ARKANSAS DEPARTMENT OF TRANSPORTATION

SUBSURFACE INVESTIGATION

STATE JOB NO. 020713

FEDERAL AID PROJECT NO. NHPP-BFP-0040(37)

LONG LAKE STR. & APPRS. (S)

STATE HIGHWAY 11 **SECTION** 3

IN LINCOLN **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

June 19, 2019

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 020713
Long Lake Str. & Apprs. (S)
Route 11 Section 3
Lincoln County

Based on soil information from projects in the surrounding area, an estimated R-Value of less than five is appropriate for pavement design.

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

Asphalt Concrete Hot Mix

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.2	94.8
Binder Course	4.2	95.8
Base Course	3.5	96.5

Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment
cc: State Constr. Eng. – Master File Copy
District 2 Engineer
System Information and Research Div.
G. C. File

ARKANSAS DEPARTMENT OF TRANSPORTATION
ARDOT.gov | IDriveArkansas.com | Lorie H. Tudor, 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 8, 2020

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 020713
Long Lake Str. & Apprs. (S)
Route 11 Section 3
Lincoln County

Attached is the requested soil survey, strength data and Resilient Modulus test results for the above referenced job. The project consists of replacing the Long Lake bridge with a box culvert on Highway 11. Samples were taken in the existing travel lanes and ditch line. There were no paved shoulders within the project limits.

The subgrade soils consist primarily of non-plastic sands. The subgrade soils will not provide a stable working platform. The project alignment traverses the flooded area of Long Lake. Based on currently available cross sections the maximum embankment height is approximately 12 feet. The embankment should be constructed of Rock Fill up to two feet above the high water mark. Five feet of rock surging into the mud is expected.

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 Sweet Home.

2. Asphalt Concrete Hot Mix

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.2	94.8
Binder Course	4.2	95.8
Base Course	3.5	96.5

Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment
cc: State Constr. Eng. – Master File Copy
District 2 Engineer
System Information and Research Div.
G. C. File

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

JOB NO. 020713

ROCK FILL

Description. This item shall consist of the construction of embankments at the locations shown on the plans or as directed by the Engineer as Rock Fill. Embankments designated as Rock Fill shall comply with Section 210, Excavation and Embankment, of the Standard Specifications, Edition of 2014. Where there is a conflict between these Special Provisions and Section 210, these Special Provisions shall govern.

Materials and Construction Requirements. Embankments requiring Rock Fill shall be constructed of materials meeting the following requirements:

(1) Material for Rock Fill shall include stone obtained from an approved source and shall consist of hard and durable limestone, sandstone, dolomite, or rock-like shale. Shale shall have a minimum slake durability index (SDI) of 95% as tested according to AHTD Test Method 399. The SDI shall be determined by the Engineer using the above method at least once per 3000 cubic yards. The stone shall be greater than 1½" and less than 30" reasonably well-graded and angular, with fractured faces on at least 75% of the surface and shall not contain more than 10% overburden or fines less than 1½" in maximum cross-section. The stone shall weigh not less than 140 pounds per solid cubic foot and shall have a percent of wear not greater than 45 by Los Angeles Test (AASHTO T 96).

(2) The following shall be added to the third paragraph of Section 801.08 of the Standard Specifications. Rock Fill placed immediately adjacent to Pipe Culverts or Box Culverts including a minimum of 6 inches on top of the culvert, shall meet the gradation requirements of 802.02(c) of the Standard Specifications for Coarse Aggregate AASHTO M43 #57.

(3) Material Placed in the vicinity of piling, shall be constructed in accordance with Sections 303.02, 303.03, and 303.04 of the Standard Specifications, Edition of 2014. It shall meet the material requirements of Aggregate Base Course (Class 7).

(4) The top layer of Rock Fill shall be in accordance with Section 303 of the Standard Specifications for Aggregate Base Course (Class 7). It shall be placed to provide a barrier for preventing the migration of fines from the overlaying embankment material into the rock fill embankment. The layer shall be at least 6 inches in thickness. The layer will not be required on the exterior side slopes (the exterior surface that daylights and is not covered with fill). The Engineer will inspect the completed surface of the rock fill embankment prior to allowing placement of additional embankment material. Density testing will not be required for the Aggregate Base Course (Class 7) material used to cap Rock Fill. The stone shall be spread, shaped, and consolidated to provide a firm and unyielding foundation for the subgrade and/or base course. The Contractor shall not place overlaying embankment material without approval of the Engineer.

