

ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO. 050313

FEDERAL AID PROJECT NO. HSIP-0032(25)

HWY. 230 – HWY. 167 (SAFETY IMPVTS.) (S)

STATE HIGHWAY 25 SECTION 4

IN INDEPENDENCE COUNTY

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

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

November 1, 2016

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 050313
Hwy. 230 – Hwy. 167 (Safety Impvts) (S)
Route 25 Section 4
Independence County

Transmitted herewith is the requested Soil Survey, Strength Data and Resilient Modulus test results for the above referenced job. The project consists of making safety improvements to three sections of Highway 25 between Locust Grove and Batesville. Samples were obtained in the existing travel lanes and ditch line. There were no paved shoulders within the project

Based on laboratory results of samples obtained, the subgrade soils consist primarily of moderately to highly plastic clays containing some sandstone fragments. Based on currently available cross sections, the construction grade line closely matches that of the existing roadway. The subgrade soils are expected to provide a stable working platform with normal drying and compactive effort, if the weather is favorable during construction. Rock was encountered at several locations within the project limits. Station, location and depth are in Table 1 below.

Table 1 Rock location and depth

Station	Location from Centerline (ft.)	Depth (ft.)
176+00	6 Lt.	4.0
203+00	6, 18 Rt.	4.0, 3.2
211+00	18 Lt.	2.5
219+00	6, 18 Rt.	3.0, 3.0
251+00	6 Rt.	2.5

Based on currently available cross sections the embankments will be placed within the existing ditch line. The maximum embankment height is approximately 10 feet. All soft unstable organic material in the ditch should be undercut prior to embankment construction, anticipated to be no more than two feet. The embankment may be constructed with locally available unspecified material utilizing the 3:1 slope configuration shown in the cross sections.

The proposed cut slopes are acceptable as shown.

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 Batesville.

2. Asphalt Concrete Hot Mix

<u>Type</u>	<u>Asphalt Cement %</u>	<u>Mineral Aggregate %</u>
Surface Course	5.3	94.7
Binder Course	4.4	95.6
Base Course	3.9	96.1



Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 5 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 - 10/17/2016
JOB NUMBER - 050313

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 32
DISTRICT NO. - 5

JOB NAME - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)

* STATION LIMITS R-VALUE AT 240 psi *

BEGIN JOB - END JOB	LESS THAN 5
RESILIENT MODULUS	
STA.141+00	10634
STA.234+00	9334

REMARKS -

AASHTO TESTS : T190

STA.#	LOC.	DEPTH	COLOR						L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				#4	#10	#40	#80	#200					
				S	I	E	V	E	S				
141+00	21RT	0-5	BROWN	81	77	72	64	40	23	08	A-4(0)	RV332	
234+00	18RT	0-5	BROWN	70	67	66	62	45	37	21	A-6(5)	RV333	
124+00	06RT	0-5	BROWN	99	97	96	90	72	24	11	A-6(5)	S305	17.5
124+00	15RT	0-5	BROWN	99	97	93	86	70	28	14	A-6(7)	S306	15.5
133+00	06LT	0-5	GRAY	97	95	92	84	63	35	12	A-6(6)	S307	16.4
133+00	15LT	0-5	GRAY	97	96	93	84	64	21	06	A-4(1)	S308	18.4
141+00	06RT	0-5	BROWN	97	95	93	88	70	27	12	A-6(6)	S309	16.8
141+00	21RT	0-5	BROWN	99	97	94	86	59	33	18	A-6(7)	S310	19
149+00	06LT	0-5	BROWN	99	98	96	93	81	36	17	A-6(13)	S311	21.8
149+00	18LT	0-5	BROWN	94	91	88	83	69	41	27	A-7-6(16)	S312	16.7
168+00	06RT	0-5	BROWN	99	98	95	92	88	37	23	A-6(17)	S313	17.6
168+00	18RT	0-5	BROWN	100	99	98	93	81	42	28	A-7-6(22)	S314	18
176+00	06LT	0-4Z	BROWN	98	95	93	89	74	31	14	A-6(8)	S315	19.5
176+00	18LT	0-5	BROWN	97	94	91	85	69	43	29	A-7-6(18)	S316	15.3
203+00	06RT	0-4Z	BROWN	95	89	86	81	53	19	06	A-4(0)	S317	15.7
203+00	18LT	0-3.2Z	BROWN	78	73	70	64	33	ND	NP	A-2-4(2)	S318	8.2
211+00	06LT	0-5	BROWN	100	99	98	96	95	25	06	A-4(1)	S319	17.7
211+00	18LT	0-2.5Z	BROWN	95	90	87	83	52	ND	NP	A-4(0)	S320	12
219+00	06RT	0-3Z	BROWN	99	97	96	89	53	21	09	A-4(2)	S321	16.4
219+00	18RT	0-3Z	BROWN	98	95	92	81	43	19	04	A-4(0)	S322	11.8
227+00	06LT	0-5	BROWN	99	95	93	87	54	33	12	A-6(4)	S323	21.5
227+00	18LT	0-5	BROWN	100	99	99	96	81	52	34	A-7-6(28)	S324	19.7
234+00	06RT	0-5	BROWN	99	97	96	93	63	48	26	A-7-6(14)	S325	19.9
234+00	18RT	0-5	BROWN	94	88	86	80	62	59	39	A-7-6(22)	S326	20.5
243+00	06RT	0-5	BROWN	100				96	91	62	A-7-6(70)	S327	37.1
243+00	18RT	0-5	BROWN	76	71	67	61	43	36	23	A-6(5)	S328	14.8

