

ARKANSAS DEPARTMENT OF TRANSPORTATION



**SUBSURFACE INVESTIGATION**

STATE JOB NO. 090438

FEDERAL AID PROJECT NO. STPC-9191(8)

HWY. 65/HWY. 43/ROCK SPRINGS RD. SIGNAL UPGRADE & INTERS. IMPVTS.  
(HARRISON) (S)

STATE HIGHWAY 43 & 65 SECTION 3 & 1

IN BOONE COUNTY

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

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

April 4, 2016

**TO:** Mr. Trinity Smith, Engineer of Roadway Design

**SUBJECT:** Job No. 090438  
Hwy. 65/Hwy. 43/Rock Springs Rd. Signal Upgrade & Inter. Impvts.  
Route 65 Section 1  
Boone County

Transmitted herewith are the requested Soil Survey test results for the above referenced job. The project consists of making intersection improvements and signal upgrades at the intersection of Highway 65, Highway 43 and Rock Springs Road. Samples were obtained in the existing travel lanes, and ditch line. An R-Value sample was not collected due to utility conflicts, an estimated value is given.

Based on laboratory results of samples obtained, the subgrade soils primarily consist of low plasticity sandy clay. Cross-sections are not currently available, but it is assumed that the construction grade line will closely match that of the existing roadway. 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 303+00, 21 feet left of centerline at a depth of 3.5 feet.

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 Harrison.
2. Asphalt Concrete Hot Mix

<u>Type</u>	<u>Asphalt Cement %</u>	<u>Mineral Aggregate %</u>
Surface Course	5.3	94.7
Binder Course	4.2	95.8
Base Course	4.0	96.0

  
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 - 03/31/2016  
JOB NUMBER - 090438

SEQUENCE NO. - 1  
MATERIAL CODE - SSRV  
SPEC. YEAR - 2014  
SUPPLIER ID. - 1  
COUNTY/STATE - 05  
DISTRICT NO. - 09

JOB NAME - HWY.65/HWY.43 ROCK SPRINGS RD.SIGNAL

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

BEGIN JOB-END JOB

10

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REMARKS - ESTIMATED VALUE

AASHTO TESTS : T190

JOB: 090438

Arkansas State Highway Transportation Department

JOB NAME: HWY.65/HWY.43 ROCK SPRINGS RD.SIGNAL

Materials Division

COUNTY NO. 5 DATE TESTED 3/24/2016

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					
106+00	24' RT	0-5	BROWN	97	90	76	70	62	21	10	A-4(4)	S129	20.3
113+00	24' LT	0-5	BROWN	90	80	61	54	48	22	07	A-4(0)	S130	14.2
204+00	06' RT	0-5	BROWN	94	80	69	62	55	38	23	A-6(9)	S131	19.1
204+00	33' RT	0-5	BROWN	87	77	66	60	53	27	09	A-4(0)	S132	19.3
303+00	06' LT	0-5	BROWN	87	72	57	51	45	23	05	A-4(0)	S133	14.5
303+00	21' LT	0-3.5Z	BROWN	86	75	61	55	48	25	06	A-4(0)	S134	14.9

comments: W=MULTIPLE LAYERS, Z=AUGER REFUSAL

Monday, April 04, 2016

JOB: 090438

JOB NAME: HWY 65/HWY 43 ROCK SPRINGS RD.SIGNAL

Arkansas State Highway Transportation Department

Materials Division

Michael Benson, Materials Engineer

DATE TESTED

3/24/2016

COUNTY NO. 5

STA.# LOC.

PAVEMENT SOUNDINGS

106+00	24' RT	ACHMSC 7.0W	ACHMBC 10.0	AGG.BASE CRS CL-7 10.0
113+00	24' LT	ACHMSC 2.5	ACHMBC 4.0W	AGG.BASE CRS CL-7 10.0
204+00	33' RT	ACHMSC --	ACHMBC --	
204+00	06' RT	ACHMSC 2.0	ACHMBC 8.0	AGG.BASE CRS CL-7 8.0
303+00	21' LT	ACHMSC --	ACHMBC --	
303+00	06' LT	ACHMSC 2.0W	ACHMBC 1.0	