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

JOB NO. 020713

ROCK FILL

Method of Measurement. Rock Fill, which includes all embankment material types described above, including Aggregate Base Course (Class 7), will be measured in vehicals by the Ton.

Basis of Payment. Placement and compaction of Rock Fill embankment material shall be paid for under the item "Rock Fill", which price shall be full compensation for all costs involved in furnishing all materials for constructing the embankments in accordance with Section 210 and this Special Provision; and for all labor, tools, equipment, quality control sampling and testing, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Rock Fill	Ton

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 - 020713

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 40
DISTRICT NO. - 02

JOB NAME - LONG LAKE STR. & APPRS. (S)

STATION LIMITS	R-VALUE AT 240 psi
BEGIN JOB - END JOB	17
RESILIENT MODULUS	
STA. 109+00	7320
STA. 116+00	6737

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.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	109+00
Date Tested:	March 26, 2020	**Location:**	21'RT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200645	**AASHTO Class:**	A-4 (0)
Sample ID:	RV166	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.95
Middle	3.95
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3040.90

4. Soil Properties:

Optimum Moisture Content (%):	13.4
Maximum Dry Density (pcf):	108.5
95% of MDD (pcf):	103.1
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3040.90
Compaction Moisture content (%):	13.1
Compaction Wet Density (pcf):	118.61
Compaction Dry Density (pcf):	104.88
Moisture Content After Mr Test (%):	13.1

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

7. Resilient Modulus, Mr: 5649(Sc)^0.00597(S3)^0.42326

8. Comments _____

9. Tested By: GW **Date:** March 26, 2020

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	109+00
Date Tested:	March 26, 2020	**Location:**	21'RT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200645	**AASHTO Class:**	A-4 (0)
Sample ID:	RV166	**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	25.3	22.5	2.8	2.1	1.8	0.2	0.00118	0.00015	12,617
Sequence 2	6.0	4.0	47.6	44.8	2.8	3.9	3.7	0.2	0.00243	0.00030	12,142
Sequence 3	6.0	6.0	70.5	66.9	3.6	5.8	5.5	0.3	0.00362	0.00045	12,155
Sequence 4	6.0	8.0	95.2	89.1	6.1	7.8	7.3	0.5	0.00487	0.00061	12,056
Sequence 5	6.0	10.0	119.9	111.3	8.5	9.8	9.1	0.7	0.00601	0.00075	12,190
Sequence 6	4.0	2.0	25.0	22.2	2.8	2.1	1.8	0.2	0.00139	0.00017	10,495
Sequence 7	4.0	4.0	46.9	44.0	2.8	3.8	3.6	0.2	0.00289	0.00036	10,015
Sequence 8	4.0	6.0	68.8	66.0	2.9	5.7	5.4	0.2	0.00438	0.00055	9,912
Sequence 9	4.0	8.0	93.4	88.1	5.3	7.7	7.2	0.4	0.00577	0.00072	10,050
Sequence 10	4.0	10.0	117.9	110.2	7.7	9.7	9.0	0.6	0.00696	0.00087	10,425
Sequence 11	2.0	2.0	24.4	21.6	2.8	2.0	1.8	0.2	0.00189	0.00024	7,508
Sequence 12	2.0	4.0	45.5	42.6	2.8	3.7	3.5	0.2	0.00384	0.00048	7,320
Sequence 13	2.0	6.0	66.9	64.0	2.9	5.5	5.3	0.2	0.00563	0.00070	7,486
Sequence 14	2.0	8.0	90.1	85.8	4.3	7.4	7.0	0.4	0.00723	0.00090	7,815
Sequence 15	2.0	10.0	114.2	107.4	6.8	9.4	8.8	0.6	0.00859	0.00107	8,232

TESTED BY GW 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.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	109+00
Date Tested:	March 26, 2020	**Location:**	21'RT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200645	**AASHTO Class:**	A-4 (0)
Sample ID:	RV166	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

