

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



SUBSURFACE INVESTIGATION

STATE JOB NO. BB0203

FEDERAL AID PROJECT NO. NHPP-530-5(4)34

HWY. 65B – HWY. 65 (F)

STATE HIGHWAY 530 SECTION 5

IN JEFFERSON COUNTY

LETTING OF JULY 19, 2017

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

August 24, 2016

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. BB0203
Hwy. 65B – Hwy. 65 (F)
Route 530 Section 5
Jefferson County

Transmitted herewith is the requested Pavement Sounding, Resilient Modulus and strength data for the above referenced job. The project consists of rehabilitating approximately 11.75 miles of concrete paving on Interstate 530. Cores were taken at quarter-mile increments alternating between North and South bound lanes.

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

Type	Asphalt Concrete Hot Mix	
	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.2	94.8
Binder Course	4.5	95.5
Base Course	3.9	96.1


Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 2 Engineer
System Information and Research Division
G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS

MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 08/24/2016
JOB NUMBER - BB0203

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 35
DISTRICT NO. - 02

JOB NAME - HWY.65B - WHY.65(F)

* STATION LIMITS R-VALUE AT 240 psi *

STA.269-380+00	LESS THAN 5
ALL OTHER STA.S	10
RESILIENT MODULUS	
STA.64+00	6315
STA.107+00	6063
STA.159+00	6889
STA.211+00	7979
STA.269+00	4096

REMARKS -

AASHTO TESTS : T190

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS

MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE = 08/24/2016
JOB NUMBER = BB0203

SEQUENCE NO. - 2
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 35
DISTRICT NO. - 02

JOB NAME - HWY.65B - WHY.65 (F)

* STATION LIMITS R-VALUE AT 240 psi *

RESILIENT MODULUS	
STA.310+00	6377
STA.380+00	6641
STA.434+00	5764
STA.536+00	7214
STA.595+00	7184

REMARKS =

AASHTO TESTS : T190

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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	64+00
Date Tested:	August 9, 2016	Location:	
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162469	AASHTO Class:	A-4(2)
Sample ID:	RV281	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.97
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.27
Initial Volume, AoLo (cu. in):	98.39

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3265.50
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	13.8
Maximum Dry Density (pcf):	113.3
95% of MDD (pcf):	107.6
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3265.50
Compaction Moisture content (%):	13.9
Compaction Wet Density (pcf):	126.45
Compaction Dry Density (pcf):	111.02
Moisture Content After Mr Test (%):	14.1

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

7. Resilient Modulus, Mr: 9916(Sc)^-0.34673(S3)^0.38005

8. Comments

9. Tested By: DEB **Date:** August 9, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/09/16 **Station No.:** 64+00
Date Tested: August 9, 2016 **Location:**
Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 250162469 **AASHTO Class:** A-4(2)
Sample ID: RV281 **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	25.1	22.5	2.6	2.0	1.8	0.2	0.00095	0.00012	15,530
Sequence 2	6.0	4.0	47.1	44.5	2.6	3.8	3.6	0.2	0.00215	0.00027	13,500
Sequence 3	6.0	6.0	69.1	65.8	3.3	5.6	5.4	0.3	0.00363	0.00045	11,844
Sequence 4	6.0	8.0	91.4	85.6	5.8	7.5	7.0	0.5	0.00560	0.00070	9,988
Sequence 5	6.0	10.0	113.3	105.0	8.3	9.2	8.6	0.7	0.00779	0.00097	8,808
Sequence 6	4.0	2.0	25.0	22.4	2.6	2.0	1.8	0.2	0.00112	0.00014	13,117
Sequence 7	4.0	4.0	46.1	43.5	2.6	3.8	3.5	0.2	0.00265	0.00033	10,744
Sequence 8	4.0	6.0	66.4	63.8	2.6	5.4	5.2	0.2	0.00446	0.00056	9,355
Sequence 9	4.0	8.0	88.9	84.0	4.9	7.2	6.8	0.4	0.00650	0.00081	8,446
Sequence 10	4.0	10.0	110.7	103.2	7.5	9.0	8.4	0.6	0.00875	0.00109	7,708
Sequence 11	2.0	2.0	24.6	22.0	2.6	2.0	1.8	0.2	0.00138	0.00017	10,414
Sequence 12	2.0	4.0	45.2	42.4	2.8	3.7	3.5	0.2	0.00322	0.00040	8,596
Sequence 13	2.0	6.0	64.5	61.7	2.8	5.3	5.0	0.2	0.00540	0.00067	7,469
Sequence 14	2.0	8.0	85.1	80.6	4.5	6.9	6.6	0.4	0.00776	0.00097	6,790
Sequence 15	2.0	10.0	106.3	99.2	7.0	8.7	8.1	0.6	0.01027	0.00128	6,315

TESTED BY _____ **DATE** August 9, 2016
REVIEWED BY _____ **DATE** _____

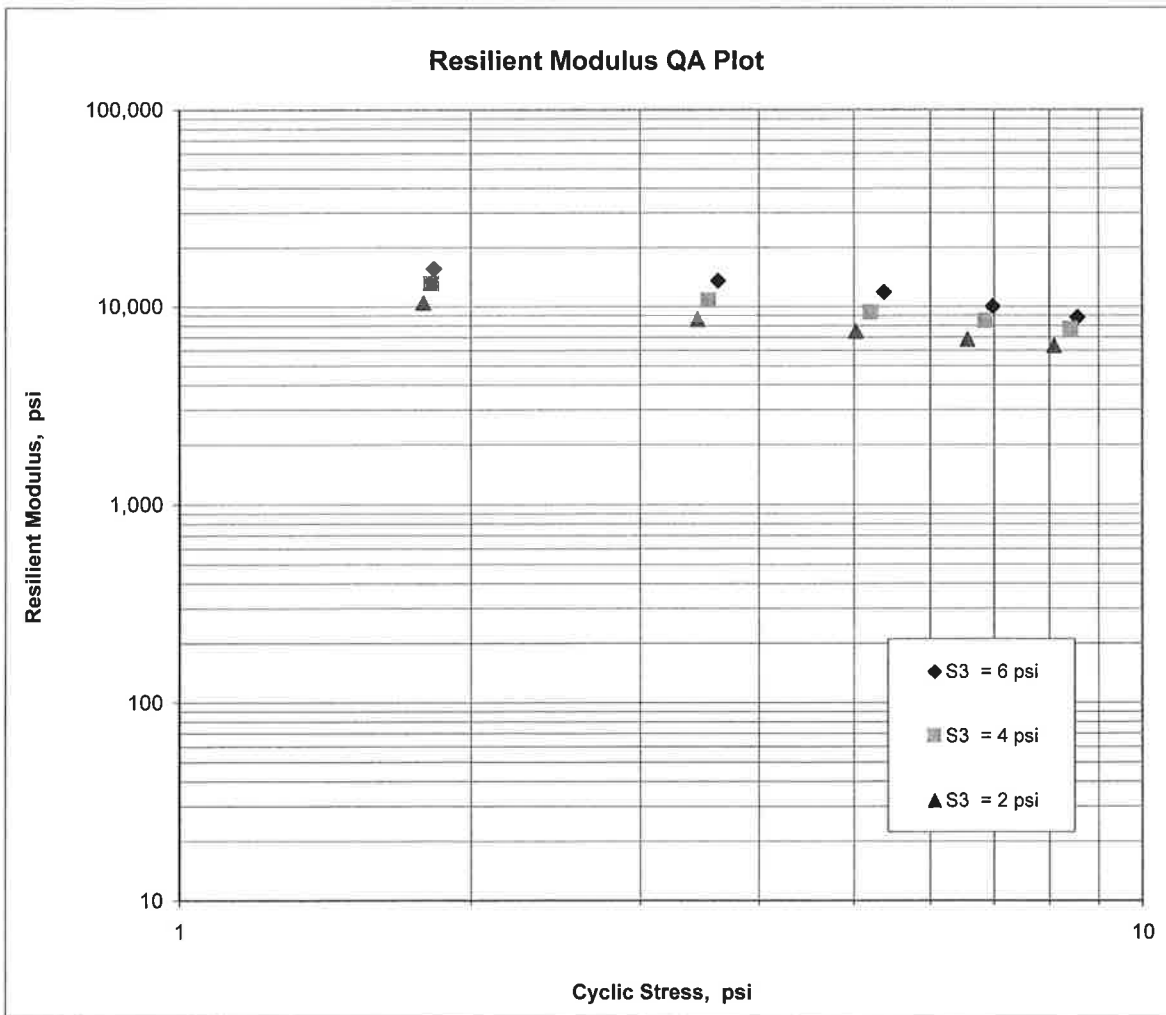
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	64+00
Date Tested:	August 9, 2016	Location:	
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162469	AASHTO Class:	A-4(2)
Sample ID:	RV281	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

K1 =	<u>9,916</u>
K2 =	<u>-0.34673</u>
K5 =	<u>0.38005</u>
R ² =	<u>0.98</u>



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	107+00
Date Tested:	August 9, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162418	AASHTO Class:	A-4(0)
Sample ID:	RV271	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8
Initial Area, Ao (sq. in):	12.25
Initial Volume, AoLo (cu. in):	97.98

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3343.60
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	12.7
Maximum Dry Density (pcf):	117.5
95% of MDD (pcf):	111.6
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3343.60
Compaction Moisture content (%):	13.3
Compaction Wet Density (pcf):	130.02
Compaction Dry Density (pcf):	114.76
Moisture Content After Mr Test (%):	13.1

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

7. Resilient Modulus, Mr: 5572(Sc)^{-0.13618}(S3)^{0.46599}

8. Comments

9. Tested By: DEB **Date:** August 9, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/09/16 **Station No.:** 107+00
Date Tested: August 9, 2016 **Location:** CL
Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 250162418 **AAASHTO Class:** A-4(0)
Sample ID: RV271 **Material Type (1 or 2):** 2
LATTITUDE: 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	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.0	22.1	2.9	2.0	1.8	0.2	0.00121	0.00015	11,907
Sequence 2	6.0	4.0	47.1	44.2	2.9	3.8	3.6	0.2	0.00260	0.00032	11,106
Sequence 3	6.0	6.0	70.0	66.2	3.8	5.7	5.4	0.3	0.00401	0.00050	10,789
Sequence 4	6.0	8.0	93.0	86.7	6.3	7.6	7.1	0.5	0.00568	0.00071	9,971
Sequence 5	6.0	10.0	116.1	107.2	8.8	9.5	8.8	0.7	0.00744	0.00093	9,418
Sequence 6	4.0	2.0	24.6	21.7	2.8	2.0	1.8	0.2	0.00146	0.00018	9,755
Sequence 7	4.0	4.0	45.5	42.6	2.9	3.7	3.5	0.2	0.00324	0.00041	8,583
Sequence 8	4.0	6.0	66.2	63.2	3.0	5.4	5.2	0.2	0.00507	0.00063	8,142
Sequence 9	4.0	8.0	89.2	83.7	5.4	7.3	6.8	0.4	0.00693	0.00087	7,892
Sequence 10	4.0	10.0	112.6	104.7	7.9	9.2	8.5	0.6	0.00870	0.00109	7,858
Sequence 11	2.0	2.0	23.9	21.0	2.9	1.9	1.7	0.2	0.00187	0.00023	7,348
Sequence 12	2.0	4.0	43.3	40.4	2.9	3.5	3.3	0.2	0.00411	0.00051	6,420
Sequence 13	2.0	6.0	62.6	59.6	3.0	5.1	4.9	0.2	0.00642	0.00080	6,063
Sequence 14	2.0	8.0	84.2	79.6	4.6	6.9	6.5	0.4	0.00857	0.00107	6,065
Sequence 15	2.0	10.0	106.1	99.0	7.1	8.7	8.1	0.6	0.01063	0.00133	6,087

