### ARKANSAS DEPARTMENT OF TRANSPORTATION



### SUBSURFACE INVESTIGATION

IN		CALHOUN		COUNTY
STATE HIGHWAY	167	SECTION	4	
	HWY. 79 –	SOUTH (WIDENING)	(S)	
FEDERAL AID PROJEC	CT NO. AC	CHNPP-0007(25)		
STATE JOB NO.		CA0704		

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

May 8, 2017

TO:

Mr. Rick Ellis, Bridge Engineer

SUBJECT:

Job No. CA0704

Hwy. 79 - South (Widening) (S)

Route 167, Section 4 Calhoun County

Transmitted herewith are the boring logs with corrected stations and locations for the above referenced project. Please replace these items with those transmitted in the IOM dated August 1, 2016.

Michael C. Benson Materials Engineer

MCB:rpt:mlg

CC:

State Construction Engineer - Master File Copy

District 7 Engineer

G.C. File

# LEGEND

#### SOIL TYPES (SHOWN IN SYMBOL COLUMN) SAMPLER TYPES (PREDOMINANT TYPE SHOWN HEAVY) (SHOWN IN SAMPLE COLUMN) SHELBY TUBE **GRAVEL** SAND SHIT ORGANIC MATTER **UNDISTURBED** DISTURBED SAMPLE SAMPLE RECOVERY ROCK TYPES RECOVERY RECOVERY (SHOWN IN SYMBOL COLUMN) ROCK CORING SPLIT SPOON SANDSTONE SHALE LIMESTONE ALTERNATING or LAYERS of SHALE and SILTSTONE DOLOMITE SAMPLE % RECOVERY SANDSTONE RECOVERY RECOVERY INDICATED ON LOGS

GRANI	JLAR SOIL		CLAY	CL	AY-SHALE		SHALE
N' Value	Density	N' Value	Consistency	N' Value	Consistency	'N' Value	Consistency
0-4 5-10 11-30 31-50 Over 50	Very Loose Loose Medium Dense Dense Very Dense	0-1 2-4 5-8 9-15 16-30 31-60 Over 60	Very Soft Soft Medium Stiff Stiff Very Stiff Hard Very Hard	0-1 2-4 5-8 9-15 16-30 31-60 Over 60	Very Soft Soft Medium Stiff Stiff Very Stiff Hard Very Hard	More than Penetrati	on vs: Medium Hard 2'

TERMS DESCRIBING CONSISTENCY OR CONDITION

- Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
- 2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
- Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value  $(N_f)$  can be obtained by

adding the bottom two numbers for example:  $\frac{6}{8-9} \Rightarrow 8+9=17 blows/ft$ . The "N" Value corrected to 60% efficiency (N<sub>60</sub>) can be obtained by multiplying N<sub>f</sub> by the hammer correction factor published on the boring log.

	HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG NO		SB ₹ 3					
JOB NO. JOB NAME: STATION:	CA0704 Calhoun County Hwy. 79 - South (Widening) (S) Route 167 Section 4 756+92		DATE:	of Dr	ILLING Stem A	Ma	r - R	, 2016 otary 1E 75	Wa	sh	
LOCATION: LOGGED BY:	19' Right of Centerline of SB Alignment Coty Campbell		НАММ	ER CO	ORREC'	TION	FACT	ror:		1.23	
	N DEPTH: 101.5	7									
E	DESCRIPTION OF MATERIAL  S SURFACE ELEVATION: 370.6	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.	% T C R	% R Q D
5	Moist, Soft, Brown Silty Clay							1 2-2			
10	Moist, Stiff, Brown Sandy Clay							3 5-4			
20	Moist, Loose, Brown Clayey Sand with Some Organic Matter with Trace Gravel							4-6			
	Moist, Medium Dense, Brown Silty Sand							8-1			
30	Moist, Very Stiff, Reddish Brown Clay							8-1			
35	Moist, Medium Stiff, Reddish Brown Clay							1-7			
	* Cemented layer encountered at a depth of 77.5' to	o 78.4' b	elow g	rour	nd lev	el.					

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			SB F 3					
JOB NO			CA0704 Calhoun County		DATE:				y 10	, 201	5		
JOB NA			Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		, 10	, 201			
			Route 167 Section 4				Stem A		r - R	otary	Wa	sh	
STATI	ON.		756+92		EQUIP			iugo		ME 75		511	
LOCAT			19' Right of Centerline of SB Alignment		EQUIT	VIEIVI	•		CI	IL /	,0		
			Coty Campbell		TTANANA	ED C	ADDEC'	TION	EACT	ron.		1.23	
			DEPTH: 101.5		HAMM	ER C	JKKEC	HON	FAC.	IOK:		1.23	
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FT.	L		SURFACE ELEVATION: 370.6		PLASTIC LIMIT	% MOIST	LIQUID	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.		
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40	//												
	11	$\bigvee$		1						3			
$\vdash \dashv$	11	$\triangle$								6-1	2		
<b>├</b> ─ ┤	11		Mojet Very Stiff Derk Brown Lignitia Clay										
<b>├</b>	11		Moist, Very Stiff, Dark Brown Lignitic Clay										
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			Moist, Medium Dense, Brown Clayey Sand									1	
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∟⊥	//		Moist, Hard, Brown Clay with Some Lignite										
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	RKS	. *	Cemented layer encountered at a depth of 77.5' to	78 4' h		rour	nd lev	ام					-
LIVIA		•	Somethod layer encountered at a depth of 77.5 to	, , O.+ D	ciow y	oul	iu i <del>c</del> v	GI					

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG N		SB F 3					
JOB N			CA0704 Calhoun County		DATE:		U)		y 10	, 201	6		
JOB N.	AME:		Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		,:	,			
			Route 167 Section 4		Holl	ow S	Stem A	Auge	r - R	otary	v Wa	sh	
STATI			756+92		EQUIPN	MENT	:		CN	ΛΕ 7.	50		
LOCA'			19' Right of Centerline of SB Alignment of SB Alignment		****	ED G	DDD ELG	7101	T 1 67	no n		1 22	
			I DEPTH: 101.5		HAMM	ER CC	DRREC	HON	FACI	OR:		1.23	
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E	S Y	A											
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''	0	E			PLASTIC LIMIT	% MOIST.		DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.	R	Ď
FT.	Ļ		SURFACE ELEVATION: 370.6		PLAST LIMIT	% N	LIQUID	DR	LBS	NO.	PER		
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80			Moist, Dense, Brown Silty Sand *							1	n l		
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			Moist, Very Hard, Dark Brown Lignitic Clay										
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ᆫᆚ			Moist, Dense, Brown Silty Sand										
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		X	Moist, Very Dense, Brown Silty Sand							12 48-			
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105	DVC	. *	Computed layer or countered at a death of 77 Fig.	70 41 6		ne :	al le						
I \LIVIA	11 11 13		Cemented layer encountered at a depth of 77.5' to	70.4 D	-iow g	our	iu iev	CI					

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG NO		SB 3					
JOB N			CA0704 Calhoun County		DATE:				y 17	, 201	6		
	IAME:	1	Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING			,			
			Route 167 Section 4				Stem A		r - R	otary	. Wa	sh	
STATI	ION:		759+43		EQUIP					ΛΕ 7:			
LOCA	TION:	2	23' Right of Centerline of SB Alignment										- 1
LOGG	ED BY	7: C	oty Campbell		НАММ	ER CO	ORREC'	TION	FAC	ΓOR:		1.23	
COM	PLET:	ION	DEPTH: 101.5										
D E P T H	S → M B O .	シャマト コ	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.	% T C R	% R Q D
FT.	L	S	SURFACE ELEVATION: 371.7		LIN	% \		DR	LBS	NO NO	PEF		
5		X	Moist, Medium Stiff, Light Gray Sandy Clay							3-	3		
		X	Moist, Stiff, Light Gray Clay							4-	6		
		X	Moist, Medium Stiff, Light Gray Silty Clay	-						3-	4		
   25		X	Moist, Medium Dense, Light Gray Sand*							6-	10		
30		X	Moist, Very Stiff, Reddish Brown Clay							10-	- ·		
35		X	Moist, Hard, Light Gray Clay							15-			
	ARKS	: *	Water loss at 24.2 feet										

			WY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	G NO 2		3 3				- 1
			CA0704 Calhoun County		DATE:		OI		17,	2016		
JOB N			Hwy. 79 - South (Widening) (S)		TYPE O	F DRI	ILLING		,			
JOB IV.	AIVIL.		Route 167 Section 4				stem A		- Ro	otary <sup>V</sup>	Wash	
STATI	$ON_{i}$		759+43		EQUIPN			_		Œ <b>7</b> 50		- 1
LOCA			23' Right of Centerline of SB Alignment									
			oty Campbell		HAMM	ER CO	ORREC'	ΓΙΟΝ Ι	ACT	OR:	1.2	:3
			DEPTH: 101.5									
D E P	S Y M	SAMP	DESCRIPTION OF MATERIAL	SOIL				SHT	U.FT.	OWS	% T	R
H	B O L	L E	OUDEAGE ELEVATION, 274.7	GROUF	PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.	Q D
FT.	WITE	3	SURFACE ELEVATION: 371.7	-		%	기기		-	10		+
40		X	Moist, Very Stiff, Brown Silty Clay							12-1	4	
   45			Moist, Very Stiff, Light Gray Sandy Clay							10 12-1	6	
		X	Moist, Dense, Light Gray Clayey Sand							11 18-2		
50 		X	Moist, Very Dense, Light Gray Sand							18 30-3	34	
60		X	Moist, Very Dense, Light Gray Clayey Sand							21-3	30	
		X	Moist, Hard, Light Gray Lignitic Clay							25-3		
65 — - — - 70		X	Moist, Hard, Light Gray Sandy Clay							12 19-:		
	IARK	S:	Water loss at 24.2 feet									

			HWY. & TRANS. DEPARTMENT		BORIN								
JOB N		_	DIVISION - GEOTECHNICAL SEC.  CA0704 Calhoun County		PAGE	3	O	F 3	. 17	201			_
JOB N			CA0704          Calhoun County Hwy. 79 - South (Widening) (S)		DATE:	E DD			y 17,	, 201	O		
JOB N	AIVIE:		Route 167 Section 4	- 1	TYPE C				. п	otow	. W.	ah	
STATI	ONI		759+43				Stem A	Augei		otary 1E 7:		SII	
LOCA			23' Right of Centerline of SB Alignment		EQUIPN	MENI	:		CIV	1E /.	30		
			coty Campbell		HAMM	ED C	DDEC'	TION	EACT	COD.		1.23	
			DEPTH: 101.5		HAMM	ER CC	JKKEC	TION	FACI	OK:		1.23	-
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	Ĺ	E			PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN		
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L -			Moist, Very Dense, Light Gray Sand										
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			Moist, Very Dense, Light Brown Sand with Some Lignite										
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			Moist, Hard, Dark Brown Sandy Clay with										
	11		Lignite										
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			Moist, Dense, Light Gray Sand with Some Clay										
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		$\rightarrow$	Boring Terminated							- 00-		$\dashv$	
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	ARKS	: *	Water loss at 24.2 feet										

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG N		NB F 3					
JOB N			CA0704 Calhoun County		DATE:				y 11	, 201	6		
JOB N	AME:		Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		-	,			
			Route 167 Section 4		Holl	ow S	Stem A	Auge	r - D	)iamo	ond (	Core	
STATI	ION:	•	757+09		EQUIP					<b>ME</b> 7			
LOCA	TION:		13' Right of Centerline of NB Alignment										
LOGG	ED BY	7: <b>C</b>	coty Campbell		HAMM	ER C	ORREC	TION	FAC	TOR:		1.23	
COM	PLET	ION	J DEPTH: 101.5										
D E P T H	S Y M B O L	SAMPLE	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.	% T C R	% R Q D
, FT <sub>s</sub>		S	SURFACE ELEVATION: 356.5		P.L.	1 %	EE	DR	LB	0X	PEI		
5		X	Moist, Stiff, Light Brown Sandy Clay							7-	7		
10 			Moist, Medium Dense, Light Brown Sand							11-			
		$\times$	Moist, Soft, Light Gray Silty Clay							1-	1		
   		X	Moist, Very Stiff, Light Brown Clay							12-	13		
		X	Moist, Very Stiff, Light Gray Clay with Some Lignite							10-			
		×	Moist, Very Hard, Light Gray Sandy Clay with Some Lignite							50- (7	60		
REMA	ARKS	:											