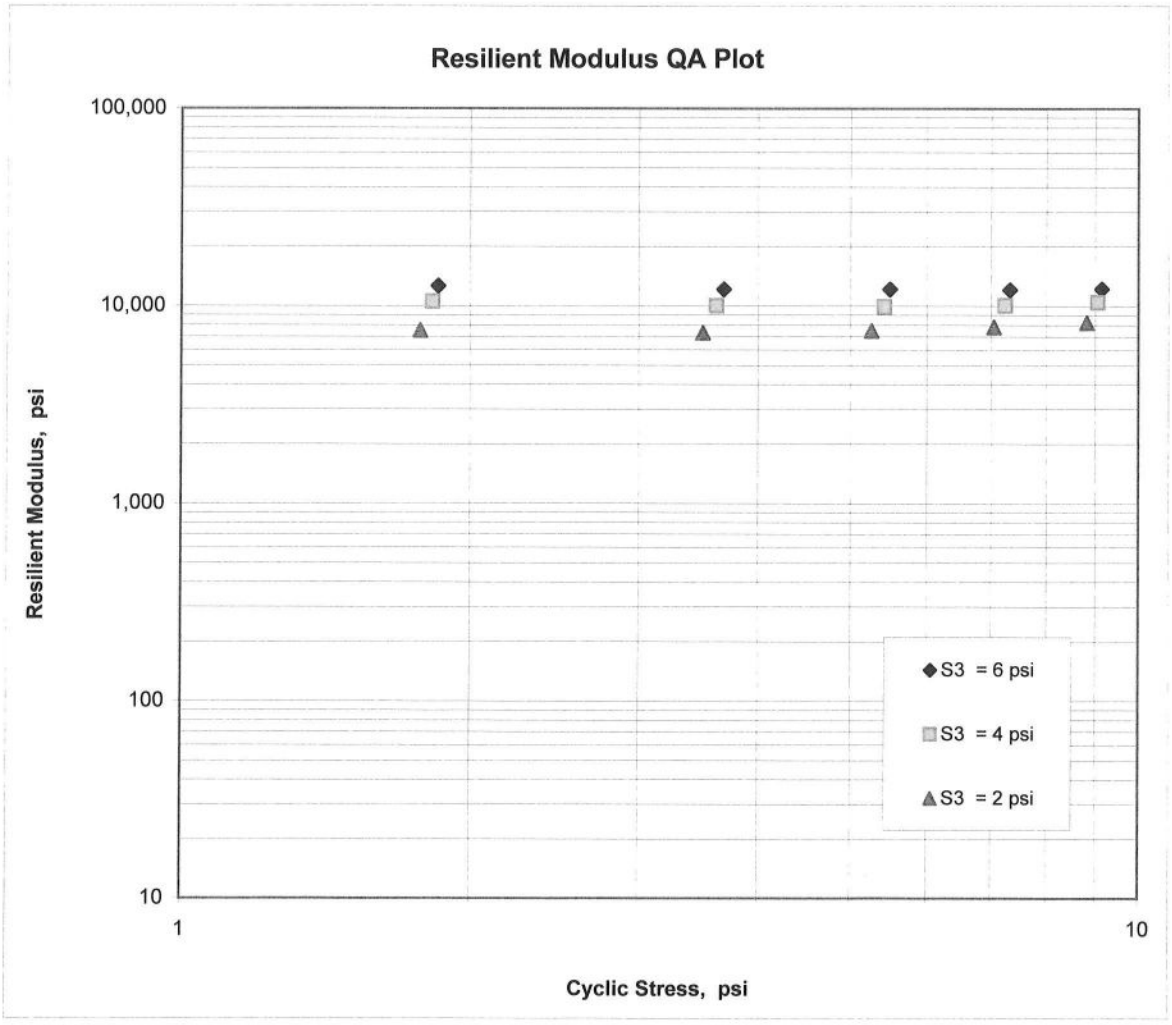
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 5,649

K2 = 0.00597

K5 = 0.42326

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.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	116+00
Date Tested:	March 26, 2020	**Location:**	18'LT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200646	**AASHTO Class:**	A-4 (0)
Sample ID:	RV167	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

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

2. Specimen Information:

Specimen Diameter (in):	
Top	3.95
Middle	3.95
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3068.40

