

ARKANSAS DEPARTMENT OF TRANSPORTATION



**SUBSURFACE INVESTIGATION**

STATE JOB NO. 090517

FEDERAL AID PROJECT NO. HSIP-STPF-0003(17)

IZARD CO. LINE – MOUNTAIN HOME (SAFETY IMPVTS.) (SEL. SECS.) (S)

STATE HIGHWAY 5 SECTION 18 & 19

IN BAXTER 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

April 2, 2018

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 090517
Izard Co. Line – Hwy. 62 (Safety Impvts.) (Sel. Secs.) (S)
Route 5 Section 18
Baxter County

Transmitted herewith is the requested Soil Survey, strength data and Resilient Modulus test results for the above referenced job. The project consists of widening approximately 1.5 miles of Highway 5. Samples were taken in the existing travel lanes and ditch line. There were no paved shoulders within the project limits.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of moderately plastic sandy clay. Isolated locations of highly plastic clay were 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. Rock was encountered at station 1329+00 at 18 feet left of centerline at a depth of 4 feet, and at station 1337+00 at 18 feet right of centerline at a depth of 2.5 feet. Rock outcrops were observed sporadically in the ditches and exposed cuts between stations 1315+00 to 1351+00.

Based on currently available cross-sections the maximum embankment height is approximately 10 feet. Prior to embankment construction the wet unstable organic material in the ditch line should be undercut, anticipated to be no more than 2 feet. The embankment may be constructed with locally available unspecified material utilizing the 3:1 slope configuration shown. The maximum cut slope height is approximately 8 feet. The slopes should be constructed using the 3:1 configuration shown in the currently available cross-sections.

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

- 1. The Qualified Products List (QPL) indicates that Aggregate Base Course (Class CL-7) is available from commercial producers located in the vicinity of Mountain Home.

- 2. Asphalt Concrete Hot Mix

Table with 3 columns: Type, Asphalt Cement %, Mineral Aggregate %. Rows: Surface Course (5.5, 94.5), Binder Course (4.5, 95.5), Base Course (4.0, 96.0).

Handwritten signature of Michael C. Benson, Materials Engineer

MCB:pt:bjj
Attachment

cc: State Constr. Eng. – Master File Copy
District 9 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 - 03/21/2018  
JOB NUMBER - 090517

SEQUENCE NO. - 1  
MATERIAL CODE - SSRV  
SPEC. YEAR - 2014  
SUPPLIER ID. - 1  
COUNTY/STATE - 03  
DISTRICT NO. - 09

JOB NAME - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)

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

BEGIN JOB - END JOB	LESS THAN 5
RESILIENT MODULUS	
STA. 1305 + 00	6691
STA. 1345 + 00	7366

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REMARKS -

AASHTO TESTS : T190

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

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

<b>Job No.</b>	090517	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	1/30/18	<b>Station No.:</b>	1305+00
<b>Date Tested:</b>	February 16, 2018	<b>Location:</b>	18' RT
<b>Name of Project:</b>	IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)		
<b>County:</b>	<b>Code:</b> 19	<b>Name:</b>	CROSS
<b>Sampled By:</b>	THORNTON/FRAZIER	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20180237	<b>AASHTO Class:</b>	A-2-7 (2)
<b>Sample ID:</b>	RV 51	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**1. Testing Information:**

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

**2. Specimen Information:**

Specimen Diameter (in):	
Top	3.95
Middle	3.94
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
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):	12.16
Initial Volume, AoLo (cu. in):	97.27

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	3080.80
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**4. Soil Properties:**

Optimum Moisture Content (%):	19.9
Maximum Dry Density (pcf):	102.2
95% of MDD (pcf):	97.1
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	3080.80
Compaction Moisture content (%):	20.3
Compaction Wet Density (pcf):	120.68
Compaction Dry Density (pcf):	100.31
Moisture Content After Mr Test (%):	20.2

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

**7. Resilient Modulus, Mr:**  $9042(S_c)^{-0.19917}(S_3)^{0.18766}$

**8. Comments** \_\_\_\_\_  
\_\_\_\_\_

**9. Tested By:** GW **Date:** February 16, 2018

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

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

**Job No.** 090517  
**Date Sampled:** 1/30/18  
**Date Tested:** February 16, 2018  
**Name of Project:** IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)  
**County:** Code: 19 Name: CROSS  
**Sampled By:** THORNTON/FRAZIER  
**Lab No.:** 20180237  
**Sample ID:** RV 51  
**LATITUDE:**

**Material Code** SSRVPS  
**Station No.:** 1305+00  
**Location:** 18' RT  
**Depth:** 0-5  
**AAASHTO Class:** A-2-7 (2)  
**Material Type (1 or 2):** 2  
**LONGITUDE:**