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E					
251+00	06RT	0-2.5Z	BROWN	92	83	78	74	47	24	12	A-6(2)	S329	16.4
256+00	06LT	0-5	BROWN	98	95	93	91	70	30	17	A-6(9)	S330	20.2
256+00	18LT	0-5	BROWN	99	95	87	76	46	28	14	A-6(3)	S331	19.2

JOB: 050313
JOB NAME: HWY.230 - HWY.167 (SAFETY IMPTS.)(S)

Arkansas State Highway Transportation Department
 Materials Division

DATE TESTED
 10/5/2016

COUNTY NO. 32

Michael Benson, Materials Engineer

STA.# LOC. PAVEMENT SOUNDINGS

124+00	15RT	ACHMSC	ACHMBC	CTCS	AGG.BASE CRS CL-7
		--	--	--	--
124+00	06RT	ACHMSC	ACHMBC	CTCS	AGG.BASE CRS CL-7
		6.0W	2.0	--	10.0
133+00	06LT	ACHMSC	ACHMBC	CTCS	AGG.BASE CRS CL-7
		7.0	--	3.0	5.0
133+00	15LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		--	--	--	--
141+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		4.5W	1.5	6.0	
141+00	21RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		--	--	--	--
149+00	06LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		6.0	--	8.0	
149+00	18LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		--	--	--	--
168+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		6.0W	2.0	8.0	
168+00	18RT	ACHMSC	CTCS	AGG.BASE CRS CL-7	
		--	--	--	--
176+00	06LT	ACHMSC	CTCS	AGG.BASE CRS CL-7	
		7.0W	4.0	6.0	
176+00	18LT	ACHMSC	CTCS	AGG.BASE CRS CL-7	
		--	--	--	--
203+00	18LT	ACHMSC	ACHMBC	AGG.BASE CRS C-7	
		--	--	--	--
203+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS C-7	
		5.5W	1.2	7.0	
211+00	18LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		--	--	--	--
211+00	06LT	ACHMSC	ACHMBC	AGG.BASE CRS C-7	
		7.0W	3.5	5.0	
219+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7	
		4.5W	3.0	3.0	

Comments: W=MULTIPLE LAYER, X=STRIPPED, Z=AUGER REFUSAL

Thursday, October 20, 2016

219+00	18RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		--	--	--
227+00	06LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		4.5W	4.0	--
227+00	18LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		--	--	--
234+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		5.5W	1.5	7.0
234+00	18RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		--	--	--
243+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		8.0W	2.0	7.0
243+00	18RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		--	--	--
251+00	06RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		8.0W	2.25	5.0
256+00	18LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		--	--	--
256+00	06LT	ACHMSC	ACHMBC	AGG.BASE CRS CL-7
		7.0W	1.5	7.0

Comments: W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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

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

Job No.	050313	Material Code	SSRVPS
Date Sampled:	10/13/16	Station No.:	234+00
Date Tested:	October 13, 2016	Location:	18" RT
Name of Project:	HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)		
County:	Code: 32	Name:	INDEPENDENCE
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20163106	AASHTO Class:	A-6 (5)
Sample ID:	RV333	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	3.93
Bottom	3.94
Average	3.94
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):	12.12
Initial Volume, AoLo (cu. in):	97.36

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3103.40
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4. Soil Properties:

Optimum Moisture Content (%):	17.6
Maximum Dry Density (pcf):	107.7
95% of MDD (pcf):	102.3
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3103.40
Compaction Moisture content (%):	17.6
Compaction Wet Density (pcf):	121.46
Compaction Dry Density (pcf):	103.28
Moisture Content After Mr Test (%):	17.6

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

7. Resilient Modulus, Mr: 16058(Sc)^{-0.28718}(S3)^{0.13985}

8. Comments

9. Tested By: GW **Date:** October 13, 2016

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

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

Job No.	050313	Material Code	SSRVPS
Date Sampled:	10/13/16	Station No.:	234+00
Date Tested:	October 13, 2016	Location:	18" RT
Name of Project:	HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)	Depth:	0-5
County:	Code: 32 INDEPENDENCE	AAASHTO Class:	A-6 (5)
Sampled By:	THORNTON	Material Type (1 or 2):	2
Lab No.:	20163106	LONGITUDE:	
Sample ID:	RV333		
LATITUDE:			