4. Soil Properties:

Optimum Moisture Content (%):	14.9
Maximum Dry Density (pcf):	108.4
95% of MDD (pcf):	103.0
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3068.40
Compaction Moisture content (%):	14.9
Compaction Wet Density (pcf):	119.69
Compaction Dry Density (pcf):	104.17
Moisture Content After Mr Test (%):	14.9

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

7. Resilient Modulus, Mr: 6004(Sc)^-0.06327(S3)^0.35506

8. Comments _____

_____

9. Tested By: GW **Date:** March 26, 2020

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	116+00
Date Tested:	March 26, 2020	**Location:**	18'LT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200646	**AASHTO Class:**	A-4 (0)
Sample ID:	RV167	**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	22.5	2.7	2.1	1.8	0.2	0.00135	0.00017	10,962
Sequence 2	6.0	4.0	47.4	44.7	2.7	3.9	3.7	0.2	0.00277	0.00035	10,625
Sequence 3	6.0	6.0	70.3	66.8	3.5	5.8	5.5	0.3	0.00425	0.00053	10,354
Sequence 4	6.0	8.0	94.6	88.6	6.0	7.8	7.3	0.5	0.00583	0.00073	10,006
Sequence 5	6.0	10.0	119.1	110.7	8.5	9.8	9.1	0.7	0.00735	0.00092	9,914
Sequence 6	4.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00155	0.00019	9,480
Sequence 7	4.0	4.0	46.9	44.1	2.8	3.9	3.6	0.2	0.00328	0.00041	8,844
Sequence 8	4.0	6.0	68.8	65.9	2.9	5.6	5.4	0.2	0.00508	0.00063	8,543
Sequence 9	4.0	8.0	93.3	88.0	5.2	7.7	7.2	0.4	0.00678	0.00084	8,557
Sequence 10	4.0	10.0	117.8	110.1	7.7	9.7	9.0	0.6	0.00851	0.00106	8,517
Sequence 11	2.0	2.0	24.7	21.9	2.8	2.0	1.8	0.2	0.00193	0.00024	7,488
Sequence 12	2.0	4.0	46.1	43.3	2.8	3.8	3.6	0.2	0.00402	0.00050	7,083
Sequence 13	2.0	6.0	67.4	64.5	2.9	5.5	5.3	0.2	0.00631	0.00079	6,737
Sequence 14	2.0	8.0	90.6	86.2	4.3	7.4	7.1	0.4	0.00840	0.00105	6,760
Sequence 15	2.0	10.0	115.0	108.2	6.8	9.4	8.9	0.6	0.01021	0.00127	6,981

TESTED BY GW 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.	020713	**Material Code**	SSRVPS
Date Sampled:	3/9/2020	**Station No.:**	116+00
Date Tested:	March 26, 2020	**Location:**	18'LT
Name of Project:	LONG LAKE STR. & APPRS. (S)		
County:	**Code:** 40 **Name:** LINCOLN		
Sampled By:	THORNTON / MCKINNEY	**Depth:**	0-5
Lab No.:	20200646	**AASHTO Class:**	A-4 (0)
Sample ID:	RV167	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

