

ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO. 100993

FEDERAL AID PROJECT NO. STPB-0061(19)

HWY. 67 – ENGELBERG STRS. & APPRS. (S)

STATE HIGHWAY 166 SECTION 1

IN RANDOLPH 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 DEPARTMENT OF TRANSPORTATION

ArDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director

MATERIALS DIVISION

11301 West Baseline Road | P.O. Box 2261 | Little Rock, AR 72203-2261 | Phone: 501.569.2185 | Fax: 501.569.2368

March 23, 2020

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 100993
Hwy. 67 - Engelberg Strs. & Apprs. (S)
Route 166 Section 1
Randolph County

Attached is the requested soil survey, strength data and Resilient Modulus test results for the above referenced job. The project consists of replacing three bridges on Highway 166. Samples were taken in the existing travel lanes, ditch line and along the new alignment. There were no paved shoulders within the project limits.

The subgrade soils consist primarily of moderately plastic clay with some sand. Isolated locations of highly plastic clay were encountered within the project limits. The subgrade soils will likely require stabilization to provide a stable working platform. The addition of 4% lime (by dry wt.) mixed to a depth of 16 inches should be used for quantity estimation purposes.


The detour at site 1 and the new alignment for site 2 cross wooded areas. Based on seasonal conditions, these locations are prone to flooding. Prior to embankment construction all soft unstable organic material should be undercut, anticipated to be no more than two feet.

Further earthwork recommendations will be made upon request when plans are further developed and cross sections are available.

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 in the vicinity of Pocahontas.
2. Asphalt Concrete Hot Mix

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.0	95.0
Binder Course	4.1	95.9
Base Course	3.9	96.1


Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 10 Engineer
System Information and Research Div.
G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS

MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 03/18/2020
JOB NUMBER - 100993

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 61
DISTRICT NO. - 10

JOB NAME - HWY. 67 - ENGELBERG STRS. & APPRS. (S)

* STATION LIMITS R-VALUE AT 240 psi *

BEGIN JOB - END JOB LESS THAN 5

RESILIENT MODULUS
STA. 109+00 11064
STA. 420+75 9455

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.	100993	Material Code	SSRVPS
Date Sampled:	2/5/2020	Station No.:	109+00
Date Tested:	February 25, 2020	Location:	20'RT
Name of Project:	HWY. 67 - ENGELBERG STRS. & APPRS. (S)		
County:	Code: 61	Name:	RANDOLPH
Sampled By:	THORNTON / MCKINEY		
Lab No.:	20200306	Depth:	0-5
Sample ID:	RV88	AASHTO Class:	A-6 (12)
LATITUDE:		Material Type (1 or 2):	2
		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):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3173.20
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4. Soil Properties:

Optimum Moisture Content (%):	14.9
Maximum Dry Density (pcf):	111.8
95% of MDD (pcf):	106.2
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3173.20
Compaction Moisture content (%):	15.0
Compaction Wet Density (pcf):	123.78
Compaction Dry Density (pcf):	107.63
Moisture Content After Mr Test (%):	14.7

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

#VALUE!

7. Resilient Modulus, Mr:

11820(Sc)^{-0.10674}(S3)^{0.22187}

8. Comments

9. Tested By:

GW _____

Date: February 25, 2020

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

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

Job No. 100993 **Material Code** SSRVPS
Date Sampled: 2/5/2020 **Station No.:** 109+00
Date Tested: February 25, 2020 **Location:** 20'RT
Name of Project: HWY. 67 - ENGELBERG STRS. & APPRS. (S)
County: Code: 61 **Name:** RANDOLPH
Sampled By: THORNTON / MCKINEY
Lab No.: 20200306
Sample ID: RV88
LATITUDE:
Depth: 0-5
AASHTO Class: A-6 (12)
Material Type (1 or 2): 2
LONGITUDE:

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Max. Axial 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	25.2	22.4	2.8	2.1	1.8	0.2	0.00089	0.00011	16,606
Sequence 2	6.0	4.0	47.2	44.4	2.9	3.9	3.6	0.2	0.00186	0.00023	15,693
Sequence 3	6.0	6.0	69.9	66.2	3.7	5.7	5.4	0.3	0.00293	0.00037	14,856
Sequence 4	6.0	8.0	93.9	87.7	6.1	7.7	7.2	0.5	0.00412	0.00051	14,030
Sequence 5	6.0	10.0	117.7	109.0	8.6	9.7	9.0	0.7	0.00531	0.00066	13,525
Sequence 6	4.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00097	0.00012	15,132
Sequence 7	4.0	4.0	47.0	44.1	2.9	3.9	3.6	0.2	0.00205	0.00026	14,144
Sequence 8	4.0	6.0	68.6	65.7	2.9	5.6	5.4	0.2	0.00321	0.00040	13,489
Sequence 9	4.0	8.0	92.5	87.2	5.2	7.6	7.2	0.4	0.00443	0.00055	12,963
Sequence 10	4.0	10.0	116.4	108.8	7.6	9.6	8.9	0.6	0.00568	0.00071	12,602
Sequence 11	2.0	2.0	24.9	22.2	2.8	2.0	1.8	0.2	0.00117	0.00015	12,419
Sequence 12	2.0	4.0	46.8	44.0	2.8	3.8	3.6	0.2	0.00240	0.00030	12,082
Sequence 13	2.0	6.0	68.2	65.4	2.8	5.6	5.4	0.2	0.00369	0.00046	11,679
Sequence 14	2.0	8.0	90.6	86.2	4.3	7.4	7.1	0.4	0.00503	0.00063	11,285
Sequence 15	2.0	10.0	113.8	107.1	6.7	9.3	8.8	0.6	0.00637	0.00079	11,064

TESTED BY _____ **DATE** February 25, 2020
REVIEWED BY _____ **DATE** _____

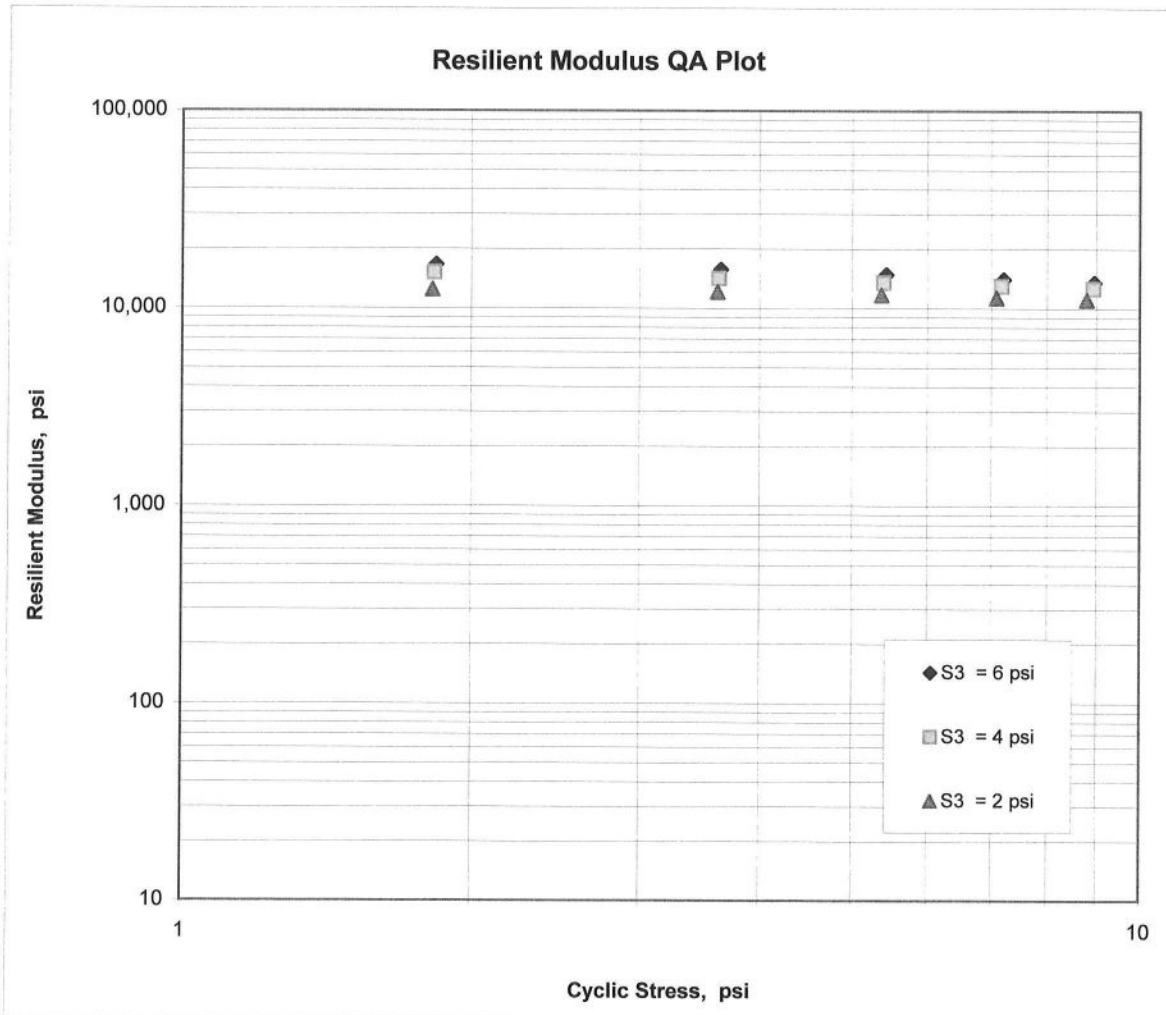
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No. 100993	Material Code SSRVPS
Date Sampled: 2/5/2020	Station No.: 109+00
Date Tested: February 25, 2020	Location: 20'RT
Name of Project: HWY. 67 - ENGELBERG STRS. & APPRS. (S)	
County: Code: 61 Name: RANDOLPH	
Sampled By: THORNTON / MCKINEY	Depth: 0-5
Lab No.: 20200306	AASHTO Class: A-6 (12)
Sample ID: RV88	Material Type (1 or 2): 2
LATITUDE:	LONGITUDE:

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

$K_1 = 11,820$
 $K_2 = -0.10674$
 $K_5 = 0.22187$
 $R^2 = 0.98$



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

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

Job No.	100993	Material Code	SSRVPS
Date Sampled:	2/5/2020	Station No.:	420+75
Date Tested:	February 25, 2020	Location:	CL
Name of Project:	HWY. 67 - ENGELBERG STRS. & APPRS. (S)		
County:	Code: 61	Name:	RANDOLPH
Sampled By:	THORNTON / MCKINEY		
Lab No.:	20200307	Depth:	0-5
Sample ID:	RV89	AASHTO Class:	A-4 (7)
LATITUDE:		Material Type (1 or 2):	2
		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):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3132.50
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4. Soil Properties:

Optimum Moisture Content (%):	14.9
Maximum Dry Density (pcf):	111
95% of MDD (pcf):	105.5
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3132.50
Compaction Moisture content (%):	14.9
Compaction Wet Density (pcf):	122.19
Compaction Dry Density (pcf):	106.34
Moisture Content After Mr Test (%):	14.6

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

7. Resilient Modulus, Mr: $8916(S_c)^{-0.07671}(S_3)^{0.28910}$

8. Comments _____

9. Tested By: GW **Date:** February 25, 2020

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

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

Job No. 100993 **Material Code** SSRVPS
Date Sampled: 2/5/2020 **Station No.:** 420+75
Date Tested: February 25, 2020 **Location:** CL
Name of Project: HWY. 67 - ENGELBERG STRS. & APPRS. (S)
County: Code: 61 **Name:** RANDOLPH
Sampled By: THORNTON / MCKINEY
Lab No.: 20200307
Sample ID: RV89
LATITUDE:
Depth: 0-5
AASHTO Class: A-4 (7)
Material Type (1 or 2): 2
LONGITUDE:

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied		Actual Applied		Actual Applied		Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
			P _{max} lbs	P _{cyclic} lbs	P _{contact} lbs	S _{max} psi	S _{cyclic} psi	S _{contact} psi			
DESIGNATION	S ₃	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	22.4	2.8	2.1	1.8	0.2	0.00104	0.00013	14,213
Sequence 2	6.0	4.0	47.2	44.4	2.8	3.9	3.6	0.2	0.00210	0.00026	13,924
Sequence 3	6.0	6.0	70.0	66.4	3.6	5.7	5.4	0.3	0.00327	0.00041	13,370
Sequence 4	6.0	8.0	93.9	87.8	6.1	7.7	7.2	0.5	0.00456	0.00057	12,695
Sequence 5	6.0	10.0	117.6	109.0	8.5	9.7	9.0	0.7	0.00578	0.00072	12,429
Sequence 6	4.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00114	0.00014	12,848
Sequence 7	4.0	4.0	46.9	44.1	2.8	3.8	3.6	0.2	0.00239	0.00030	12,151
Sequence 8	4.0	6.0	68.5	65.6	2.8	5.6	5.4	0.2	0.00372	0.00046	11,620
Sequence 9	4.0	8.0	92.1	87.0	5.1	7.6	7.1	0.4	0.00505	0.00063	11,341
Sequence 10	4.0	10.0	115.9	108.3	7.6	9.5	8.9	0.6	0.00643	0.00080	11,090
Sequence 11	2.0	2.0	24.8	22.1	2.7	2.0	1.8	0.2	0.00143	0.00018	10,160
Sequence 12	2.0	4.0	46.1	43.4	2.7	3.8	3.6	0.2	0.00289	0.00036	9,868
Sequence 13	2.0	6.0	67.3	64.6	2.8	5.5	5.3	0.2	0.00447	0.00056	9,518
Sequence 14	2.0	8.0	89.8	85.6	4.2	7.4	7.0	0.3	0.00593	0.00074	9,504
Sequence 15	2.0	10.0	113.2	106.5	6.7	9.3	8.7	0.5	0.00742	0.00093	9,455

TESTED BY _____ DATE February 25, 2020
 REVIEWED BY _____ DATE _____

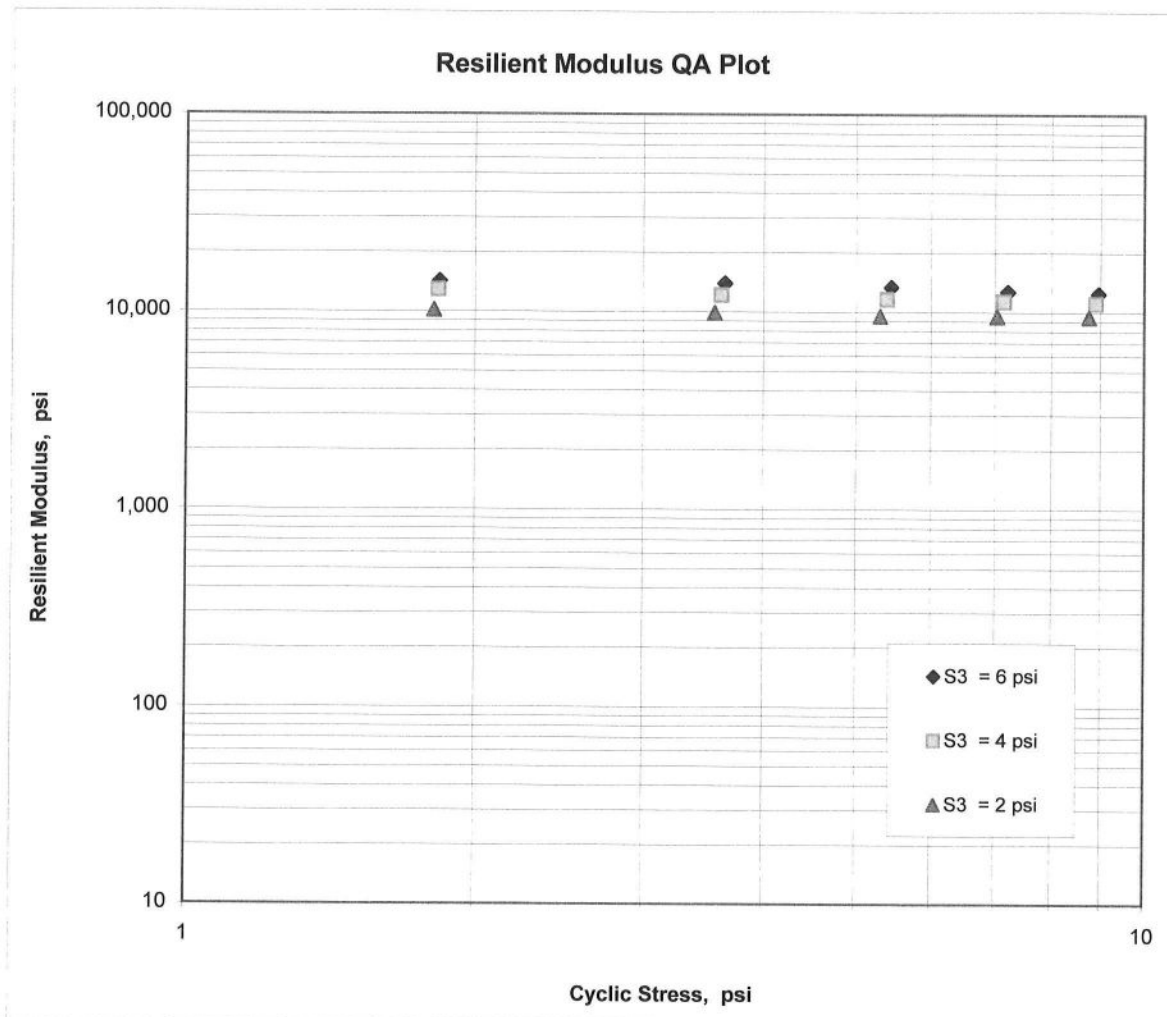
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	100993	Material Code	SSRVPS
Date Sampled:	2/5/2020	Station No.:	420+75
Date Tested:	February 25, 2020	Location:	CL
Name of Project:	HWY. 67 - ENGELBERG STRS. & APPRS. (S)		
County:	Code: 61	Name:	RANDOLPH
Sampled By:	THORNTON / MCKINEY		Depth: 0-5
Lab No.:	20200307	AASHTO Class:	A-4 (7)
Sample ID:	RV89	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