TESTED BY DEB DATE August 9, 2016
 REVIEWED BY _____ DATE _____

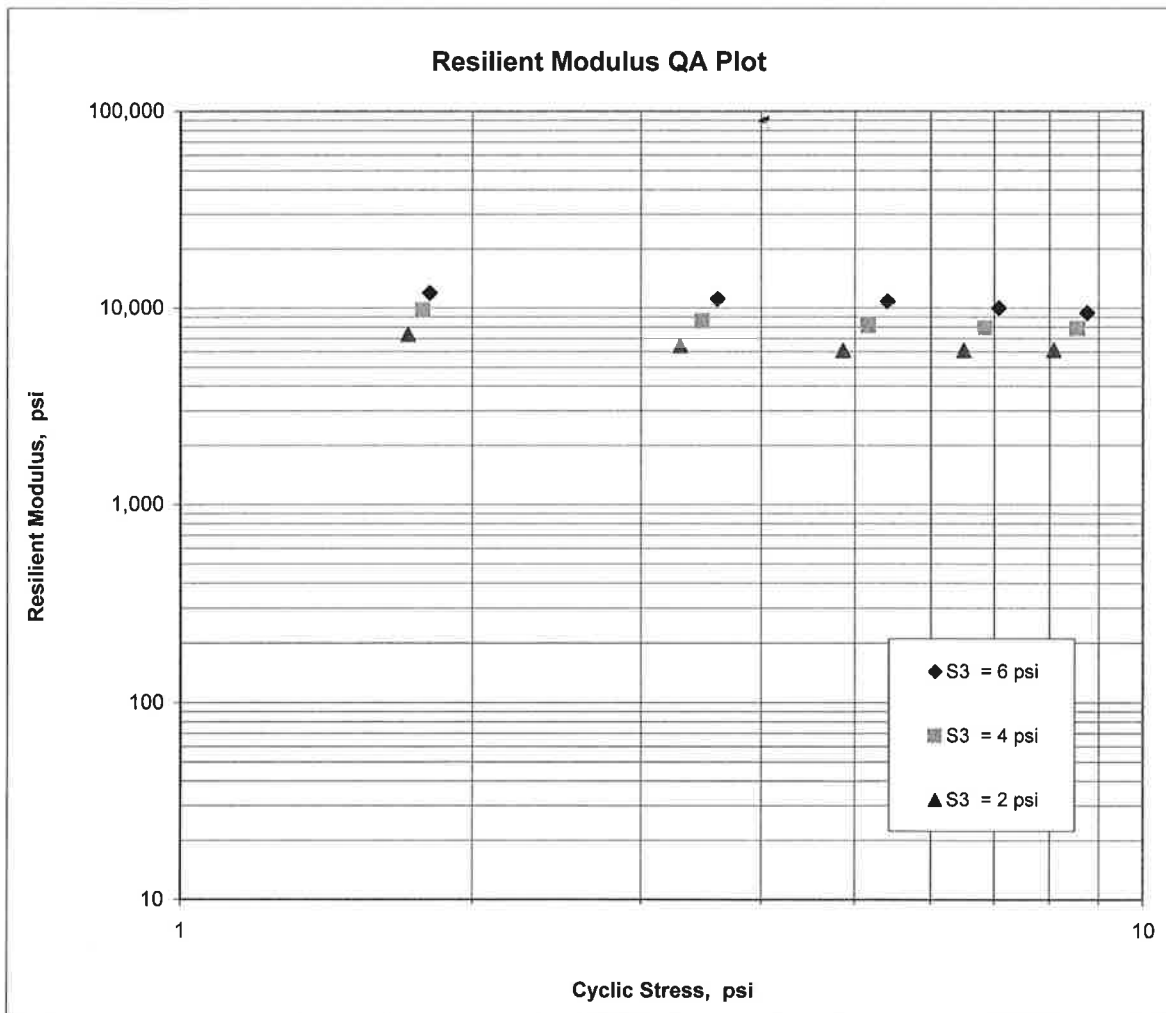
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	107+00
Date Tested:	August 9, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162418	AASHTO Class:	A-4(0)
Sample ID:	RV271	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

$K_1 = \underline{5,572}$
 $K_2 = \underline{-0.13618}$
 $K_5 = \underline{0.46599}$
 $R^2 = \underline{0.98}$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	159+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162419	AASHTO Class:	A-4(0)
Sample ID:	RV272	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8
Initial Area, Ao (sq. in):	12.25
Initial Volume, AoLo (cu. in):	97.98

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3302.40
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	12.0
Maximum Dry Density (pcf):	116.8
95% of MDD (pcf):	111.0
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3302.40
Compaction Moisture content (%):	15.1
Compaction Wet Density (pcf):	128.42
Compaction Dry Density (pcf):	111.57
Moisture Content After Mr Test (%):	12.1

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

7. Resilient Modulus, Mr: $6102(S_c)^{-0.08516}(S_3)^{0.42977}$

8. Comments _____

9. Tested By: DEB **Date:** August 10, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/10/16 **Station No.:** 159+00
Date Tested: August 10, 2016 **Location:** CL

Name of Project: HWY.65B - HWY.65 (F) **Depth:** 0-5
County: Code: 35 **Name:** JEFFERSON **AASHTO Class:** A-4(0)

Sampled By: THORNTON **Material Type (1 or 2):** 2
Lab No.: 20162419 **LONGITUDE:**
Sample ID: RV272

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	22.4	2.8	2.1	1.8	0.2	0.00116	0.00014	12,661
Sequence 2	6.0	4.0	47.5	44.6	2.9	3.9	3.6	0.2	0.00244	0.00030	11,966
Sequence 3	6.0	6.0	70.7	67.0	3.7	5.8	5.5	0.3	0.00369	0.00046	11,863
Sequence 4	6.0	8.0	95.3	89.1	6.2	7.8	7.3	0.5	0.00516	0.00064	11,285
Sequence 5	6.0	10.0	119.7	111.1	8.7	9.8	9.1	0.7	0.00661	0.00083	10,978
Sequence 6	4.0	2.0	25.1	22.2	2.9	2.0	1.8	0.2	0.00137	0.00017	10,545
Sequence 7	4.0	4.0	46.9	44.0	2.9	3.8	3.6	0.2	0.00302	0.00038	9,527
Sequence 8	4.0	6.0	68.8	65.9	2.9	5.6	5.4	0.2	0.00475	0.00059	9,065
Sequence 9	4.0	8.0	93.5	88.1	5.3	7.6	7.2	0.4	0.00628	0.00079	9,161
Sequence 10	4.0	10.0	117.8	110.1	7.8	9.6	9.0	0.6	0.00793	0.00099	9,062
Sequence 11	2.0	2.0	24.7	21.8	2.8	2.0	1.8	0.2	0.00177	0.00022	8,062
Sequence 12	2.0	4.0	45.7	42.8	2.9	3.7	3.5	0.2	0.00386	0.00048	7,252
Sequence 13	2.0	6.0	67.1	64.2	2.9	5.5	5.2	0.2	0.00609	0.00076	6,889
Sequence 14	2.0	8.0	90.8	86.3	4.4	7.4	7.0	0.4	0.00797	0.00100	7,074
Sequence 15	2.0	10.0	114.6	107.7	6.9	9.4	8.8	0.6	0.00973	0.00122	7,231

TESTED BY _____ DATE August 10, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	159+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162419	AASHTO Class:	A-4(0)
Sample ID:	RV272	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

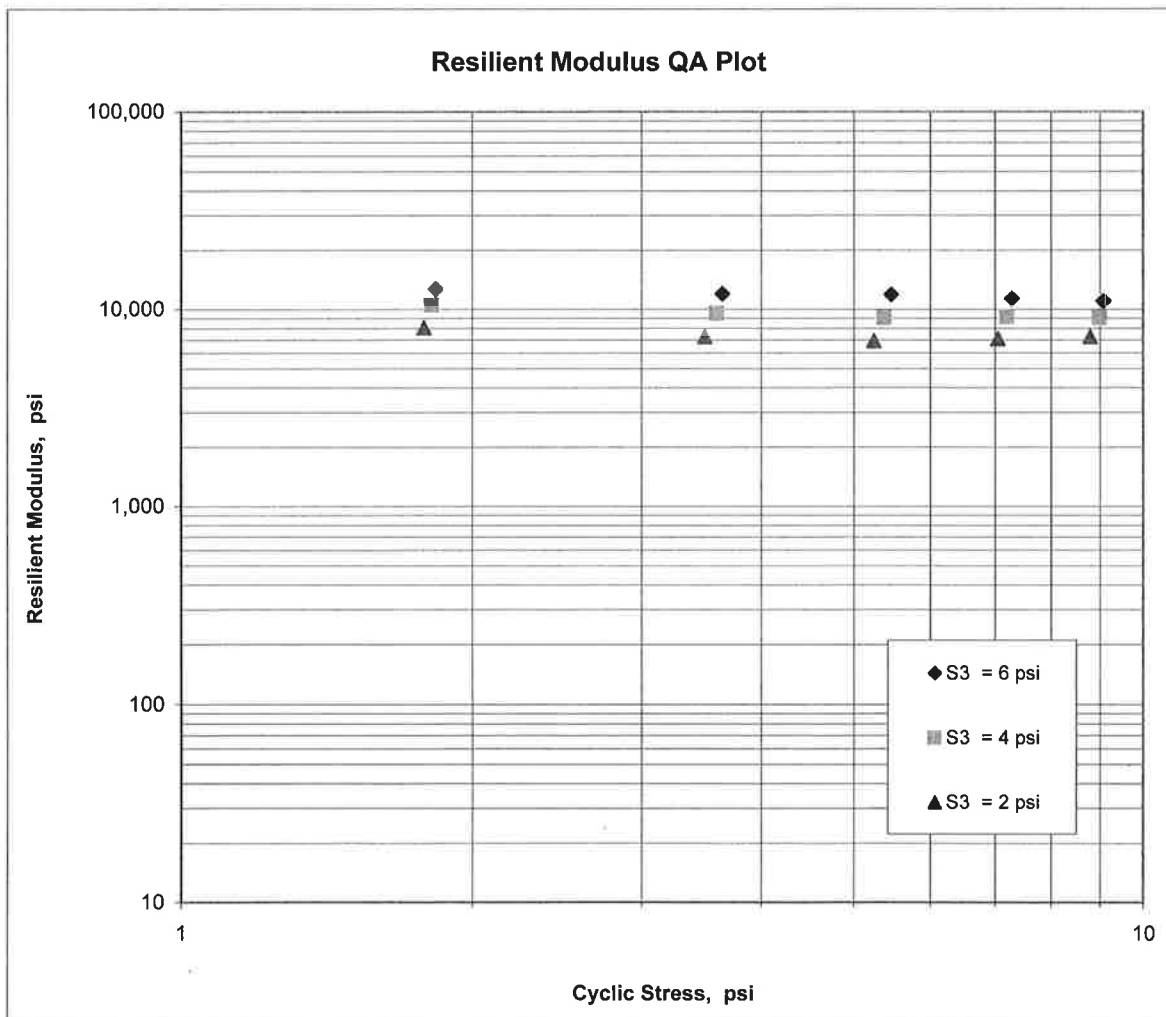
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = \underline{\underline{6,102}}$$

$$K_2 = \underline{\underline{-0.08516}}$$

$$K_5 = \underline{\underline{0.42977}}$$

$$R^2 = \underline{\underline{0.98}}$$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	211+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162420	AASHTO Class:	A-4(0)
Sample ID:	RV273	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):	8.02
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):	97.90

