

ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO. 110720

FEDERAL AID PROJECT NO. CMF-9448(49)

HWY. 70 – I-40 (WEST MEMPHIS) (S)

STATE HIGHWAY 191 SECTION 1

IN CRITTENDEN 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

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MATERIALS DIVISION

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

April 2, 2020

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 110720
Hwy. 70 – Hwy. 77 (West Memphis) (S)
Route 191 Section 1
Crittenden County

Attached is the requested soil survey, strength data, and Resilient Modulus test results for the above referenced job. The project consists of widening, and intersection improvements for 2.27 miles of Highway 191 in West Memphis.

The subgrade soils consist primarily of low to moderately plastic clayey sands. Isolated locations of highly plastic clay were encountered within the project limits. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction. If stabilization is needed, then the addition of 9% Portland cement (by dry wt.) mixed to a depth of 12 inches should be used for quantity estimation purposes.

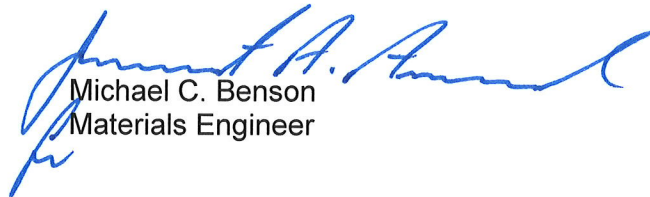
Earthwork recommendations will be made upon request when plans are further developed and cross sections are complete.

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 at the river port in West Memphis.

2. Asphalt Concrete Hot Mix

<u>Type</u>	<u>Asphalt Cement %</u>	<u>Mineral Aggregate %</u>
Surface Course	5.3	94.7
Binder Course	4.3	95.7
Base Course	3.9	96.1


Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 1 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 - 03/30/2020
JOB NUMBER - 110720

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 18
DISTRICT NO. - 01

JOB NAME - HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)

* STATION LIMITS R-VALUE AT 240 psi *

BEGIN JOB - END JOB 16

RESILIENT MODULUS
STA. 216+00 7582

REMARKS -
-

AASHTO TESTS : T190

JOB: 110720

Arkansas State Highway Transportation Department

JOB NAME: HWY. 70 - HWY. 77 (WEST MEMPHIS)(S)

Materials Division

COUNTY NO. 18 DATE TESTED 3/30/2020

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					
191+00	06 RT												
216+00	25 LT	0-5	GRAY	91	89	85	77	70	ND	NP	A-4(0)	RV158	
103+00	30 RT	0-5	GRAY	100				93	36	20	A-6(18)28	S134	
119+00	21 RT	0-5	GRAY	99	98	95	81	67	26	12	A-6(5)	S135	28.9
128+00	21 LT	0-5	GRAY	100				95	43	26	A-7-6(26)	S136	30.7
128+00	37 LT	0-2.5z	GRAY	99	99	96	80	72	28	15	A-6(8)	S137	25.3
135+00	21 RT	0-5	GRAY	99	99	96	76	65	37	22	A-6(12)	S138	28.7
143+00	21 LT	0-5	GRAY		100	99	92	90	35	20	A-6(17)	S139	27.2
143+00	33 LT	0-5	GRAY	100				90	44	25	A-7-6(23)	S140	38.3
152+00	21 RT	0-5	GRAY	100	99	98	89	78	31	16	A-6(10)	S141	43.5
152+00	33 RT	0-5	GRAY	99	99	96	69	54	30	15	A-6(5)	S142	37.1
163+00	21 RT	0-5	GRAY	99	98	96	81	69	18	03	A-4(0)	S143	24.3
163+00	33 RT	0-5	GRAY	97	86	86	62	47	22	09	A-4(1)	S144	24.8
163+00	43Rt	0-5	BR/GR	97	93	87	66	50	18	05	A-4(0)	S145	12.6
171+00	21 LT	0-5	BROWN	85	80	74	47	31	ND	NP	A-2-4(0)	S146	11.3
171+00	30 LT	0-5	BROWN	99	99	99	63	41	ND	NP	A-4(0)	S147	16.5
183+00	12LT	0-5	GRAY	99	99	97	88	84	ND	NP	A-4(0)	S148	36.9
183+00	24 LT	0-5	GRAY	99	99	95	80	75	ND	NP	A-4(0)	S149	37
183+00	33 LT	0-5	GRAY	99	96	93	89	87	54	37	A-7-6(34)	S150	44.9
191+00	18 RT	0-5	GRAY	99	95	77	71	59	ND	NP	A-4(0)	S151	18.9
200+00	06 LT	0-5	GRAY		100	99	91	83	ND	NP	A-4(0)	S152	36.5
200+00	18 LT	0-5	GRAY	100				90	21	06	A-4(3)	S153	39.3
208+00	06 RT	0-5	GRAY	94	88	79	65	52	18	04	A-4(0)	S154	30.3
208+00	18 RT	0-5	GRAY	99	98	94	74	63	ND	NP	A-4(0)	S155	33.8
216+00	06 LT	0-5	GRAY	91	82	71	54	42	16	03	A-4(0)	S156	18.1
216+00	18 LT	0-5	GRAY	99	99	99	93	88	28	15	A-6(11)	S157	32.1