PARAMETER	Chamber Confining Pressure	Nominal Maximum Axial Stress	Actual Applied Max. Axial Load	Actual Applied Cyclic Load	Actual Applied Contact Load	Actual Applied Max. Axial Stress	Actual Applied Cyclic Stress	Actual Applied Contact Stress	Average Recov Def. LVD1 and 2	Resilient Strain	Resilient Modulus
	S <sub>3</sub> psi	S <sub>cyclic</sub> psi	P <sub>max</sub> lbs	P <sub>cyclic</sub> lbs	P <sub>contact</sub> lbs	S <sub>max</sub> psi	S <sub>cyclic</sub> psi	S <sub>contact</sub> psi	H <sub>avg</sub> in	ε <sub>r</sub> in/in	M <sub>r</sub> psi
Sequence 1	6.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00131	0.00016	11,232
Sequence 2	6.0	4.0	47.1	44.3	2.8	3.9	3.6	0.2	0.00274	0.00034	10,616
Sequence 3	6.0	6.0	69.3	65.7	3.6	5.7	5.4	0.3	0.00449	0.00056	9,630
Sequence 4	6.0	8.0	92.2	86.1	6.1	7.6	7.1	0.5	0.00671	0.00084	8,448
Sequence 5	6.0	10.0	114.2	105.7	8.5	9.4	8.7	0.7	0.00922	0.00115	7,548
Sequence 6	4.0	2.0	25.0	22.2	2.8	2.1	1.8	0.2	0.00146	0.00018	9,990
Sequence 7	4.0	4.0	46.8	44.0	2.8	3.9	3.6	0.2	0.00316	0.00039	9,173
Sequence 8	4.0	6.0	68.0	65.2	2.8	5.6	5.4	0.2	0.00504	0.00063	8,511
Sequence 9	4.0	8.0	91.0	85.8	5.1	7.5	7.1	0.4	0.00714	0.00089	7,911
Sequence 10	4.0	10.0	113.3	105.7	7.6	9.3	8.7	0.6	0.00961	0.00120	7,237
Sequence 11	2.0	2.0	24.9	22.2	2.8	2.1	1.8	0.2	0.00170	0.00021	8,598
Sequence 12	2.0	4.0	46.6	43.8	2.8	3.8	3.6	0.2	0.00355	0.00044	8,130
Sequence 13	2.0	6.0	67.5	64.8	2.8	5.6	5.3	0.2	0.00555	0.00069	7,672
Sequence 14	2.0	8.0	89.4	85.2	4.3	7.4	7.0	0.3	0.00777	0.00097	7,211
Sequence 15	2.0	10.0	111.7	105.1	6.6	9.2	8.6	0.5	0.01033	0.00129	6,691

TESTED BY \_\_\_\_\_ DATE February 16, 2018  
 REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_

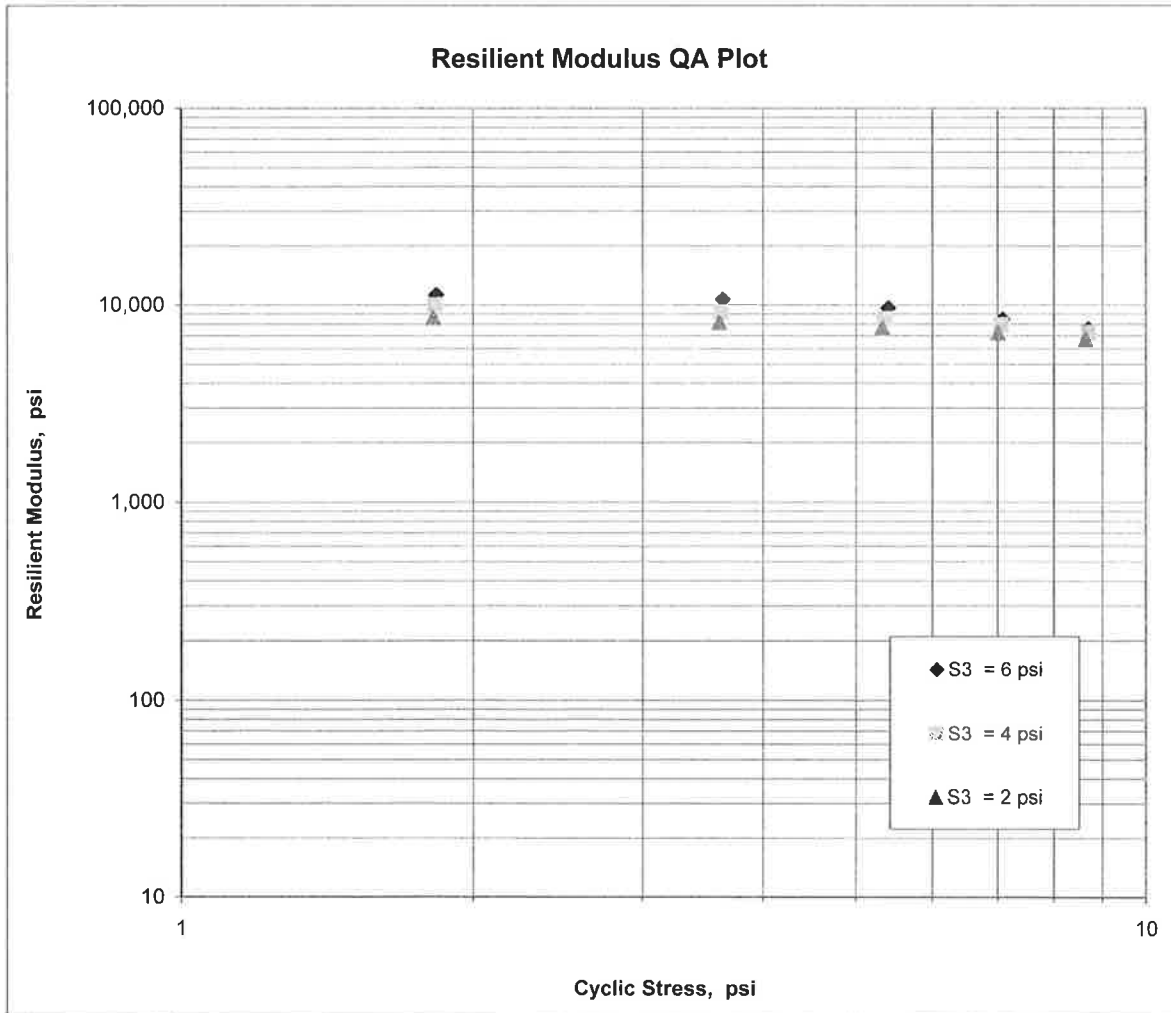
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
MATERIALS DIVISION**