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	P _{max} lbs	Actual Applied Cyclic Load	P _{cyclic} lbs	Actual Applied Contact Load	P _{contact} lbs	Actual Applied Max. Axial Stress	S _{max} psi	Actual Applied Cyclic Stress	S _{cyclic} psi	Actual Applied Contact Stress	S _{contact} psi	Average Recov Def. LVDT 1 and 2	H _{avg} in	Resilient Strain	ε _r in/in	Resilient Modulus	M _r psi
Sequence 1	6.0	2.0	24.9	24.9	22.3	2.5	2.5	2.0	2.0	1.8	0.0088	0.00011	0.2	0.00088	0.00011	16,820				
Sequence 2	6.0	4.0	46.6	46.6	44.1	2.5	2.5	3.8	3.8	3.6	0.00191	0.00024	0.2	0.00191	0.00024	15,312				
Sequence 3	6.0	6.0	68.6	68.6	65.2	3.3	3.3	5.7	5.7	5.4	0.00313	0.00039	0.3	0.00313	0.00039	13,822				
Sequence 4	6.0	8.0	90.4	90.4	84.7	5.7	5.7	7.5	7.5	7.0	0.00478	0.00060	0.5	0.00478	0.00060	11,732				
Sequence 5	6.0	10.0	110.9	110.9	102.6	8.3	8.3	9.1	9.1	8.5	0.00664	0.00083	0.7	0.00664	0.00083	10,228				
Sequence 6	4.0	2.0	24.6	24.6	22.1	2.6	2.6	2.0	2.0	1.8	0.00093	0.00012	0.2	0.00093	0.00012	15,719				
Sequence 7	4.0	4.0	46.2	46.2	43.5	2.6	2.6	3.8	3.8	3.6	0.00212	0.00026	0.2	0.00212	0.00026	13,625				
Sequence 8	4.0	6.0	67.1	67.1	64.3	2.8	2.8	5.5	5.5	5.3	0.00342	0.00043	0.2	0.00342	0.00043	12,442				
Sequence 9	4.0	8.0	89.2	89.2	84.1	5.1	5.1	7.4	7.4	6.9	0.00498	0.00062	0.4	0.00498	0.00062	11,171				
Sequence 10	4.0	10.0	110.1	110.1	102.5	7.6	7.6	9.1	9.1	8.5	0.00672	0.00084	0.6	0.00672	0.00084	10,093				
Sequence 11	2.0	2.0	24.8	24.8	22.0	2.8	2.8	2.0	2.0	1.8	0.00101	0.00013	0.2	0.00101	0.00013	14,384				
Sequence 12	2.0	4.0	46.0	46.0	43.2	2.8	2.8	3.8	3.8	3.6	0.00226	0.00028	0.2	0.00226	0.00028	12,657				
Sequence 13	2.0	6.0	66.5	66.5	63.7	2.9	2.9	5.5	5.5	5.3	0.00370	0.00046	0.2	0.00370	0.00046	11,411				
Sequence 14	2.0	8.0	87.8	87.8	83.5	4.3	4.3	7.2	7.2	6.9	0.00537	0.00067	0.4	0.00537	0.00067	10,303				
Sequence 15	2.0	10.0	109.0	109.0	102.2	6.8	6.8	9.0	9.0	8.4	0.00725	0.00090	0.6	0.00725	0.00090	9,334				