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

Thursday, April 2, 2020

Michael Benson, Materials Engineer

STA.# LOC. [REDACTED] **PAVEMENT SOUNDINGS**

103+00	30 RT	ACHMSC 5.0W	PCCP 5.25	SAND ---	AGG. BASE CRS CL-5 ---
119+00	21 RT	ACHMSC 8.0W	PCCP ---	SAND 5.0	AGG. BASE CRS CL-5 ---
128+00	21 LT	ACHMSC ---	PCCP 8.25	SAND ---	AGG. BASE CRS CL-5 ---
128+00	37 LT	PCCP ---			
135+00	21 RT	PCCP 9.0			
143+00	21 LT	PCCP 8.75			
143+00	33 LT	PCCP ---			
152+00	21 RT	PCCP 9.5			
152+00	33 RT	PCCP ---			
163+00	21 RT	ACHMSC 1.5	ACHMBC 6.5	AGG. BASE CRS CL-5 2.0	
163+00	33 RT	ACHMSC 2.0	ACHMBC ---	AGG. BASE CRS CL-5 4.0	
163+00	43Rt	ACHMSC ---	ACHMBC ---	AGG. BASE CRS CL-5 ---	
171+00	21 LT	CHIP SEAL 3.0	ACHMSC ---	ACHMBC 6.5	AGG. BASE CRS CL-5 1.0
171+00	30 LT	CHIP SEAL ---	ACHMSC 2.5	ACHMBC 7.0	AGG. BASE CRS CL-5 10.0
183+00	12LT	CHIP SEAL ---	ACHMSC ---	ACHMBC ---	AGG. BASE CRS CL-5 ---
183+00	24 LT	ACHMSC 4.5W	ACHMBC 3.5		
183+00	33 LT	ACHMSC 7.0W	ACHMBC ---		

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

PAVEMENT SOUNDINGS

STA.# LOC.

191+00	06 RT	ACHMSC 2.0	ACHMBC 7.0W	
191+00	18 RT	ACHMSC 2.0	ACHMBC ---	AGG. BASE CRS CL-5 3.0
200+00	06 LT	ACHMSC 1.25	ACHMBC 6.5	AGG. BASE CRS CL-5 1.5
200+00	18 LT	ACHMSC 3.0	ACHMBC ---	AGG. BASE CRS CL-5 1.5
208+00	06 RT	ACHMSC 1.75X	ACHMBC 5.5	AGG. BASE CRS CL-5 7.0
208+00	18 RT	ACHMSC 2.25	ACHMBC ---	AGG. BASE CRS CL-5 ---
216+00	06 LT	ACHMSC 1.5	ACHMBC 5.5W	AGG. BASE CRS CL-5 1.0
216+00	18 LT	ACHMSC 2.0	SAND BASE 2.0	