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3236.30
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	11.9
Maximum Dry Density (pcf):	118
95% of MDD (pcf):	112.1
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3236.30
Compaction Moisture content (%):	12.4
Compaction Wet Density (pcf):	125.96
Compaction Dry Density (pcf):	112.06
Moisture Content After Mr Test (%):	11.7

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

7. Resilient Modulus, Mr: 7824(Sc)^{-0.14120}(S3)^{0.41224}

8. Comments _____

9. Tested By: DEB/BH **Date:** August 10, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/10/16 **Station No.:** 211+00
Date Tested: August 10, 2016 **Location:** CL

Name of Project: HWY.65B - HWY.65 (F) **Depth:** 0-5
County: Code: 35 **Name:** JEFFERSON **AAASHTO Class:** A-4(0)
Sampled By: THORNTON **Material Type (1 or 2):** 2
Lab No.: 20162420 **LONGITUDE:**
Sample ID: RV273

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	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	24.9	22.2	2.7	2.0	1.8	0.2	0.00097	0.00012	15,063
Sequence 2	6.0	4.0	47.0	44.2	2.8	3.8	3.6	0.2	0.00207	0.00026	14,021
Sequence 3	6.0	6.0	69.6	66.0	3.6	5.7	5.4	0.3	0.00326	0.00041	13,297
Sequence 4	6.0	8.0	93.4	87.3	6.1	7.7	7.1	0.5	0.00456	0.00057	12,576
Sequence 5	6.0	10.0	117.0	108.4	8.6	9.6	8.9	0.7	0.00594	0.00074	11,995
Sequence 6	4.0	2.0	24.8	22.1	2.8	2.0	1.8	0.2	0.00115	0.00014	12,656
Sequence 7	4.0	4.0	46.2	43.4	2.8	3.8	3.6	0.2	0.00253	0.00032	11,287
Sequence 8	4.0	6.0	67.1	64.3	2.9	5.5	5.3	0.2	0.00402	0.00050	10,511
Sequence 9	4.0	8.0	90.7	85.4	5.3	7.4	7.0	0.4	0.00549	0.00068	10,218
Sequence 10	4.0	10.0	114.3	106.5	7.8	9.4	8.7	0.6	0.00688	0.00086	10,170
Sequence 11	2.0	2.0	24.3	21.5	2.9	2.0	1.8	0.2	0.00144	0.00018	9,784
Sequence 12	2.0	4.0	44.9	42.0	2.9	3.7	3.4	0.2	0.00316	0.00039	8,734
Sequence 13	2.0	6.0	65.1	62.2	3.0	5.3	5.1	0.2	0.00502	0.00063	8,133
Sequence 14	2.0	8.0	87.2	82.7	4.5	7.1	6.8	0.4	0.00680	0.00085	7,992
Sequence 15	2.0	10.0	110.2	103.2	7.0	9.0	8.5	0.6	0.00850	0.00106	7,979

TESTED BY _____ DATE August 10, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	211+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162420	AASHTO Class:	A-4(0)
Sample ID:	RV273	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

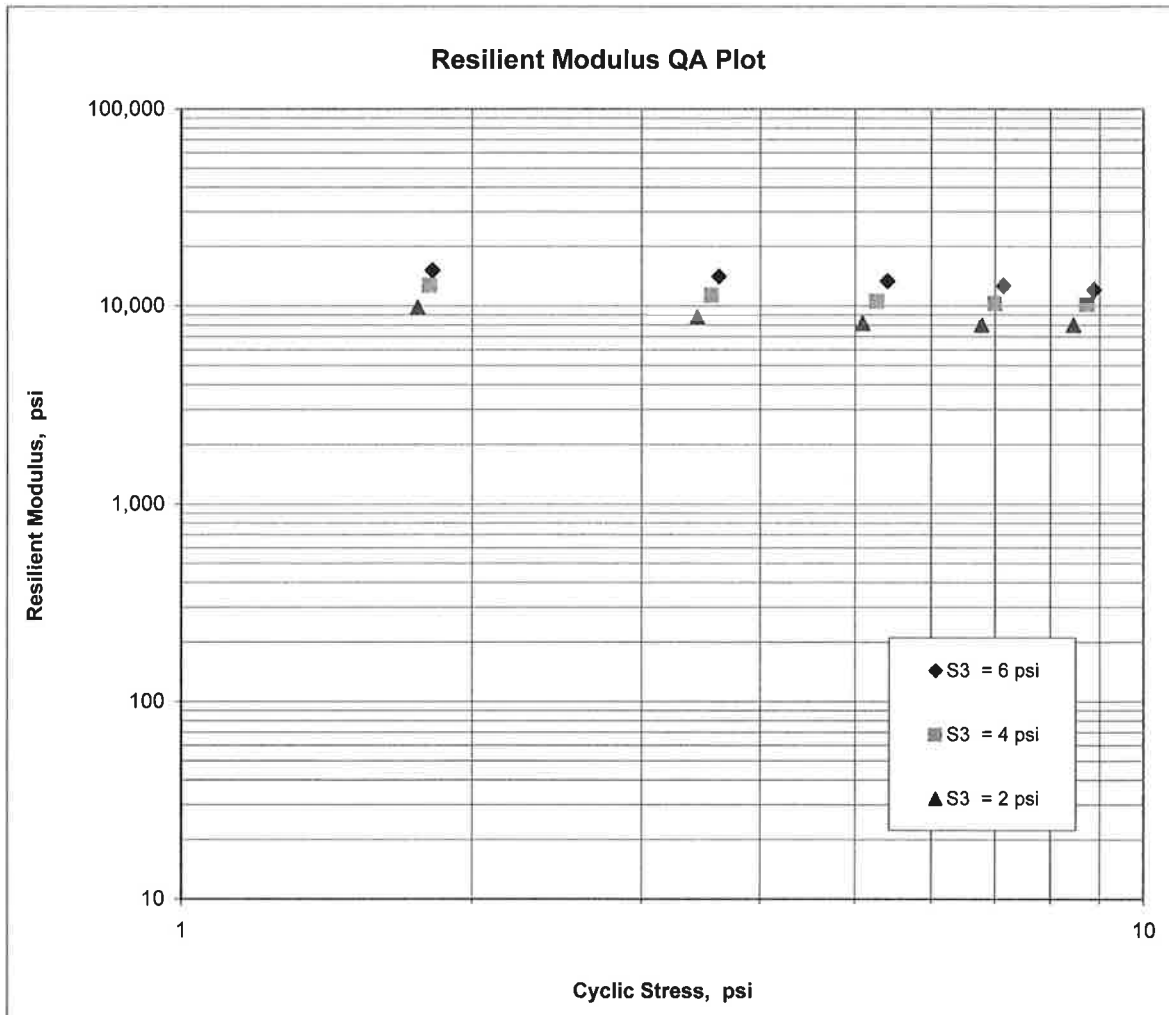
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = 7,824$$

$$K_2 = -0.14120$$

$$K_5 = 0.41224$$

$$R^2 = 0.99$$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	269+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162421	AASHTO Class:	A-6(4)
Sample ID:	RV274	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	3.99
Middle	3.99
Bottom	3.99
Average	3.99
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.43
Initial Volume, AoLo (cu. in):	99.73

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3252.80
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	14.8
Maximum Dry Density (pcf):	112.9
95% of MDD (pcf):	107.3
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3252.80
Compaction Moisture content (%):	15.5
Compaction Wet Density (pcf):	124.28
Compaction Dry Density (pcf):	107.60
Moisture Content After Mr Test (%):	15.1

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

7. Resilient Modulus, Mr: $8181(\text{Sc})^{-0.45121}(\text{S3})^{0.33182}$

8. Comments

9. Tested By: DEB/BH **Date:** August 10, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/10/16 **Station No.:** 269+00
Date Tested: August 10, 2016 **Location:** CL
Name of Project: HWY.65B - HWY.65 (F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 20162421 **AASHTO Class:** A-6(4)
Sample ID: RV274 **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
Sequence 1	6.0	2.0	25.5	22.7	2.7	2.0	1.8	0.2	0.00136	0.00017	10,777
Sequence 2	6.0	4.0	47.7	44.9	2.8	3.8	3.6	0.2	0.00307	0.00038	9,451
Sequence 3	6.0	6.0	69.9	66.1	3.9	5.6	5.3	0.3	0.00548	0.00068	7,771
Sequence 4	6.0	8.0	91.6	85.2	6.4	7.4	6.8	0.5	0.00907	0.00113	6,055
Sequence 5	6.0	10.0	113.4	104.4	8.9	9.1	8.4	0.7	0.01259	0.00157	5,348
Sequence 6	4.0	2.0	25.3	22.5	2.9	2.0	1.8	0.2	0.00156	0.00019	9,298
Sequence 7	4.0	4.0	46.8	43.9	2.9	3.8	3.5	0.2	0.00383	0.00048	7,387
Sequence 8	4.0	6.0	67.0	64.0	3.0	5.4	5.1	0.2	0.00683	0.00085	6,050
Sequence 9	4.0	8.0	89.4	83.8	5.6	7.2	6.7	0.5	0.01031	0.00129	5,247
Sequence 10	4.0	10.0	111.8	103.7	8.1	9.0	8.3	0.7	0.01397	0.00174	4,788
Sequence 11	2.0	2.0	25.2	22.3	2.9	2.0	1.8	0.2	0.00182	0.00023	7,904
Sequence 12	2.0	4.0	45.9	43.1	2.9	3.7	3.5	0.2	0.00454	0.00057	6,122
Sequence 13	2.0	6.0	65.3	62.4	2.9	5.2	5.0	0.2	0.00808	0.00101	4,979
Sequence 14	2.0	8.0	86.2	81.6	4.6	6.9	6.6	0.4	0.01197	0.00149	4,393
Sequence 15	2.0	10.0	108.2	101.0	7.2	8.7	8.1	0.6	0.01590	0.00198	4,096

TESTED BY _____ DATE August 10, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/10/16	Station No.:	269+00
Date Tested:	August 10, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65 (F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162421	AASHTO Class:	A-6(4)
Sample ID:	RV274	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