TESTED BY _____ DATE _____

REVIEWED BY _____ DATE _____

GW October 13, 2016

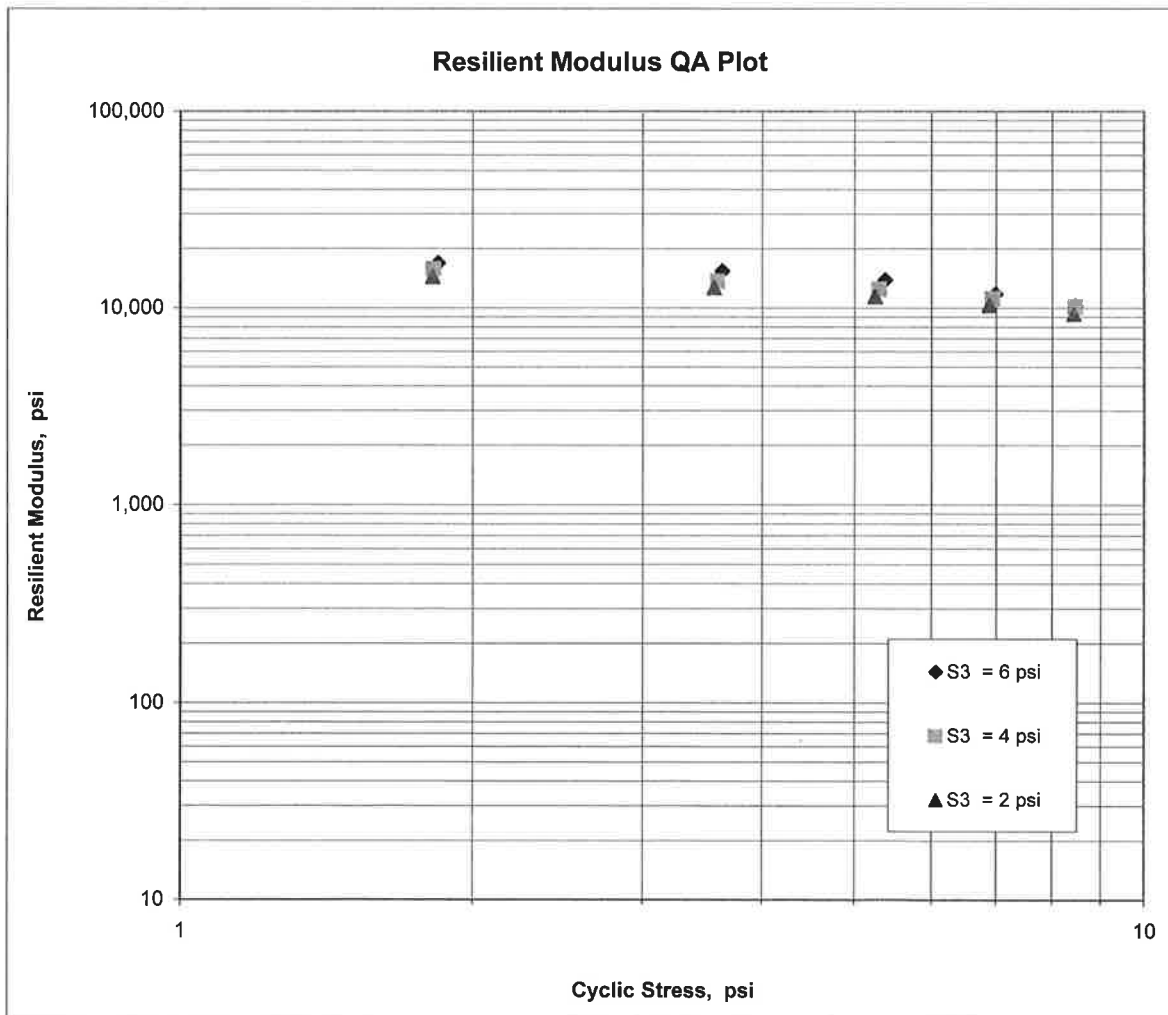
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	050313	Material Code	SSRVPS
Date Sampled:	10/13/16	Station No.:	234+00
Date Tested:	October 13, 2016	Location:	18" RT
Name of Project:	HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)		
County:	Code: 32	Name:	INDEPENDENCE
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20163106	AASHTO Class:	A-6 (5)
Sample ID:	RV333	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

K1 =	<u>16,058</u>
K2 =	<u>-0.28718</u>
K5 =	<u>0.13985</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**

Job No.	050313	Material Code	SSRVPS
Date Sampled:	10/13/16	Station No.:	141+00
Date Tested:	October 13, 2016	Location:	21' RT
Name of Project:	HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)		
County:	Code: 32	Name:	INDEPENDENCE
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20163105	AASHTO Class:	A-4 (0)
Sample ID:	RV332	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	3.98
Bottom	3.96
Average	3.97
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):	12.31
Initial Volume, AoLo (cu. in):	98.73

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3300.60
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4. Soil Properties:

Optimum Moisture Content (%):	13.4
Maximum Dry Density (pcf):	117.3
95% of MDD (pcf):	111.4
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3300.60
Compaction Moisture content (%):	13.3
Compaction Wet Density (pcf):	127.38
Compaction Dry Density (pcf):	112.43
Moisture Content After Mr Test (%):	13.1