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.	110720	Material Code	SSRVPS
Date Sampled:	3/3/2020	Station No.:	216+00
Date Tested:	March 26, 2020	Location:	25'RT
Name of Project:	HWY. 70 - HWY. 77 (WEST MEMPHIS)(S)		
County:	Code: 18	Name:	CRITTENDEN
Sampled By:	THORNTON / MCKINNEY		
Lab No.:	20200624	Depth:	0-5
Sample ID:	RV158	AASHTO Class:	A-4 (0)
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):	3230.90
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4. Soil Properties:

Optimum Moisture Content (%):	13.5
Maximum Dry Density (pcf):	114.8
95% of MDD (pcf):	109.1
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3230.90
Compaction Moisture content (%):	13.3
Compaction Wet Density (pcf):	126.03
Compaction Dry Density (pcf):	111.23
Moisture Content After Mr Test (%):	13.3

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

7. Resilient Modulus, Mr: $8215(S_c)^{-0.15896}(S_3)^{0.35564}$

8. Comments

9. Tested By: GW

Date: March 26, 2020

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

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

Job No. 110720 **Material Code** SSRVPS
Date Sampled: 3/3/2020 **Station No.:** 216+00
Date Tested: March 26, 2020 **Location:** 25^{RT}
Name of Project: HWY. 70 - HWY. 77 (WEST MEMPHIS)(S)
County: **Code:** 18 **Name:** CRITTENDEN
Sampled By: THORNTON / MCKINNEY **Depth:** 0-5
Lab No.: 20200624 **AASHTO Class:** A-4 (0)
Sample ID: RV158 **Material Type (1 or 2):** 2
LATITUDE: **LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVDT 1 and 2	Resilient Strain	Resilient Modulus
DESIGNATION	S ₃	S _{cyclic}	P _{max}	P _{cyclic}	P _{contact}	S _{max}	S _{cyclic}	S _{contact}	H _{avg}	ε _r	M _r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.2	22.3	2.8	2.1	1.8	0.2	0.00105	0.00013	13,991
Sequence 2	6.0	4.0	47.2	44.3	2.9	3.9	3.6	0.2	0.00221	0.00028	13,226
Sequence 3	6.0	6.0	69.8	66.2	3.6	5.7	5.4	0.3	0.00353	0.00044	12,343
Sequence 4	6.0	8.0	93.4	87.4	6.0	7.7	7.2	0.5	0.00501	0.00062	11,488
Sequence 5	6.0	10.0	116.3	107.8	8.5	9.5	8.9	0.7	0.00673	0.00084	10,544
Sequence 6	4.0	2.0	25.0	22.1	2.9	2.1	1.8	0.2	0.00121	0.00015	11,993
Sequence 7	4.0	4.0	46.6	43.7	2.9	3.8	3.6	0.2	0.00260	0.00032	11,053
Sequence 8	4.0	6.0	67.9	65.1	2.9	5.6	5.3	0.2	0.00420	0.00052	10,207
Sequence 9	4.0	8.0	91.1	85.9	5.2	7.5	7.1	0.4	0.00585	0.00073	9,672
Sequence 10	4.0	10.0	114.2	106.6	7.7	9.4	8.7	0.6	0.00759	0.00095	9,247
Sequence 11	2.0	2.0	24.7	21.9	2.9	2.0	1.8	0.2	0.00153	0.00019	9,412
Sequence 12	2.0	4.0	45.9	43.0	2.9	3.8	3.5	0.2	0.00328	0.00041	8,649
Sequence 13	2.0	6.0	66.5	63.6	2.9	5.5	5.2	0.2	0.00513	0.00064	8,171
Sequence 14	2.0	8.0	88.3	83.9	4.4	7.3	6.9	0.4	0.00705	0.00088	7,841
Sequence 15	2.0	10.0	110.4	103.6	6.8	9.1	8.5	0.6	0.00900	0.00112	7,582