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG N		NB ₹ 3					
JOB N			CA0704 Calhoun County		DATE:				y 11	, 201	6		$\neg$
JOB N	AME:	ı	Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING	-		•			- 1
			Route 167 Section 4		Holl	ow S	Stem A	luge	r - D	iamo	nd C	ore	
STATI	ION:	-	757+09		EQUIPN					иE 75			- 1
LOCA	TION:		13' Right of Centerline of NB Alignment										- 1
LOGG	ED BY		oty Campbell		HAMM	ER CO	ORREC	TION	FAC	ΓOR:	]	.23	
COM	PLET.	ION	DEPTH: 101.5										
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			Moist, Very Dense, Light Gray Silty Sand										ı
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			Moist, Hard, Dark Brown Lignitic Clay										- 1
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			Moist, Dense, Dark Brown Clayey Sand										
			Moist, Delise, Dark brown Clayey Sand										
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			Moist, Dense, Light Gray Sand										
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	KKI		Moist, Dense, Light Gray Silty Clay with Some										
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REM	ARKS							!	_		!		
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ARKANSAS HWY. & TRANS. DEPARTMENT MATERIALS DIVISION - GEOTECHNICAL SEC.  BORING NO. 1-NB PAGE 3 OF 3													
JOB N			CA0704 Calhoun County		DATE:				y 11.	201	6		
JOB N			Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		,:				
			Route 167 Section 4				Stem A		r - D	iamo	nd C	ore	
STATI	ON:		757+09		EQUIPN			~		1E 75			
LOCA	TION:		13' Right of Centerline of NB Alignment										
LOGG	ED BY	: C	oty Campbell		HAMM	ER CO	ORREC'	ΓΙΟΝ	FACI	OR:		1.23	
COM	PLET	ION	DEPTH: 101.5										
D E P	S Y M	SAM	DESCRIPTION OF MATERIAL	SOIL				HT	U.FT.	SWO		% T	% R
H FT.	B O L	P L E S	SURFACE ELEVATION: 356.5	GROUP	PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.	C R	Q D
	иu	7	GON AGE ELEVATION: 000.0		1 = =	•`		Ë	<u> </u>	1	_	$\neg$	
— — — — — — 75		X	Moist, Hard, Light Gray Silty Clay with Some Lignite							25-	30		
		X	Moist, Hard, Dark Brown Lignitic Clay							18-	25		
		X	Moist, Hard, Light Gray Silty Clay with Some Lignite							20-			
85 	//	*	SANDSTONE - Unweathered, Poorly Cemented, Light Gray							6 (2	0 ")		
90		X	Moist, Very Dense, Light Gray Sand							2 35-			
95		X								33-			
100	עוע			-						2	3		
		X	Moist, Hard, Light Gray Silty Clay							26-			
	-		Boring Terminated										
105	1												
	ARKS	<u></u>			-		-	-				-	
'''		8											

		HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG No		NB ₹ 3					
JOB NO.		CA0704 Calhoun County		DATE:				ıy 4,	2016	5		
JOB NAME:	1	Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING						
1	- 1	Route 167 Section 4		Holl	ow S	Stem A	luge	r - R	otary	Wa	sh	- 1
STATION:	7	757+58		EQUIP	MENT	:		CN	ΛΕ 7:	50		
LOCATION:	:	2' Left of Centerline of NB Alignment										- 1
LOGGED BY	: C	oty Campbell		HAMM	ER CO	ORREC'	ΓΙΟΝ	FAC	ror:		1.23	
COMPLETI	ON	DEPTH: 101.5										
D S Y M B O	P = P = P	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	<b>Q</b> ,	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.	% T C R	% R Q D
FT.	E S	OUDEACE ELEVATION. 257.5		LAS	MC	LIQUID	RY	BS F	0.0	ER 6		
FI.	<u>&gt;</u>	SURFACE ELEVATION: 357.5			%				Ž	PI		_
5		Dry, Stiff, Light Brown Silty Clay							5-4-7	10		¥
10	$\times$	Moist, Medium Dense, Light Brown Clayey Sand							12-	14		
20	X	Moist, Soft, Reddish Brown Clay							2-2-	2		
25	X	Moist, Stiff, Brown Clay				8			4-			
30	X	Moist, Very Stiff, Dark Brown Lignitic Clay							7-1			
	× :								30-	10.50		

ARK	ANSA	AS F	HWY. & TRANS. DEPARTMENT		BORIN	IG N	o. <b>2-N</b>	NB					
MAT	ERIA		DIVISION - GEOTECHNICAL SEC.		PAGE	2	OI	₹ 3					
JOB N			CA0704 Calhoun County		DATE:				ıy 4,	2016	ó		
JOB N	JAME:		Hwy. 79 - South (Widening) (S)		TYPE C							_	
			Route 167 Section 4				Stem A	Auge				sh	- 1
STAT			757+58		EQUIPN	MENT	`:		CN	ИЕ 75	50		- 1
	TION:		2' Left of Centerline of NB Alignment										ı
			Coty Campbell		HAMM	ER CC	ORREC'	ΓΙΟΝ	FAC.	ΓOR:		.23	$\dashv$
	T	_	DEPTH: 101.5		T		r				_		
D E	s	S											- 1
P	Y	м	DESCRIPTION OF MATERIAL					Н	E.	WS		%	%
T	M B	Р	DESCRIPTION OF MATERIAL	SOIL GROUP		2		IGH	CO	[0]		TC	R Q
H	lö	Ļ		GROOT	L	ISI		WE	ER	)F.E	Ϋ́	R	Ď
FT:	L	E S	SURFACE ELEVATION: 357.5		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.		
ļ · · ·			SURFACE ELEVATION: 337.3			6	1 1	Д	1	10	_	$\dashv$	$\dashv$
		X								18-		- 1	
			Moist, Dense to Very Dense, Light Brown Silty										
	1		Sand										- 1
<u> </u>	1												- 1
40	1	$\overline{}$								19	9		- 1
	1									29-	60		- 1
	1									(9	"		
	1												- 1
15	-												- 1
45	//									8		- 1	- 1
<b>—</b> :-	//	$\triangle$								15-	18		- 1
	//		Moist, Hard, Brown Sandy Clay										- 1
	//		Wolst, Flara, Brown Barray Glay										- 1
50	//,												- 1
30	11	abla		8						11		- 1	- 1
-	1/	$\triangle$								15-	21		- 1
_	11		Moist, Hard, Dark Brown Lignitic Clay								- 1		- 1
50	1/		Most, Hard, Bark Brown Eightic Glay										- 1
55	1												
55	11			G						9			
	//	$\triangle$								14-:	21		
	//		Moist, Hard, Brown Sandy Clay with Trace										
-	//		Lignite										
60	//,		Ÿ.										
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= :=		$\triangle$								18-2	24		
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 65													
00		$\overline{}$	Moist, Dense, Brown Silty Sand							1			
		$\triangle$								16-3	30		
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70													
70 REM	ARKS												$\dashv$
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			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			NB F 3					
JOB N			CA0704 Calhoun County		DATE:		- 0,		ıy 4.	2016	5		
JOB N			Hwy. 79 - South (Widening) (S)		ТҮРЕ С	F DR	ILLING		,				
			Route 167 Section 4		Holl	ow S	Stem A	Auge:		_		sh	
STATI			757+58		EQUIP	MENT	:		CN	ΛΕ 7:	50		
LOCA			2' Left of Centerline of NB Alignment									1 22	
$\overline{}$			oty Campbell J DEPTH: 101.5		HAMM	ER CO	DRREC	HON	FAC	OR:		1.23	
D		s	DEF 111. 101.5	1	T		1						
E	S	A							U+S				
Р	Y M	М	DESCRIPTION OF MATERIAL	SOIL				E	J.FT	SW(		% T	% R
T H	В.	P L		GROUP	l <sub>o</sub>	H.		EIG	RCI	BLC	z.	C	Q
n	0	E			STI	% MOIST.		DRY WEIGHT	LBS PER CU.FT,	NO. OF BLOWS	PER 6-IN.	R	D
FT.	L	S	SURFACE ELEVATION: 357.5		PLASTIC LIMIT	% N	LIQUID	DR	LBS	NON	PER		
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		$\leftarrow$								18-	23		
			Moist, Hard, Brown Sandy Clay										
	//												
75	//			_				-		2	n		
	11	X								25-		Н	
	1		Maint Hand Dank Brauna Limitia Clau										
			Moist, Hard, Dark Brown Lignitic Clay										
<u> </u>													
80	1			-						10	0		
	1	$\triangle$								26-	30		
	11		Moist, Hard, Dark Brown Clay with Lignite										
-27	11		moles, riard, Dain Drewn etd, viiin Lightie										
85													
	11	$\nabla$								10	-		
		$\hookrightarrow$								17-	20		
		į.	Moist, Hard, Brown Sandy Clay with Some Lignite										
			Ligitio										
90	//			_							_		
		X								31-			
			<i>*</i>										
95		$\overline{}$	Moist, Very Dense, Brown Silty Sand							1	7		
		X								30-			
		П	<b>▶</b>										
100													
100	//	$\bigvee$	Majet Hard Brown Sandy Clay	1						1;			
));	//	$\triangle$	Moist, Hard, Brown Sandy Clay							19-	30		
177			Boring Terminated										
105													
REMA	ARKS	:											

	HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			NB F3					
JOB NO.	CA0704 Calhoun County		DATE:		oril 28		l 6 ar	ıd M	ay 3	, 201	6
JOB NAME:	Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING	i:					
	Route 167 Section 4		Holl	ow S	Stem A	Auge	r - R	otary	' Wa	sh	
STATION:	757+60		EQUIPN	MENT	:		CN	<b>1E 7</b> :	50		
LOCATION:	30' Right of Centerline of NB Alignment										
	Coty Campbell		HAMM	ER CO	)RREC	TION	FACT	OR:		1.23	
	N DEPTH: 101.5	T	,			_	- (1	_		_	_
D S S A P M P B L S FT.	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.	% T C R	% R Q D
HI MILINI	SURFACE ELEVATION: 334.6		교고	%	77			Z		$\dashv$	
5	Moist, Very Stiff, Light Brown Silty Clay							10-	12		×
10	Moist, Medium Dense, Light Brown Clayey Sand							11-			
20	Moist, Stiff, Brown Clay							5-	5		
25	Moist, Very Stiff, Light Brown Clay							6-	13		
	Moist, Very Dense, Light Gray Sand with Silt							21-	45		
35	Wet, Very Dense, Light Gray Sand							60 (4	<u> </u>		
REMARKS:											

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			NB ⊩ 3					
JOB N			CA0704 Calhoun County		DATE:	_	pril 28	_	16 aı	nd M	ay 3.	201	6
JOB N.	AME:	1	Hwy. 79 - South (Widening) (S)		TYPE C								
			Route 167 Section 4		Holl	ow S	Stem A	Auge				sh	
STATI			757+60		EQUIP	MENT	`;		CN	<b>ME</b> 7:	50		- 1
LOCA'			30' Right of Centerline of NB Alignment										
			oty Campbell		HAMM	ER C	ORREC'	TION	FAC:	TOR:		1.23	_
	PLET.		DEPTH: 101.5	1	_	_			_		_		-
D E	s	S											
P	Y	м	DESCRIPTION OF MATERIAL					l <sub>H</sub>	FT	WS		%	%
T	M B	Р	DESCRIPTION OF MATERIAL	SOIL		280		IGH	CO	100		T C	R Q
н	o	녤			T I	LSIC		WE	PER	F.	NI-9	R	Ď
FT.	L	E S	SURFACE ELEVATION: 354.8		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.		
	nи		SON ACE ELEVATION: 354.5	1		0		<del>                                     </del>		2 9		$\dashv$	-
	KK)	$\triangle$								12-			
	KKI												
	M												
40													
10	WW	abla	Moist, Very Stiff to Hard, Gray Silty Clay							7			
	ИИ	$\triangle$								12-	16		
	$\mathcal{U}$												
	KK)												
45	M												
		$\bigvee$		1						9			
		$\langle - \rangle$								15-	18		
50			Majet Hard Cray Clay with Sama Ligaita										
		$\vee$	Moist, Hard, Gray Clay with Some Lignite							1			
		$\hookrightarrow$								14-	20		
55	//		*							,			
	//	X								1 16-			
L 4	//									'			
$\vdash \dashv$	//		Moist, Hard, Gray Sandy Clay										
	//												
60	//									<u>ا</u>			
		X								17-			
			Moist, Very Dense, Gray Silty Sand										
65				-						   g			
		X								18-			
			Majet Dance Cray Sand										
			Moist, Dense, Gray Sand										
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70 DEM/	A D V O	٢											_
REMA	HKKS	) <u>.</u>											

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			NB F 3					$\neg$
JOB N		_	CA0704 Calhoun County		DATE:		pril 28		16 aı	nd Ma	av 3	201	$\frac{1}{6}$
JOB N			Hwy. 79 - South (Widening) (S)		TYPE C					1,1	., c,		
			Route 167 Section 4				Stem A		r - R	otary	Wa	sh	
STATI	ION:	-	757+60		EQUIPN			Ü		иЕ 75			- 1
LOCA	TION:	;	30' Right of Centerline of NB Alignment										- 1
LOGG	ED BY	: C	oty Campbell		HAMM	ER CO	ORREC'	TION	FAC:	ΓOR:		1.23	
COM	PLET:	ION	DEPTH: 101.5										
D	s	S											
E	3   Y	Α							E.	S		%	%
P	М	М	DESCRIPTION OF MATERIAL	SOIL				HT	U.F	<u>%</u>		T	R R
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l '' l	0	Ē			STI	% MOIST.		DRY WEIGHT	PE	OF	I-9 :	R	D
FT,	L		SURFACE ELEVATION: 354.8		PLASTIC LIMIT	% №	LIQUID	DR	LBS PER CU.FT.	NO. OF BLOWS	PER 6-IN.		
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			Moist, Hard, Gray Clay										- 1
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75													- 1
,0	01	$\nabla$								18			
	1/	$\triangle$								25-	34		- 1
			Moist, Hard, Dark Brown Lignitic Clay										- 1
	1												- 1
80													- 1
- 60	17									16	3		- 1
	//	$\triangle$								22-	31		
			Moist, Hard, Gray Clay with Some Sand and										- 1
			Trace Lignite										- 1
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85										9			
		$\triangle$								17-:	25		- 1
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90			Moist, Dense to Very Dense, Gray Silty Sand							19	,		ı
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95										18	,		
		$\times$								22-			
	WW												
┡╌╶┤	WW		Moist, Hard, Gray Silty Clay with Trace Lignite										
100	WW									4.	,		
		$\times$	Moist, Hard, Gray Clay							20-3			
L -		$\overline{}$	Boring Terminated								-	$\dashv$	$\dashv$
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105													
REMA	ARKS	:											