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

7. Resilient Modulus, Mr: 13923(Sc)^-0.21448(S3)^0.28738

8. Comments _____

9. Tested By: GW **Date:** October 13, 2016

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

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

Job No. 050313 **Material Code** SSRVPS
Date Sampled: 10/13/16 **Station No.:** 141+00
Date Tested: October 13, 2016 **Location:** 21' RT
Name of Project: HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)
County: Code: 32 **Name:** INDEPENDENCE
Sampled By: THORNTON **Depth:** 0-5
Lab No.: 20163105 **AASHTO Class:** A-4 (0)
Sample ID: RV332 **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	25.2	22.5	2.7	2.0	1.8	0.2	0.00073	0.00009	20,016
Sequence 2	6.0	4.0	47.4	44.6	2.8	3.8	3.6	0.2	0.00157	0.00020	18,558
Sequence 3	6.0	6.0	70.0	66.4	3.7	5.7	5.4	0.3	0.00248	0.00031	17,454
Sequence 4	6.0	8.0	93.5	87.3	6.2	7.6	7.1	0.5	0.00366	0.00046	15,564
Sequence 5	6.0	10.0	115.8	107.2	8.6	9.4	8.7	0.7	0.00504	0.00063	13,858
Sequence 6	4.0	2.0	25.1	22.4	2.7	2.0	1.8	0.2	0.00083	0.00010	17,521
Sequence 7	4.0	4.0	46.8	44.1	2.8	3.8	3.6	0.2	0.00183	0.00023	15,670
Sequence 8	4.0	6.0	68.2	65.4	2.8	5.5	5.3	0.2	0.00293	0.00037	14,550
Sequence 9	4.0	8.0	91.3	86.0	5.2	7.4	7.0	0.4	0.00415	0.00052	13,520
Sequence 10	4.0	10.0	113.6	105.8	7.8	9.2	8.6	0.6	0.00550	0.00069	12,541
Sequence 11	2.0	2.0	24.8	22.0	2.7	2.0	1.8	0.2	0.00096	0.00012	14,952
Sequence 12	2.0	4.0	46.1	43.3	2.8	3.7	3.5	0.2	0.00214	0.00027	13,171
Sequence 13	2.0	6.0	66.7	63.8	2.8	5.4	5.2	0.2	0.00340	0.00042	12,229
Sequence 14	2.0	8.0	88.3	83.9	4.4	7.2	6.8	0.4	0.00480	0.00060	11,389
Sequence 15	2.0	10.0	110.0	103.1	6.9	8.9	8.4	0.6	0.00632	0.00079	10,634

TESTED BY _____ **DATE** October 13, 2016
REVIEWED BY _____ **DATE** _____

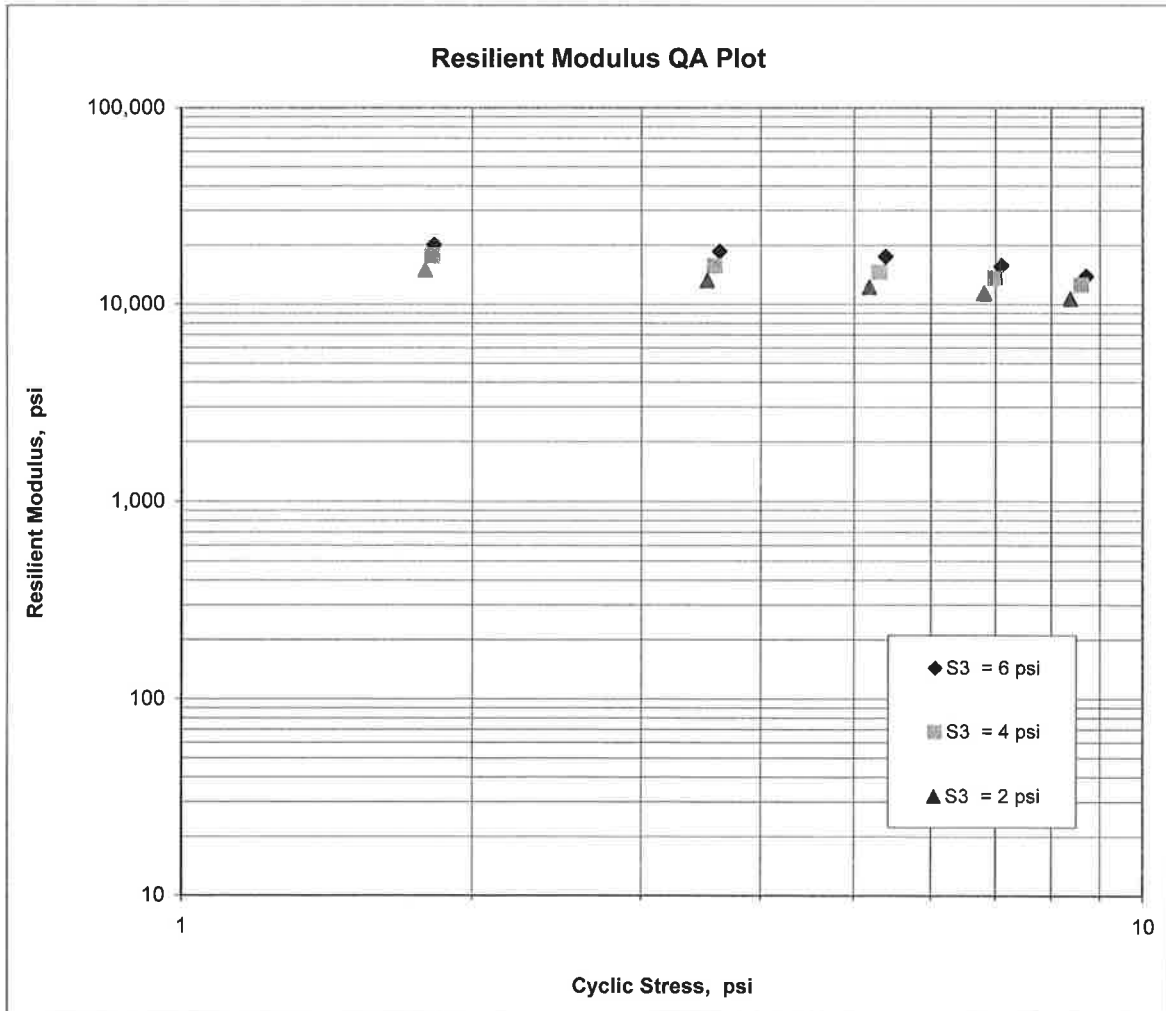
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	050313	Material Code	SSRVPS
Date Sampled:	10/13/16	Station No.:	141+00
Date Tested:	October 13, 2016	Location:	21' RT
Name of Project:	HWY. 230 - HWY. 167 (SAFETY IMPVTS)(S)		
County:	Code: 32	Name:	INDEPENDENCE
Sampled By:	THORNTON	Depth:	0-5
Lab No.:	20163105	AASHTO Class:	A-4 (0)
Sample ID:	RV332	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

