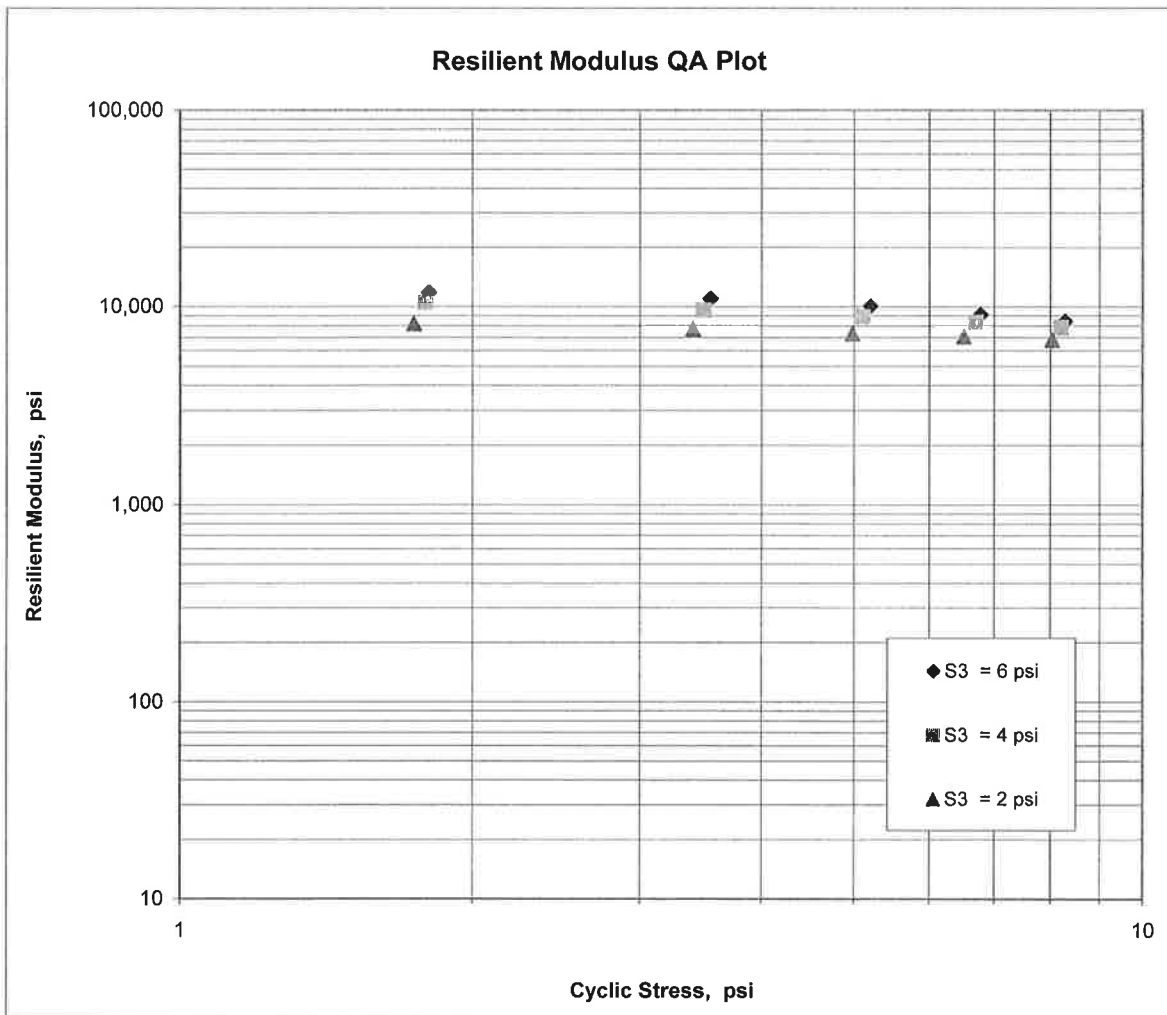
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = \underline{7,846}$$

$$K_2 = \underline{-0.17676}$$

$$K_5 = \underline{0.28463}$$

$$R^2 = \underline{0.96}$$



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

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

<b>Job No.</b>	100632	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	11/29/16	<b>Station No.:</b>	315+00
<b>Date Tested:</b>	November 29, 2016	<b>Location:</b>	33'LT
<b>Name of Project:</b>	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
<b>County:</b>	<b>Code:</b> 28	<b>Name:</b> GREENE	
<b>Sampled By:</b>	THORTON	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20163776	<b>AASHTO Class:</b>	A-4(6)
<b>Sample ID:</b>	RV467	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**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	3.95
Middle	3.96
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.00
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):	12.27
Initial Volume, AoLo (cu. in):	98.44

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	3073.30
------------------------------	---------

**4. Soil Properties:**

Optimum Moisture Content (%):	16.1
Maximum Dry Density (pcf):	107
95% of MDD (pcf):	101.7
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	3073.30
Compaction Moisture content (%):	16.3
Compaction Wet Density (pcf):	118.95
Compaction Dry Density (pcf):	102.28
Moisture Content After Mr Test (%):	16.2

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

#VALUE!