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

<b>Job No.</b>	090517	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	1/30/18	<b>Station No.:</b>	1305+00
<b>Date Tested:</b>	February 16, 2018	<b>Location:</b>	18' RT
<b>Name of Project:</b>	IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)		
<b>County:</b>	<b>Code:</b> 19	<b>Name:</b>	CROSS
<b>Sampled By:</b>	THORNTON/FRAZIER	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20180237	<b>AASHTO Class:</b>	A-2-7 (2)
<b>Sample ID:</b>	RV 51	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

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

K1 =	<u>9,042</u>
K2 =	<u>-0.19917</u>
K5 =	<u>0.18766</u>
R <sup>2</sup> =	<u>0.91</u>



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

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

<b>Job No.</b>	090517	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	1/30/18	<b>Station No.:</b>	1345+00
<b>Date Tested:</b>	February 16, 2018	<b>Location:</b>	18' LT
<b>Name of Project:</b>	IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)		
<b>County:</b>	<b>Code:</b> 19	<b>Name:</b> CROSS	
<b>Sampled By:</b>	THORNTON/FRAZIER	<b>Depth:</b>	0-5
<b>Lab No.:</b>	20180238	<b>AASHTO Class:</b>	A-6 (3)
<b>Sample ID:</b>	RV 52	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

**1. Testing Information:**

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

**2. Specimen Information:**

Specimen Diameter (in):	
Top	3.93
Middle	3.93
Bottom	3.93
Average	3.93
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):	12.06
Initial Volume, AoLo (cu. in):	96.69

**3. Soil Specimen Weight:**

Weight of Wet Soil Used (g):	3199.90
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**4. Soil Properties:**

Optimum Moisture Content (%):	16.9
Maximum Dry Density (pcf):	105.7
95% of MDD (pcf):	100.4
In-Situ Moisture Content (%):	N/A

**5. Specimen Properties:**

Wet Weight (g):	3199.90
Compaction Moisture content (%):	17.7
Compaction Wet Density (pcf):	126.09
Compaction Dry Density (pcf):	107.13
Moisture Content After Mr Test (%):	17.0

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

#VALUE!

**7. Resilient Modulus, Mr:**

8281(Sc)<sup>-0.14779</sup>(S3)<sup>0.26953</sup>

**8. Comments**

\_\_\_\_\_

\_\_\_\_\_

**9. Tested By:**

GW

**Date:** February 16, 2018

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

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

**Job No.** 090517      **Material Code** SSRVPS  
**Date Sampled:** 1/30/18      **Station No.:** 1345+00  
**Date Tested:** February 16, 2018      **Location:** 18' LT