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG No		NB F 3					
JOB N			CA0704 Calhoun County		DATE:				v 18	, 201	6		
JOB N			Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		,	, –			
			Route 167 Section 4				Stem A		r - R	otars	, Wa	sh	
STATI	ION:		759+13		EQUIP			rube		ΛΕ 7.			
LOCA			17' Right of Centerline of NB Alignment		LQUIT	VILLI VI	•		Or	1.0 7.			
			coty Campbell		HAMM	ER CO	<b>ን</b> ₽₽Εር"	TION	EAC	r∩p.		1.23	
			J DEPTH: 101.5		IIAWIWI	LIC CC	MALE	TION	rac.	OK.		1.23	
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D E	S	A											
P	Υ	м	D=00D D=101 0=111==111					ا ا	FT.	S. A.		%	%
ΙτΙ	M	P	DESCRIPTION OF MATERIAL	SOIL				E	Ö.	Q		Т	R
Ĥ	В	L		GROUP	12	ST.		Œ	(R)	BI BI	ż	C R	Q D
	0	E			TST	% MOIST.	51	DRY WEIGHT	S PE	0	PER 6-IN.	N	וע
FT.	-	S	SURFACE ELEVATION: 360.3		PLASTIC LIMIT	1%	LIQUID	DR	LBS PER CU.FT.	NO. OF BLOWS	PEF		
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$\vdash$ $\vdash$	//												
<u> </u>	//												
	//		Moist, Stiff, Light Brown Sandy Clay with Some							3			
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10		abla								8	3		
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<u> </u>			Moist, Medium Dense, Light Gray Sand										
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	KKI	$\bigvee$								1			
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	KK.		Moist, Soft, Gray Silty Clay										
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$\vdash$	//	X								8-			
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	//		Moist, Very Stiff, Light Brown Clay										
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-	//		Moist, Very Stiff, Brown Clay										
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	HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE	IG N		NB F 3					
JOB NO.	CA0704 Calhoun County		DATE:				y 18	, 201	6		
JOB NAME:	Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING			,			
	Route 167 Section 4		Holl	ow S	Stem A	Auge	r - R	otary	Wa	sh	
STATION:	759+13		EQUIP	MENT	<b>`</b> :		CN	ΛΕ 7:	50		
LOCATION:	17' Right of Centerline of NB Alignment										
	Coty Campbell		HAMM	ER C	ORREC'	TION	FAC	TOR:		1.23	_
T T	N DEPTH: 101.5	r		_		_			_	_	
D S S											
E Y A							ET.	s/		%	%
т   М   р		SOIL				HE I	CU.	ဂိ		T	R
H B L		GROUP	'၂ဥ	IST.	اما	VEI	ER (	F BI	Ä	C R	Q D
			PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.		
FT. S			되고	%	33	DR	LB	_	_		
	Moist, Medium Dense, Light Gray Clayey Sand	_						8			
								9-1	12		
40											
								12	-		
								16-	20		
	Moist, Dense, Light Gray Sand										
	χ.										
45											
		1						8			
	4							11-	19		
	Moist, Medium Dense, Light Gray Clayey Silt										
<b>— - 1 1 1 1 1 1 1 1 1 1</b>	The control of the co										
50											
	<b> </b>	i						12			
								12-	18		
	Moist, Very Stiff, Dark Brown Silty Clay with										
	Lignite									Н	
55								16	6	1	
<u></u> − <i>₩X</i> X								18-			
— <i>- 77</i> //	Moist, Very Hard, Light Gray Clayey Sand with										
— <i>-199</i>	Some Lignite										
— <i>-199</i>											
60 ////								16	,		
<b>⊢ -</b>								19-			
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<u> </u>	Moist, Dense, Light Gray Sand										
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	Moist, Dense, Light Gray Sand										
70											
REMARKS:											

JOB NO.   CA0704   Calhoun County   DATE   May 18, 2016   TYPE OF DRILLING:   Hollow Stem Auger - Rotary Wash EQUIPMENT.   CME 750   C				HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORIN PAGE			NB F 3					
Independent										y 18	, 201	6		
Route 167 Section 4   Follow Stem Auger - Rotary Wash (CME 750 + 13							F DR	ILLING		,	,			
STATION:   759+13						Holl	low S	Stem A	Auge	r - R	otary	. Wa	sh	
LOGGED BY: Coty Campbell   LAMMER CORRECTION FACTOR: 1.23	STATI	ION:		759+13					Ū		-			
D S S A P W M DESCRIPTION OF MATERIAL SOIL GROUP   11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LOCA	TION:		17' Right of Centerline of NB Alignment										
DESCRIPTION OF MATERIAL  BOL  FT.  SURFACE ELEVATION: 360.3  Moist, Dense, Light Gray Silty Clay with Some Lignite  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Boring Terminated	LOGG	EDBY	′: C	oty Campbell		HAMM	ER CO	ORREC	TION	FAC	TOR:		1.23	
E N A M DESCRIPTION OF MATERIAL SOIL GROUP LIBORATE STATES AND	COM	PLET	ION	DEPTH: 101.5										
E N A M DESCRIPTION OF MATERIAL SOIL GROUP LIBORATE STATES AND	D		s											
THE HOLE SURFACE ELEVATION: 360.3  Moist, Dense, Light Gray Sand  Moist, Very Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Boring Terminated										٥				
Moist, Dense, Light Gray Sand  Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Boring Terminated				DESCRIPTION OF MATERIAL	SOIL				표	J.F	§			
Moist, Dense, Light Gray Sand  Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Boring Terminated						. l o	2		EIG	SCI	BL(	z.	C	Q
Moist, Dense, Light Gray Sand  Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Boring Terminated	"	0				STI	OIS		\	PE	OF.	U-9	R	D
Moist, Dense, Light Gray Sand  Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand  Boring Terminated	FT.	L		SURFACE ELEVATION: 360.3		L'A IM	W %		)RY	BS	ò	ER		
Moist, Dense, Light Gray Sand  19 24-32  Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Boring Terminated		1.11111	$\overline{}$	0010			•`		_		_		$\neg$	
Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Boring Terminated			$\triangle$											
Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Boring Terminated				Mojet Dense Light Gray Sand										
Moist, Hard, Light Gray Silty Clay with Some Lignite  Moist, Hard, Light Gray Lignitic Clay  Moist, Hard, Light Gray Lignitic Clay  Moist, Very Dense, Light Gray Silty Clay  Moist, Dense, Light Gray Sand  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand with Some Lignite  Moist, Dense, Light Gray Sand  Boring Terminated	$\vdash$ $\exists$			Moist, Delise, Light Gray Sand										
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JOB N			Hwy. 79 - South (Widening) (S)		TYPE C	F DR	ILLING		•	,			
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			Route 167 Section 4				Stem A		r - R	otary	Wa	sh	- 1
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COM	PLET	ION	DEPTH: 101.5										
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### ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

August 1, 2016

TO:

Mr. Rick Ellis, Bridge Engineer

SUBJECT:

Job No. CA0704

Hwy. 79 - South (Widening) (S)

Route 167 Section 4
Calhoun County

Transmitted herewith are a brief summary of the geology and site conditions and the logs of the borings conducted for the structures and approaches of the above referenced project. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel to confirm the field identifications.

Preliminary design submitted by Bridge Division indicates that all bents will be founded on piling. The intermediate bent footings were inaccessible for drilling due to their proximity to the railroad tracks and steep slope. Subsurface conditions do not very widely across the site.

A slope stability analysis was performed for this project, utilizing 2:1 bridge end slopes. Seismic analysis included a coefficient of horizontal acceleration of 0.129 as provided by Bridge Design. This configuration provides for a satisfactory Factor of Safety for seismic and static conditions.

If you have any questions concerning these recommendations, please contact the Geotechnical Section.

Michael C. Benson Materials Engineer

MCB:rpt:mlg

State Construction Engineer - Master File Copy

District 7 Engineer

G.C. File

### GEOLOGY AND SITE CONDITIONS Job No CA0704.

# HWY. 79-South (Widening) (S) Calhoun County Route 167 Section 4

### **Site Conditions**

The existing Route 167 Bridge is located southwest of Fordyce Arkansas in Calhoun County. It is approximately 270 feet long, running north to south, crossing over the Union Pacific Railroad. The bridge superstructure consists of cast in place concrete decking supported by 4 steel girders with concrete end bents. Concrete octagonal trestle pilings support the north and south ends of the bridge under spans 1 and 5 and double columned interior bents support spans 2, 3, and 4. There are steel guardrails leading up to the bridge and concrete walls with steel tubing on the bridge. Concrete drainage culverts exist at all four corners of the bridge and wire fencing parallels the railroad on both the north and south end of the bridge. Signs indicating leased hunting land exist on the east side of the bridge, north and south of the railroad, and densely wooded pine plantations exist on both sides of the bridge. No noticeable utilities were found in or around the project alignment.

### Site Geology

The project is located in Eocene Claiborne Deposits (map symbol Tc). The Claiborne is composed of medium to very fine-grained sands, silts, and silty clays. The sands tend to be light to dark-gray, white, brown, or red, depending on the degree of weathering. The silts and clays are light to dark-gray and sometimes variegated. Intervals enriched in carbonaceous material are dark-brown to black. Silts in the Claiborne are usually clayey, the clays are normally silty or sandy, and lignite beds are also common in this formation. The deposits recovered at the job site most likely represents the Cockfield Formation of the Claiborne Group which is composed of sand, silt, carbonaceous clay, and lignite. The thickness of the Claiborne ranges from a thin edge to 1,500 feet.

The Saline River Fault Zone (SRFZ) is located to the east of the job site. This fault zone parallels the Saline River and extends from the Rison area to the Greenville, Mississippi area. This fault most likely extends further in both directions; however, there is currently insufficient evidence to say how far this fault zone extends. Based on the best available evidence, the most recent large rupture of the SRFZ occurred approximately 800 years ago and the largest magnitude earthquakes were most likely in the 6.0 to 6.5 range.

### **Subsurface Conditions**

Based on the results of the borings, the subsurface stratigraphy may be generalized as follows:

0 to 35 feet: Moist, soft to very stiff, brown silty to sandy clay to moist, medium dense to

dense, brown clayey sand. There is a distinct 10 foot layer of clay in all

borings except for boring 7 that varies from 15 to 25 feet deep.

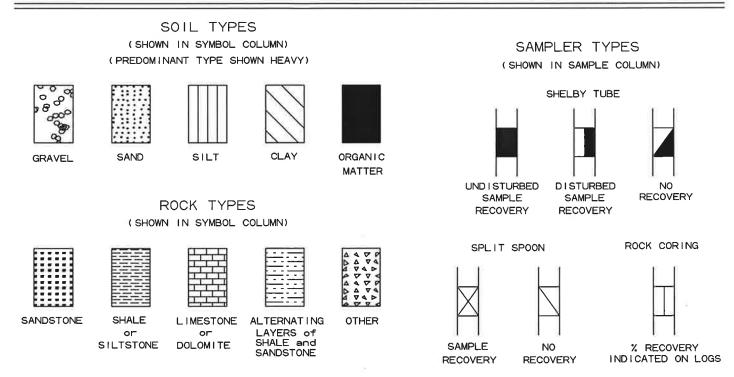
35 to 45 feet: Moist, stiff to very hard, gray silty to sandy clay with occasional lignite.

45 to 85 feet: Moist, medium dense to very dense, brown to light gray silty sand to sand and very stiff to very hard silty to sandy clay with some lignite.

85 to 101.5 feet: Moist, dense to very dense, brown to light gray silty sand to sand and moist

hard to very hard, light gray silty and lignitic clay.

## LEGEND



### TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANU	LAR SOIL	w)	CLAY	CLA	Y-SHALE		SHALE
'N' Value	Density	'N' Value	Consistency	'N' Value	Consistency	'N' Value	Consistency
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft		
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	0ver 60	
31-50	Dense	9-15	Stiff	9-15	Stiff	More than	2'
0ver 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetrati	on
		31-60	Hard	91-60	Hard	in 60 Blov	vs: Medium Hard
		0ver 60	Very Hard	0ver 60	Very Hard	Less than	2'
						Penetrati	on
						in 60 Blow	vs: Hard

- 1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
- 2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
- 3. Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value ( $N_f$ ) can be obtained by

adding the bottom two numbers for example:  $\frac{6}{8-9} \Rightarrow 8+9=17 blows / ft$ . The "N" Value corrected to 60% efficiency (N<sub>60</sub>) can be obtained by multiplying N<sub>f</sub> by the hammer correction factor published on the boring log.