**7. Resilient Modulus, Mr:**

6289(Sc)<sup>-0.11949</sup>(S3)<sup>0.33399</sup>

**8. Comments**

\_\_\_\_\_

\_\_\_\_\_

**9. Tested By:**

DEB \_\_\_\_\_

**Date:** November 29, 2016 \_\_\_\_\_

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

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

**Job No.** 100632      **Material Code** SSRVPS  
**Date Sampled:** 11/29/16      **Station No.:** 315+00  
**Date Tested:** November 29, 2016      **Location:** 33'LT  
**Name of Project:** CO.RD 835 - HWY.135 (PARAGOULD)(S)  
**County:** Code: 28      **Name:** GREENE  
**Sampled By:** THORTON      **Depth:** 0-5  
**Lab No.:** 20163776      **AASHTO Class:** A-4(6)  
**Sample ID:** RV467      **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 <sub>3</sub>	S <sub>cyclic</sub>	P <sub>max</sub>	P <sub>cyclic</sub>	P <sub>contact</sub>	S <sub>max</sub>	S <sub>cyclic</sub>	S <sub>contact</sub>	H <sub>avg</sub>	ε <sub>r</sub>	M <sub>r</sub>
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.5	22.9	2.7	2.1	1.9	0.2	0.00139	0.00017	10,738
Sequence 2	6.0	4.0	48.0	45.2	2.8	3.9	3.7	0.2	0.00292	0.00036	10,133
Sequence 3	6.0	6.0	71.1	67.4	3.7	5.8	5.5	0.3	0.00468	0.00058	9,408
Sequence 4	6.0	8.0	95.0	88.8	6.1	7.7	7.2	0.5	0.00663	0.00083	8,755
Sequence 5	6.0	10.0	119.0	110.4	8.6	9.7	9.0	0.7	0.00852	0.00106	8,464
Sequence 6	4.0	2.0	25.5	22.8	2.7	2.1	1.9	0.2	0.00157	0.00020	9,496
Sequence 7	4.0	4.0	47.5	44.8	2.7	3.9	3.7	0.2	0.00335	0.00042	8,747
Sequence 8	4.0	6.0	69.3	66.5	2.8	5.6	5.4	0.2	0.00533	0.00066	8,156
Sequence 9	4.0	8.0	93.4	88.2	5.2	7.6	7.2	0.4	0.00732	0.00091	7,876
Sequence 10	4.0	10.0	117.3	109.6	7.7	9.6	8.9	0.6	0.00945	0.00118	7,579
Sequence 11	2.0	2.0	25.1	22.4	2.7	2.0	1.8	0.2	0.00212	0.00026	6,918
Sequence 12	2.0	4.0	47.1	44.3	2.7	3.8	3.6	0.2	0.00430	0.00054	6,745
Sequence 13	2.0	6.0	68.3	65.6	2.7	5.6	5.3	0.2	0.00654	0.00081	6,560
Sequence 14	2.0	8.0	90.9	86.6	4.3	7.4	7.1	0.3	0.00890	0.00111	6,359
Sequence 15	2.0	10.0	114.7	107.9	6.8	9.3	8.8	0.6	0.01110	0.00138	6,351

**TESTED BY** \_\_\_\_\_ **DATE** \_\_\_\_\_  
**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.	100632	Material Code	SSRVPS
Date Sampled:	11/29/16	Station No.:	315+00
Date Tested:	November 29, 2016	Location:	33'LT
Name of Project:	CO.RD 835 - HWY.135 (PARAGOULD)(S)		
County:	Code: 28	Name:	GREENE
Sampled By:	THORTON	Depth:	0-5
Lab No.:	20163776	AASHTO Class:	A-4(6)
Sample ID:	RV467	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