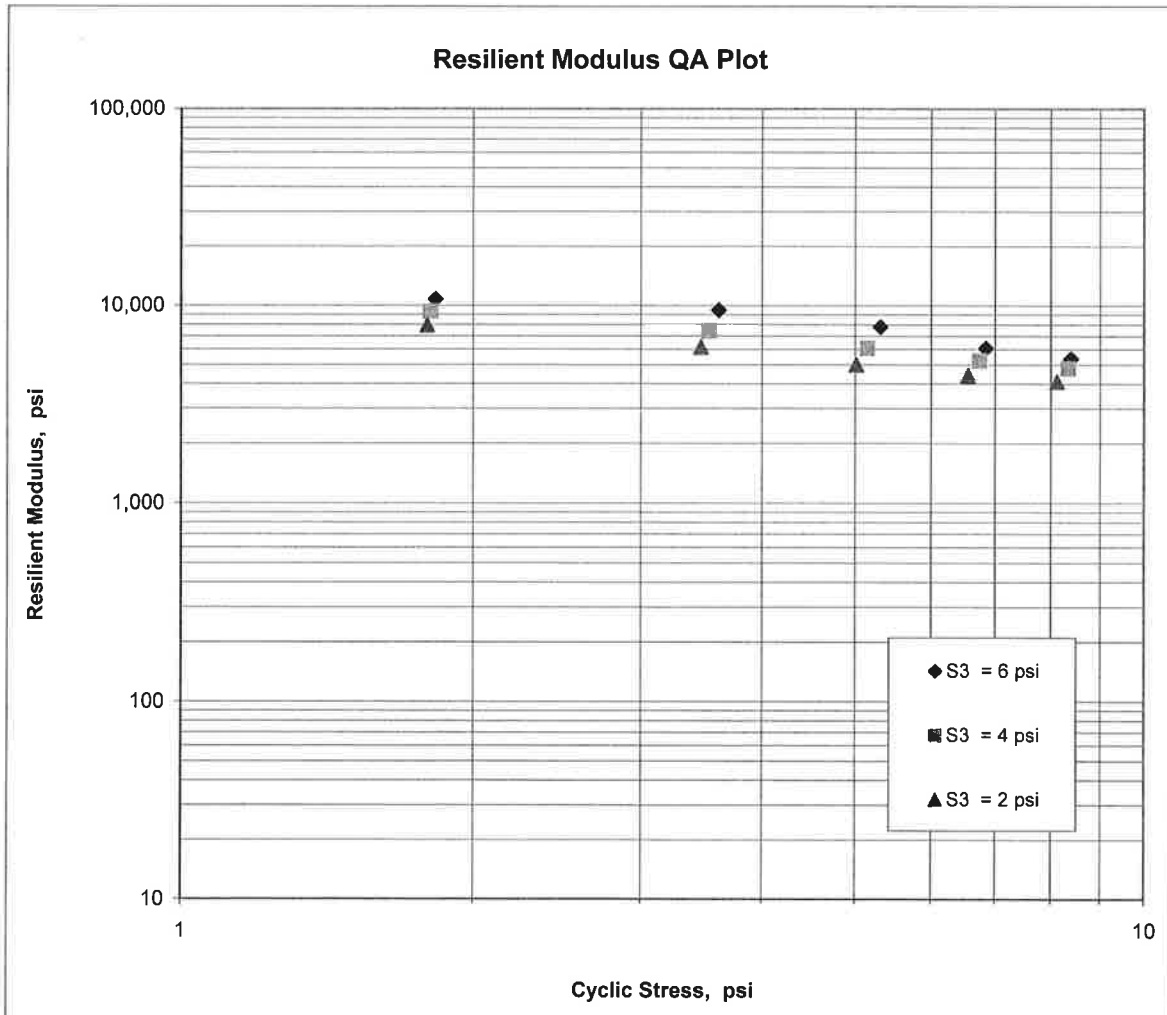
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = 8,181$$

$$K_2 = -0.45121$$

$$K_5 = 0.33182$$

$$R^2 = 0.96$$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/11/16	Station No.:	310+00
Date Tested:	August 12, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162422	AASHTO Class:	A-6(4)
Sample ID:	RV275	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.98
Middle	3.97
Bottom	3.96
Average	3.97
Membrane Thickness (in):	0.00
Height of Specimen, Cap and Base (in):	8.04
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.04
Initial Area, Ao (sq. in):	12.38
Initial Volume, AoLo (cu. in):	99.52

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3171.40
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	13.6
Maximum Dry Density (pcf):	114.4
95% of MDD (pcf):	108.7
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3171.40
Compaction Moisture content (%):	14.2
Compaction Wet Density (pcf):	121.42
Compaction Dry Density (pcf):	106.32
Moisture Content After Mr Test (%):	13.1

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

7. Resilient Modulus, Mr: 9736(Sc)^{-0.29219}(S3)^{0.29976}

8. Comments

9. Tested By: DEB **Date:** August 12, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/11/16 **Station No.:** 310+00
Date Tested: August 12, 2016 **Location:** CL
Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 20162422 **AASHTO Class:** A-6(4)
Sample ID: RV275 **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. LVD T 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	25.4	22.5	2.8	2.0	1.8	0.2	0.00108	0.00013	13,544
Sequence 2	6.0	4.0	47.7	44.8	2.9	3.9	3.6	0.2	0.00238	0.00030	12,222
Sequence 3	6.0	6.0	70.5	66.7	3.8	5.7	5.4	0.3	0.00393	0.00049	11,007
Sequence 4	6.0	8.0	93.4	87.1	6.3	7.5	7.0	0.5	0.00602	0.00075	9,399
Sequence 5	6.0	10.0	115.9	107.0	8.9	9.4	8.6	0.7	0.00823	0.00102	8,445
Sequence 6	4.0	2.0	25.3	22.4	2.8	2.0	1.8	0.2	0.00122	0.00015	11,905
Sequence 7	4.0	4.0	47.1	44.2	2.9	3.8	3.6	0.2	0.00280	0.00035	10,271
Sequence 8	4.0	6.0	68.1	65.2	2.9	5.5	5.3	0.2	0.00466	0.00058	9,088
Sequence 9	4.0	8.0	91.1	85.7	5.5	7.4	6.9	0.4	0.00679	0.00084	8,191
Sequence 10	4.0	10.0	113.7	105.6	8.0	9.2	8.5	0.6	0.00909	0.00113	7,548
Sequence 11	2.0	2.0	25.1	22.3	2.8	2.0	1.8	0.2	0.00148	0.00018	9,833
Sequence 12	2.0	4.0	46.4	43.6	2.8	3.7	3.5	0.2	0.00325	0.00040	8,715
Sequence 13	2.0	6.0	66.7	63.8	2.9	5.4	5.2	0.2	0.00544	0.00068	7,610
Sequence 14	2.0	8.0	88.0	83.4	4.6	7.1	6.7	0.4	0.00789	0.00098	6,865
Sequence 15	2.0	10.0	109.9	102.7	7.2	8.9	8.3	0.6	0.01046	0.00130	6,377

TESTED BY _____ DATE _____
 REVIEWED BY _____ DATE _____

DEB August 12, 2016

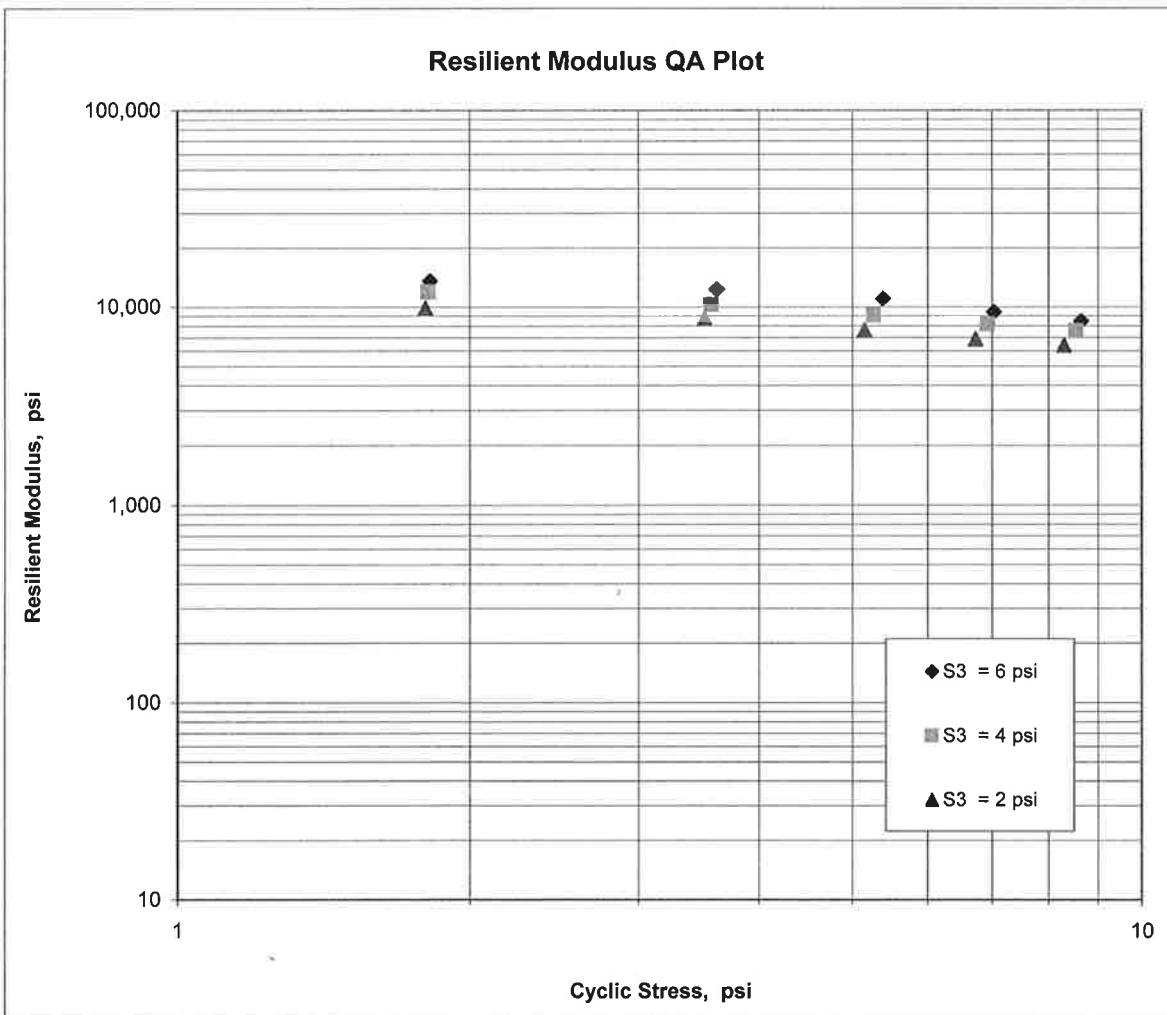
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/11/16	Station No.:	310+00
Date Tested:	August 12, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162422	AASHTO Class:	A-6(4)
Sample ID:	RV275	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

K1 =	<u>9,736</u>
K2 =	<u>-0.29219</u>
K5 =	<u>0.29976</u>
R ² =	<u>0.97</u>



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/11/16	Station No.:	380+00
Date Tested:	August 12, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162423	AASHTO Class:	A-6(6)
Sample ID:	RV276	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	3.95
Middle	3.94
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.17
Initial Volume, AoLo (cu. in):	97.57