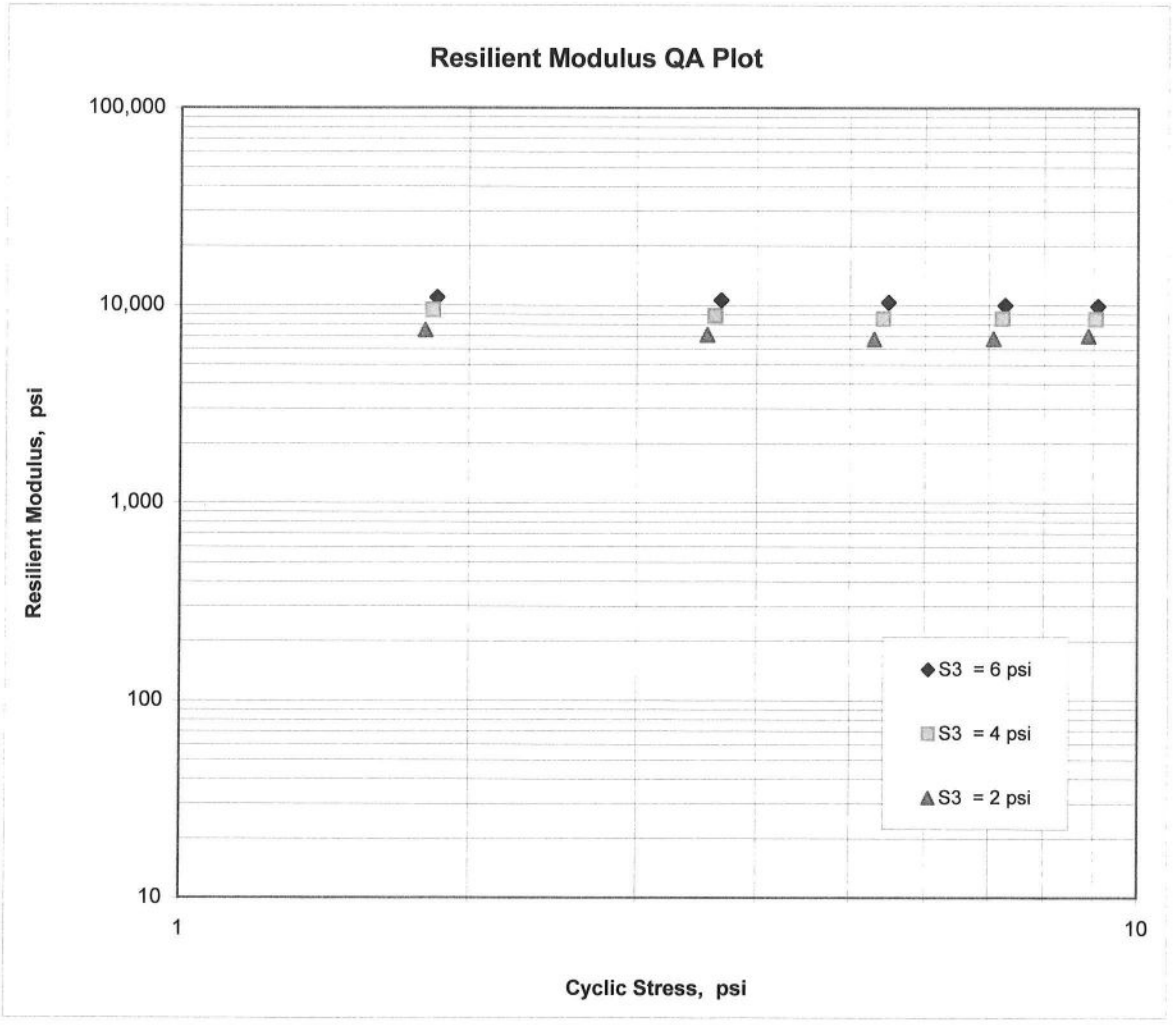
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 6,004

K2 = -0.06327

K5 = 0.35506

R^2 = 0.99



JOB: 020713

JOB NAME: LONG LAKE STR. & APPRS. (S)

COUNTY NO. 40 **DATE TESTED** 3/30/2020

Arkansas State Highway Transporation Department

Materials Division

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
					SIEVES								
109+00	21RT	0-5	BROWN	99	99	99	98	72	ND	NP	A-4(0)	RV166	
116+00	18LT	0-5	BROWN	94	93	92	91	89	ND	NP	A-4(0)	RV167	
109+00	06RT	0-5	BROWN	100				94	26	05	A-4(4)	S162	26.2
109+00	21RT	0-5	BROWN	100				99	27	05	A-4(4)	S163	27.6
116+00	06LT	0-5	BROWN	100	99	99	99	78	ND	NP	A-4(0)	S164	24.3
116+00	18LT	0-5	BROWN	100	99	99	99	77	ND	NP	A-4(0)	S165	24.1

comments:

Monday, March 30, 2020

JOB: 020713
JOB NAME: LONG LAKE STR. & APPRS. (S)

COUNTY NO. 40

Arkansas State Highway Transporation Department
Materials Division
Michael Benson, Materials Engineer

DATE TESTED
3/30/2020

PAVEMENT SOUNDINGS

STA.#	LOC.			
109+00	06RT	CHIP SEAL	ACHM SC	AGG BASE CRS CL-5
		1.0	**1.0**	**5.0**
109+00	21RT	CHIP SEAL	ACHM SC	AGG BASE CRS CL-5
		---	---	---
116+00	06LT	CHIP SEAL	ACHM SC	AGG BASE CRS CL-5
		1.0	**0.5**	**7.0**

comments:

Monday, March 30, 2020

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
JOB NUMBER - 020713
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - LONG LAKE STR. & APPRS. (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LINCOLN COUNTY
SAMPLED BY - THORNTON/MCKINNEY
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 40
DISTRICT NO. - 02

DATE SAMPLED - 03/09/20
DATE RECEIVED - 03/11/20
DATE TESTED - 03/30/20

LAB NUMBER	20200641	20200642	20200643
SAMPLE ID	S162	S163	S164
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	109+00	109+00	116+00
LOCATION	06RT	21RT	06LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 7 19.60	34 07 19.60	34 7 26.10
LONGITUDE DEG-MIN-SEC	91 41 31.50	91 41 31.50	91 41 29.90
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.			
NO. 4	100	100	100
NO. 10			99
NO. 40			99
NO. 80			99
NO. 200	94	99	78
LIQUID LIMIT	26	27	ND
PLASTICITY INDEX	05	05	NP
AASHTO SOIL	A-4(4)	A-4(4)	A-4(0)
UNIFIED SOIL			
% MOISTURE CONTENT	26.2	27.6	24.3
CHIP SEAL (IN)	1.0	---	1.0
ACHM SC (IN)	1.0	---	0.5
AGG BASE CRS CL-5 (IN)	5.0	---	7.0

REMARKS -

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.	- 2
JOB NUMBER	- 020713	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	- 40
SUPPLIER NAME	- STATE	DISTRICT NO.	- 02
NAME OF PROJECT	- LONG LAKE STR. & APPRS. (S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- LINCOLN COUNTY	DATE SAMPLED	- 03/09/20
SAMPLED BY	- THORNTON/MCKINNEY	DATE RECEIVED	- 03/11/20
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/30/20

MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	- 20200644
SAMPLE ID	- S165
TEST STATUS	- INFORMATION ONLY
STATION	- 116+00
LOCATION	- 18LT
DEPTH IN FEET	- 0-5
MAT'L COLOR	- BROWN
MAT'L TYPE	-
LATITUDE DEG-MIN-SEC	- 34 7 26.10
LONGITUDE DEG-MIN-SEC	- 91 41 30.00
% PASSING 2 IN.	-
1 1/2 IN.	-
3/4 IN.	-
3/8 IN.	-
NO. 4	- 100
NO. 10	- 99
NO. 40	- 99
NO. 80	- 99
NO. 200	- 77
LIQUID LIMIT	- ND
PLASTICITY INDEX	- NP
AASHTO SOIL	- A-4(0)
UNIFIED SOIL	-
% MOISTURE CONTENT	- 24.1

REMARKS -

AASHTO TESTS : T24 T88 T89 T90 T265

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

DATE - 03/30/20
JOB NUMBER - 020713
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - LONG LAKE STR. & APPRS. (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LINCOLN COUNTY
SAMPLED BY - THORNTON/MCKINNEY
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

SEQUENCE NO. - 1
MATERIAL CODE - RV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 40
DISTRICT NO. - 02

DATE SAMPLED - 03/09/20
DATE RECEIVED - 03/11/20
DATE TESTED - 03/30/20

LAB NUMBER	20200645	20200646
SAMPLE ID	RV166	RV167
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY
STATION	109+00	116+00
LOCATION	21RT	18LT
DEPTH IN FEET	0-5	0-5
MAT'L COLOR	BROWN	BROWN
MAT'L TYPE		
LATITUDE DEG-MIN-SEC	34 7 19.60	34 07 26.10
LONGITUDE DEG-MIN-SEC	91 41 31.50	91 41 30.00
% PASSING 2 IN.		
1 1/2 IN.		
3/4 IN.		100
3/8 IN.	100	97
NO. 4	99	94
NO. 10	99	93
NO. 40	99	92
NO. 80	98	91
NO. 200	72	89
LIQUID LIMIT	ND	ND
PLASTICITY INDEX	NP	NP
AASHTO SOIL	A-4(0)	A-4(0)
UNIFIED SOIL		
% MOISTURE CONTENT		

REMARKS -

AASHTO TESTS : T24 T88 T89 T90 T265