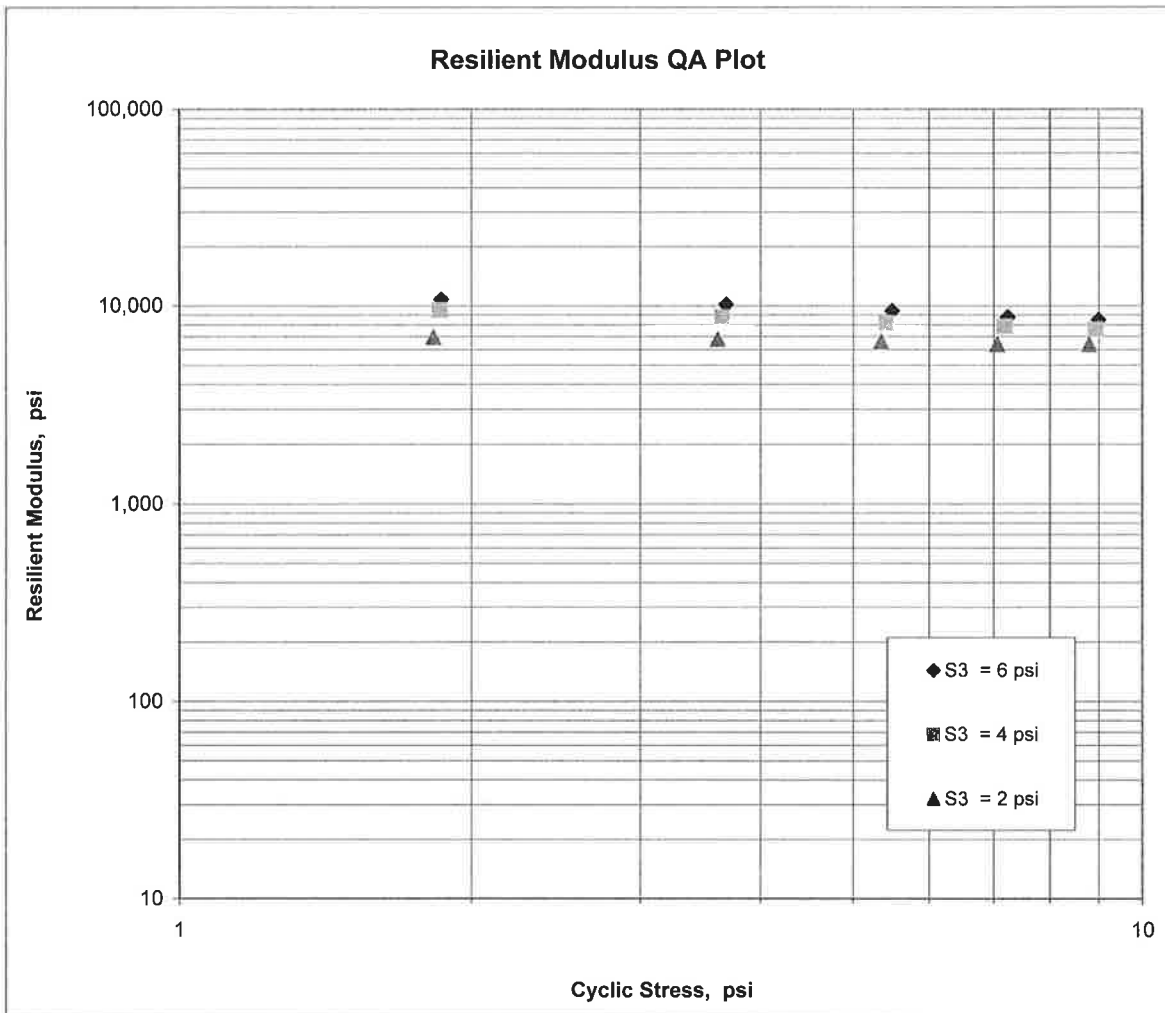
$$M_R = K_1 (S_C)^{K_2} (S_3)^{K_5}$$

$$K_1 = \underline{6,289}$$

$$K_2 = \underline{-0.11949}$$

$$K_5 = \underline{0.33399}$$

$$R^2 = \underline{0.97}$$



JOB: 100632

Arkansas State Highway Transportation Department

JOB NAME: CO. RD 835 - HWY. 135 (PARAGOULD)(S)