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3093.30
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	17.6
Maximum Dry Density (pcf):	104.3
95% of MDD (pcf):	99.1
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3093.30
Compaction Moisture content (%):	17.9
Compaction Wet Density (pcf):	120.80
Compaction Dry Density (pcf):	102.46
Moisture Content After Mr Test (%):	17.6

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

7. Resilient Modulus, Mr: 12697(Sc)^{-0.35836}(S3)^{0.19537}

8. Comments

9. Tested By: DEB **Date:** August 12, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/11/16 **Station No.:** 380+00
Date Tested: August 12, 2016 **Location:** CL

Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 20162423 **AASHTO Class:** A-6(6)
Sample ID: RV276 **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 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	24.9	22.2	2.7	2.0	1.8	0.2	0.00104	0.00013	14,081
Sequence 2	6.0	4.0	46.7	44.0	2.7	3.8	3.6	0.2	0.00239	0.00030	12,166
Sequence 3	6.0	6.0	68.8	65.4	3.5	5.7	5.4	0.3	0.00403	0.00050	10,702
Sequence 4	6.0	8.0	90.9	84.9	5.9	7.5	7.0	0.5	0.00621	0.00077	9,009
Sequence 5	6.0	10.0	111.9	103.7	8.2	9.2	8.5	0.7	0.00885	0.00110	7,726
Sequence 6	4.0	2.0	24.9	22.2	2.7	2.0	1.8	0.2	0.00115	0.00014	12,745
Sequence 7	4.0	4.0	46.4	43.6	2.7	3.8	3.6	0.2	0.00265	0.00033	10,853
Sequence 8	4.0	6.0	67.1	64.4	2.8	5.5	5.3	0.2	0.00450	0.00056	9,421
Sequence 9	4.0	8.0	89.1	84.0	5.1	7.3	6.9	0.4	0.00673	0.00084	8,236
Sequence 10	4.0	10.0	110.2	102.7	7.5	9.1	8.4	0.6	0.00931	0.00116	7,273
Sequence 11	2.0	2.0	24.8	22.1	2.7	2.0	1.8	0.2	0.00129	0.00016	11,255
Sequence 12	2.0	4.0	46.0	43.3	2.7	3.8	3.6	0.2	0.00296	0.00037	9,635
Sequence 13	2.0	6.0	66.3	63.6	2.7	5.4	5.2	0.2	0.00501	0.00062	8,374
Sequence 14	2.0	8.0	86.8	82.6	4.2	7.1	6.8	0.3	0.00739	0.00092	7,363
Sequence 15	2.0	10.0	108.2	101.6	6.7	8.9	8.3	0.5	0.01008	0.00126	6,641

TESTED BY _____ DATE August 12, 2016
 REVIEWED BY _____ DATE _____

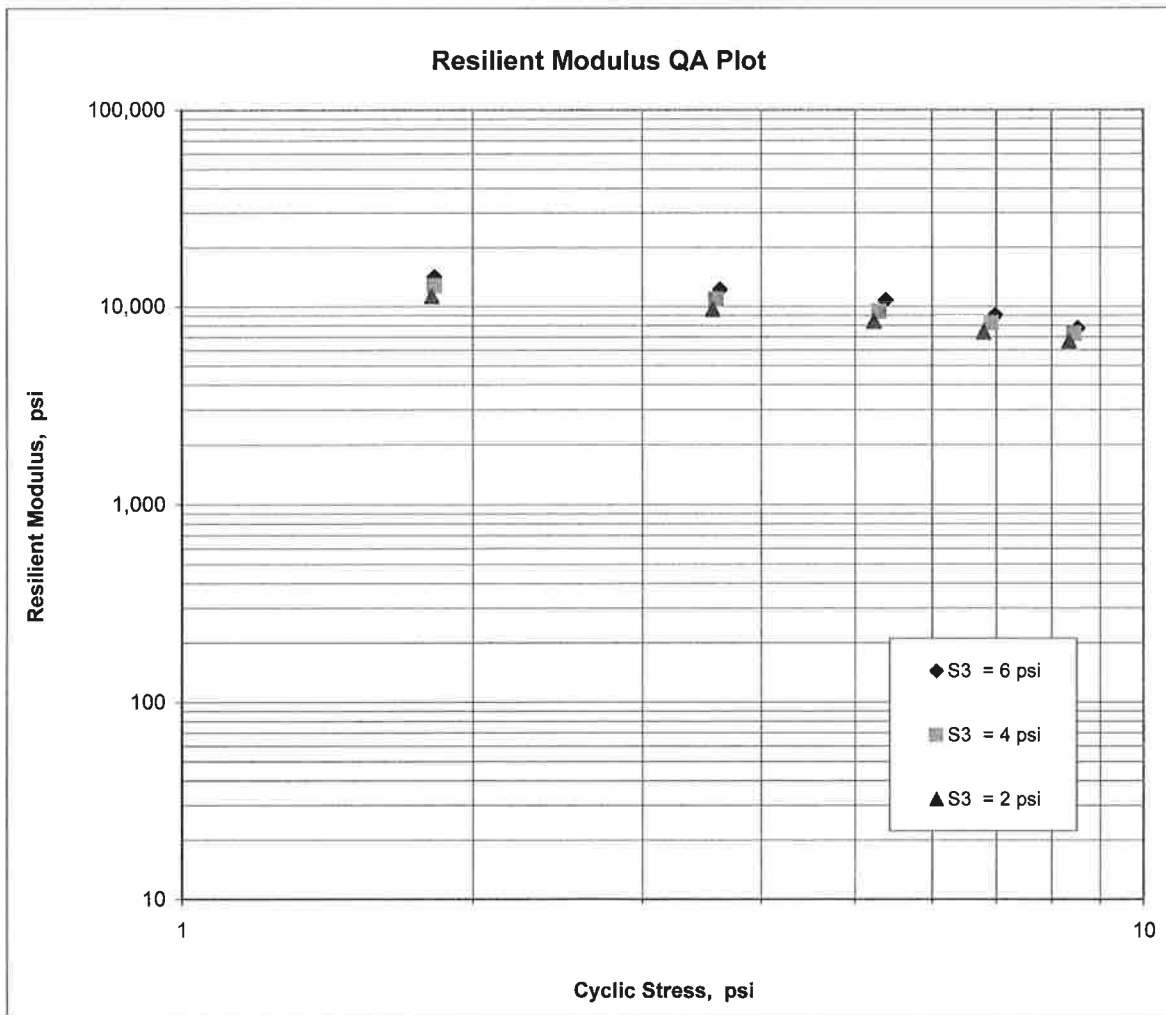
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/11/16	Station No.:	380+00
Date Tested:	August 12, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162423	AASHTO Class:	A-6(6)
Sample ID:	RV276	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

$K_1 = \frac{12,697}{\underline{\hspace{2cm}}}$
 $K_2 = \frac{-0.35836}{\underline{\hspace{2cm}}}$
 $K_5 = \frac{0.19537}{\underline{\hspace{2cm}}}$
 $R^2 = \frac{0.95}{\underline{\hspace{2cm}}}$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/15/16	Station No.:	434+00
Date Tested:	August 15, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162424	AASHTO Class:	A-2-4(0)
Sample ID:	RV277	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	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8
Initial Area, Ao (sq. in):	12.23
Initial Volume, AoLo (cu. in):	97.82

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3262.60
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	10.3
Maximum Dry Density (pcf):	118.3
95% of MDD (pcf):	112.4
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3262.60
Compaction Moisture content (%):	10.2
Compaction Wet Density (pcf):	127.09
Compaction Dry Density (pcf):	115.32
Moisture Content After Mr Test (%):	10.3

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

7. Resilient Modulus, Mr: 4252(Sc)^0.03729(S3)^0.45807

8. Comments _____

9. Tested By: DEB **Date:** August 15, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/15/16 **Station No.:** 434+00
Date Tested: August 15, 2016 **Location:** CL

Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 20162424 **AASHTO Class:** A-2-4(0)
Sample ID: RV277 **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	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.1	22.2	2.8	2.0	1.8	0.2	0.00141	0.00018	10,302
Sequence 2	6.0	4.0	47.5	44.6	2.9	3.9	3.7	0.2	0.00285	0.00036	10,251
Sequence 3	6.0	6.0	70.6	66.8	3.8	5.8	5.5	0.3	0.00416	0.00052	10,504
Sequence 4	6.0	8.0	95.0	88.7	6.2	7.8	7.3	0.5	0.00555	0.00069	10,469
Sequence 5	6.0	10.0	119.4	110.6	8.8	9.8	9.0	0.7	0.00688	0.00086	10,519
Sequence 6	4.0	2.0	24.7	21.8	2.9	2.0	1.8	0.2	0.00173	0.00022	8,236
Sequence 7	4.0	4.0	46.4	43.5	2.9	3.8	3.6	0.2	0.00357	0.00045	7,978
Sequence 8	4.0	6.0	68.3	65.3	3.0	5.6	5.3	0.2	0.00536	0.00067	7,982
Sequence 9	4.0	8.0	93.0	87.6	5.4	7.6	7.2	0.4	0.00674	0.00084	8,500
Sequence 10	4.0	10.0	116.6	108.7	7.9	9.5	8.9	0.6	0.00815	0.00102	8,731
Sequence 11	2.0	2.0	23.8	20.9	2.9	1.9	1.7	0.2	0.00225	0.00028	6,090
Sequence 12	2.0	4.0	44.2	41.3	2.9	3.6	3.4	0.2	0.00469	0.00059	5,764
Sequence 13	2.0	6.0	66.2	63.2	3.0	5.4	5.2	0.2	0.00661	0.00083	6,253
Sequence 14	2.0	8.0	88.0	83.5	4.5	7.2	6.8	0.4	0.00845	0.00106	6,468
Sequence 15	2.0	10.0	110.6	103.5	7.0	9.0	8.5	0.6	0.01020	0.00128	6,637

TESTED BY _____ DATE August 15, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/15/16	Station No.:	434+00
Date Tested:	August 15, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162424	AASHTO Class:	A-2-4(0)
Sample ID:	RV277	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