$K_1 =$	<u>13,923</u>
$K_2 =$	<u>-0.21448</u>
$K_5 =$	<u>0.28738</u>
$R^2 =$	<u>0.97</u>



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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 10/17/16 SEQUENCE NO. - 1
 JOB NUMBER - 050313 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 - 32
 SUPPLIER NAME - STATE DISTRICT NO. - 5
 NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
 SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
 SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20163078	20163079	20163080
SAMPLE ID	S305	S306	S307
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	124+00	124+00	133+00
LOCATION	06RT	15RT	06LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	35 44 11.00	35 44 10.90	35 44 10.90
LONGITUDE DEG-MIN-SEC	91 41 3.80	91 41 3.80	91 40 52.90
% PASSING			
2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.	100	100	100
NO. 4	99	99	97
NO. 10	97	97	95
NO. 40	96	93	92
NO. 80	90	86	84
NO. 200	72	70	63
LIQUID LIMIT	24	28	35
PLASTICITY INDEX	11	14	12
AASHTO SOIL	A-6 (5)	A-6 (7)	A-6 (6)
UNIFIED SOIL			
% MOISTURE CONTENT	17.5	15.5	16.4
ACHMSC (IN)	6.0W	--	7.0
ACHMBC (IN)	2.0	--	--
CTCS (IN)	--	--	3.0
AGG.BASE CRS CL-7 (IN)	10.0	--	5.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 10/05/16 SEQUENCE NO. - 2
 JOB NUMBER - 050313 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 - 32
 SUPPLIER NAME - STATE DISTRICT NO. - 5
 NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
 PROJECT ENGINEER - NOT APPLICABLE
 PIT/QUARRY - ARKANSAS
 LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
 SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
 SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20163081	20163082	20163083
SAMPLE ID	S308	S309	S310
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	133+00	141+00	141+00
LOCATION	15LT	06RT	21RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	BROWN	BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	35 44 11.00	35 44 10.70	35 44 10.60
LONGITUDE DEG-MIN-SEC	91 40 53.00	91 40 43.20	91 40 43.30
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	100	100	-
3/8 IN.	99	99	100
NO. 4	97	97	99
NO. 10	96	95	97
NO. 40	93	93	94
NO. 80	84	88	86
NO. 200	64	70	59
LIQUID LIMIT	21	27	33
PLASTICITY INDEX	06	12	18
AASHTO SOIL	A-4 (1)	A-6 (6)	A-6 (7)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	18.4	16.8	19.0
ACHMSC (IN)	--	4.5W	--
ACHMBC (IN)	--	1.5	--
AGG.BASE CRS CL-7 (IN)	--	6.0	--
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 10/17/16 SEQUENCE NO. - 3
JOB NUMBER - 050313 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 - 32
SUPPLIER NAME - STATE DISTRICT NO. - 5
NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20163084	20163085	20163086
SAMPLE ID	S311	S312	S313
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	149+00	149+00	168+00
LOCATION	06LT	18LT	06RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	35 44 8.60	35 44 8.70	35 43 59.90
LONGITUDE DEG-MIN-SEC	91 40 34.10	91 40 34.10	91 40 14.40
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	-	100	-
3/8 IN.	100	98	100
NO. 4	99	94	99
NO. 10	98	91	98
NO. 40	96	88	95
NO. 80	93	83	92
NO. 200	81	69	88
LIQUID LIMIT	36	41	37
PLASTICITY INDEX	17	27	23
AASHTO SOIL	A-6 (13)	A-7-6 (16)	A-6 (17)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	21.8	16.7	17.6
ACHMSC (IN)	6.0	--	6.0W
ACHMBC (IN)	--	--	2.0
AGG. BASE CRS CL-7 (IN)	8.0	--	8.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 10/05/16	SEQUENCE NO.	- 4
JOB NUMBER	- 050313	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	- 32
SUPPLIER NAME	- STATE	DISTRICT NO.	- 5
NAME OF PROJECT	- HWY.230 - HWY.167 (SAFETY IMPTS.) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- INDEPENDENCE COUNTY	DATE SAMPLED	- 09/21/16