Materials Division

Michael Benson, Materials Engineer

COUNTY NO. 28 DATE TESTED 11/28/2016

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
218+00	15RT	0-5	GRAY	100				97	38	22	A-6(22)	A430	23
141+00	25LT	0-5	GRAY	100				97	34	11	A-6(11)	RV464	
205+00	30LT	0-5	BR/GR	99	96	94	88	87	31	11	A-6(9)	RV465	
274+00	21LT	0-5	BROWN	100				94	30	11	A-6(10)	RV466	
315+00	33LT	0-5	BR/GR	100				96	29	06	A-4(6)	RV467	
101+00	06RT	0-5	GRAY	100				97	36	18	A-6(18)	S392	24.9
101+00	12RT	0-5	GRAY	100				98	34	16	A-6(16)	S393	28.5
101+00	18RT	0-5	GRAY	100				94	36	19	A-6(18)	S394	25.8
108+00	06LT	0-5	BROWN	100				96	35	17	A-6(16)	S395	22.7
108+00	15LT	0-5	BROWN	100				97	30	10	A-4(9)	S396	23.9
117+00	06RT	0-5	GRAY	100				94	26	06	A-4(5)	S397	19.8
117+00	15RT	0-5	GRAY	100				96	26	07	A-4(6)	S398	19.9
117+00	21RT	0-5	BR/GR	88	87	83	81	80	27	09	A-4(5)	S399	13.1
128+00	06LT	0-5	BROWN	100				97	44	27	A-7-6(28)	S400	21.7
128+00	15LT	0-5	BROWN	100				96	42	25	A-7-6(25)	S401	22
133+00	06RT	0-5	BR/GR	100				91	33	14	A-6(12)	S402	23
133+00	15RT	0-5	BR/GR	100				95	38	20	A-6(19)	S403	23.1
133+00	21RT	0-5	BROWN	100				94	36	18	A-6(17)	S404	23
141+00	15LT	0-5	GRAY	100				98	40	22	A-6(23)	S405	23.6
141+00	21LT	0-5	BR/GR	100				98	42	24	A-7-6(25)	S406	24.5
144+00	06LT	0-5	GRAY	100				98	36	17	A-6(17)	S407	21.4
149+00	06RT	0-5	LT. B	100				95	42	24	A-7-6(24)	S408	21
149+00	15RT	0-5	BR/GR	100				93	45	29	A-7-6(28)	S409	22.2
149+00	21RT	0-5	BROWN	79	73	64	57	54	35	18	A-6(6)	S410	21.7
158+00	06LT	0-5	GRAY	100				95	28	08	A-4(7)	S411	18.8
158+00	15LT	0-5	GRAY	95	89	82	78	76	26	08	A-4(4)	S412	18.3

comments: X=STRIPPED, W=MULTIPLE LAYERS

Monday, December 12, 2016



STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
158+00	21LT	0-5	BROWN	84	72	57	52	50	26	08	A-4(1)	S413	15.9
165+00	06RT	0-5	GRAY	100				98	26	07	A-4(6)	S414	20.3
165+00	15RT	0-5	LT.	100				96	28	10	A-4(2)	S415	19.6
165+00	21RT	0-5	BROWN	86	80	72	66	64	25	07	A-4(2)	S416	14.9
173+00	06LT	0-5	GRAY	100				96	ND	NP	A-4(0)	S417	19.4
181+00	06RT	0-5	BR/GR	98	95	90	87	86	ND	NP	A-4(0)	S418	19.8
181+00	15RT	0-5	GR/BR	100				92	ND	NP	A-4(0)	S419	20
181+00	21RT	0-5	BR/GR	100				97	ND	NP	A-4(0)	S420	21.9
189+00	06LT	0-5	BR/GR	100				97	33	14	A-6(14)	S421	19
189+00	15LT	0-5	BR/GR	99	97	93	90	89	33	16	A-6(13)	S422	24.1
197+00	06RT	0-5	BROWN	100				95	34	16	A-6(15)	S423	28.8
197+00	15RT	0-5	BR/GR	100				92	34	19	A-6(17)	S424	24
197+00	21RT	0-5	BROWN	98	95	88	82	79	31	12	A-6(8)	S425	29.1
205+00	06LT	0-5	GR/BR	100				99	36	18	A-6(18)	S426	24.6
205+00	12LT	0-5	BROWN	100				96	47	31	A-7-6(31)	S427	18.7
205+00	30LT	0-5	BROWN	100				96	37	21	A-6(20)	S428	24.9
218+00	06RT	0-5	GRAY	100				94	37	20	A-6(19)	S429	22
218+00	21RT	0-5	BROWN	94	92	89	85	84	32	15	A-6(11)	S431	17.2
226+00	06LT	0-5	BROWN	100				98	31	11	A-6(11)	S432	23.4
226+00	12LT	0-5	BR/GR	100				95	31	10	A-4(9)	S433	25.8
226+00	21LT	0-5	BROWN	97	95	89	86	85	29	09	A-4(7)	S434	22.8
234+00	06RT	0-5	BROWN	98	96	89	81	77	29	12	A-6(7)	S435	20.8
234+00	15RT	0-5	BROWN	98	95	90	87	84	33	15	A-6(12)	S436	21.4
234+00	21RT	0-5	BROWN	94	90	78	65	59	25	9	A-4(3)	S437	17
242+00	06LT	0-5	BROWN	95	92	83	74	70	33	15	A-6(9)	S438	19.6
242+00	12LT	0-5	BROWN	99	97	90	80	73	31	14	A-6(8)	S439	16.9
242+00	21LT	0-5	BROWN	97	94	84	73	68	29	12	A-6(6)	S440	19.1
250+00	15RT	0-5	BROWN	98	97	93	90	89	31	12	A-6(10)	S441	28.8