TESTED BY _____ **DATE** March 26, 2020
REVIEWED BY _____ **DATE** _____

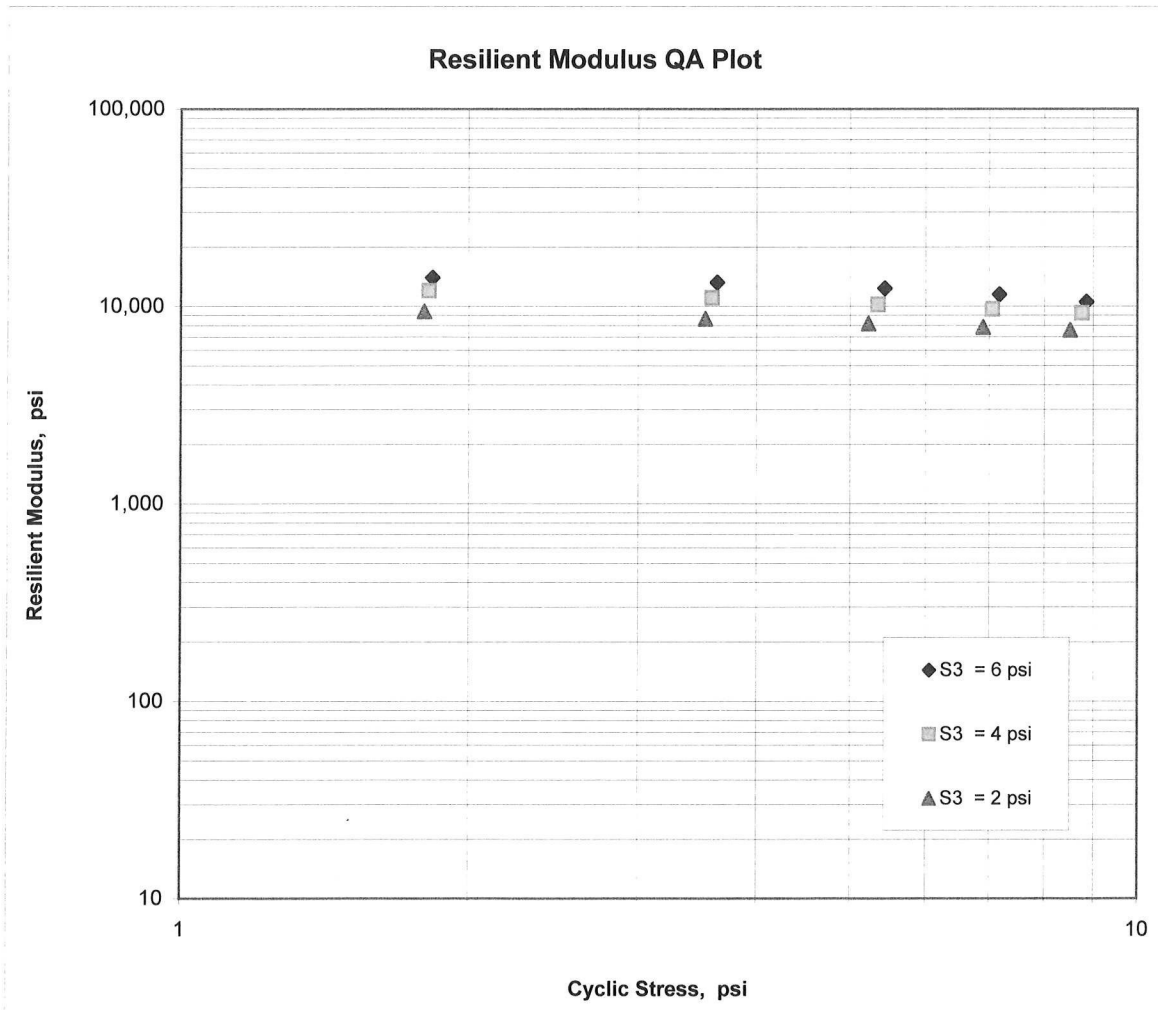
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION**

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

Job No.	110720	Material Code	SSRVPS
Date Sampled:	3/3/2020	Station No.:	216+00
Date Tested:	March 26, 2020	Location:	25'RT
Name of Project:	HWY. 70 - HWY. 77 (WEST MEMPHIS)(S)		
County:	Code: 18	Name:	CRITTENDEN
Sampled By:	THORNTON / MCKINNEY	Depth:	0-5
Lab No.:	20200624	AASHTO Class:	A-4 (0)
Sample ID:	RV158	Material Type (1 or 2):	2
LATITUDE:		LONGITUDE:	