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	1111		Moist, Dense, Dark Brown Clayey Sand												
	111		wost, Dense, Dark Brown Clayey Sand												
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60	777.			-						13					
		X	7							17-26					
			Moist, Dense, Light Gray Sand												
65															
	MN	$\bigvee$	P.S.							11					
	M									20-20					
	$\mathcal{M}$		Moist, Dense, Light Gray Silty Clay with Some												
	$\mathcal{M}$		Lignite												
	$\mathcal{M}$														
70	MM				l										
REM	ARKS	S:													
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			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		NO. 1-	NB of 3							
JOB N			CA0704 Calhoun County		DATE: May 11, 2016										
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN		I	1, 2010		- 1			
			Route 167 Section 4		Hollow Stem Auger - Diamond Core										
STAT	ION:		757+09		EQUIF					ME 750		- 1			
LOCA			13' Right of Construction Centerline		`										
			Coty Campbell		HAMN	MER (	CORRE	CTION	I FAC	CTOR:	1.23				
COM	PLET	ION	I DEPTH: 101.5												
D E	s	S A													
P	Y	м	DESCRIPTION OF MATERIAL					l <sub>H</sub>	FT	WS	%	%			
Т	M B	Р	DESCRIPTION OF WATERIAL	SOIL GROUP		. 2		IGH	CO	NTO I	T C	R Q			
Н	0	L		GROOT	≅	ISI		WE	ER	F. N.	R	Ď			
FT.	L	E S	OUDEACE ELEVATIONS 250 5		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS PER 6-IN.					
F 12	NIN	3	SURFACE ELEVATION: 356.5		国门	<u>%</u>	111	Α_	T	之 12		-			
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-	MM		Moist, Hard, Light Gray Silty Clay with Some												
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	30	$\leftarrow$								10-25					
	<b>30</b>		Moist, Hard, Dark Brown Lignitic Clay												
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80	<b>30</b>														
	11	$\nabla$								10					
-		$\triangle$								20-35					
			Moist, Hard, Light Gray Silty Clay with Some												
			Lignite												
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85		><	SANDSTONE - Unweathered, Poorly							60					
			Cemented, Light Gray							(2")					
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90										0.5					
		X								25 35-44					
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			Moist, Very Dense, Light Gray Sand												
			INIOISE, VELY DELISE, LIGHT GLAY SAITU												
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		$\triangle$								33-39					
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100	WW									23					
-	MM	X	Moist, Hard, Light Gray Silty Clay							26-34					
<del> </del>			Boring Terminated												
	1														
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105	<u> </u>														
REM	ARKS	S:													

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		io. 1-	SB of 3					
JOB N			CA0704 Calhoun County		DATE			_	ay 10	0, 20	16		$\dashv$
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN		۰۰, ۳۱	-, 20			
			Route 167 Section 4						er - I	Rotar	y W	ash	
STATI	ION:		756+92		Hollow Stem Auger - Rotary Wash EQUIPMENT: CME 750								
LOCA			19' Right of Construction Centerline		Ì								
LOGG	ED BY		oty Campbell		HAMN	IER (	CORRE	CTION	V FAC	CTOR:		1.23	
COM	PLET	ION	DEPTH: 101.5										
D E P	S Y M	S A M	DESCRIPTION OF MATERIAL	SOIL				HT	U.FT.	SWC		% T	% R
H FT.	B O L	υпп	SURFACE ELEVATION: 370.6	GROUP	PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.	C R	Q D
		ŏ	GORT AGE ELEVATION. 570.0			· ·	11				<u>н</u>	-	
5		X	Moist, Soft, Brown Silty Clay							1 2-	2		
10		X	Moist, Stiff, Brown Sandy Clay							5-			
		X	Moist, Loose, Brown Clayey Sand with Some Organic Matter with Trace Gravel							4-	6		
		X	Moist, Medium Dense, Brown Silty Sand							8-	11		
30		X	Moist, Very Stiff, Reddish Brown Clay							8-			
35		X	Moist, Medium Stiff, Reddish Brown Clay							_ <u>1</u>			
	ARKS	S: *	Cemented layer encountered at a depth of 77.5' t	o 78.4' b	elow	grou	ind le	vel.					

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		NO. 1-	SB F 3					
JOB N			CA0704 Calhoun County		DATE					0, 20	16		- 11
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN			o, <b>2</b> 0.	10		
			Route 167 Section 4				Stem		er - ]	Rotar	v W	ash	
STATI	ION:		756+92		EQUI			8		ME 7			
LOCA			19' Right of Construction Centerline										
			oty Campbell		HAM	MER (	CORRE	CTION	N FAC	CTOR:		1.23	
			J DEPTH: 101.5										
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Р	Y M	М	DESCRIPTION OF MATERIAL	SOIL					ľ.FT	WS		% T	% R
Т	В	Р	DESCRIPTION OF MATTERNAL	GROUP		تے ا		191	CC	3T0		C	Q
Н	Ō	F			lä T	SIC		WE	PER	)F I	4	R	Ď
FT:	L	E S	CUDEACE ELEVATION: 270 G		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.		
1.18	<u> </u>	3	SURFACE ELEVATION: 370.6			%	니니	Δ_	-		_		
	11	X								4-			
	//												
	//		Moist, Stiff, Brown Clay				1						
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	<b>30</b>	X								6-1			
	<b>36</b>	$\leftarrow$								0-1			
	30		Moist, Very Stiff, Dark Brown Lignitic Clay										
	<b>30</b>												
45	<b>36</b>												
40	$\widetilde{\mathbb{N}}$	$\nabla$								24			
-		$\triangle$								52-0 (10	60		
			Moist, Very Dense, Brown Silty Sand							(10	''		
			Wolst, very bense, brown only dand										
50										6			
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			Moist, Medium Dense, Brown Clayey Sand										
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			Moist, Very Dense, Brown Silt										
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	111		€							15-	19		
	111		Moist, Dense, Gray Clayey Sand										
	11/1		moisi, bonos, oray orayoy dana										
65	1.1									10			
-	11	X								18-2			
_ =	11												
	//		Moist, Hard, Brown Clay with Some Lignite										
	//												
70	77												
REM	ARKS	S: *	Cemented layer encountered at a depth of 77.5' t	o 78.4' b	elow	grou	ınd le	vel.					

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORING NO. 1-SB PAGE 3 OF 3										
JOB N		_	CA0704 Calhoun County		DATE:				_	0, 2016		$\neg$			
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN			0, 2010		- 1			
			Route 167 Section 4						er - ]	Rotary W	ash	- 1			
STATI	ON:		756+92		EQUIPMENT: CME 750										
LOCA			19' Right of Construction Centerline		`							_			
			oty Campbell		HAMN	MER (	CORREC	CTION	V FAC	CTOR:	1.23				
COM	PLET	ION	DEPTH: 101.5												
D		S													
E	S	Α							200	70		0.			
P	м	М	DESCRIPTION OF MATERIAL	SOIL				HT	U.F	W.C	% T	% R			
T H	В	Р		GROUP	၂	H		EIG	R C	BĽ(	C	Q			
п	0	E			STI	OIS		<b>X</b>	PE]	OF .6-I]	R	D <sub>i</sub>			
FT.	L		SURFACE ELEVATION: 370.6		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.					
	//					<u> </u>				13					
		$\triangle$								18-30					
			Moist, Hard, Brown Clay												
	$\backslash \backslash$		Moist, Hard, Brown Clay												
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-,-															
80			Moist, Dense, Brown Silty Sand *							40					
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		$\leftarrow$								13-23					
85															
		$\bigvee$								10					
		$\langle - \rangle$								18-21					
			Moist, Hard, Brown Clay												
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		$\triangle$								30-40					
	//		Moist, Very Hard, Dark Brown Lignitic Clay												
	//		Moist, vory Hard, Dark Brown Lightic Oldy												
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95				1						12					
		X								18-25					
			Moist, Dense, Brown Silty Sand												
100										12					
		X	Moist, Very Dense, Brown Silty Sand							48-50					
	s1:1:1:1:1:		Boring Terminated							.5 50					
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105															
REM	ARKS	S: *	Cemented layer encountered at a depth of 77.5' t	o 78.4' k	elow	grou	ınd le	vel.							

	HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		io. <b>2-</b> 1 c	NB of 3					
JOB NO.	CA0704 Calhoun County		DATE:			M	ay 4	, 201	6		
JOB NAME:	Hwy. 79 - South (Widening) (S)				RILLIN				***		
CTL 4 TRICNI	Route 167 Section 4 757+58				Stem	Aug				ash	
STATION: LOCATION:	2' Left of Construction Centerline	EQUIPMENT: CME 750									
	Coty Campbell		HAMN	ΛER (	ORREC	TION	J FAC	TOR:		1.23	
-	N DEPTH: 101.5			1211	, , , , ,						
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E   🖔   A							L)	S		0/	0/
	DESCRIPTION OF MATERIAL	SOIL				HH	U.F	MO		% T	% R
		GROUP		ST		ŒIG	SR C	, BL	zi l	C R	Q D
E			PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS	PER 6-IN.	K	U
FT. S	SURFACE ELEVATION: 357.5		PL	[%	EE	DR	T.B	NC NC	E		
5	Dry, Stiff, Light Brown Silty Clay							5 4-1		-	
10	Moist, Medium Dense, Light Brown Clayey Sand							12-1			
20	Moist, Soft, Reddish Brown Clay							2-2			
25	Moist, Stiff, Brown Clay							4-9			
30	Moist, Very Stiff, Dark Brown Lignitic Clay							7-1			
35 REMARKS:								16 30-4			

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORING NO. 2-NB PAGE 2 OF 3									
JOB N			CA0704 Calhoun County		DATE:					, 2016		$\neg$		
JOB N			Hwy. 79 - South (Widening) (S)		TYPE OF DRILLING:									
			Route 167 Section 4		Hollow Stem Auger - Rotary Wash									
STATI	ION:	•	757+58		EQUIF					ME 750				
LOCA'	TION:	:	2' Left of Construction Centerline											
LOGG	ED BY	7: C	oty Campbell		HAMN	ÆR (	CORRE	CTION	I FAC	CTOR:	1.23			
COM	PLET	ION	I DEPTH: 101.5					-						
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T	M	P	DESCRIPTION OF MATERIAL	SOIL				EHJ	CU.I	0	T	R		
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	ĭ	E			PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS				
FT	BURBER	S	SURFACE ELEVATION: 357.5			%	11	ā	Ľ		-			
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			Moist, Dense to Very Dense, Light Brown Silty							1021				
			Sand											
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	$\setminus \setminus$		Moist, Hard, Brown Sandy Clay											
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L -		X	-							15-21				
			Moist, Hard, Dark Brown Lignitic Clay											
55										9				
		X								14-21				
	$\langle \chi \rangle$		Moist, Hard, Brown Sandy Clay with Trace											
			Lignite											
	$\backslash \backslash$													
60	$\overline{}$									8				
		X								18-24				
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65_			Moist, Dense, Brown Silty Sand							1				
		X								16-30				
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70														
REMA	ARKS	3:												

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		NO. 2-	NB of 3					
JOB N			CA0704 Calhoun County		DATE:					, 201	6		$\neg$
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN		,	, 201	•		- 1
			Route 167 Section 4				Stem		er - ]	Rotar	y W	ash	- 1
STATI	ION:		757+58		EQUIF					ME 7	-		
LOCA			2' Left of Construction Centerline		` "								
LOGG	ED BY	: C	oty Campbell		HAMN	MER C	CORREC	CTION	۱ FAC	CTOR:		1.23	
COM	PLET	ION	J DEPTH: 101.5										
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			Moist, Hard, Brown Sandy Clay										
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	30		Moist, Hard, Dark Brown Lignitic Clay										
	30		Worst, Flara, Balk Brown Eiginto Glay										
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80	S)			+						10	)		
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			Maint Hand Book Brown Clay with Ligarita										
- =			Moist, Hard, Dark Brown Clay with Lignite										
85				+						10	)		
<u> </u>		X								17-2			
	$\backslash \backslash$		Moist, Hard, Brown Sandy Clay with Some										
			Lignite										
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		X								31-			
95			Moist, Very Dense, Brown Silty Sand							4-	,		
		X	inoist, vory bondo, brown only band							30-4			
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		X	Moist, Hard, Brown Sandy Clay							19-3			
	7.7	$\vdash$	Boring Terminated		-					19-	JU		_
			Doming Terminated										
105													
	ARKS	S:											

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		NO. 2-	SB OF 3					
JOB N			CA0704 Calhoun County		DATE:					7, 20	16		
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN			,	_		
			Route 167 Section 4				Stem		er - ]	Rotar	y W	ash	
STATI	ON:		759+43		EQUIF					ME 1	-		
LOCA		:	23' Right of Construction Centerline		`								
			oty Campbell		HAMN	ΛER (	CORRE	CTION	V FAC	CTOR:		1.23	
			J DEPTH: 101.5										
В		s											
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P	M	М	DESCRIPTION OF MATERIAL	SOIL				Ħ	J.F.I	M.S		% T	% R
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11.	X::X		SURFACE ELEVATION: 371.7			%	12.7		Ľ	z			
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	ARKS	S: *	Water loss at 24.2 feet										

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.				NO. 2- 2 (	SB F 3				
JOB N			CA0704 Calhoun County		PAGE		2 (			7, 2016		-
JOB N			Hwy. 79 - South (Widening) (S)		DATE:		RILLIN		ау 1	7, 2010		
JODIN	AIVIL.		Route 167 Section 4						er - 1	Rotary W	/ash	
STATI	ION:		759+43		EQUI			Aug		ME 750	asii	
LOCA			23' Right of Construction Centerline		LQUII	IVILLIA	1.			1VIL 750		
			Coty Campbell		HAMN	леr (	CORREC	CTION	N FAC	CTOR:	1.23	
			J DEPTH: 101.5									
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Р	Y M	М	DESCRIPTION OF MATERIAL	SOIL				H	J.FT	MS MS	% T	% R
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FT.	L	E S	SURFACE ELEVATION: 371.7		PLASTIC LIMIT	% MOIST.	LIQUID	DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS PER 6-IN.		
	MIN		GON AGE ELEVATION. STILT		дп	0		1		10	$\vdash$	_
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	//		Moist, Hard, Light Gray Sandy Clay									
			iviolet, Flaru, Light Gray Sanuy Clay									
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KEM	AKKS	o: 1	Water loss at 24.2 feet									

			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.	-	BORI PAGE		NO. 2-	SB of 3				
JOB N			CA0704 Calhoun County		DATE:	_				7, 2016		
JOB N			Hwy. 79 - South (Widening) (S)				RILLIN		-5	.,		
			Route 167 Section 4		Но	low	Stem	Aug	er - I	Rotary W	ash	
STATI	ION:		759+43		EQUIF	MEN	T:		C	ME 750		
LOCA			23' Right of Construction Centerline									
			oty Campbell		HAMN	AER (	CORRE	CTION	V FAC	CTOR:	1.23	
COM	PLET	$\overline{}$	DEPTH: 101.5		r—	_	_					
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l "	0	E			STI	% MOIST.		DRY WEIGHT	LBS PER CU.FT	NO. OF BLOWS PER 6-IN.	R	D
FT.			SURFACE ELEVATION: 371.7		PLASTIC LIMIT	% N	LIQUID	DR	LBS	NO.		
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			Moist, Very Dense, Light Gray Sand with Some									
			Lignite									
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			Moist, Dense, Light Gray Sand									
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			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		10. <b>3</b> -	NB F 3					
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			HWY. & TRANS. DEPARTMENT DIVISION - GEOTECHNICAL SEC.		BORI PAGE		10. 4-	NB of 3				
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75		X	Moist, Hard, Light Gray Lignitic Clay							14 20-25		
		X	Moist, Hard, Dark Brown Lignitic Clay							21-34		
   85		X	Moist, Dense, Dark Brown Sand with Some Lignite							19-20	45.	
90		X	Moist, Very Dense, Light Gray Sand							11 25-30 18 28-32		
100		X	Moist, Very Dense, Light Gray Silty Sand							20-34	1	
		X	Moist, Very Hard, Light Gray Clay							27-4	1	
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### ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

March 10, 2016

TO:

Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT:

Job No. CA0704

Hwy. 79 - South (Widening) (S)

Route 167 Section 4
Calhoun County

Transmitted herewith are the requested Soil Survey, Strength Data, and Resilient Modulus test results for the above referenced job. The project consists of widening approximately 5.9 miles of Highway 167 from 2 lanes to 5 lanes. Samples were obtained in the existing travel lanes, shoulder, and ditch line. Sample locations were measured from centerline of the existing roadway and are noted as such on the logs.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of non-plastic sands to low plasticity clayey sands with isolated locations of highly plastic clays. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction.