**Name of Project:** IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)

**County:** Code: 19      **Name:** CROSS

**Sampled By:** THORNTON/FRAZIER

**Lab No.:** 20180238

**Sample ID:** RV 52

**LATITUDE:**

**Depth:** 0-5

**AASHTO Class:** A-6 (3)

**Material Type (1 or 2):** 2  
**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 <sub>3</sub> psi	S <sub>cyclic</sub> psi	P <sub>max</sub> lbs	P <sub>cyclic</sub> lbs	P <sub>contact</sub> lbs	S <sub>max</sub> psi	S <sub>cyclic</sub> psi	S <sub>contact</sub> psi	H <sub>avg</sub> in	ε <sub>r</sub> in/in	M <sub>r</sub> psi
Sequence 1	6.0	2.0	25.1	22.4	2.7	2.1	1.9	0.2	0.00120	0.00015	12,413
Sequence 2	6.0	4.0	46.8	44.1	2.7	3.9	3.7	0.2	0.00250	0.00031	11,742
Sequence 3	6.0	6.0	69.0	65.6	3.4	5.7	5.4	0.3	0.00401	0.00050	10,894
Sequence 4	6.0	8.0	92.2	86.4	5.8	7.6	7.2	0.5	0.00584	0.00073	9,841
Sequence 5	6.0	10.0	114.5	106.3	8.2	9.5	8.8	0.7	0.00776	0.00097	9,107
Sequence 6	4.0	2.0	24.8	22.2	2.7	2.1	1.8	0.2	0.00137	0.00017	10,741
Sequence 7	4.0	4.0	46.4	43.7	2.7	3.9	3.6	0.2	0.00291	0.00036	10,003
Sequence 8	4.0	6.0	67.6	64.9	2.7	5.6	5.4	0.2	0.00456	0.00057	9,474
Sequence 9	4.0	8.0	90.3	85.4	5.0	7.5	7.1	0.4	0.00635	0.00079	8,946
Sequence 10	4.0	10.0	113.5	106.1	7.3	9.4	8.8	0.6	0.00832	0.00104	8,484
Sequence 11	2.0	2.0	24.6	22.0	2.7	2.0	1.8	0.2	0.00168	0.00021	8,726
Sequence 12	2.0	4.0	46.1	43.4	2.7	3.8	3.6	0.2	0.00352	0.00044	8,207
Sequence 13	2.0	6.0	67.0	64.3	2.7	5.6	5.3	0.2	0.00536	0.00067	7,982
Sequence 14	2.0	8.0	88.7	84.5	4.2	7.4	7.0	0.3	0.00729	0.00091	7,713
Sequence 15	2.0	10.0	110.8	104.2	6.6	9.2	8.6	0.5	0.00941	0.00117	7,366

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

GW

DATE \_\_\_\_\_  
 DATE \_\_\_\_\_

February 16, 2018



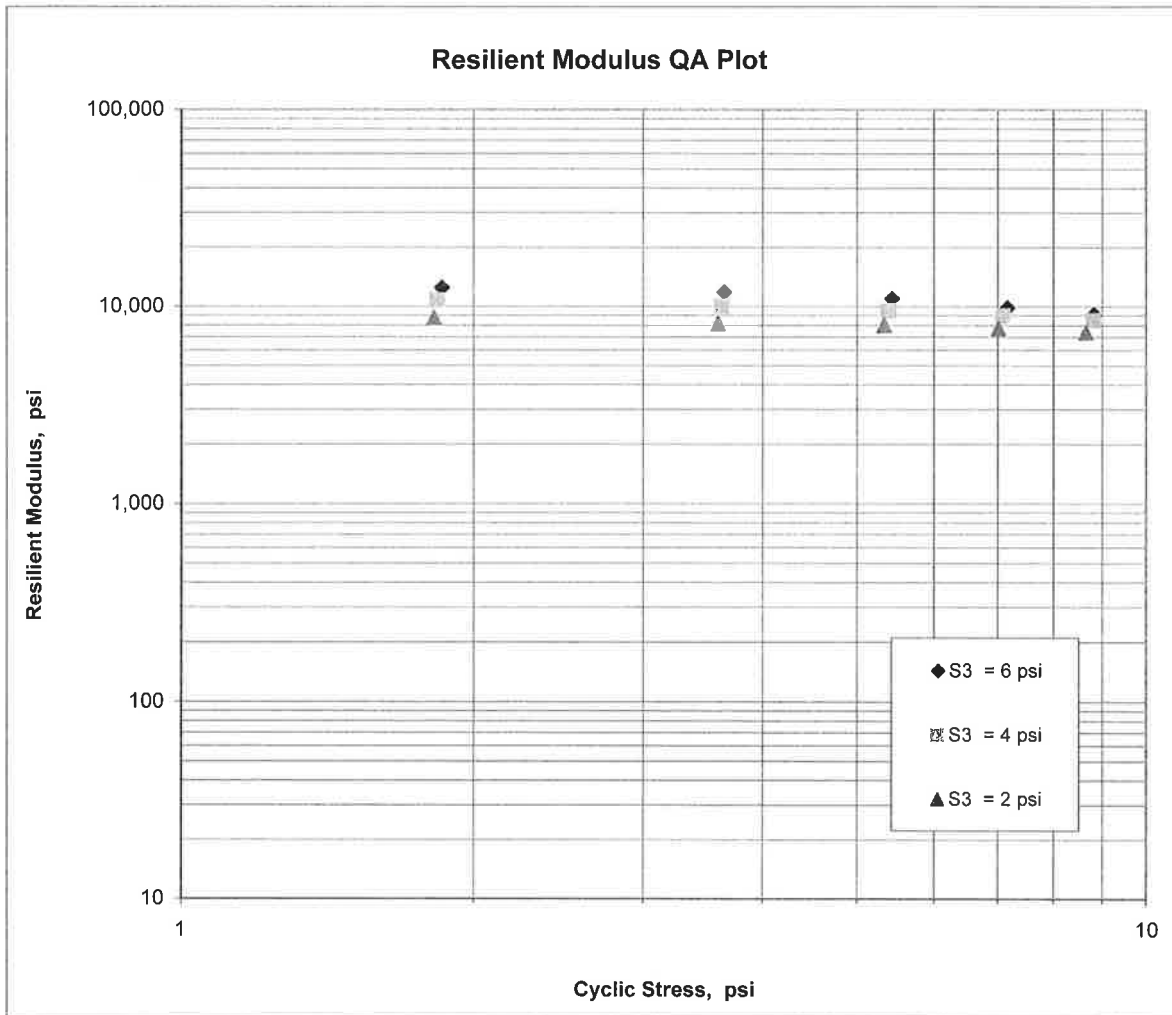
**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
MATERIALS DIVISION**