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

$K_1 = \underline{8,215}$
 $K_2 = \underline{-0.15896}$
 $K_5 = \underline{0.35564}$
 $R^2 = \underline{0.98}$



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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 03/30/20	SEQUENCE NO.	- 1
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY	DATE SAMPLED	- 03/03/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/09/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200599	- 20200600	- 20200601
SAMPLE ID	- S134	- S135	- S136
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 103+00	- 119+00	- 128+00
LOCATION	- 30 RT	- 21 RT	- 21 LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- GRAY	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 8 50.40	- 35 09 6.30	- 35 9 15.20
LONGITUDE DEG-MIN-SEC	- 90 10 32.50	- 90 10 32.80	- 90 10 33.30
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. -	-	-
	NO. 4 - 100	100	100
	NO. 10 -	99	-
	NO. 40 -	98	-
	NO. 80 -	95	-
	NO. 200 - 93	81	-
		67	95
LIQUID LIMIT	- 36	- 26	- 43
PLASTICITY INDEX	- 20	- 12	- 26
AASHTO SOIL	- A-6(18)28	- A-6(5)	- A-7-6(26)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	-	28.9	30.7
ACHMSC (IN)	- 5.0W	- 8.0W	- ---
PCCP (IN)	- 5.25	- ---	- 8.25
SAND (IN)	- ---	- 5.0	- ---
AGG. BASE CRS CL-5 (IN)	- ---	- ---	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL
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-
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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	- 03/30/20	SEQUENCE NO.	- 2
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY		
SAMPLED BY	- THORNTON/MCKINNEY		
SAMPLE FROM	- TEST HOLE		
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200602	- 20200603	- 20200604
SAMPLE ID	- S137	- S138	- S139
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 128+00	- 135+00	- 143+00
LOCATION	- 37 LT	- 21 RT	- 21 LT
DEPTH IN FEET	- 0-2.5z	- 0-5	- 0-5
MAT'L COLOR	- GRAY	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 9 15.10	- 35 09 22.00	- 35 9 29.80
LONGITUDE DEG-MIN-SEC	- 90 10 33.40	- 90 10 32.90	- 90 10 33.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	- 100	-
	NO. 4 - 99	- 99	-
	NO. 10 - 99	- 99	- 100
	NO. 40 - 96	- 96	- 99
	NO. 80 - 80	- 76	- 92
	NO. 200 - 72	- 65	- 90
LIQUID LIMIT	- 28	- 37	- 35
PLASTICITY INDEX	- 15	- 22	- 20
AASHTO SOIL	- A-6(8)	- A-6(12)	- A-6(17)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 25.3	- 28.7	- 27.2
PCCP (IN)	- ---	- 9.0	- 8.75
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

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

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-
-
-

AASHTO TESTS : T24 T88 T89 T90 T265

:

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 03/30/20	SEQUENCE NO.	- 3
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY	DATE SAMPLED	- 03/03/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/09/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200605	- 20200606	- 20200607
SAMPLE ID	- S140	- S141	- S142
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 143+00	- 152+00	- 152+00
LOCATION	- 33 LT	- 21 RT	- 33 RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- GRAY	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 9 29.80	- 35 09 39.00	- 35 9 39.00
LONGITUDE DEG-MIN-SEC	- 90 10 33.60	- 90 10 33.00	- 90 10 33.00
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	100
	3/8 IN. -	-	99
	NO. 4 - 100	- 100	- 99
	NO. 10 -	- 99	- 99
	NO. 40 -	- 98	- 96
	NO. 80 -	- 89	- 69
	NO. 200 - 90	- 78	- 54
LIQUID LIMIT	- 44	- 31	- 30
PLASTICITY INDEX	- 25	- 16	- 15
AASHTO SOIL	- A-7-6(23)	- A-6(10)	- A-6(5)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 38.3	- 43.5	- 37.1
PCCP (IN)	- ---	- 9.5	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