$K_1 =$	8,916
$K_2 =$	-0.07671
$K_5 =$	0.28910
$R^2 =$	0.99



JOB: 100993

Arkansas State Highway Transportation Department

JOB NAME: HWY. 67 - ENGELBERG STRS. & APPRS. (S)

Materials Division

COUNTY NO. 61 DATE TESTED 3/9/2020

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					
109+00	20 RT	0-5	BROWN	100				90	32	14	A-6(12)	RV88	
420+75	CL	0-5	BROWN	100				91	28	9	A-4(7)	RV89	
103+00	06 LT	0-5	BR/GR	95	91	87	85	84	39	22	A-6(18)	S79	19.8
103+00	21 LT	0-5	BROWN	100				91	41	19	A-7-6(18)	S80	23.1
109+00	06 RT	0-5	GRAY	94	91	88	86	85	26	6	A-4(4)	S81	28.9
109+00	18 RT	0-5	GRAY	100				96	30	11	A-6(10)	S82	24.8
413+00	05 RT	0-5	BROWN	100				93	28	11	A-6(9)	S83	26.7
413+00	18 RT	0-5	BR/GR	100				93	30	23	A-6(19)	S84	26
420+75	CL	0-5	BROWN	100				90	34	17	A-6(15)	S85	24.4
433+00	05 LT	0-2.5Z	BROWN	96	93	88	84	81	45	29	A-7-6(23)	S86	29
433+00	18 LT	0-5	BROWN	96	92	88	82	76	57	34	A-7-6(26)	S87	40.5

JOB: 100993

Arkansas State Highway Transportation Department

DATE TESTED

JOB NAME: HWY. 67 - ENGELBERG STRS. & APPRS. (S)

Materials Division

3/9/2020

COUNTY NO. 61

Michael Benson, Materials Engineer

STA.# LOC.