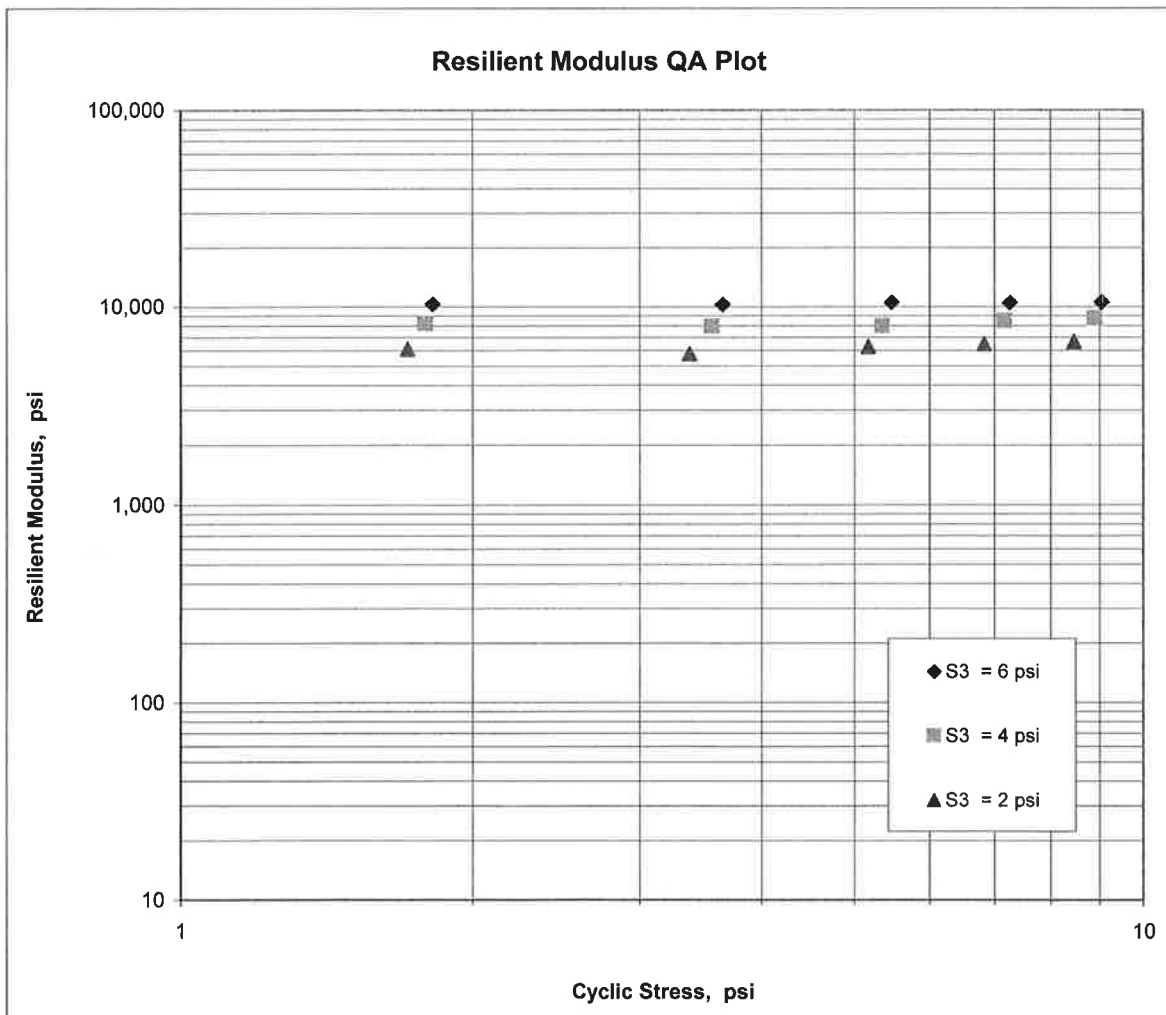
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = 4,252$$

$$K_2 = 0.03729$$

$$K_5 = 0.45807$$

$$R^2 = 0.97$$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/15/16	Station No.:	536+00
Date Tested:	August 15, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162426	AASHTO Class:	A-4(3)
Sample ID:	RV279	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	3.95
Middle	3.95
Bottom	3.94
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.01
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.01
Initial Area, Ao (sq. in):	12.17
Initial Volume, AoLo (cu. in):	97.44

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3167.20
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	14.8
Maximum Dry Density (pcf):	111.8
95% of MDD (pcf):	106.2
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3167.20
Compaction Moisture content (%):	14.8
Compaction Wet Density (pcf):	123.84
Compaction Dry Density (pcf):	107.88
Moisture Content After Mr Test (%):	15.1

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

7. Resilient Modulus, Mr: 8377(Sc)^{-0.18151}(S3)^{0.32391}

8. Comments _____

9. Tested By: DEB **Date:** August 15, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/15/16 **Station No.:** 536+00
Date Tested: August 15, 2016 **Location:** CL
Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON
Lab No.: 20162426
Sample ID: RV279 **Depth:** 0-5
LATITUDE: **AASHTO Class:** A-4(3)
LONGITUDE: **Material Type (1 or 2):** 2

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	24.7	21.8	2.8	2.0	1.8	0.2	0.00111	0.00014	12,990
Sequence 2	6.0	4.0	46.1	43.2	2.9	3.8	3.6	0.2	0.00233	0.00029	12,189
Sequence 3	6.0	6.0	67.8	64.1	3.7	5.6	5.3	0.3	0.00361	0.00045	11,708
Sequence 4	6.0	8.0	89.8	83.6	6.2	7.4	6.9	0.5	0.00514	0.00064	10,716
Sequence 5	6.0	10.0	111.4	102.7	8.7	9.2	8.4	0.7	0.00674	0.00084	10,040
Sequence 6	4.0	2.0	24.4	21.6	2.8	2.0	1.8	0.2	0.00122	0.00015	11,626
Sequence 7	4.0	4.0	45.0	42.2	2.8	3.7	3.5	0.2	0.00268	0.00033	10,369
Sequence 8	4.0	6.0	64.8	61.9	2.9	5.3	5.1	0.2	0.00422	0.00053	9,657
Sequence 9	4.0	8.0	86.4	81.1	5.3	7.1	6.7	0.4	0.00585	0.00073	9,117
Sequence 10	4.0	10.0	107.9	100.1	7.8	8.9	8.2	0.6	0.00750	0.00094	8,789
Sequence 11	2.0	2.0	23.8	21.1	2.7	2.0	1.7	0.2	0.00142	0.00018	9,789
Sequence 12	2.0	4.0	43.5	40.7	2.9	3.6	3.3	0.2	0.00315	0.00039	8,494
Sequence 13	2.0	6.0	61.9	59.0	2.9	5.1	4.9	0.2	0.00500	0.00062	7,777
Sequence 14	2.0	8.0	81.7	77.3	4.4	6.7	6.4	0.4	0.00677	0.00085	7,512
Sequence 15	2.0	10.0	102.1	95.2	6.9	8.4	7.8	0.6	0.00869	0.00109	7,214

TESTED BY _____ DATE August 15, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/15/16	Station No.:	536+00
Date Tested:	August 15, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20162426	AASHTO Class:	A-4(3)
Sample ID:	RV279	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

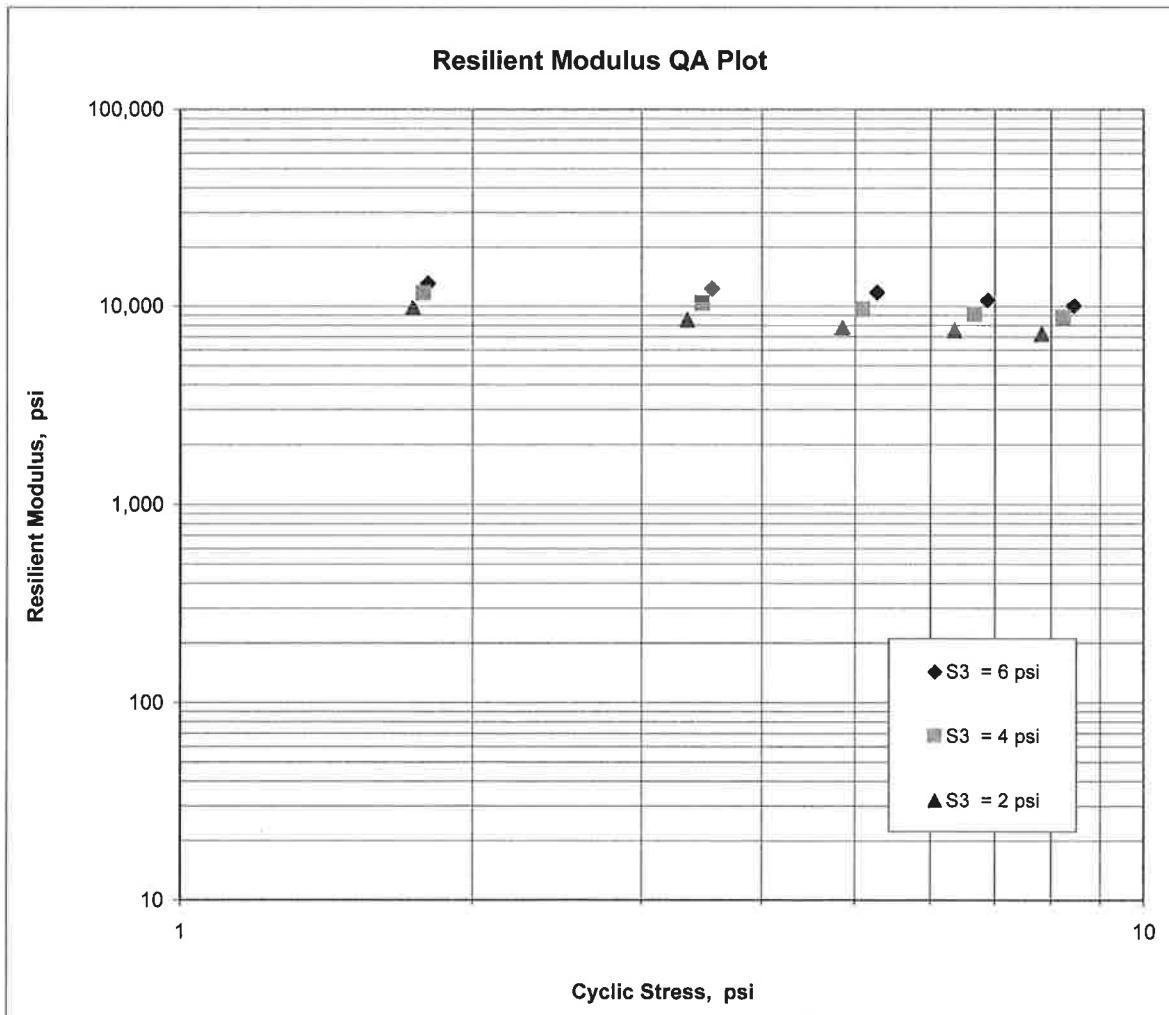
$$M_R = K_1 (S_c)^{K_2} (S_3)^{K_5}$$

$$K_1 = 8,377$$

$$K_2 = -0.18151$$

$$K_5 = 0.32391$$

$$R^2 = 0.98$$



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

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

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	595+00
Date Tested:	August 9, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162426	AASHTO Class:	A-4(0)
Sample ID:	RV280	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	3.95
Middle	3.95
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.19
Initial Volume, AoLo (cu. in):	97.73

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3253.50
------------------------------	---------

4. Soil Properties:

Optimum Moisture Content (%):	13.3
Maximum Dry Density (pcf):	115.1
95% of MDD (pcf):	109.3
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3253.50
Compaction Moisture content (%):	13.3
Compaction Wet Density (pcf):	126.84
Compaction Dry Density (pcf):	111.95
Moisture Content After Mr Test (%):	13.2