comments: X=STRIPPED, W=MULTIPLE LAYERS

Monday, December 12, 2016

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
250+00	21RT	0-5	BROWN	100				93	33	13	A-6(12)	S442	28.7
258+00	06LT	0-5	BROWN	99	98	96	88	87	33	14	A-6(11)	S443	21.6
258+00	12LT	0-5	BROWN	96	92	85	65	61	30	13	A-6(5)	S444	21
258+00	21LT	0-5	BROWN	100				92	32	14	A-6(12)	S445	19.2
266+00	06RT	0-5	BROWN	100				96	36	16	A-6(16)	S446	22.5
266+00	15RT	0-5	BROWN	87	84	78	74	73	40	18	A-6(12)	S447	21.9
266+00	21RT	0-5	BROWN	100				93	36	18	A-6(17)	S448	25.8
274+00	06LT	0-5	BROWN	100				98	35	17	A-6(17)	S449	22.9
274+00	15LT	0-5	BROWN	100				91	36	18	A-6(16)	S450	21.2
274+00	21LT	0-5	BROWN	100				94	38	20	A-6(19)	S451	22.5
291+00	06RT	0-5	BR/GR	99	97	92	82	80	35	17	A-6(12)	S452	18
291+00	16RT	0-5	BROWN	99	97	92	84	82	29	11	A-6(7)	S453	23.9
291+00	30RT	0-5	BROWN	97	93	86	81	79	36	21	A-6(15)	S454	22.9
299+00	06LT	0-5	BROWN	100				90	45	30	A-7-6(27)	S455	27.1
299+00	15LT	0-5	BROWN	100				91	45	29	A-7-6(27)	S456	25.2
299+00	30LT	0-5	BROWN	100				97	47	31	A-7-6(32)	S457	29
307+00	06RT	0-5	BROWN	100				95	45	30	A-7-6(30)	S458	26.1
307+00	15RT	0-5	BROWN	100				85	38	22	A-6(18)	S459	21.3
307+00	30RT	0-5	BROWN	100				46	46	28	A-7(6)	S460	28.1
315+00	06LT	0-5	BROWN	98	97	91	74	70	27	14	A-6(7)	S461	20.5
315+00	15LT	0-5	BROWN	99	98	95	90	89	31	17	A-6(14)	S462	18.7
315+00	30LT	0-5	BR/GR						40	24	A-6(25)	S463	22.1

**PAVEMENT SOUNDINGS**

STA.#	LOC.	TEST DATE	TEST TYPE	TEST RESULT	TEST METHOD	TEST NOTES	TEST COMMENTS
101+00	12RT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7	4.0	
101+00	18RT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7		
101+00	06RT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7	4.0	
108+00	06LT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
108+00	15LT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
117+00	06RT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
117+00	15RT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
117+00	21RT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
128+00	06LT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC		AGG.BASE CRS CL-7
128+00	15LT	ACHMSC	ACHMSC	AGG.BASE CRS CL-7	3.0		
133+00	15RT	ACHMSC	ACHMSC	AGG.BASE CRS CL-7	4.0		
133+00	21RT	ACHMSC	ACHMSC	SAND ASPHALT	AGG.BASE CRS CL-7		
133+00	06RT	ACHMSC	ACHMSC	AGG.BASE CRS CL-7	4.0		
141+00	15LT	ACHMSC	ACHMSC	SAND ASPHALT	AGG.BASE CRS CL-7	5.0	
141+00	21LT	ACHMSC	ACHMSC	SAND ASPHALT	AGG.BASE CRS CL-7	9.0	
144+00	06LT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7	2.0	
149+00	21RT	ACHMSC	SAND ASPHALT	ACHMBC	AGG.BASE CRS CL-7		