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

<b>Job No.</b>	090517	<b>Material Code</b>	SSRVPS
<b>Date Sampled:</b>	1/30/18	<b>Station No.:</b>	1345+00
<b>Date Tested:</b>	February 16, 2018	<b>Location:</b>	18' LT
<b>Name of Project:</b>	IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)		
<b>County:</b>	<b>Code:</b> 19	<b>Name:</b>	CROSS
<b>Sampled By:</b>	THORNTON/FRAZIER		<b>Depth:</b> 0-5
<b>Lab No.:</b>	20180238	<b>AASHTO Class:</b>	A-6 (3)
<b>Sample ID:</b>	RV 52	<b>Material Type (1 or 2):</b>	2
<b>LATITUDE:</b>		<b>LONGITUDE:</b>	

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

$K_1 = \underline{8,281}$   
 $K_2 = \underline{-0.14779}$   
 $K_5 = \underline{0.26953}$   
 $R^2 = \underline{0.95}$



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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 03/20/18 SEQUENCE NO. - 1  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20180218	-	20180219	-	20180220
SAMPLE ID	-	S32	-	S33	-	S34
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	1305+00	-	1305+00	-	1313+00
LOCATION	-	06 RT	-	18 RT	-	06 LT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-		-		-	
LATITUDE DEG-MIN-SEC	-	36 18 27.50	-	36 18 27.70	-	36 18 29.90
LONGITUDE DEG-MIN-SEC	-	92 20 35.00	-	92 20 35.00	-	92 20 43.70
% PASSING	2 IN.	-	-	-	-	-
	1 1/2 IN.	-	-	100	-	-
	3/4 IN.	-	-	95	-	100
	3/8 IN.	100	-	80	-	93
	NO. 4	99	-	63	-	87
	NO. 10	85	-	56	-	80
	NO. 40	76	-	49	-	73
	NO. 80	72	-	44	-	70
	NO. 200	70	-	41	-	68
LIQUID LIMIT	-	38	-	41	-	24
PLASTICITY INDEX	-	22	-	23	-	7
AASHTO SOIL	-	A-6 (13)	-	A-7-6 (5)	-	A-4 (2)
UNIFIED SOIL	-		-		-	
% MOISTURE CONTENT	-	29.7	-	38.7	-	28.6
ACHMSC	(IN)	4.0W	-	---	-	5.5
ACHMBC	(IN)	1.5	-	---	-	1.5
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	
			-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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 - 03/20/18 SEQUENCE NO. - 2  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20180221	-	20180222	-	20180223
SAMPLE ID	-	S35	-	S36	-	S37
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-	INFORMATION ONLY
STATION	-	1313+00	-	1321+00	-	1321+00
LOCATION	-	18 LT	-	06 RT	-	18 RT
DEPTH IN FEET	-	0-5	-	0-5	-	0-5
MAT'L COLOR	-	BROWN	-	BROWN	-	BROWN
MAT'L TYPE	-	-	-	-	-	-
LATITUDE DEG-MIN-SEC	-	36 18 29.90	-	36 18 35.40	-	36 18 36.30
LONGITUDE DEG-MIN-SEC	-	92 20 44.30	-	92 20 49.40	-	92 20 49.90
% PASSING						
2 IN.	-	-	-	-	-	-
1 1/2 IN.	-	-	-	-	-	-
3/4 IN.	-	100	-	-	-	100
3/8 IN.	-	97	-	100	-	94
NO. 4	-	92	-	99	-	91
NO. 10	-	86	-	95	-	83
NO. 40	-	79	-	90	-	77
NO. 80	-	72	-	88	-	73
NO. 200	-	69	-	86	-	72
LIQUID LIMIT	-	23	-	63	-	37
PLASTICITY INDEX	-	5	-	43	-	20
AASHTO SOIL	-	A-4 (1)	-	A-7-6 (39)	-	A-6 (13)
UNIFIED SOIL	-	-	-	-	-	-
% MOISTURE CONTENT	-	17.8	-	26.4	-	25.8
ACHMSC (IN)	-	---	-	9.5W	-	---
ACHMBC (IN)	-	---	-	4.0	-	---
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 03/20/18 SEQUENCE NO. - 3  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20180224	20180225	20180226
SAMPLE ID	S38	S39	S40
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	1329+00	1329+00	1337+00
LOCATION	06 LT	18 LT	06 RT
DEPTH IN FEET	0-5	0-4Z	0-5
MAT'L COLOR	BROWN	BROWN	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	36 18 43.50	36 18 43.30	36 18 50.30
LONGITUDE DEG-MIN-SEC	92 20 53.90	92 20 54.30	92 20 57.70