Base on currently available cross-sections the maximum embankment height is approximately 8 feet. The cross-sections indicate that embankments will be constructed within the existing ditch line. All soft unstable organic material should be undercut prior to embankment construction, anticipated to be no more than 2 feet. The embankments may be constructed with locally available unspecified material utilizing a 3:1 slope configuration.

The proposed cut slopes are acceptable as shown.

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 Malvern.

2. Asphalt Concrete Hot Mix

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.3	94.7
Binder Course	4.3	95.7
Base Course	4.0	96.0

Michael C. Benson Materials Engineer

MCB:pt:bjj Attachment

CC.

State Constr. Eng. – Master File Copy

District 7 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 - 03/10/2016	SEQUENCE NO 1
JOB NUMBER - CA0704	MATERIAL CODE - SSRVPS
	SPEC. YEAR - 2014
	SUPPLIER ID 1
	COUNTY/STATE - 07
	DISTRICT NO 07
JOB NAME - HWY.79 - SOUTH (WIDENING)(S)	
************	*********
* STATION LIMITS	R-VALUE AT 240 psi *
************	- *************
BEGIN JOB - END JOB	10
RESILIENT MODULUS	
STA.502+00	7322
STA.549+00	7693
STA.589+00	8703
STA.627+00	5317
STA.692+00	7613

7582

AASHTO TESTS : T190

REMARKS - STA.750+00

Job No. Date Sampled: Date Tested: Name of Project: County:	CA0704 3/1/16 March 1, 2016 HWY. 79 - SOUTH (WIDENING)(S) Code: 7 Name: CALHOUN	Material Code Station No.: Location:	SSRVPS 502+00 24'LT	
Sampled By: Lab No.: Sample ID: LATITUDE:	DICKERSON 20160340 RV096	Depth: AASHTO Class: Material Type (1 of LONGITUDE:	or 2):	0-5 A-4(0) 2
1. Testing Inform	ation:			
	Preconditioning - Permanent Strain > 5% (Y=Y) Testing - Permanent Strain > 5% (Y=Yes or N=Number of Load Sequences Completed (0-15)			N N 15
2. Specimen Info	rmation:			
•	Specimen Diameter (in):			
	Тор			3.94
	Middle			3.94
	Bottom			3.94
	Average			3.94
	Membrane Thickness (in):			0.01
	Height of Specimen, Cap and Base (in):			8.02
	Height of Cap and Base (in):			0.00 8.02
	Initial Length, Lo (in):			
	Initial Area, Ao (sq. in):			12.12
	Initial Volume, AoLo (cu. in):			97.24
3. Soil Specimen	Weight:			
or com operation	Weight of Wet Soil Used (g):			3216.30
	(0)			
4. Soil Properties	:			
	Optimum Moisture Content (%):			11.7
	Maximum Dry Density (pcf):			117.5
	95% of MDD (pcf):			111.6
	In-Situ Moisture Content (%):			N/A
F.O				
5. Specimen Pro				2242.22
	Wet Weight (g):			3216.30
	Compaction Moisture content (%):			12.1
	Compaction Wet Density (pcf): Compaction Dry Density (pcf):			126.03 112.43
	Moisture Content After Mr Test (%):			112.43
	Moisture Content Alter Wil Test (70).			11.7
6. Quick Shear To	est (Y=Yes, N=No, N/A=Not Applicable):			#VALUE!
7. Resilient Modu	ılus, Mr:	66	506(Sc)^-0.12040	(S3)^0.46247
8. Comments		=		
9. Tested By:	C.GARRETT D	ate: March 1, 2016		<del></del>

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

SSRVPS 502+00

24'LT

Material Code Station No.: Location: HWY. 79 - SOUTH (WIDENING)(S) March 1, 2016 CA0704 3/1/16 Name of Project: Date Sampled: Date Tested: Job No.

CALHOUN Name: DICKERSON Code: 7 20160340 Sampled By: Lab No.: County:

RV096 LATITUDE: Sample ID:

Material Type (1 or 2): 2
LONGITIME

LONGITUDE:

0-5

Depth:

			_	_	_	_	_	_	_	_	_	_		_	_	_	_	_	_	_
Resilient				Mr	psi	14,126	13,339	12,789	12,038	11,607	11,611	10,408	9,894	9,638	9,514	8,742	7,656	7,322	7,419	7,355
Resilient				2,	in/in	0.00013	0.00027	0.00042	0.00000	0.00077	0.00015	0.00034	0.00054	0.00073	0.00092	0.00020	0.00044	0.00069	0.00091	0.00113
Average Recov Def	LVDT 1	and 2		Havg	,u	0.00104	0.00219	0.00340	0.00478	0.00616	0.00124	0.00274	0.00430	0.00585	0.00738	0.00160	0.00356	0.00551	0.00727	0.00906
Actual Applied	Contact	Stress		Scontact	isd	0.2	0.2	0.3	0.5	0.7	0.2	0.2	0.2	0.4	9.0	0.2	0.2	0.2	0.4	0.6
Actual Applied	Cyclic	Stress		Scyclic	psi	1.8	3.6	5.4	7.2	8.9	1.8	3.6	5.3	7.0	8.7	1.7	3.4	5.0	6.7	8.3
Actual Applied	Max.	Axial	Stress	Smax	psi	2.1	3.9	5.7	7.7	9.6	2.0	3.8	5.5	7.5	9.4	2.0	3.6	5.3	7.1	8.9
Actual Applied	Contact	Load		Pcontact	sqj	2.9	2.9	3.7	6.2	9.8	2.9	2.9	2.9	5.3	7.7	2.9	2.9	3.0	4.5	7.0
Actual Applied	Max. Axial Cyclic Load			Pcyclic	sql	22.1	44.2	65.8	87.1	108.1	21.8	43.2	64.3	85.2	106.1	21.2	41.2	61.0	81.5	100.8
Actual Applied	Max. Axial	Load		P <sub>max</sub>	lbs	25.0	47.0	9.69	93.2	116.8	24.7	46.1	67.2	90.5	113.8	24.1	44.2	64.0	86.0	107.7
Nominal Maximum	Axial	Stress		Scyclic	psi	2.0	4.0	6.0	8.0	10.0	2.0	4.0	6.0	8.0	10.0	2.0	4.0	6.0	8.0	10.0
Confining	Pressure			S <sub>3</sub>	psi	6.0	6.0	6.0	0.9	6.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0
	PARAMETER			DESIGNATION	LIND	Sequence 1	Sequence 2	Sequence 3	Sequence 4	Sequence 5	Sequence 6	Sequence 7	Sequence 8	Sequence 9	Sequence 10	Sequence 11	Sequence 12	Sequence 13	Sequence 14	Sequence 15

March 1, 2016	
DATE	DATE
C.GARRETT	
TESTED BY	REVIEWED BY

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

Job No. CA0704 Material Code SSRVPS

Date Sampled:3/1/16Station No.: 502+00Date Tested:March 1, 2016Location: 24'LT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

County: Code: 7 Name: CALHOUN

Sampled By: DICKERSON Depth: 0-5

Lab No.: 20160340 AASHTO Class: A-4(0)
Sample ID: RV096 Material Type (1 or 2): 2

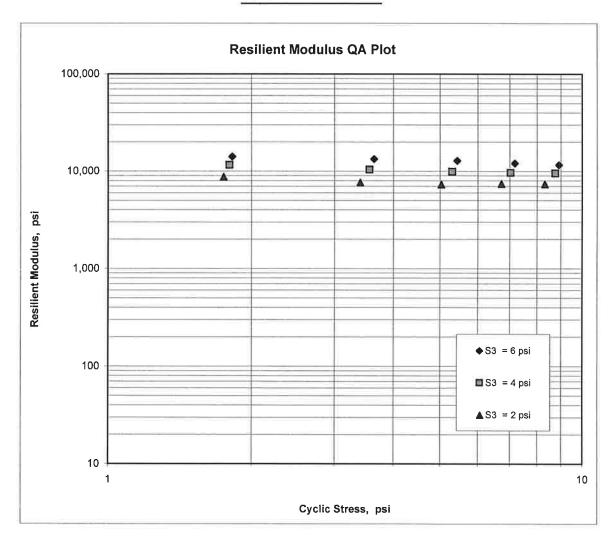
LATITUDE: LONGITUDE:

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

K1 = 6,606

K2 = -0.12040

K5 = 0.46247



Job No. Date Sampled: Date Tested: Name of Project: County: Sampled By: Lab No.: Sample ID:	CA0704 3/1/16 March 1, 2016 HWY. 79 - SOUTH (WIDENING)(S) Code: 7 Name: CALHOUN DICKERSON 20160341 RV097	Material Code Station No.: Location:  Depth: AASHTO Class Material Type (		0-5 A-4(0) 2
LATITUDE:		LONGITUDE:		
1. Testing Inform				
	Preconditioning - Permanent Strain > 5% (Y Testing - Permanent Strain > 5% (Y=Yes or I Number of Load Sequences Completed (0-1)	N=No)		N N 15
2. Specimen Info	ormation:			
	Specimen Diameter (in):			
	Тор			3.94
	Middle			3.94
	Bottom			3.94
	Average			3.94
	Membrane Thickness (in):			0.01 8.02
	Height of Specimen, Cap and Base (in): Height of Cap and Base (in):			0.02
	Initial Length, Lo (in):			8.02
	Initial Area, Ao (sq. in):			12.12
	Initial Volume, AoLo (cu. in):			97.24
	11111a1 Volatio, 7 (020 (04. 111).			07.21
3. Soil Specimen	Weight:			
•	Weight of Wet Soil Used (g):			3163.70
4. Soil Properties				
	Optimum Moisture Content (%):			12.1
	Maximum Dry Density (pcf):			114.9 -
	95% of MDD (pcf):			109.2
	In-Situ Moisture Content (%):			N/A
5. Specimen Pro	perties:			
•	Wet Weight (g):			3163.70
	Compaction Moisture content (%):			12.3
	Compaction Wet Density (pcf):	*		123.97
	Compaction Dry Density (pcf):			110.39
	Moisture Content After Mr Test (%):			12.3
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):			#VALUE!
7. Resilient Modu	ulus, Mr:		6855(Sc)^-0.10360	0(83)^0.45252
8. Comments	V			
9. Tested By:	G.WENDLAND	Date: March 1, 2016		

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

SSRVPS 549+00

24'LT

Material Code Station No.: Location: HWY. 79 - SOUTH (WIDENING)(S) March 1, 2016 CA0704 3/1/16 Name of Project: Date Sampled: Date Tested: Job No.