Comments: W=MULTIPLE LAYERS, Z=AUGER REFUSAL

Monday, April 04, 2016

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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	- 03/24/16	SEQUENCE NO.	- 1
JOB NUMBER	- 090438	MATERIAL CODE	- SSPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 05
SUPPLIER NAME	- STATE	DISTRICT NO.	- 09
NAME OF PROJECT - HWY.65/HWY.43 ROCK SPRINGS RD.SIGNAL			
PROJECT ENGINEER - NOT APPLICABLE			
PIT/QUARRY	- ARKANSAS	DATE SAMPLED	- 03/14/16
LOCATION	- BOONE COUNTY	DATE RECEIVED	- 03/17/16
SAMPLED BY	- THORNTON	DATE TESTED	- 03/24/16
SAMPLE FROM	- TEST HOLE		
MATERIAL DESC. - SOIL SURVEY PAVEMENT SOUNDINGS			

LAB NUMBER	- 20160835	- 20160836	- 20160837
SAMPLE ID	- S129	- S130	- S131
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 106+00	- 113+00	- 204+00
LOCATION	- 24' RT	- 24' LT	- 06' RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 15 18.00	- 36 15 23.20	- 36 15 20.50
LONGITUDE DEG-MIN-SEC	- 93 07 21.50	- 93 07 27.10	- 93 07 28.10
% PASSING	2 IN. -	-	-
	1 1/2 IN. -	-	-
	3/4 IN. -	100	100
	3/8 IN. - 100	99	97
	NO. 4 - 97	90	94
	NO. 10 - 90	80	80
	NO. 40 - 76	61	69
	NO. 80 - 70	54	62
	NO. 200 - 62	48	55
LIQUID LIMIT	- 21	- 22	- 38
PLASTICITY INDEX	- 10	- 07	- 23
AASHTO SOIL	- A-4 (4)	- A-4 (0)	- A-6 (9)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 20.3	- 14.2	- 19.1
ACHMSC (IN)	- 7.0W	- 2.5	- 2.0
ACHMBC (IN)	- 10.0	- 4.0W	- 8.0
AGG.BASE CRS CL-7 (IN)	- 10.0	- 10.0	- 8.0
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, Z=AUGER REFUSAL

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

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE	- 03/24/16	SEQUENCE NO.	- 2
JOB NUMBER	- 090438	MATERIAL CODE	- SSPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 05
SUPPLIER NAME	- STATE	DISTRICT NO.	- 09
NAME OF PROJECT	- HWY.65/HWY.43 ROCK SPRINGS RD.SIGNAL		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- BOONE COUNTY	DATE SAMPLED	- 03/14/16
SAMPLED BY	- THORNTON	DATE RECEIVED	- 03/17/16
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 03/24/16
MATERIAL DESC.	- SOIL SURVEY PAVEMENT SOUNDINGS		

LAB NUMBER	- 20160838	- 20160839	- 20160840
SAMPLE ID	- S132	- S133	- S134
TEST STATUS	- INFORMATION ONLY	- INFORMATION ONLY	- INFORMATION ONLY
STATION	- 204+00	- 303+00	- 303+00
LOCATION	- 33' RT	- 06' LT	- 21' LT
DEPTH IN FEET	- 0-5	- 0-5	- 0-3.5Z
MAT'L COLOR	- BROWN	- BROWN	- BROWN
MAT'L TYPE	-	-	-
LATITUDE DEG-MIN-SEC	- 36 15 20.20	- 36 15 20.60	- 36 15 20.80
LONGITUDE DEG-MIN-SEC	- 93 07 28.10	- 93 07 20.60	- 93 07 20.70
% PASSING			
2 IN.	-	-	-
1 1/2 IN.	-	-	-
3/4 IN.	- 100	- 100	- 100
3/8 IN.	- 96	- 95	- 97
NO. 4	- 87	- 87	- 86
NO. 10	- 77	- 72	- 75
NO. 40	- 66	- 57	- 61
NO. 80	- 60	- 51	- 55
NO. 200	- 53	- 45	- 48
LIQUID LIMIT	- 27	- 23	- 25
PLASTICITY INDEX	- 09	- 05	- 06
AASHTO SOIL	- A-4 (0)	- A-4 (0)	- A-4 (0)
UNIFIED SOIL	-	-	-
% MOISTURE CONTENT	- 19.3	- 14.5	- 14.9
ACHMSC (IN)	- --	- 2.0W	- --
ACHMBC (IN)	- --	- 1.0	- --
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REMARKS - W=MULTIPLE LAYERS, Z=AUGER REFUSAL