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	- 03/30/20	SEQUENCE NO.	- 5
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY	DATE SAMPLED	- 03/03/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/09/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200611	- 20200612	- 20200613
SAMPLE ID	- S146	- S147	- S148
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 171+00	- 171+00	- 183+00
LOCATION	- 21 LT	- 30 LT	- 12LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 9 57.60	- 35 09 57.60	- 35 10 9.50
LONGITUDE DEG-MIN-SEC	- 90 10 33.40	- 90 10 33.50	- 90 10 33.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. - 100	-	-
	3/4 IN. - 97	-	-
	3/8 IN. - 96	- 100	- 100
	NO. 4 - 85	- 99	- 99
	NO. 10 - 80	- 99	- 99
	NO. 40 - 74	- 99	- 97
	NO. 80 - 47	- 63	- 88
	NO. 200 - 31	- 41	- 84
LIQUID LIMIT	- ND	- ND	- ND
PLASTICITY INDEX	- NP	- NP	- NP
AASHTO SOIL	- A-2-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 11.3	- 16.5	- 36.9
CHIP SEAL (IN)	- 3.0	- ---	- ---
ACHMSC (IN)	- ---	- 2.5	- ---
ACHMBC (IN)	- 6.5	- 7.0	- ---
AGG. BASE CRS CL-5 (IN)	- 1.0	- 10.0	- ---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

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	- 03/30/20	SEQUENCE NO.	- 6
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY	DATE SAMPLED	- 03/03/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/09/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200614	- 20200615	- 20200616
SAMPLE ID	- S149	- S150	-
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 183+00	- 183+00	- 191+00
LOCATION	- 24 LT	- 33 LT	- 06 RT
DEPTH IN FEET	- 0-5	- 0-5	-
MAT'L COLOR	- GRAY	- GRAY	-
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 10 9.50	- 35 10 9.50	- 35 10 17.10
LONGITUDE DEG-MIN-SEC	- 90 10 33.20	- 90 10 33.00	- 90 10 33.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	100	-
	3/8 IN. - 100	99	-
	NO. 4 - 99	99	-
	NO. 10 - 99	96	-
	NO. 40 - 95	93	-
	NO. 80 - 80	89	-
	NO. 200 - 75	87	-
LIQUID LIMIT	- ND	- 54	-
PLASTICITY INDEX	- NP	- 37	-
AASHTO SOIL	- A-4 (0)	- A-7-6 (34)	-
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 37.0	- 44.9	-
ACHMSC (IN)	- 4.5W	- 7.0W	- 2.0
ACHMBC (IN)	- 3.5	- ---	- 7.0W
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
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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	- 03/30/20	SEQUENCE NO.	- 7
JOB NUMBER	- 110720	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	- 18
SUPPLIER NAME	- STATE	DISTRICT NO.	- 01
NAME OF PROJECT	- HWY. 70 - HWY. 77 (WEST MEMPHIS) (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- CRITTENDEN, COUNTY	DATE SAMPLED	- 03/03/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/09/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	- 20200617	- 20200618	- 20200619
SAMPLE ID	- S151	- S152	- S153
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 191+00	- 200+00	- 200+00
LOCATION	- 18 RT	- 06 LT	- 18 LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- GRAY	- GRAY	- GRAY
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 35 10 17.10	- 35 10 22.60	- 35 10 22.50
LONGITUDE DEG-MIN-SEC	- 90 10 33.00	- 90 10 41.40	- 90 10 41.50
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	-	-
	3/8 IN. - 100	-	-
	NO. 4 - 99	-	100
	NO. 10 - 95	100	-
	NO. 40 - 77	99	-
	NO. 80 - 71	91	-
	NO. 200 - 59	83	90
LIQUID LIMIT	- ND	- ND	- 21
PLASTICITY INDEX	- NP	- NP	- 06
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (3)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 18.9	- 36.5	- 39.3
ACHMSC (IN)	- 2.0	- 1.25	- 3.0
ACHMBC (IN)	- ---	- 6.5	- ---
AGG. BASE CRS CL-5 (IN)	- 3.0	- 1.5	- 1.5
	-	-	-
	-	-	-
	-	-	-
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REMARKS - W=MULTIPLE LAYERS, X=STRIPPED, Z=AUGER REFUSAL

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AASHTO TESTS : T24 T88 T89 T90 T265

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