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

7. Resilient Modulus, Mr: 6214(Sc)^{-0.07011}(S3)^{0.40390}

8. Comments _____

9. Tested By: DEB **Date:** August 9, 2016

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

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

Job No. BB0203 **Material Code** SSRVPS
Date Sampled: 08/09/16 **Station No.:** 595+00
Date Tested: August 9, 2016 **Location:** CL
Name of Project: HWY.65B - HWY.65(F)
County: Code: 35 **Name:** JEFFERSON
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 250162426 **AASHTO Class:** A-4(0)
Sample ID: RV280 **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	25.1	22.3	2.8	2.1	1.8	0.2	0.00120	0.00015	12,197
Sequence 2	6.0	4.0	47.3	44.4	2.9	3.9	3.6	0.2	0.00245	0.00031	11,944
Sequence 3	6.0	6.0	70.3	66.6	3.8	5.8	5.5	0.3	0.00374	0.00047	11,702
Sequence 4	6.0	8.0	94.4	88.2	6.2	7.7	7.2	0.5	0.00516	0.00064	11,259
Sequence 5	6.0	10.0	118.6	110.0	8.7	9.7	9.0	0.7	0.00654	0.00082	11,060
Sequence 6	4.0	2.0	24.7	21.9	2.9	2.0	1.8	0.2	0.00137	0.00017	10,478
Sequence 7	4.0	4.0	46.5	43.6	2.9	3.8	3.6	0.2	0.00297	0.00037	9,653
Sequence 8	4.0	6.0	68.0	65.0	3.0	5.6	5.3	0.2	0.00461	0.00058	9,275
Sequence 9	4.0	8.0	92.1	86.7	5.4	7.6	7.1	0.4	0.00616	0.00077	9,259
Sequence 10	4.0	10.0	116.3	108.5	7.8	9.5	8.9	0.6	0.00766	0.00096	9,322
Sequence 11	2.0	2.0	24.3	21.5	2.9	2.0	1.8	0.2	0.00174	0.00022	8,110
Sequence 12	2.0	4.0	45.2	42.3	2.9	3.7	3.5	0.2	0.00373	0.00047	7,464
Sequence 13	2.0	6.0	65.9	62.9	3.0	5.4	5.2	0.2	0.00576	0.00072	7,184
Sequence 14	2.0	8.0	88.5	84.0	4.6	7.3	6.9	0.4	0.00765	0.00095	7,224
Sequence 15	2.0	10.0	112.0	104.9	7.1	9.2	8.6	0.6	0.00947	0.00118	7,294

TESTED BY _____ DATE August 9, 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**

Job No.	BB0203	Material Code	SSRVPS
Date Sampled:	08/09/16	Station No.:	595+00
Date Tested:	August 9, 2016	Location:	CL
Name of Project:	HWY.65B - HWY.65(F)		
County:	Code: 35	Name:	JEFFERSON
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	250162426	AASHTO Class:	A-4(0)
Sample ID:	RV280	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

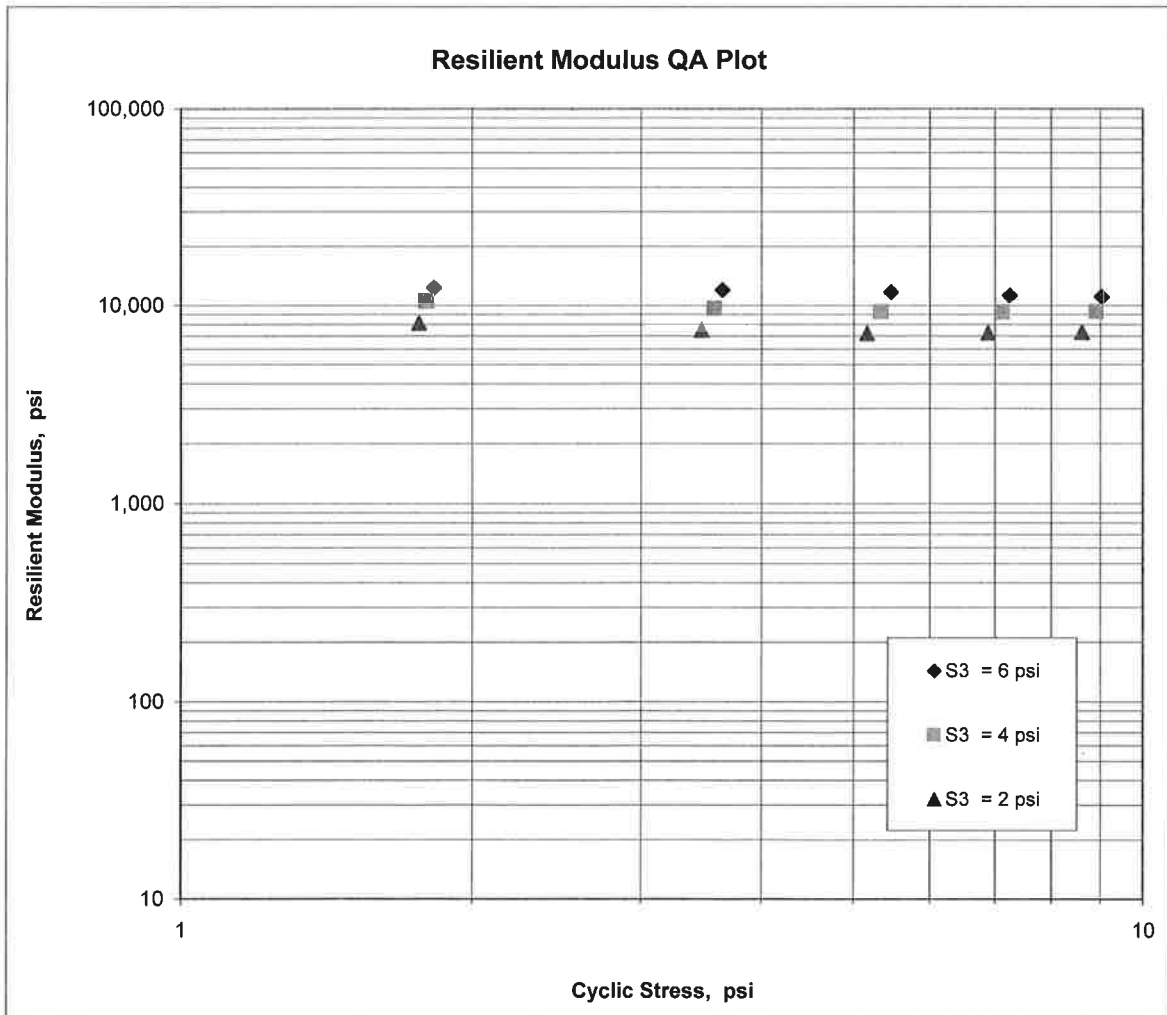
$$M_R = K_1 (S_C)^{K_2} (S_3)^{K_5}$$

$$K_1 = \underline{6,214}$$

$$K_2 = \underline{-0.07011}$$

$$K_5 = \underline{0.40390}$$

$$R^2 = \underline{0.99}$$



JOB: BB0203
JOB NAME: HWY.65B - WHY.65(F)

Arkansas State Highway Transportation Department

Materials Division

Michael Benson, Materials Engineer

DATE TESTED
7/21/2016

COUNTY NO. 35

STA# LOC.

PAVEMENT SOUNDINGS

010+00	52RT	PCCP	ACHM SC	CEMENT T. BASE
		11.25	0.5	---
010+00	52LT	PCCP	ACHM SC	CEMENT T. BASE
		11.5	1.0	5
023+00	40LT	PCCP	ACHM SC	CEMENT T. BASE
		11.5	1.0	---
024+00	40RT	PCCP	ACHM SC	CEMENT T. BASE
		11.0	1.5	---
036+00	52RT	PCCP	ACHM SC	CEMENT T. BASE
		11.5	.25	---
037+00	52LT	PCCP	ACHM SC	CEMENT T. BASE
		11.5	1.0	5.0
051+00	40RT	PCCP	ACHM SC	
		11.25 C	---	
052+00	40LT	PCCP	ACHM SC	
		11.0	1.0	
064+00	52RT	PCCP	ACHM SC	
		11.25	1.0	
065+00	52LT	PCCP	ACHM SC	
		16.0	1.0	
082+00	42RT	PCCP	ACHM SC	
		11.5	1.0	
085+00	42LT	PCCP	ACHM SC	
		11.0 C	-	
094+00	52RT	PCCP	ACHM SC	
		11.5	1.0	
098+00	52LT	PCCP	ACHM SC	
		11.5	1.0	
107+00	40RT	PCCP	ACHM SC	
		11.5	1.0	
113+00	42LT	PCCP	ACHM SC	
		11.0	1.0	
120+00	52RT	PCCP	ACHM SC	
		11.0	1.0	

Comments: C= CRACKED, W= MULTIPLE LAYERS

Wednesday, August 24, 2016

125+00	52LT	PCCP	ACHM SC	1.0	
		11.0 C			
134+00	40RT	PCCP	CEMENT T. BASE	ACHM SC	
		11.5	5 W		
140+00	40LT	PCCP	CEMENT T. BASE	ACHM SC	
		11.0		1.0	
147+00	52RT	PCCP	CEMENT T. BASE	ACHM SC	
		11.25		1.0	
150+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0	5	
159+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		10.75		5 W	
165+00	40LT	PCCP	ACHM SC	CEMENT T. BASE	
172+00	52RT	PCCP	ACHM SC		
		11.0	1.25		
175+00	52LT	PCCP	ACHM SC		
185+00	40RT	PCCP	ACHM SC		
		11.25	1.0		
194+00	40LT	PCCP	ACHM SC		
198+00	52RT	PCCP	ACHM SC		
		10.5	1.0		
207+00	52LT	PCCP	ACHM SC		
211+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0		
220+00	42LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.5	1.0	2.0 C	
224+00	52RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.25	1.0		
233+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0	5.0	
237+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	0.25		
246+00	40LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0		5.0	

Comments: C= CRACKED, W= MULTIPLE LAYERS

250+00	52RT	PCCP	CEMENT T. BASE	18	---	---	---
259+00	52LT	PCCP	CEMENT T. BASE	11.0	7.0	---	---
269+00	40RT	PCCP	CEMENT T. BASE	11.0	---	---	---
272+00	40LT	PCCP	ACHM SC	11.0	6.75	---	CEMENT T. BASE
282+00	52RT	PCCP	ACHM SC	20	2.5	---	CEMENT T. BASE
285+00	52LT	PCCP	ACHM SC	11.5	---	5.0 W	CEMENT T. BASE
300+00	40LT	PCCP	CEMENT T. BASE	11.5 C	5.0	---	---
310+00	40RT	PCCP	CEMENT T. BASE	11.0	---	---	---
315+00	52LT	PCCP	CEMENT T. BASE	11.0	5.0	---	---
323+00	52RT	PCCP	ACHM SC	10	1.5	18.0	CEMENT T. BASE
340+00	42RT	PCCP	ACHM SC	11.0	---	---	CEMENT T. BASE
342+00	42LT	PCCP	ACHM SC	11.0	---	---	CEMENT T. BASE
349+00	52RT	PCCP	CEMENT T. BASE	11.0	---	---	---
355+00	52LT	PCCP	CEMENT T. BASE	11.5C	5.0	---	---
367+00	42RT	PCCP	CEMENT T. BASE	11	5	---	---
371+00	42LT	CHIP SEAL	PCCP	---	11.0	5	ACHM SC
380+00	52RT	CHIP SEAL	PCCP	2	17	0.25	ACHM SC
384+00	52LT	CHIP SEAL	PCCP	---	16C	---	ACHM SC
397+00	40LT	PCCP	CEMENT T. BASE	12.0C	---	---	---