**comments:** X=STRIPPED, W=MULTIPLE LAYERS

**STA.# LOC.**

**PAVEMENT SOUNDINGS**

149+00	15RT	ACHMSC 4.0W	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7 5.0
149+00	06RT	ACHMSC 2.0	SAND ASPHALT 1.0X	ACHMSC 4.0	AGG.BASE CRS CL-7 5.0
158+00	15LT	ACHMSC 4.0W	SAND ASPHALT	ACHMBC	AGG.BASE CRS CL-7 8.0
158+00	21LT	ACHMSC	ACHMSC	SAND ASPHALT	ACHMSC AGG.BASE CRS CL-7
158+00	06LT	ACHMSC 9.0W	SAND ASPHALT 2.5X	ACHMBC 1.5	AGG.BASE CRS CL-7 4.0
165+00	06RT	ACHMSC 3.0W	ACHMSC 3.0X	SAND ASPHALT 3.0	ACHMSC AGG.BASE CRS CL-7 7.0
165+00	15RT	ACHMSC 4.0W	ACHMSC	SAND ASPHALT	ACHMSC AGG.BASE CRS CL-7 8.0
165+00	21RT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7
173+00	06LT	ACHMSC 4.0	SAND ASPHALT 1.0	ACHMSC	AGG.BASE CRS CL-7
181+00	06RT	ACHMSC 6.0X	SAND ASPHALT 3.5	ACHMSC 1.0	AGG.BASE CRS CL-7 5.0
181+00	15RT	ACHMSC 3.5	SAND ASPHALT	AGG.BASE CRS CL-7 7.0	
181+00	21RT	ACHMSC	SAND ASPHALT	AGG.BASE CRS CL-7	
189+00	06LT	ACHMSC 7.5	SAND ASPHALT 3.0W	AGG.BASE CRS CL-7 5.0	
189+00	15LT	ACHMSC 12.0W	ACHMSC	ACHMSC	SAND ASPHALT AGG.BASE CRS CL-7 2.0
197+00	06RT	ACHMSC 1.5	ACHMSC 1.0X	ACHMSC 3.0	AGG.BASE CRS CL-7 6.0
197+00	15RT	ACHMSC 4.0W	ACHMSC	ACHMSC	AGG.BASE CRS CL-7 6.0
197+00	21RT	ACHMSC	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7
205+00	30LT	ACHMSC	ACHMBC	ACHMSC	SAND ASPHALT AGG.BASE CRS CL-7
205+00	12LT	ACHMSC 4.0W	SAND ASPHALT	ACHMSC	AGG.BASE CRS CL-7 8.0

**comments:** X=STRIPPED, W=MULTIPLE LAYERS

STA.# LOC.

PAVEMENT SOUNDINGS

205+00	06LT	ACHMSC 7.0W	SAND ASPHALT 3.0W	ACHMSC 1.5	AGG BASE CRS CL-7 1.0		
218+00	06RT	ACHMSC 2.0	ACHMBC	ACHMSC 1.0X	ACHMSC 4.0W	SAND ASPHALT 2.0	AGG BASE CRS CL-7 4.0
218+00	15RT	ACHMSC 2.5W	ACHMBC 4.5	ACHMSC	ACHMSC	SAND ASPHALT	AGG BASE CRS CL-7
218+00	21RT	ACHMSC	ACHMBC	ACHMSC	ACHMSC		
226+00	06LT	ACHMSC 2.0	ACHMBC 2.0X	ACHMSC 2.0	ACHMSC	AGG BASE CRS CL-7 4.0	
226+00	12LT	ACHMSC 2.0	ACHMBC 6.0	ACHMSC	ACHMSC	AGG BASE CRS CL-7 5.0	
226+00	21LT	ACHMSC	ACHMBC	ACHMSC	ACHMSC	AGG BASE CRS CL-7	
234+00	15RT	ACHMSC 3.0W	ACHMBC 4.0	ACHMSC	ACHMSC	AGG BASE CRS CL-7 1.0	
234+00	21RT	ACHMSC	ACHMSC	SAND ASP	CHIP SEAL	AGG BASE CRS CL-7	
234+00	06RT	ACHMSC 6.0W	ACHMBC	ACHMSC 2.0	ACHMSC	AGG BASE CRS CL-7 5.0	
242+00	12LT	ACHMSC 4.0	ACHMSC	SAND ASP	CHIP SEAL	AGG BASE CRS CL-7 8.0	
242+00	21LT	ACHMSC	AGG BASE CRS CL-7				
242+00	06LT	ACHMSC 2.0	ACHMSC 6.0X	SAND ASP 2.0	CHIP SEAL 1.5	AGG BASE CRS CL-7 4.0	
250+00	15RT	ACHMSC 3.5W	AGG BASE CRS CL-7 4.0				
250+00	21RT	ACHMSC	AGG BASE CRS CL-7				
258+00	21LT	ACHMSC	PCCP	AGG BASE CRS CL-7			
258+00	06LT	ACHMSC 7.0XW	PCCP 6.0	AGG BASE CRS CL-7 2.0			
258+00	12LT	ACHMSC 4.0W	PCCP	AGG BASE CRS CL-7			
266+00	21RT	ACHMSC	PCCP	AGG BASE CRS CL-7			