CALHOUN Name: DICKERSON Code: 7 20160341 RV097 Sampled By: Sample ID: Lab No.: County:

A-4(0) 0-5 Material Type (1 or 2): 2 AASHTO Class: LONGITUDE: Depth:

LATITUDE:

•	Modulus				Σ̈́	psi	14,463	13,841	13,457	12,801	12,317	11,993	10,799	10,293	10,181	10,075	9,235	8,017	7,693	7,752	7,957
Kesillent	Mo						14	13	13	12	12	7	10	10	10	9	6	8,	7,	7,	7.
Resilient	Strain				ຜ້	in/in	0.00013	0.00026	0.00041	0.00057	0.00073	0.00015	0.00033	0.00052	0.00070	0.00088	0.00019	0.00043	0.00066	0.00088	0.00107
Average	Recov Def.	LVDT 1	and 2		Havg	<b>.</b> ⊑	0.00102	0.00212	0.00326	0.00454	0.00587	0.00122	0.00266	0.00416	0.00561	0.00705	0.00155	0.00344	0.00531	0.00705	0.00860
Actual	Applied	Contact	Stress		Scontact	psi	0.2	0.2	0.3	0.5	0.7	0.2	0.2	0.2	0.4	9.0	0.2	0.2	0.2	0.4	9.0
Actual	Applied	Cyclic	Stress		Scyclic	psi	1.8	3.7	5.5	7.2	9.0	1.8	3.6	5.3	7.1	8.9	1.8	3.4	5.1	6.8	8.5
Actual	Applied	Мах.	Axial	Stress	Smax	psi	2.1	3.9	5.8	7.7	9.7	2.0	3.8	5.6	7.5	9.5	2.0	3.7	5.3	7.2	9.1
Actual	Applied	Contact	Peo7		Pcontact	sql	2.7	2.7	3.6	0.9	8.4	2.7	2.7	2.8	5.1	7.5	2.6	2.8	2.8	4.3	6.8
Actual	Applied	Cyclic Load			P <sub>cyclic</sub>	sql	22.4	44.3	66.4	87.8	109.3	22.0	43.5	64.7	86.4	107.4	21.6	41.7	61.7	82.6	103.4
Actual	Applied	Max. Axial	Load		Ртах	sql	25.1	47.1	69.9	93.8	117.6	24.7	46.2	67.5	91.5	114.9	24.2	44.5	64.5	86.9	110.2
Nominal	Maximum	Axial	Stress		Scyclic	psi	2.0	4.0	6.0	8.0	10.0	2.0	4.0	6.0	8.0	10.0	2.0	4.0	0.9	8.0	10.0
Chamber	Confining	Pressure			တ်ိ	psi	6.0	0.9	0.9	0.9	6.0	4.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0
		PARAMETER			DESIGNATION	UNIT	Sequence 1	Sequence 2	Sequence 3	Sequence 4	Sequence 5	Sequence 6	Sequence 7	Sequence 8	Sequence 9	Sequence 10	Sequence 11	Sequence 12	Sequence 13	Sequence 14	Sequence 15

DATE DATE . WENDLAND REVIEWED BY TESTED BY

March 1, 2016

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

Job No.

CA0704

Material Code SSRVPS

Date Sampled:

3/1/16

**Station No.:** 549+00

Date Tested:

March 1, 2016

Location: 24'LT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

County:

Code: 7

Name: CALHOUN

Sampled By:

**DICKERSON** 

Depth: 0-5

Lab No .:

20160341

**AASHTO Class:** A-4(0)

**RV097** 

Material Type (1 or 2): 2

Sample ID:

LONGITUDE:

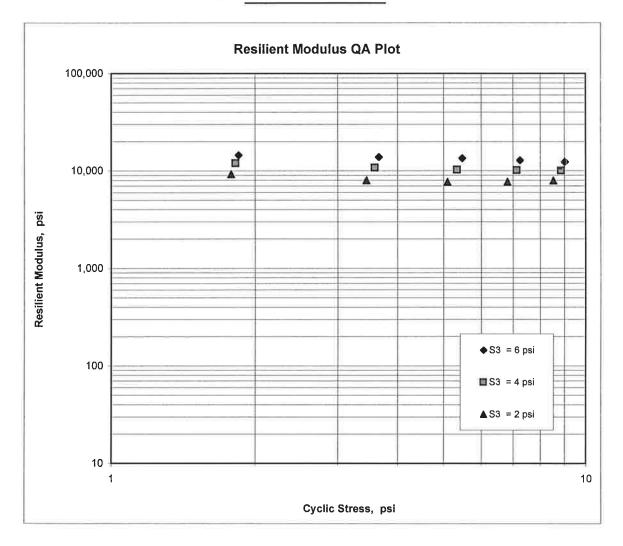
LATITUDE:

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

K1 = 6,855

K2 = -0.10360

K5 = 0.45252



Job No. Date Sampled: Date Tested: Name of Project:	CA0704 3/2/16 March 2, 2016 HWY. 79 - SOUTH (WIDENING)(S)	Material Code Station No.: Location:	SSRVPS 589+00 24' RT
County: Sampled By: Lab No.: Sample ID: LATITUDE:	Code: 7 Name: CALHOUN D.DICKERSON 20160342 RV098	Depth: AASHTO Class: Material Type (1 or 2): LONGITUDE:	0-5 A-4 (0) 2
1. Testing Inform	nation:		
	Preconditioning - Permanent Strain > 5% (Y=Ye Testing - Permanent Strain > 5% (Y=Yes or N=N Number of Load Sequences Completed (0-15)	,	N N 15
2. Specimen Info	ormation:		
3. Soil Specimen	Specimen Diameter (in):  Top Middle Bottom Average Membrane Thickness (in): Height of Specimen, Cap and Base (in): Height of Cap and Base (in): Initial Length, Lo (in): Initial Area, Ao (sq. in): Initial Volume, AoLo (cu. in):  Weight: Weight of Wet Soil Used (g):		3.96 3.93 3.94 3.94 0.01 8.03 0.00 8.03 12.14 97.52
4. Soil Properties			10.2
	Optimum Moisture Content (%): Maximum Dry Density (pcf): 95% of MDD (pcf): In-Situ Moisture Content (%):		12.3 118.6 112.7 N/A
5. Specimen Pro	perties:		
	Wet Weight (g): Compaction Moisture content (%): Compaction Wet Density (pcf): Compaction Dry Density (pcf): Moisture Content After Mr Test (%):		3249.70 12.8 126.97 112.56 12.1
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	ulus, Mr:	11160(Se	c)^-0.21812(S3)^0.34432
8. Comments			-
9. Tested By:	G.WENDLAND Date	e: March 2, 2016	

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

SSRVPS 589+00

24'RT

Material Code Station No.: Location: HWY. 79 - SOUTH (WIDENING)(S) March 2, 2016 CA0704 3/2/16 Name of Project: Date Sampled: Date Tested: Job No.

County: Code: 7 Name: CALHOUN

Sampled By: D.DICKERSON
Lab No.: 20160342

Sample ID: RV098 LATITUDE:

Depth: 0-5
AASHTO Class: A-4 (0)
Material Type (1 or 2): 2

LONGITUDE:

	Chamber	Nominal	Actual	Actual	Actual	Actual	Actual	Actual	Average	Resilient	Resilient
	Confining	Maximum	Applied	Applied	Applied	Applied	Applied	Applied	Recov Def.	Strain	Modulus
PARAMETER	Pressure	Axial	Max. Axial	Cyclic Load	Contact	Мах.	Cyclic	Contact	LVDT 1		
		Stress	Load		Load	Axial	Stress	Stress	and 2		
						Stress					
DESIGNATION	လိ	S <sub>cyclic</sub>	Р <sub>мах</sub>	P <sub>cyclic</sub>	Pcontact	S <sub>max</sub>	Scyclic	Scontact	Havg	່ນ	Σ̈́
UNIT	psi	psi	lbs	sql	sql	psi	psi	psi	ij	in/in	psi
Sequence 1	6.0	2.0	25.0	22.3	2.6	2.1	1.8	0.2	0.00084	0.00011	17,493
Sequence 2	0.9	4.0	46.9	44.3	2.6	3.9	3.6	0.2	0.00176	0.00022	16,666
Sequence 3	0.9	0.9	69.3	65.8	3.5	5.7	5.4	0.3	0.00282	0.00035	15,451
Sequence 4	0.9	8.0	92.7	86.7	0.9	7.6	7.1	0.5	0.00422	0.00053	13,594
Sequence 5	6.0	10.0	115.2	106.6	9.6	9.5	8.8	0.7	0.00578	0.00072	12,204
Sequence 6	4.0	2.0	24.9	22.1	2.8	2.1	1.8	0.2	0.00098	0.00012	14,923
Sequence 7	4.0	4.0	46.5	43.7	2.8	3.8	3.6	0.2	0.00212	0.00026	13,665
Sequence 8	4.0	6.0	8.79	65.0	2.9	5.6	5.3	0.2	0.00341	0.00043	12,587
Sednence 9	4.0	8.0	6.06	85.7	5.2	7.5	7.1	0.4	0.00491	0.00061	11,545
Sequence 10	4.0	10.0	113.4	105.7	7.7	9.3	8.7	9.0	0.00650	0.00081	10,750
Sequence 11	2.0	2.0	24.7	21.9	2.7	2.0	1.8	0.2	0.00117	0.00015	12,452
Sequence 12	2.0	4.0	45.8	43.0	2.8	3.8	3.5	0.2	0.00257	0.00032	11,064
Sequence 13	2.0	0.0	66.4	63.6	2.8	5.5	5.2	0.2	0.00414	0.00052	10,150
Sequence 14	2.0	8.0	87.7	83.4	4.3	7.2	6.9	0.4	0.00591	0.00074	9,338
Sequence 15	2.0	10.0	109.5	102.7	6.8	9.0	8.5	9.0	0.00780	0.00097	8,703

E March 2, 2016	ъ
DATE	DATE
: WENDLAND	
TESTED BY	REVIEWED BY

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

Job No.

CA0704

Material Code SSRVPS

Date Sampled:

3/2/16

**Station No.:** 589+00

Date Tested:

March 2, 2016

Location: 24' RT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

County:

Sampled By:

Code: 7

Name: CALHOUN

**D.DICKERSON** 20160342

Depth: 0-5

Lab No .:

AASHTO Class: A-4 (0)

Sample ID:

**RV098** 

Material Type (1 or 2): 2

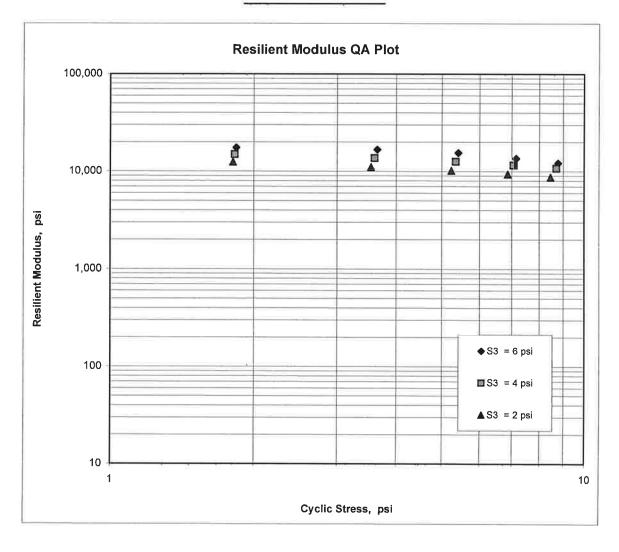
LATITUDE:

LONGITUDE:

$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$
 $K1 = 11,160$ 

K2 = -0.21812

 $K5 = \overline{0.34432}$ 



Job No. Date Sampled: Date Tested: Name of Project:	CA0704 3/2/16 March 2, 2016 HWY. 79 - SOUTH (WIDENING)(S)	Material Code Station No.: Location:	SSRVPS 627+00 24' LT	te.
County: Sampled By: Lab No.: Sample ID: LATITUDE:	Code: 7 Name: CALHOUN D.DICKERSON 20160343 RV099	Depth: AASHTO Class: Material Type (1 of LONGITUDE:	r 2):	0-5 A-2-4 (0) 2
1. Testing Inform	nation:			
	Preconditioning - Permanent Strain > 5% (Y=Yes Testing - Permanent Strain > 5% (Y=Yes or N=N Number of Load Sequences Completed (0-15)	•		N N 15
2. Specimen Info	rmation:			
	Specimen Diameter (in):			
	Тор			3.94
	Middle			3.94
	Bottom			3.95
	Average			3.94
	Membrane Thickness (in):			0.01
	Height of Specimen, Cap and Base (in): Height of Cap and Base (in):			5.6 0.00
	Initial Length, Lo (in):			5.6
	Initial Area, Ao (sq. in):			12.14
	Initial Volume, AoLo (cu. in):			68.01
	midal volume, Aozo (od. 111).			00.01
3. Soil Specimen	Weight:			
•	Weight of Wet Soil Used (g):			3302.90
4. Soil Properties	5:			
	Optimum Moisture Content (%):			10.4
	Maximum Dry Density (pcf):			122.8
	95% of MDD (pcf):			116.7
	In-Situ Moisture Content (%):			N/A
5. Specimen Pro	nerties:			
o. opconnen i io	Wet Weight (g):			3302.90
	Compaction Moisture content (%):			10.2
	Compaction Wet Density (pcf):			185.04
	Compaction Dry Density (pcf):			167.91
	Moisture Content After Mr Test (%):			10.2
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):			#VALUE!
7. Resilient Mod	ulus, Mr:	454	40(Sc)^-0.10193	(S3)^0.47811
			, ,	. /
8. Comments	-			
9. Tested By:	G.WENDLAND Date	e: <u>March 2, 2016</u>		

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

SSRVPS 627+00 24'LT

Material Code Station No.: Location: HWY. 79 - SOUTH (WIDENING)(S) March 2, 2016 CA0704 3/2/16 Name of Project: Date Sampled: Date Tested: Job No.