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	100	100	100
3/8 IN.	97	99	93
NO. 4	88	91	79
NO. 10	81	82	67
NO. 40	75	74	52
NO. 80	68	69	48
NO. 200	65	67	46
LIQUID LIMIT	48	36	45
PLASTICITY INDEX	29	17	27
AASHTO SOIL	A-7-6(17)	A-6(9)	A-7-6(8)
UNIFIED SOIL			
% MOISTURE CONTENT	20.6	31.8	32.6
ACHMSC (IN)	7.0W	---	6.5W
ACHMBC (IN)	3.0	---	3.0
AGG. BASE CRS. CL-7 (IN)	---	---	2.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 03/20/18	SEQUENCE NO.	- 4
JOB NUMBER	- 090517	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	- 03
SUPPLIER NAME	- STATE	DISTRICT NO.	- 09
NAME OF PROJECT	- IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.)(S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- BAXTER, COUNTY	DATE SAMPLED	- 01/30/18
SAMPLED BY	- THORNTON/FRAZIER	DATE RECEIVED	- 02/01/18
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/20/18
MATERIAL DESC.	- SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS		

LAB NUMBER	20180227	20180228	20180229
SAMPLE ID	S41	S42	S43
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	1337+00	1345+00	1345+00
LOCATION	18 RT	06 LT	18 LT
DEPTH IN FEET	0-2.5Z	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	36 18 50.70	36 18 58.10	36 18 57.90
LONGITUDE DEG-MIN-SEC	92 20 58.00	92 21 1.90	92 21 2.20
% PASSING	2 IN.	-	-
	1 1/2 IN.	-	-
	3/4 IN.	100	100
	3/8 IN.	98	82
	NO. 4	90	67
	NO. 10	82	61
	NO. 40	72	56
	NO. 80	63	53
	NO. 200	59	51
LIQUID LIMIT	32	39	34
PLASTICITY INDEX	13	21	17
AASHTO SOIL	A-6(5)	A-6(16)	A-6(5)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	21.8	18.6	14.7
ACHMSC	(IN) - ---	4.0W	---
ACHMBC	(IN) - ---	3.0	---
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-
	-	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 03/21/18 SEQUENCE NO. - 5  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20180230	20180231	20180232
SAMPLE ID	S44	S45	S46
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	1353+00	1353+00	1362+00
LOCATION	06 RT	18 RT	06 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	36 19 5.80	36 19 5.80	36 19 11.80
LONGITUDE DEG-MIN-SEC	92 21 1.20	92 21 1.20	92 21 2.50
% PASSING			
2 IN.			
1 1/2 IN.			
3/4 IN.	100		100
3/8 IN.	98		97
NO. 4	95	100	92
NO. 10	92		88
NO. 40	87		80
NO. 80	84		77
NO. 200	83	91	75
LIQUID LIMIT	31	45	33
PLASTICITY INDEX	15	26	16
AASHTO SOIL	A-6(11)	A-7-6(25)	A-6(10)
UNIFIED SOIL			
% MOISTURE CONTENT	32.1	26.9	34.2
ACHMSC (IN)	7.5W	---	---
CHIP SEAL (IN)	---	---	1.5X
CHIP SEAL (IN)	---	---	3.0
ACHMBC (IN)	1.0	---	2.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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 - 03/20/18 SEQUENCE NO. - 6  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20180233	20180234	20180235
SAMPLE ID	S47	S48	S49
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	1362+00	1370+00	1370+00
LOCATION	18 LT	06 RT	18 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	36 19 14.40	36 19 21.70	36 19 21.90
LONGITUDE DEG-MIN-SEC	92 21 3.50	92 21 6.50	92 21 6.70
% PASSING			
2 IN.			
1 1/2 IN.			
3/4 IN.	100	100	100
3/8 IN.	84	96	98
NO. 4	78	94	93
NO. 10	73	91	89
NO. 40	68	86	79
NO. 80	63	81	74
NO. 200	60	77	69
LIQUID LIMIT	48	34	31
PLASTICITY INDEX	28	19	14
AASHTO SOIL	A-7-6(14)	A-6(13)	A-6(7)
UNIFIED SOIL			
% MOISTURE CONTENT	33.0	19.0	19.1
ACHMSC (IN)	---	1.5W	---
ACHMSC (IN)	---	3.5X	---
ACHMBC (IN)	---	2.0	---
AGG. BASE CRS. CL-7 (IN)	---	1.0	---