PAVEMENT SOUNDINGS

103+00	06 LT	ACHMSC 3.5W	AGG.BASE CRS,CL-7 10.0	
103+00	21 LT	ACHMSC	AGG.BASE CRS,CL-7	
109+00	06 RT	ACHMSC 2.5W	AGG.BASE CRS,CL-7 10.0	
109+00	18 RT	ACHMSC	ACHMBC	AGG.BASE CRS, CL-7
413+00	05 RT	ACHMSC 2.5X	ACHMBC 1.5W	AGG.BASE CRS, CL-7 10.0
413+00	18 RT	ACHMSC	ACHMBC	AGG.BASE CRS, CL-7
420+75	CL	CHIP SEAL	SAND ASPHALT	AGG.BASE CRS, CL-7
433+00	05 LT	CHIP SEAL 3.5W	SAND ASPHALT 2.0	AGG.BASE CRS, CL-7 8.0
433+00	18 LT	CHIP SEAL	SAND ASPHALT	AGG.BASE CRS, CL-7

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

Friday, March 20, 2020

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 03/18/20 SEQUENCE NO. - 1
JOB NUMBER - 100993 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 - 61
SUPPLIER NAME - STATE DISTRICT NO. - 10
NAME OF PROJECT - HWY. 67 - ENGELBERG STRS. & APPRS. (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - RANDOLPH COUNTY DATE SAMPLED - 02/05/20
SAMPLED BY - THORNTON/MCKINNEY DATE RECEIVED - 02/07/20
SAMPLE FROM - TEST HOLE DATE TESTED - 03/09/20
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20200297	-	20200298	-	20200299
SAMPLE ID	-	S79	-	S80	-	S81
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	103+00	-	103+00	-	109+00
LOCATION	-	06 LT	-	21 LT	-	06 RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BR/GR	-	BROWN	-	GRAY
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	36 17 58.70	-	36 17 58.70	-	36 18 8.50
LONGITUDE DEG-MIN-SEC	-	90 56 12.80	-	90 56 12.90	-	90 56 8.50
% PASSING	2 IN.	-	-	-	-	-
	1 1/2 IN.	-	-	-	-	-
	3/4 IN.	100	-	-	-	100
	3/8 IN.	98	-	-	-	98
	NO. 4	95	-	100	-	94
	NO. 10	91	-	-	-	91
	NO. 40	87	-	-	-	88
	NO. 80	85	-	-	-	86
	NO. 200	84	-	91	-	85
LIQUID LIMIT	-	39	-	41	-	26
PLASTICITY INDEX	-	22	-	19	-	6
AASHTO SOIL	-	A-6(18)	-	A-7-6(18)	-	A-4(4)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	19.8	-	23.1	-	28.9
ACHMSC	(IN)	3.5W	-	---	-	2.5W
AGG.BASE CRS,CL-7	(IN)	10.0	-	---	-	10.0
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
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	-		-		-	
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	-		-		-	
	-		-		-	

REMARKS - W=MULTIPLE LAYERS, 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 - 03/09/20	SEQUENCE NO. - 2
JOB NUMBER - 100993	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 - 61
SUPPLIER NAME - STATE	DISTRICT NO. - 10
NAME OF PROJECT - HWY. 67 - ENGELBERG STRS. & APPRS. (S)	
PROJECT ENGINEER - NOT APPLICABLE	
PIT/QUARRY - ARKANSAS	
LOCATION - RANDOLPH COUNTY	DATE SAMPLED - 02/05/20
SAMPLED BY - THORNTON/MCKINNEY	DATE RECEIVED - 02/07/20
SAMPLE FROM - TEST HOLE	DATE TESTED - 03/09/20
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS	