County: Code: 7 Name: CALHOUN Sampled By: D.DICKERSON 20160343

Sample ID: RV099 LATITUDE:

 Depth:
 0-5

 AASHTO Class:
 A-2-4 (0)

Material Type (1 or 2): 2 LONGITUDE:

	Confining	Nominal	Actual Applied	Actual	Actual	Actual	Actual Applied	Actual Applied	Average Recov Def	Resilient	Resilient
PARAMETER	Pressure	Axial	Max. Axial	Cyclic Load	Contact	Max.	Cyclic	Contact	LVDT 1		
		Stress	Load		Load	Axial	Stress	Stress	and 2		
					×	Stress					
DESIGNATION	လိ	Scyclic	P <sub>max</sub>	P <sub>cyclic</sub>	Pcontact	Smax	Scyclic	Scontact	Havg	23	M
UNIT	psi	psi	sql	sql	sql	psi	psi	psi	ij	in/in	psi
Sequence 1	6.0	2.0	25.0	22.3	2.7	2.1	1.8	0.2	0.00101	0.00018	10,247
Sequence 2	6.0	4.0	47.2	44.5	2.7	3.9	3.7	0.2	0.00212	0.00038	9,697
Sequence 3	0.9	6.0	70.0	66.5	3.5	5.8	5.5	0.3	0.00331	0.00059	9,269
Sequence 4	0.9	8.0	93.7	87.8	5.9	7.7	7.2	0.5	0.00463	0.00083	8,740
Sequence 5	0.9	10.0	117.7	109.3	8.4	9.7	9.0	0.7	0.00589	0.00105	8,555
Sequence 6	4.0	2.0	24.8	22.2	2.6	2.0	1.8	0.2	0.00124	0.00022	8,278
Sequence 7	4.0	4.0	46.2	43.5	2.7	3.8	3.6	0.2	0.00272	0.00049	7,383
Sequence 8	4.0	6.0	67.5	64.7	2.7	5.6	5.3	0.2	0.00424	0.00076	7,045
Sequence 9	4.0	8.0	91.6	86.4	5.2	7.5	7.1	0.4	0.00566	0.00101	7,034
Sequence 10	4.0	10.0	115.0	107.2	7.8	9.5	8.8	9.0	0.00707	0.00126	6,989
Sequence 11	2.0	2.0	24.2	21.4	2.8	2.0	1.8	0.2	0.00162	0.00029	6,075
Sequence 12	2.0	4.0	44.5	41.6	2.9	3.7	3.4	0.2	0.00357	0.00064	5,379
Sequence 13	2.0	6.0	65.2	62.3	3.0	5.4	5.1	0.2	0.00538	0.00096	5,337
Sequence 14	2.0	8.0	87.5	83.1	4.5	7.2	6.8	0.4	0.00720	0.00129	5,317
Sequence 15	2.0	10.0	109.8	102.8	7.1	9.0	8.5	9.0	0.00887	0.00158	5,344

March 2, 2016	
DATE	DATE
: WENDLAND	
TESTED BY	REVIEWED BY

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

Job No. CA0704 Material Code SSRVPS

Date Sampled:3/2/16Station No.: 627+00Date Tested:March 2, 2016Location: 24' LT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

County: Code: 7 Name: CALHOUN

Sampled By: D.DICKERSON Depth: 0-5

**Lab No.:** 20160343 **AASHTO Class:** A-2-4 (0)

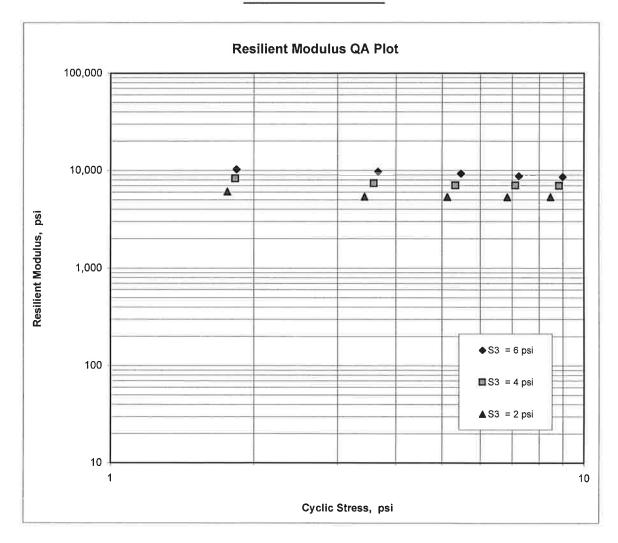
Sample ID: RV099 Material Type (1 or 2): 2 LATITUDE: LONGITUDE:

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

K1 = 4,540

K2 = -0.10193

K5 = 0.47811



Job No. Date Sampled: Date Tested: Name of Project:	CA0704 3/3/16 March 3, 2016 HWY. 79 - SOUTH (WIDENING)(S)	Material Code Station No.: Location:	SSRVPS 692+00 24'LT
County: Sampled By: Lab No.: Sample ID: LATITUDE:	Code: 7 Name: CALHOUN D.DICKERSON 20160344 RV100	Depth: AASHTO Class: Material Type (1 LONGITUDE:	0-5 A-4(0) or 2):
1. Testing Inform	nation:		
	Preconditioning - Permanent Strain > 5% (\ Testing - Permanent Strain > 5% (Y=Yes or Number of Load Sequences Completed (0-1	N=No)	N N 15
2. Specimen Info	ormation:		
	Specimen Diameter (in):		
	Тор		3.96
	Middle		3.96
	Bottom		3.95
	Average Membrane Thickness (in):		3.96
	Height of Specimen, Cap and Base (in):		0.01
	Height of Cap and Base (in):		8.01 0.00
	Initial Length, Lo (in):		8.01
	Initial Area, Ao (sq. in):		12.23
	Initial Volume, AoLo (cu. in):		97.94
	. ,		
3. Soil Specimen	T		
	Weight of Wet Soil Used (g):		3229.40
4. Soil Properties			
4. Son Properties	S; Optimum Moisture Content (%);		44.4
	Maximum Dry Density (pcf):		14.1
	95% of MDD (pcf):		114.4 108.7
	In-Situ Moisture Content (%):		N/A
			N/A
5. Specimen Pro			
	Wet Weight (g):		3229.40
	Compaction Moisture content (%):		14.4
	Compaction Wet Density (pcf):		125.64
	Compaction Dry Density (pcf):		109.82
	Moisture Content After Mr Test (%):		14.3
6. Quick Shear To	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	ılus, Mr:	93	381(Sc)^-0.21460(S3)^0.36221
8. Comments			
9. Tested By:	C.GARRETT	Date: March 3, 2016	

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

SSRVPS

Material Code Station No.:

692+00

24'LT

Location:

Job No. CA0704

Date Sampled: 3/3/16

Date Tested: March 3, 2016

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)
County: Code: 7 Name: CALHOUN

Sampled By: D.DICKERSON
Lab No.: 20160344
Sample ID: RV100

LATITUDE:

Depth: 0-5
AASHTO Class: A-4(0)
Material Type (1 or 2): 2
LONGITUDE:

Resilient Modulus 15,284 14.024 13,172 11,906 11,152 13,308 11,606 10,605 10,907 9,993 9,600 9,380 8,389 7,613 8,020 psi Σ̈ 0.00060 Resilient 0.00026 0.00110 0.00012 0.00079 0.00014 0.00050 0.00070 0.00085 Strain 0.00041 0.00031 0.00091 0.00017 0.00037 0.00061 in/in ယ် Recov Def. 0.00885 Average 0.00209 0.00331 0.00635 0.00248 0.00728 0.00133 0.00300 0.00678 0.00482 0.00111 0.00401 0.00564 LVDT 1 and 2 0.00097 0.00491 Havg .⊆ Applied Contact Stress Scontact Actual 0.2 0.2 0.3 0.5 0.2 0.2 0.4 9.0 0.3 9.0 0.2 bsi 0.7 0.2 0.2 0.2 Applied Actual Cyclic Stress Sayolic <del>6</del>. 5.4 8.8 <del>1</del>. 5.3 3.7 7.2 3.6 7.0 <del>1</del> 8 3.5 psi 8.7 6.8 8.4 5.1 Applied Actual Stress Axia/ Max. Smax 3.9 2.0 7.6 9.5 2.0 3.8 5.5 2.0 5.7 7.4 9.3 psi 3.7 5.4 9.0 7.1 Applied Contact Pcontact **Actual** Load 2.5 2.5 3.3 5.9 8.4 2.5 2.6 2.6 4.9 7.5 2.5 2.6 6.9 2.6 4.3 lbs Max. Axial Cyclic Load Applied Actua! Poyolic 102.8 87.6 108.2 22.5 64.9 106.7 44.7 9.99 22.4 43.9 86.0 22.2 43.0 62.9 83.0 lbs Applied 116.5 **Actual** Load 25.0 47.2 69.9 93.4 25.0 46.4 67.5 91.0 114.2 24.6 45.5 87.3 109.7 Ртах 65.5 lbs Maximum Nominal Axia/ Stress Scyclic 10.0 10.0 10.0 2.0 4.0 6.0 8.0 4.0 6.0 4.0 8.0 2.0 2.0 bsi 8.0 6.0 Confining Chamber Pressure 6.0 6.0 0.9 6.0 4.0 4.0 4.0 4.0 4.0 2.0 2.0 2.0 2.0 2.0 6.0 တိ psi DESIGNATION **PARAMETER** Sequence 10 Sequence 12 Sequence 13 Sequence 14 Sequence 15 Sequence 2 Sequence 3 Sequence 4 Sequence 5 Sequence 6 Sequence 8 Sequence 9 Sequence 11 Sequence 7 Sequence 1 LIND

C.GARRETT	
TESTED BY	REVIEWED BY

March 3, 2016

DATE

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

Job No.

CA0704

Material Code SSRVPS

Date Sampled:

3/3/16

Station No.: 692+00

Date Tested:

Location: 24'LT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

March 3, 2016

County:

Code: 7

Name: CALHOUN

Sampled By:

D.DICKERSON

Depth: 0-5

Lab No.:

20160344

**AASHTO Class:** A-4(0)

Sample ID:

RV100

Material Type (1 or 2): 2

LATITUDE:

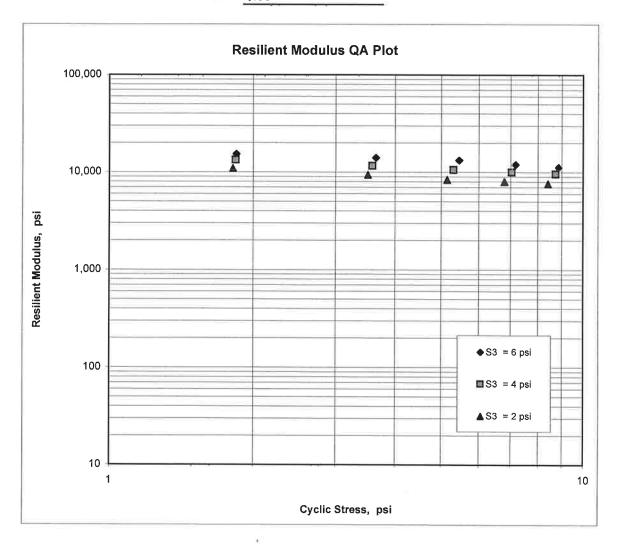
LONGITUDE:

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

K1 = 9,381

K2 = -0.21460

K5 = 0.36221



Job No. Date Sampled: Date Tested: Name of Project: County: Sampled By: Lab No.: Sample ID:	CA0704 3/3/16 March 3, 2016 HWY. 79 - SOUTH (WIDENING)(S) Code: 7 Name: CALHOUN D.DICKERSON 20160345 RV101	Material Code Station No.: Location:  Depth: AASHTO Class: Material Type (1 or 2):	SSRVPS 750+00 24' RT 0-5 A-6 (17) 2
LATITUDE:		LONGITUDE:	
1. Testing Inform	nation:		
	Preconditioning - Permanent Strain > 5% (Y= Testing - Permanent Strain > 5% (Y=Yes or Number of Load Sequences Completed (0-15)	N=No)	N N 15
2. Specimen Info	ormation:		
•	Specimen Diameter (in):		
	Тор		3.95
	Middle		3.94
	Bottom		3.94
	Average		3.94
	Membrane Thickness (in):		0.01
	Height of Specimen, Cap and Base (in):		8.02
	Height of Cap and Base (in): Initial Length, Lo (in):		0.00 8.02
	Initial Area, Ao (sq. in):		12.14
	Initial Volume, AoLo (cu. in):		97.40
	mitial Volume, AoLo (cu. iii).		97.40
3. Soil Specimen	ı Weight:		
·	Weight of Wet Soil Used (g):		2950.00
4.0 11.0			
4. Soil Properties			00.0
	Optimum Moisture Content (%): Maximum Dry Density (pcf):		22.0 97.9
	95% of MDD (pcf):		93.0
	In-Situ Moisture Content (%):		N/A
	Cita melatara demana (10)		1477
5. Specimen Pro	perties:		
	Wet Weight (g):		2950.00
	Compaction Moisture content (%):		22.1
	Compaction Wet Density (pcf):		115.40
	Compaction Dry Density (pcf):		94.51
	Moisture Content After Mr Test (%):		22.1
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Mode	ulus, Mr:	13104(S	c)^-0.28098(S3)^0.11043
8. Comments			
o. Oominients	<del></del>		<del></del>
9. Tested By:	G.WENDLAND	Date: March 3, 2016	

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

SSRVPS

Material Code Station No.:

750+00

HWY. 79 - SOUTH (WIDENING)(S) March 3, 2016 CA0704 3/3/16 Name of Project: Date Sampled: Date Tested: Job No.