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED  
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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 - 03/20/18 SEQUENCE NO. - 7  
JOB NUMBER - 090517 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 - 03  
SUPPLIER NAME - STATE DISTRICT NO. - 09  
NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
PROJECT ENGINEER - NOT APPLICABLE  
PIT/QUARRY - ARKANSAS  
LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	-	20180236	-	-
SAMPLE ID	-	S50	-	-
TEST STATUS	-	INFORMATION ONLY	-	-
STATION	-	1378+00	-	-
LOCATION	-	06 LT	-	-
DEPTH IN FEET	-	0-5	-	-
MAT'L COLOR	-	BROWN	-	-
MAT'L TYPE	-		-	-
LATITUDE DEG-MIN-SEC	-	36 19 28.50	-	-
LONGITUDE DEG-MIN-SEC	-	92 21 11.60	-	-
% PASSING	2	IN.	-	-
	1 1/2	IN.	-	-
	3/4	IN.	-	100
	3/8	IN.	-	98
	NO. 4		-	95
	NO. 10		-	92
	NO. 40		-	87
	NO. 80		-	85
	NO. 200		-	84
LIQUID LIMIT	-	45	-	-
PLASTICITY INDEX	-	25	-	-
AASHTO SOIL	-	A-7-6(21)	-	-
UNIFIED SOIL	-		-	-
% MOISTURE CONTENT	-	35.9	-	-
ACHMSC	(IN)	5.0W	-	-
ACHMBC	(IN)	1.25	-	-
AGG. BASE CRS. CL-7	(IN)	2.0	-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-
			-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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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 - 03/20/18 SEQUENCE NO. - 1  
 JOB NUMBER - 090517 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 - 03  
 SUPPLIER NAME - STATE DISTRICT NO. - 09  
 NAME OF PROJECT - IZARD CO. LINE - HWY.62 (SAFETY IMPVTS.) (S)  
 PROJECT ENGINEER - NOT APPLICABLE  
 PIT/QUARRY - ARKANSAS  
 LOCATION - BAXTER, COUNTY DATE SAMPLED - 01/30/18  
 SAMPLED BY - THORNTON/FRAZIER DATE RECEIVED - 02/01/18  
 SAMPLE FROM - TEST HOLE DATE TESTED - 03/20/18  
 MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

LAB NUMBER	-	20180237	-	20180238	-
SAMPLE ID	-	RV51	-	RV52	-
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION ONLY	-
STATION	-	1305+00	-	1345+00	-
LOCATION	-	18 RT	-	18 LT	-
DEPTH IN FEET	-	0-5	-	0-5	-
MAT'L COLOR	-	BROWN	-	BROWN	-
MAT'L TYPE	-		-		-
LATITUDE DEG-MIN-SEC	-	36 18 27.70	-	36 18 57.90	-
LONGITUDE DEG-MIN-SEC	-	92 20 35.00	-	92 21 2.20	-
% PASSING	2	IN.	-		-
	1 1/2	IN.	-		-
	3/4	IN.	-	100	-
	3/8	IN.	-	84	-
	NO. 4		-	66	-
	NO. 10		-	54	-
	NO. 40		-	45	-
	NO. 80		-	38	-
	NO. 200		-	34	-
LIQUID LIMIT	-	42	-	34	-
PLASTICITY INDEX	-	21	-	13	-
AASHTO SOIL	-	A-2-7 (2)	-	A-6(3)	-
UNIFIED SOIL	-		-		-
% MOISTURE CONTENT	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-
	-		-		-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