SAMPLED BY	- thornton/taylor	DATE RECEIVED	- 09/22/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 10/05/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163087	- 20163088	- 20163089
SAMPLE ID	- S314	- S315	- S316
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 168+00	- 176+00	- 176+00
LOCATION	- 18RT	- 06LT	- 18LT
DEPTH IN FEET	- 0-5	- 0-4Z	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 43 59.80	- 35 43 57.70	- 35 43 57.70
LONGITUDE DEG-MIN-SEC	- 91 40 14.50	- 91 40 5.20	- 91 40 5.20
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	100	100
	NO. 10 - 99	98	97
	NO. 40 - 98	95	94
	NO. 80 - 93	93	91
	NO. 200 - 81	89	85
		74	69
LIQUID LIMIT	- 42	- 31	- 43
PLASTICITY INDEX	- 28	- 14	- 29
AASHTO SOIL	- A-7-6(22)	- A-6(8)	- A-7-6(18)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 18.0	- 19.5	- 15.3
ACHMSC	(IN) - --	7.0W	- --
CTCS	(IN) - --	4.0	- --
AGG.BASE CRS CL-7	(IN) - --	6.0	- --
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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 - 10/24/16 SEQUENCE NO. - 5
JOB NUMBER - 050313 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 - 32
SUPPLIER NAME - STATE DISTRICT NO. - 5
NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20163090	-	20163091	-	20163092
SAMPLE ID	-	S317	-	S318	-	S319
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	203+00	-	203+00	-	211+00
LOCATION	-	06RT	-	18LT	-	06LT
DEPTH IN FEET	-	0-4Z	-	0-3.2Z	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	35 43 54.80	-	35 43 54.70	-	35 43 59.40
LONGITUDE DEG-MIN-SEC	-	91 39 33.30	-	91 39 33.20	-	91 39 25.50
% PASSING	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-	100	-	
	3/8	IN.	-	88	-	
	NO. 4		-	78	-	100
	NO. 10		-	73	-	99
	NO. 40		-	70	-	98
	NO. 80		-	64	-	96
	NO. 200		-	33	-	95
LIQUID LIMIT	-	19	-	ND	-	25
PLASTICITY INDEX	-	06	-	NP	-	06
AASHTO SOIL	-	A-4 (0)	-	A-2-4 (2)	-	A-4 (1)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	15.7	-	8.2	-	17.7
ACHMSC	(IN)	5.5W	-	--	-	7.0W
ACHMBC	(IN)	1.2	-	--	-	3.5
AGG.BASE CRS C-7	(IN)	7.0	-	--	-	5.0
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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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	- 10/05/16	SEQUENCE NO.	- 6
JOB NUMBER	- 050313	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	- 32
SUPPLIER NAME	- STATE	DISTRICT NO.	- 5
NAME OF PROJECT	- HWY.230 - HWY.167 (SAFETY IMPTS.) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- INDEPENDENCE COUNTY	DATE SAMPLED	- 09/22/16
SAMPLED BY	- thornton/taylor	DATE RECEIVED	- 09/22/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 10/05/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163093	- 20163094	- 20163095
SAMPLE ID	- S320	- S321	- S322
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 211+00	- 219+00	- 219+00
LOCATION	- 18LT	- 06RT	- 18RT
DEPTH IN FEET	- 0-2.5Z	- 0-3Z	- 0-3Z
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 43 59.50	- 35 44 6.10	- 35 44 6.00
LONGITUDE DEG-MIN-SEC	- 91 39 25.60	- 91 39 20.40	- 91 39 20.30
% PASSING	2 IN.	-	-
	1 1/2 IN.	-	-
	3/4 IN.	-	-
	3/8 IN.	- 100	- 100
NO. 4	- 95	- 99	- 98
NO. 10	- 90	- 97	- 95
NO. 40	- 87	- 96	- 92
NO. 80	- 83	- 89	- 81
NO. 200	- 52	- 53	- 43
LIQUID LIMIT	- ND	- 21	- 19
PLASTICITY INDEX	- NP	- 09	- 04
AASHTO SOIL	- A-4 (0)	- A-4 (2)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 12.0	- 16.4	- 11.8
ACHMSC	(IN) - --	- 4.5W	- --
ACHMBC	(IN) - --	- 3.0	- --
AGG.BASE CRS CL-7	(IN) - --	- 3.0	- --
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MUTIPLE LAYER, X=STRIPPED, Z=AUGER REFUSAL
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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	- 10/05/16	SEQUENCE NO.	- 7