LAB NUMBER	-	20200300	-	20200301	-	20200302
SAMPLE ID	-	S82	-	S83	-	S84
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	109+00	-	413+00	-	413+00
LOCATION	-	18 RT	-	05 RT	-	18 RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	GRAY	-	BROWN	-	BR/GR
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	36 18 8.50	-	36 19 6.40	-	36 19 6.30
LONGITUDE DEG-MIN-SEC	-	90 56 8.40	-	90 54 58.90	-	90 54 58.80
% PASSING						
	2	IN.	-		-	
	1 1/2	IN.	-		-	
	3/4	IN.	-		-	
	3/8	IN.	-		-	
	NO. 4		-	100	-	100
	NO. 10		-		-	
	NO. 40		-		-	
	NO. 80		-		-	
	NO. 200		-	96	-	93
			-		-	
			-	93	-	93
			-		-	
LIQUID LIMIT	-	30	-	28	-	30
PLASTICITY INDEX	-	11	-	11	-	23
AASHTO SOIL	-	A-6(10)	-	A-6(9)	-	A-6(19)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	24.8	-	26.7	-	26.0
ACHMSC (IN)	-	---	-	2.5X	-	---
ACHMBC (IN)	-	---	-	1.5W	-	---
AGG.BASE CRS, CL-7 (IN)	-	---	-	10.0	-	---
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	

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 - 03/09/20	SEQUENCE NO. - 3
JOB NUMBER - 100993	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 - 61
SUPPLIER NAME - STATE	DISTRICT NO. - 10
NAME OF PROJECT - HWY. 67 - ENGELBERG STRS. & APPRS. (S)	
PROJECT ENGINEER - NOT APPLICABLE	
PIT/QUARRY - ARKANSAS	
LOCATION - RANDOLPH COUNTY	DATE SAMPLED - 02/05/20
SAMPLED BY - THORNTON/MCKINNEY	DATE RECEIVED - 02/07/20
SAMPLE FROM - TEST HOLE	DATE TESTED - 03/09/20
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS	

LAB NUMBER	-	20200303	-	20200304	-	20200305
SAMPLE ID	-	S85	-	S86	-	S87
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	420+75	-	433+00	-	433+00
LOCATION	-	CL	-	05 LT	-	18 LT
DEPTH IN FEET	-	0-5	-	0-2.5Z	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	36 19 7.80	-	36 19 17.80	-	36 19 17.90
LONGITUDE DEG-MIN-SEC	-	90 54 50.00	-	90 54 41.60	-	90 54 41.70
% PASSING						
	2	IN. -	-		-	
	1 1/2	IN. -	-		-	
	3/4	IN. -	-	100	-	100
	3/8	IN. -	-	99	-	99
	NO. 4	- 100	-	96	-	96
	NO. 10	-	-	93	-	92
	NO. 40	-	-	88	-	88
	NO. 80	-	-	84	-	82
	NO. 200	- 90	-	81	-	76
LIQUID LIMIT	-	34	-	45	-	57
PLASTICITY INDEX	-	17	-	29	-	34
AASHTO SOIL	-	A-6(15)	-	A-7-6(23)	-	A-7-6(26)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	24.4	-	29.0	-	40.5
CHIP SEAL (IN)	-	---	-	3.5W	-	---
SAND ASPHALT (IN)	-	---	-	2.0	-	---
AGG. BASE CRS, CL-7 (IN)	-	---	-	8.0	-	---
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	
	-		-		-	

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	- 03/09/20	SEQUENCE NO.	- 1
JOB NUMBER	- 100993	MATERIAL CODE	- RV
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 61
SUPPLIER NAME	- STATE	DISTRICT NO.	- 10
NAME OF PROJECT	- HWY. 67 - ENGELBERG STRS. & APPRS. (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- RANDOLPH COUNTY	DATE SAMPLED	- 02/05/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 02/07/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/09/20
MATERIAL DESC.	- SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS		

LAB NUMBER	- 20200306	- 20200307	-
SAMPLE ID	- RV88	- RV89	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	-
STATION	- 109+00	- 420+75	-
LOCATION	- 20 RT	- CL	-
DEPTH IN FEET	- 0-5	- 0-5	-
MAT'L COLOR	- BROWN	- BROWN	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 18 8.50	- 36 19 7.80	-
LONGITUDE DEG-MIN-SEC	- 90 56 8.30	- 90 54 50.00	-
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	- 100	-
	NO. 10 -	-	-
	NO. 40 -	-	-
	NO. 80 -	-	-
	NO. 200 - 90	- 91	-
LIQUID LIMIT	- 32	- 28	-
PLASTICITY INDEX	- 14	- 9	-
AASHTO SOIL	- A-6(12)	- A-4(7)	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL
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AASHTO TESTS : T24 T88 T89 T90 T265
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