STA.#	LOC.	DEPTH	COLOR						L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				#4	#10	#40	#80	#200					
				S	I	E	V	E	S				
1305+0	18 RT	0-5	BROWN	66	54	45	38	34	42	21	A-2-7 (2)	RV51	
1345+0	18 LT	0-5	BROWN	87	74	57	49	45	34	13	A-6(3)	RV52	
1305+0	06 RT	0-5	BROWN	99	85	76	72	70	38	22	A-6(13)	S32	29.7
1305+0	18 RT	0-5	BROWN	63	56	49	44	41	41	23	A-7-6(5)	S33	38.7
1313+0	06 LT	0-5	BROWN	87	80	73	70	68	24	7	A-4(2)	S34	28.6
1313+0	18 LT	0-5	BROWN	92	86	79	72	69	23	5	A-4(1)	S35	17.8
1321+0	06 RT	0-5	BROWN	99	95	90	88	86	63	43	A-7-6(39)	S36	26.4
1321+0	18 RT	0-5	BROWN	91	83	77	73	72	37	20	A-6(13)	S37	25.8
1329+0	06 LT	0-5	BROWN	88	81	75	68	65	48	29	A-7-6(17)	S38	20.6
1329+0	18 LT	0-4Z	BROWN	91	82	74	69	67	36	17	A-6(9)	S39	31.8
1337+0	06 RT	0-5	BR/GR	79	67	52	48	46	45	27	A-7-6(8)	S40	32.6
1337+0	18 RT	0-2.5Z	BROWN	90	82	72	63	59	32	13	A-6(5)	S41	21.8
1345+0	06 LT	0-5	BROWN	98	93	89	81	80	39	21	A-6(16)	S42	18.6
1345+0	18 LT	0-5	BROWN	67	61	56	53	51	34	17	A-6(5)	S43	14.7
1353+0	06 RT	0-5	BROWN	95	92	87	84	83	31	15	A-6(11)	S44	32.1
1353+0	18 RT	0-5	BROWN	100				91	45	26	A-7-6(25)	S45	26.9
1362+0	06 LT	0-5	BROWN	92	88	80	77	75	33	16	A-6(10)	S46	34.2
1362+0	18 LT	0-5	BROWN	78	73	68	63	60	48	28	A-7-6(14)	S47	33
1370+0	06 RT	0-5	BROWN	94	91	86	81	77	34	19	A-6(13)	S48	19
1370+0	18 RT	0-5	BROWN	93	89	79	74	69	31	14	A-6(7)	S49	19.1
1378+0	06 LT	0-5	BROWN	95	92	87	85	84	45	25	A-7-6(21)	S50	35.9

**JOB:** 090517

**Arkansas State Highway Transportation Department**

**DATE TESTED**

**JOB NAME:** IZARD CO. LINE - HWY. 62 (SAFETY IMPVTS.)(S)

**Materials Division**

3/20/2018

**COUNTY NO.** 3

**Michael Benson, Materials Engineer**

**STA.# LOC.**

**PAVEMENT SOUNDINGS**

1305+00	06 RT	ACHMSC 4.0W	ACHMBC 1.5		
1305+00	18 RT	ACHMSC	ACHMBC		
1313+00	06 LT	ACHMSC 5.5	ACHMBC 1.5		
1313+00	18 LT	ACHMSC	ACHMBC		
1321+00	06 RT	ACHMSC 9.5W	ACHMBC 4.0		
1321+00	18 RT	ACHMSC	ACHMBC		
1329+00	06 LT	ACHMSC 7.0W	ACHMBC 3.0	AGG. BASE CRS. CL-7	
1329+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS. CL-7	
1337+00	06 RT	ACHMSC 6.5W	ACHMBC 3.0	AGG. BASE CRS. CL-7	
1337+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS. CL-7	
1345+00	06 LT	ACHMSC 4.0W	ACHMBC 3.0		
1345+00	18 LT	ACHMSC	ACHMBC		
1353+00	06 RT	ACHMSC 7.5W	CHIP SEAL	CHIP SEAL	ACHMBC 1.0
1353+00	18 RT	ACHMSC	CHIP SEAL	CHIP SEAL	ACHMBC
1362+00	06 LT	ACHMSC	CHIP SEAL 1.5X	CHIP SEAL 3.0	ACHMBC 2.0
1362+00	18 LT	ACHMSC	ACHMSC	ACHMBC	AGG. BASE CRS. CL-7
1370+00	06 RT	ACHMSC 1.5W	ACHMSC 3.5X	ACHMBC 2.0	AGG. BASE CRS. CL-7 1.0

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

Wednesday, March 21, 2018

STA.# LOC.

PAVEMENT SOUNDINGS

1370+00	18 RT	ACHMSC	ACHMSC	ACHMBC	AGG. BASE CRS. CL-7
		---	---	---	---
1378+00	06 LT	ACHMSC	ACHMBC	ACHMBC	AGG. BASE CRS. CL-7
		5.0W	1.25	2.0	---

comments: W=MULTIPLE LAYERS, X=STRIPPED