JOB NUMBER	- 050313	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	- 32
SUPPLIER NAME	- STATE	DISTRICT NO.	- 5
NAME OF PROJECT	- HWY.230 - HWY.167 (SAFETY IMPTS.) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- INDEPENDENCE COUNTY	DATE SAMPLED	- 09/21/16
SAMPLED BY	- thornton/taylor	DATE RECEIVED	- 09/22/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 10/05/16
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20163096	- 20163097	- 20163098
SAMPLE ID	- S323	- S324	- S325
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 227+00	- 227+00	- 234+00
LOCATION	- 06LT	- 18LT	- 06RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 44 12.90	- 35 44 12.90	- 35 44 18.70
LONGITUDE DEG-MIN-SEC	- 91 39 15.50	- 91 39 15.50	- 91 39 11.00
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	-	- 100
	NO. 4 - 99	- 100	- 99
	NO. 10 - 95	- 99	- 97
	NO. 40 - 93	- 99	- 96
	NO. 80 - 87	- 96	- 93
	NO. 200 - 54	- 81	- 63
LIQUID LIMIT	- 33	- 52	- 48
PLASTICITY INDEX	- 12	- 34	- 26
AASHTO SOIL	- A-6(4)	- A-7-6(28)	- A-7-6(14)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 21.5	- 19.7	- 19.9
ACHMSC	(IN) - 4.5W	- --	- 5.5W
ACHMBC	(IN) - 4.0	- --	- 1.5
AGG.BASE CRS CL-7	(IN) - --	- --	- 7.0
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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 - 10/05/16 SEQUENCE NO. - 8
JOB NUMBER - 050313 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 - 32
SUPPLIER NAME - STATE DISTRICT NO. - 5
NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20163099	-	20163100	-	20163101
SAMPLE ID	-	S326	-	S327	-	S328
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	234+00	-	243+00	-	243+00
LOCATION	-	18RT	-	06RT	-	18RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	35 44 18.70	-	35 44 24.90	-	35 44 24.80
LONGITUDE DEG-MIN-SEC	-	91 39 10.90	-	91 39 2.90	-	91 39 2.80
% PASSING						
	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-	100	-	100
	3/8	IN.	-		-	84
	NO. 4		-	94	-	76
	NO. 10		-	88	-	71
	NO. 40		-	86	-	67
	NO. 80		-	80	-	61
	NO. 200		-	62	-	43
			-	96	-	
LIQUID LIMIT	-	59	-	91	-	36
PLASTICITY INDEX	-	39	-	62	-	23
AASHTO SOIL	-	A-7-6(22)	-	A-7-6(70)	-	A-6(5)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	20.5	-	37.1	-	14.8
ACHMSC	(IN)	--	-	8.0W	-	--
ACHMBC	(IN)	--	-	2.0	-	--
AGG.BASE CRS CL-7	(IN)	--	-	7.0	-	--
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 10/05/16 SEQUENCE NO. - 9
JOB NUMBER - 050313 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 - 32
SUPPLIER NAME - STATE DISTRICT NO. - 5
NAME OF PROJECT - HWY.230 - HWY.167 (SAFETY IMPTS.) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - INDEPENDENCE COUNTY DATE SAMPLED - 09/21/16
SAMPLED BY - thornton/taylor DATE RECEIVED - 09/22/16
SAMPLE FROM - TEST HOLE DATE TESTED - 10/05/16
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20163102	20163103	20163104
SAMPLE ID	S329	S330	S331
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	251+00	256+00	256+00
LOCATION	06RT	06LT	18LT
DEPTH IN FEET	0-2.5Z	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	35 44 27.60	35 44 26.80	35 44 26.90
LONGITUDE DEG-MIN-SEC	91 38 54.20	91 38 48.20	91 38 48.20
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	100	100	100
3/8 IN.	98	99	99
NO. 4	92	98	99
NO. 10	83	95	95
NO. 40	78	93	87
NO. 80	74	91	76
NO. 200	47	70	46
LIQUID LIMIT	24	30	28
PLASTICITY INDEX	12	17	14
AASHTO SOIL	A-6(2)	A-6(9)	A-6(3)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	16.4	20.2	19.2
ACHMSC (IN)	8.0W	7.0W	--
ACHMBC (IN)	2.25	1.5	--
AGG.BASE CRS CL-7 (IN)	5.0	7.0	--
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

AASHTO TESTS : T24 T88 T89 T90 T265