Comments: C= CRACKED, W= MULTIPLE LAYERS

400+00	40RT	PCCP	CEMENT T. BASE		
		11.0	5.0		
410+00	52LT	PCCP	CEMENT T. BASE		
		15.0	--		
420+00	52RT	PCCP	ACHM SC	CEMENT T. BASE	
		20.0	--	--	
423+00	42LT	PCCP	ACHM SC	CEMENT T. BASE	
		12.0C	--	5.0	
434+00	42RT	PCCP	ACHM SC	CEMENT T. BASE	
		12.75	1.5	--	
436+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	2.0	5.0	SOIL CEMENT
455+00	52RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.5	1.0	6.75	SOIL CEMENT
464+00	40LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0 C	1.0	--	SOIL CEMENT
475+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0	--	
477+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0	6.0	
490+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.0	1.0 C	--	
506+00	40LT	PCCP	ACHM SC	CEMENT T. BASE	
		13.0	1.0	--	
510+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		12.0	1.0	--	
519+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		12.0	1.0	5.0	
523+00	52RT	PCCP	ACHM SC	CEMENT T. BASE	
		12.0	1.5	6.0	
524+00	40RT	PCCP	ACHM SC	CEMENT T. BASE	
		11.5	1.0	--	
531+00	40LT	PCCP	ACHM SC	CEMENT T. BASE	
		12.0	1.0	5.0	
544+00	52LT	PCCP	ACHM SC	CEMENT T. BASE	
		11.5	1.5	5.5	
549+00	52RT	PCCP	ACHM SC	CEMENT T. BASE	
		12.25	1.0	--	

Comments: C= CRACKED, W= MULTIPLE LAYERS

STA.# LOC.

PAVEMENT SOUNDINGS

559+00	40LT	PCCP	ACHM SC	CEMENT T. BASE
		13.5	0.25	---
565+00	40RT	PCCP	SOIL CEMENT	CEMENT T. BASE
		13.0	1.0	---
572+00	52LT	PCCP	SOIL CEMENT	CEMENT T. BASE
		11.0	1.0	6.0 C
575+00	52RT	PCCP	SOIL CEMENT	CEMENT T. BASE
		11.5	---	6.0 C
585+00	40LT	PCCP	ACHM SC	CEMENT T. BASE
		11.5	1.0	5.0
595+00	40RT	PCCP	ACHM SC	CEMENT T. BASE
		12.0	1.0	---

Comments: C= CRACKED, W= MULTIPLE LAYERS

Wednesday, August 24, 2016

JOB: **BB0203**

Arkansas State Highway Transportation Department

JOB NAME: **XXXXX**

Materials Division

COUNTY NO. DATE TESTED **8/14/2016**

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	#4 #10 #40 #80 #200					L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
107+00	CL	0-5	BROWN	90	89	86	82	44	ND	NP	A-4(0)	RV271	
159+00	CL	0-5	BROWN	90	89	85	77	53	ND	NP	A-4(0)	RV272	
211+00	CL	0-5	BR/GR	78	77	72	64	44	19	04	A-4(0)	RV273	
269+00	CL	0-5	BROWN	94	93	86	78	54	27	14	A-6(4)	RV274	
310+00	CL	0-5	BROWN	98	97	90	84	61	25	12	A-6(4)	RV275	
380+00	CL	0-5	BROWN	100	100	95	87	58	30	16	A-6(6)	RV276	
434+00	CL	0-5	BROWN	96	94	84	57	29	ND	NP	A-2-4(0)	RV277	
488+00	CL	0-5	BROWN	95	91	88	78	55	ND	NP	A-4(0)	RV278	
536+00	CL	0-5	BROWN	100	100	100	100	92	22	05	A-4(3)	RV279	
595+00	CL	0-5	BROWN	97	97	96	91	74	ND	NP	A-4(0)	RV280	
64+00	CL	0-5	BROWN	97	96	89	80	53	25	10	A-4(2)	RV281	

comments:

Wednesday, August 17, 2016

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 08/24/16	SEQUENCE NO.	- 1
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 35
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- HWY.65B - WHY.65(F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/21/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER	- 20162338	- 20162339	- 20162340
SAMPLE ID	-	-	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 010+00	- 010+00	- 023+00
LOCATION	- 52LT	- 52RT	- 40LT
DEPTH IN FEET	-	-	-
MAT'L COLOR	-	-	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 34 14 42.50	- 34 14 45.80	- 34 14 30.60
LONGITUDE DEG-MIN-SEC	- 92 05 37.00	- 92 05 47.00	- 92 05 23.20
% PASSING	2 IN.	-	-
	1 1/2 IN.	-	-
	3/4 IN.	-	-
	3/8 IN.	-	-
	NO. 4	-	-
	NO. 10	-	-
	NO. 40	-	-
	NO. 80	-	-
	NO. 200	-	-
LIQUID LIMIT	-	-	-
PLASTICITY INDEX	-	-	-
AASHTO SOIL	-	-	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-
PCCP (IN)	- 11.5	- 11.25	- 11.5
ACHM SC (IN)	- 1.0	- 0.5	- 1.0
CEMENT T. BASE (IN)	- 5	-	-

REMARKS - C = CRACKED, 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	- 08/24/16	SEQUENCE NO.	- 6
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 35
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- HWY.65B - WHY.65 (F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/22/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER	-	20162353	-	20162354	-	20162355
SAMPLE ID	-		-		-	
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	113+00	-	120+00	-	125+00
LOCATION	-	42LT	-	52RT	-	52LT
DEPTH IN FEET	-		-		-	
MAT'L COLOR	-		-		-	
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	34 13 20.20	-	34 13 19.30	-	34 13 10.30
LONGITUDE DEG-MIN-SEC	-	92 04 27.10	-	92 04 28.00	-	92 04 18.30
% PASSING	2 IN.	-	-	-	-	-
	1 1/2 IN.	-	-	-	-	-
	3/4 IN.	-	-	-	-	-
	3/8 IN.	-	-	-	-	-
	NO. 4	-	-	-	-	-
	NO. 10	-	-	-	-	-
	NO. 40	-	-	-	-	-
	NO. 80	-	-	-	-	-
	NO. 200	-	-	-	-	-
LIQUID LIMIT	-		-		-	
PLASTICITY INDEX	-		-		-	
AASHTO SOIL	-		-		-	
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-		-		-	
PCCP	(IN)	11.0	-	11.0	-	11.0 C
ACHM SC	(IN)	1.0	-	1.0	-	1.0

REMARKS - C= CRACKED, 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	- 08/24/16	SEQUENCE NO.	- 14
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 35
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- HWY.65B - WHY.65(F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/22/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER	- 20162377	- 20162378	- 20162379
SAMPLE ID	-	-	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 272+00	- 282+00	- 285+00
LOCATION	- 40LT	- 52RT	- 52LT
DEPTH IN FEET	-	-	-
MAT'L COLOR	-	-	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 34 11 14.60	- 34 11 13.00	- 34 11 6.60
LONGITUDE DEG-MIN-SEC	- 92 03 6.50	- 92 03 6.60	- 92 02 53.40
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 -	-	-
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 -	-	-
LIQUID LIMIT	-	-	-
PLASTICITY INDEX	-	-	-
AASHTO SOIL	-	-	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-
PCCP (IN)	- 11.0	- 20	- 11.5
ACHM SC (IN)	- 6.75	- 2.5	- ---
CEMENT T. BASE (IN)	- ---	- ---	- 5.0 W

REMARKS - C= CRACKED, 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	- 08/24/16	SEQUENCE NO.	- 15
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 35
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- HWY.65B - WHY.65(F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/22/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER	- 20162380	- 20162381	- 20162382
SAMPLE ID	-	-	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 300+00	- 310+00	- 315+00
LOCATION	- 40LT	- 40RT	- 52LT
DEPTH IN FEET	-	-	-
MAT'L COLOR	-	-	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 34 10 59.50	- 34 10 58.90	- 34 10 51.50
LONGITUDE DEG-MIN-SEC	- 92 02 39.40	- 92 02 40.80	- 92 02 23.60
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 -	-	-
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 -	-	-
LIQUID LIMIT	-	-	-
PLASTICITY INDEX	-	-	-
AASHTO SOIL	-	-	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-
PCCP (IN)	- 11.5 C	- 11.0	- 11.0
CEMENT T. BASE (IN)	- 5.0	- ---	- 5.0

REMARKS - C= CRACKED,

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 08/24/16	SEQUENCE NO.	= 16
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	= 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	= 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	= 35
SUPPLIER NAME	- STATE	DISTRICT NO.	= 02
NAME OF PROJECT	- HWY.65B - WHY.65(F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/22/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER		20162383		20162384		20162385
SAMPLE ID						
TEST STATUS		INFORMATION ONLY		INFORMATION ONLY		INFORMATION ONLY
STATION		323+00		340+00		342+00
LOCATION		52RT		42RT		42LT
DEPTH IN FEET						
MAT'L COLOR						
MAT'L TYPE						
LATITUDE DEG-MIN-SEC		34 10 49.60		34 10 43.50		34 10 37.70
LONGITUDE DEG-MIN-SEC		92 02 22.50		92 02 10.50		92 01 56.40
% PASSING	2 IN.					
	1 1/2 IN.					
	3/4 IN.					
	3/8 IN.					
	NO. 4					
	NO. 10					
	NO. 40					
	NO. 80					
	NO. 200					
LIQUID LIMIT						
PLASTICITY INDEX						
AASHTO SOIL						
UNIFIED SOIL						
% MOISTURE CONTENT						
PCCP	(IN)	10		11.0		11.0
ACHM SC	(IN)	1.5		---		---
SOIL CEMENT	(IN)	18.0		---		---
CEMENT T. BASE	(IN)	---		5.0		5.0

REMARKS - C= CRACKED, 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	- 08/24/16	SEQUENCE NO.	- 21
JOB NUMBER	- BB0203	MATERIAL CODE	- PSO
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 35
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- HWY.65B - WHY.65(F)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- JEFFERSON, COUNTY	DATE SAMPLED	- 07/14/16
SAMPLED BY	- D.THORTON	DATE RECEIVED	- 07/14/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 07/22/16
MATERIAL DESC.	- PAVEMENT SOUNDINGS ONLY		

LAB NUMBER	- 20162398	- 20162399	- 20162400
SAMPLE ID	-	-	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 436+00	- 455+00	- 464+00
LOCATION	- 52LT	- 52RT	- 40LT
DEPTH IN FEET	-	-	-
MAT'L COLOR	-	-	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 34 10 16.20	- 34 10 24.50	- 34 10 21.50
LONGITUDE DEG-MIN-SEC	- 92 00 12.80	- 91 59 47.00	- 91 59 39.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 -	-	-
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 -	-	-
LIQUID LIMIT	-	-	-
PLASTICITY INDEX	-	-	-
AASHTO SOIL	-	-	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-
PCCP	(IN) - 11.0	- 11.5	- 11.0 C
ACHM SC	(IN) - 2.0	- 1.0	- 1.0
CEMENT T. BASE	(IN) - 5.0	- 6.75	- ---
SOIL CEMENT	(IN) -	- 4.5	- ---

REMARKS - C= CRACKED, W= MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