comments: X=STRIPPED, W=MULTIPLE LAYERS

**PAVEMENT SOUNDINGS**

**STA.# LOC.**

266+00	06RT	ACHMSC	PCCP	AGG BASE CRS CL-7
		5.5	7.0	--
266+00	15RT	ACHMSC	PCCP	AGG BASE CRS CL-7
		4.0	--	4.0
274+00	06LT	ACHMSC	PCCP	AGG BASE CRS CL-7
		4.0X	7.0	--
274+00	15LT	ACHMSC	PCCP	AGG BASE CRS CL-7
		3.5W	--	4.0
274+00	21LT	ACHMSC	PCCP	AGG BASE CRS CL-7
		--	--	--
291+00	30RT	ACHMSC	ACHMBC	AGG BASE CRS CL-7
		--	--	--
291+00	06RT	ACHMSC	ACHMBC	AGG BASE CRS CL-7
		3.0	2.25	7.0
291+00	16RT	ACHMSC	ACHMBC	AGG BASE CRS CL-7
		1.5	--	5.0
299+00	30LT	ACHMSC	SAND ASP	ACHMBC
		--	--	--
299+00	06LT	ACHMSC	SAND ASP	ACHMBC
		3.5X	--	2.0
299+00	15LT	ACHMSC	SAND ASP	ACHMBC
		1.5	1.5	--
307+00	06RT	ACHMSC	ACHMBC	SAND ASP
		4.0X	2.0	7.0
307+00	15RT	ACHMSC	ACHMBC	SAND ASP
		1.5	--	1.5
307+00	30RT	ACHMSC	ACHMBC	SAND ASP
		--	--	--
315+00	30LT	ACHMSC	ACHMBC	SAND ASP
		--	--	--
315+00	06LT	ACHMSC	ACHMBC	SAND ASP
		4.0X	3.5X	8.0
315+00	15LT	ACHMSC	ACHMBC	SAND ASP
		1.75	--	1.5
				6.0

**comments:** X=STRIPPED, W=MULTIPLE LAYERS

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 12/01/16	SEQUENCE NO.	- 1
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163701	- 20163702	- 20163703
SAMPLE ID	- S392	- S393	- S394
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 101+00	- 101+00	- 101+00
LOCATION	- 06RT	- 12RT	- 18RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- GRAY	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 6 45.40	- 36 06 45.40	- 36 6 45.40
LONGITUDE DEG-MIN-SEC	- 90 26 29.10	- 90 26 29.10	- 90 26 29.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	- 100
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 - 97	- 98	- 94
LIQUID LIMIT	- 36	- 34	- 36
PLASTICITY INDEX	- 18	- 16	- 19
AASHTO SOIL	- A-6(18)	- A-6(16)	- A-6(18)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 24.9	- 28.5	- 25.8
ACHMSC (IN)	- 7.0W	- 4.0X	- --
SAND ASPHALT (IN)	- 2.0	- --	- --
ACHMSC (IN)	- 1.0	- --	- --
AGG.BASE CRS CL-7 (IN)	- 4.0	- 4.0	- --
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS

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	- 11/28/16	SEQUENCE NO.	- 2
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163704	- 20163705	- 20163706
SAMPLE ID	- S395	- S396	- S397
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 108+00	- 108+00	- 117+00
LOCATION	- 06LT	- 15LT	- 06RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 6 39.90	- 36 06 39.90	- 36 6 33.60
LONGITUDE DEG-MIN-SEC	- 90 26 33.30	- 90 26 33.30	- 90 26 41.60
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	- 100
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 - 96	- 97	- 94
LIQUID LIMIT	- 35	- 30	- 26
PLASTICITY INDEX	- 17	- 10	- 06
AASHTO SOIL	- A-6(16)	- A-4(9)	- A-4(5)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 22.7	- 23.9	- 19.8
ACHMSC (IN)	- 5.0X	- 4.0W	- 3.0XW
ACHMSC (IN)	- 5.0W	- --	- 3.0
SAND ASPHALT (IN)	- 1.0	- --	- 1.0
ACHMSC (IN)	- --	- --	- 1.0
AGG.BASE CRS CL-7 (IN)	- 2.0	- 5.0	- 4.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS

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AASHTO TESTS : T24 T88 T89 T90 T265













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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 11/28/16	SEQUENCE NO.	- 8
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163722	- 20163723	- 20163724
SAMPLE ID	- S413	- S414	- S415
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 158+00	- 165+00	- 165+00
LOCATION	- 21LT	- 06RT	- 15RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- GRAY	- LT.
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 6 8.50	- 36 06 4.40	- 36 6 4.40
LONGITUDE DEG-MIN-SEC	- 90 27 20.40	- 90 27 27.50	- 90 27 27.60
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	-	-
	3/8 IN. - 98	-	-
	NO. 4 - 84	- 100	- 100
	NO. 10 - 72	-	-
	NO. 40 - 57	-	-
	NO. 80 - 52	-	-
	NO. 200 - 50	- 98	- 96
LIQUID LIMIT	- 26	- 26	- 28
PLASTICITY INDEX	- 08	- 07	- 10
AASHTO SOIL	- A-4 (1)	- A-4 (6)	- A-4 (2)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 15.9	- 20.3	- 19.6
ACHMSC (IN)	- --	- 3.0W	- 4.0W
ACHMSC (IN)	- --	- 3.0X	- --
SAND ASPHALT (IN)	- --	- 3.0	- --
ACHMSC (IN)	- --	- 1.0	- --
AGG.BASE CRS CL-7 (IN)	- --	- 7.0	- 8.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS

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	- 11/30/16	SEQUENCE NO.	- 11
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163731	- 20163732	- 20163733
SAMPLE ID	- S422	- S423	- S424
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 189+00	- 197+00	- 197+00
LOCATION	- 15LT	- 06RT	- 15RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BR/GR	- BROWN	- BR/GR
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 5 49.40	- 36 05 44.80	- 36 5 44.90
LONGITUDE DEG-MIN-SEC	- 90 27 50.50	- 90 27 58.20	- 90 27 58.30
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	-	-
	3/8 IN. - 99	-	-
	NO. 4 - 99	- 100	- 100
	NO. 10 - 97	-	-
	NO. 40 - 93	-	-
	NO. 80 - 90	-	-
	NO. 200 - 89	- 95	- 92
LIQUID LIMIT	- 33	- 34	- 34
PLASTICITY INDEX	- 16	- 16	- 19
AASHTO SOIL	- A-6(13)	- A-6(15)	- A-6(17)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 24.1	- 28.8	- 24.0
ACHMSC (IN)	- 12.0W	- 1.5	- 4.0W
ACHMSC (IN)	- --	- 1.0X	- --
ACHMSC (IN)	- --	- 3.0	- --
SAND ASPHALT (IN)	- --	- 1.5	- --
AGG.BASE CRS CL-7 (IN)	- 2.0	- 6.0	- 6.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS  
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AASHTO TESTS : T24 T88 T89 T90 T265  
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS  
MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 11/28/16	SEQUENCE NO.	- 13
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163737	- 20163738	- 20163739
SAMPLE ID	- S428	- S429	- A430
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 205+00	- 218+00	- 218+00
LOCATION	- 30LT	- 06RT	- 15RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 5 39.30	- 36 05 32.00	- 36 5 32.00
LONGITUDE DEG-MIN-SEC	- 90 28 6.00	- 90 28 18.40	- 90 28 18.40
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	- 100
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 - 96	- 94	- 97
LIQUID LIMIT	- 37	- 37	- 38
PLASTICITY INDEX	- 21	- 20	- 22
AASHTO SOIL	- A-6(20)	- A-6(19)	- A-6(22)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 24.9	- 22.0	- 23.0
ACHMSC (IN)	- --	- 2.0	- 2.5W
ACHMBC (IN)	- --	- --	- 4.5
ACHMSC (IN)	- --	- 1.0X	- --
ACHMSC (IN)	- --	- 4.0W	- --
SAND ASPHALT (IN)	- --	- 2.0	- --
AGG.BASE CRS CL-7 (IN)	- --	- 4.0	- --
	-	-	-
	-	-	-
	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS





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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 11/30/16	SEQUENCE NO.	- 16
JOB NUMBER	- 100632	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 28
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- CO. RD 835 - HWY. 135 (PARAGOULD) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- GREENE, COUNTY	DATE SAMPLED	- 11/01/16
SAMPLED BY	- THORNTON/BATES	DATE RECEIVED	- 11/04/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 11/28/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163746	- 20163747	- 20163748
SAMPLE ID	- S437	- S438	- S439
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 234+00	- 242+00	- 242+00
LOCATION	- 21RT	- 06LT	- 12LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 5 22.30	- 36 05 17.00	- 36 5 16.90
LONGITUDE DEG-MIN-SEC	- 90 28 33.80	- 90 28 41.50	- 90 28 41.50
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. - 100	- 100	-
	3/8 IN. - 99	- 98	- 100
	NO. 4 - 94	- 95	- 99
	NO. 10 - 90	- 92	- 97
	NO. 40 - 78	- 83	- 90
	NO. 80 - 65	- 74	- 80
	NO. 200 - 59	- 70	- 73
LIQUID LIMIT	- 25	- 33	- 31
PLASTICITY INDEX	- 9	- 15	- 14
AASHTO SOIL	- A-4 (3)	- A-6 (9)	- A-6 (8)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 17.0	- 19.6	- 16.9
ACHMSC (IN)	- ---	- 2.0	- 4.0
ACHMSC (IN)	- ---	- 6.0X	- ---
SAND ASP (IN)	- ---	- 2.0	- ---
CHIP SEAL (IN)	- ---	- 1.5	- ---
AGG BASE CRS CL-7 (IN)	- ---	- 4.0	- 8.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - X=STRIPPED, W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265  
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