CALHOUN Name: D.DICKERSON Code: 7 20160345 Sampled By: Lab No.: County:

RV101 Sample ID: LATITUDE:

A-6 (17) 24'RT 0-5 AASHTO Class: Location: Depth:

Material Type (1 or 2): 2

LONGITUDE:

	Chamber	Nominal	Actual	Actual	Actual	Actual	Actual	Actual	Average	Resilient	Resilient
	Confining	Maximum	Applied	Applied	Applied	Applied	Applied	Applied	Recov Def.	Strain	Modulus
PARAMETER	Pressure	Axial	_	Cyclic Load	Contact	Мах.	Cyclic	Contact	LVDT 1		
		Stress	Load		Peo7	Axial	Stress	Stress	and 2		
						Stress					
DESIGNATION	ဟိ	Scyclic	P <sub>max</sub>	Poyolic	Pcontact	S <sub>max</sub>	Scyclic	Scontact	H <sub>avg</sub>	5.	M
TINO	psi	psi	sql	sql	sql	psi	psi	psi	.⊑	in/in	psi
Sequence 1	6.0	2.0	24.9	22.1	2.8	2.1	1.8	0.2	0.00111	0.00014	13,170
Sequence 2	6.0	4.0	46.6	43.8	2.9	3.8	3.6	0.2	0.00236	0.00029	12,230
Sequence 3	6.0	6.0	68.5	64.9	3.6	5.6	5.3	0.3	0.00390	0.00049	10,982
Sequence 4	6.0	8.0	90.1	84.0	6.1	7.4	6.9	0.5	0.00606	0.00076	9,159
Sequence 5	6.0	10.0	110.4	101.9	8.5	9.1	8.4	0.7	0.00873	0.00109	7,710
Sequence 6	4.0	2.0	24.8	22.1	2.7	2.0	1.8	0.2	0.00120	0.00015	12,154
Sequence 7	4.0	4.0	46.4	43.5	2.8	3.8	3.6	0.2	0.00259	0.00032	11,085
Sequence 8	4.0	6.0	67.3	64.4	2.8	5.5	5.3	0.2	0.00422	0.00053	10,083
Sequence 9	4.0	8.0	89.0	83.9	5.1	7.3	6.9	0.4	0.00622	0.00078	8,908
Sequence 10	4.0	10.0	109.9	102.2	9.7	9.0	8.4	9.0	0.00864	0.00108	7,814
Sequence 11	2.0	2.0	24.9	22.1	2.7	2.0	1.8	0.2	0.00131	0.00016	11,129
Sequence 12	2.0	4.0	46.1	43.4	2.7	3.8	3.6	0.2	0.00279	0.00035	10,274
Sequence 13	2.0	0.9	66.7	63.9	2.8	5.5	5.3	0.2	0.00454	0.00057	9,302
Sequence 14	2.0	8.0	87.9	83.6	4.3	7.2	6.9	0.4	0.00655	0.00082	8,426
Sequence 15	2.0	10.0	108.9	102.2	6.7	9.0	8.4	0.5	0.00890	0.00111	7,582

March 3, 2016 DATE DATE . WENDLAND REVIEWED BY TESTED BY

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

Job No.

CA0704

Material Code SSRVPS

Date Sampled:

3/3/16

**Station No.:** 750+00

**Date Tested:** 

March 3, 2016

Location: 24' RT

Name of Project: HWY. 79 - SOUTH (WIDENING)(S)

Name: CALHOUN

**County:** 

Code: 7

Depth: 0-5

Sampled By:

**D.DICKERSON** 

AASHTO Class: A-6 (17)

Lab No .:

20160345

Material Type (1 or 2): 2

Sample ID:

RV101

LATITUDE:

LONGITUDE:

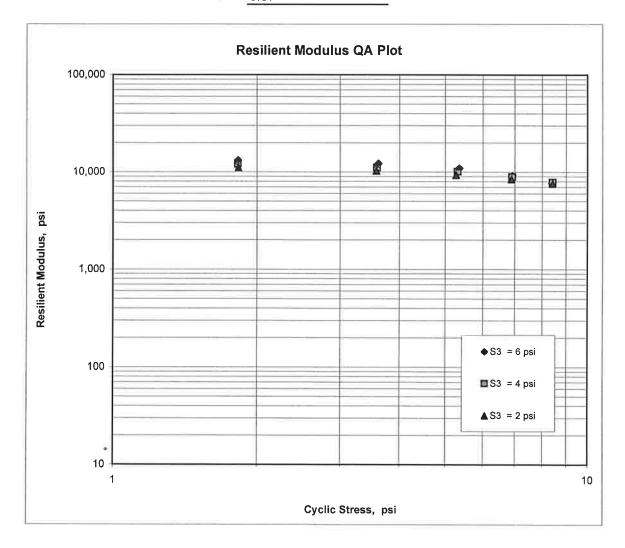
$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$

$$K1 = 13,104$$

$$K2 = -0.28098$$

$$K5 = 0.11043$$

$$R^2 = 0.87$$



### JOB: CA0704

Arkansas State Highway Transporation Department

JOB NAME: HWY.79 - SOUTH (WIDENING)(S)

Materials Division

**COUNTY NO.** 7 **DATE TESTED** 2/22/2016

Michael Benson, Materials Engineer

STA.#	LOC. DEP	TH COLOR	#4 #10		#80	#200 E S	L.L.	<i>P.I.</i>	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
502+00	24' LT 0-5	GR/BR	95 89	83	78	E S 61	18	02	A-4(0)	RV096	
549+00	24' LT 0-5	GR/BR	98 96	94	89	71	ND	NP	A-4(0)	RV097	
589+00	24' RT 0-5	BROWN	84 79	73	62	46	21	06	A-4(0)	RV098	
627+00	24' LT 0-5	BROWN	92 83	74	58	32	ND	NP	A-2-4(0)	RV099	
692+00	24' LT 0-5	BROWN	98 96	94	92	51	12	06	A-4(0)	RV100	
750+00	24' RT 0-5	BR/GR	95 91	88	83	78	40	24	A-6(17)	RV101	
477+00	06' RT 0-5	BR/GR	99 95	86	73	54	ND	NP	A-4(0)	S007	15.9
477+00	15' RT 0-5	BR/GR	89 78	67	57	39	ND	NP	A-4(0)	S008	14.9
477+00	24' RT 0-5	BR/GR	98 93	86	71	46	ND	NP	A-4(0)	S009	13.4
485+00	06' LT 0-5	BR/GR	99 94	82	69	54	29	13	A-6(4)	S010	18.1
485+00	15' LT 0-5	BR/GR	97 90	79	69	50	21	06	A-4(0)	S011	20.8
493+00	06' RT 0-5	BR/GR	92 79	62	47	36	19	05	A-4(0)	S012	15
493+00	15' RT 0-5	BR/GR	90 81	70	59	47	ND	NP	A-4(0)	S013	16.1
502+00	06' LT 0-5	BR/GR	96 87	74	64	50	ND	NP	A-4(0)	S014	15
502+00	15' LT 0-5	BR/GR	96 90	79	70	56	ND	NP	A-4(0)	S015	16.2
502+00	24' LT 0-5	GR/BR	96 93	89	84	66	19	03	A-4(0)	S016	16.5
509+00	06' RT 0-5	BR/GR	97 90	77	63	47	21	06	A-4(0)	S017	16.7
509+00	15' RT 0-5	BR/GR	98 93	82	71	52	ND	NP	A-4(0)	S018	17.9
517+00	06' LT 0-5	BR/GR	90 77	66	54	40	ND	NP	A-4(0)	S019	16.9
517+00	15' LT 0-5	BR/GR	98 95	86	76	57	17	02	A-4(0)	S020	18.7
517+00	24' LT 0-5	BR/GR	99 96	92	-84	63	ND	NP	A-4(0)	S021	17.8
533+00	15' LT 0-5	BR/GR	97 94	87	76	56	17	03	A-4(0)	S025	15.2
525+00	06' RT 0-5	BR/GR	97 94	87	76	56	17	03	A-4(0)	S025	15.2
533+00	24' LT 0-5	BR/GR	99 96	94	89	64	ND	NP	A-4(0)	S026	19.6
525+00	15' RT 0-5	BR/GR	99 96	94	89	64	ND	NP	A-4(0)	S026	19.6
533+00	06' LT 0-5	BR/GR	99 95	86	77	62	20	04	A-4(0)	S027	19

comments: W=MULTIPLE LAYERS, X=STRIPPED

LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

STA.#	LOC. I	DEPTH	COLOR	#4	#10	#40 E	#80	#200 E S	L.L.	P.I.	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
541+00	06' RT	0-5	BR/GR	99	95	86	77	62	20	04	A-4(0)	S027	19
541+00	15' RT	0-5	BR/GR	97	92	83	73	57	23	06	A-4(1)	S028	20,6
549+00	06' LT	0-5	BR/GR	97	89	7.7	66	54	20	05	A-4(0)	S029	17.8
549+00	15' LT	0-5	BR/GR	99	94	85	75	59	ND	NP	A-4(0)	S030	16
549+00	24' LT	0-5	GR/BR	99	95	93	81	68	ND	NP	A-4(0)	S031	15.6
557+00	06' RT	0-5	GR/BR	98	93	87	70	52	ND	NP	A-4(0)	S032	14.7
557+00	15' RT	0-5	BR/GR	93	85	75	62	46	ND	NP	A-4(0)	S033	18.2
565+00	06' LT	0-5	BR/GR	91	77	63	52	41	ND	NP	A-4(0)	S034	18.7
565+00	15' LT	0-5	BR/GR	99	91	76	65	54	22	06	A-4(1)	S035	17.7
565+00	24' LT	0-5	BROWN	98	96	93	86	72	30	13	A-6(7)	S036	22,5
573+00	06' RT	0-5	BROWN	97	92	85	74	49	ND	NP	A-4(0)	S037	11.4
573+00	15' RT	0-5	BR/GR	92	82	72	62	42	ND	NP	A-4(0)	S038	16.2
581+00	06' LT	0-5	BR/GR	97	91	84	74	61	21	07	A-4(1)	S039	18.7
581+00	15' LT	0-5	BR/GR	99	97	93	88	73	22	08	A-4(3)	S040	21.9
581+00	24' LT	0-5	BROWN	97	94	91	84	69	20	04	A-4(0)	S041	19.8
589+00	06' RT	0-5	BR/GR	99	97	89	76	56	18	03	A-4(0)	S042	10.8
589+00	15' RT	0-5	BR/GR	90	80	69	56	41	16	01	A-4(0)	S043	12.2
589+00	24' RT	0-5	BROWN	97	95	89	74	48	20	04	A-4(0)	S044	18.3
598+00	06' LT	0-5	BR/GR	75	58	40	24	17	ND	NP	A-1-B(0)	S045	15
598+00	15' LT	0-5	BR/GR	97	92	80	68	54	19	04	A-4(0)	S046	13
605+00	06' RT	0-5	BR/GR	93	85	73	63	46	20	05	A-4(0)	S047	17.6
605+00	15' RT	0-5	BR/GR	77	59	40	26	19	ND	NP	A-1-B(0)	S048	10.7
605+00	24' RT	0-5	BROWN	95	87	79	67	56	22	06	A-4(1)	S049	21.8
613+00	06' LT	0-5	BR/GR	91	83	70	57	46	ND	NP	A-4(0)	S050	16.9
613+00	15' LT	0-5	BR/GR	99	95	83	65	49	19	05	A-4(0)	S051	19
613+00	24' LT	0-5	BR/GR	90	81	70	66	55	22	07	A-4(1)	S052	18.7
621+00	06' RT	0-5	BR/GR	86	73	59	44	33	19	05	A-2-4(0)	S053	13
621+00	15' RT	0-5	BR/GR	89	78	64	50	38	ND	NP	A-4(0)	S054	12.1

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40 E	#80	#200 E S	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
627+00	06' LT	0-5	BR/GR	96	92	81	65	47	ND	NP	A-4(0)	S055	12.9
627+00	15' LT	0-5	BR/GR	95	89	76	61	43	17	02	A-4(0)	S056	10.9
627+00	24' LT	0-5	BROWN	98	94	77	67	54	ND	NP	A-4(0)	S057	14.4
637+00	06' RT	0-5	BR/GR	84	76	65	52	36	ND	NP	A-4(0)	S058	11.1
637+00	15' RT	0-5	BR/GR	88	78	64	48	35	ND	NP	A-2-4(0)	S059	12.9
648+00	09' LT	0-5	BR/GR	96	91	85	79	66	25	08	A-4(3)	S060	18.6
648+00	18' LT	0-5	BR/GR	97	90	78	68	58	19	03	A-4(0)	S061	18.1
648+00	30' LT	0-5	BR/GR	98	93	88	81	68	23	08	A-4(3)	S062	15.1
653+00	06' RT	0-5	BROWN	98	96	92	83	59	22	07	A-4(1)	S063	18.5
653+00	15' RT	0-5	BR/GR	. 97	93	88	81	67	24	10	A-4(4)	S064	19.4
661+00	06' LT	0-5	BROWN	99	97	93	87	74	37	24	A-6(15)	S065	19.7
661+00	15' LT	0-5	BR/GR	96	92	86	79	66	33	19	A-6(10)	S066	24.2
661+00	24' LT	0-5	BR/GR	96	92	88	79	64	26	12	A-6(5)	S067	16.8
671+00	06' RT	0-5	BR/GR	99	97	92	88	79	53	35	A-7-6(28)	S068	36.6
671+00	15' RT	0-5	BR/GR	98	95	87	81	72	48	33	A-7-6(22)	S069	21.6
677+00	06' LT	0-5	BR/GR	93	86	78	71	57	40	26	A-6(11)	S070	21.9
677+00	15' LT	0-5	BR/GR	97	93	82	72	58	30	17	A-6(6)	S071	29.6
677+00	24' LT	0-5	BROWN	98	95	92	82	57	24	08	A-4(2)	S072	20.9
692+00	06' LT	0-5	BR/GR	96	91	86	78	57	23	06	A-4(1)	S073	22.8
692+00	15' LT	0-5	BR/GR	97	96	94	91	52	23	06	A-4(0)	S074	17.6
692+00	24' LT	0-5	BROWN	99	96	91	85	58	27	11	A-6(4)	S075	18.4
701+00	06' RT	0-5	BROWN	98	95	90	84	67	27	11	A-6(5)	S076	22
701+00	15' RT	0-5	BR/GR	97	93	84	76	63	27	11	A-6(4)	S077	24.7
709+00	06' LT	0-5	BR/GR	97	91	79	67	52	27	10	A-4(2)	S078	23.4
709+00	15' LT	0-5	BR/GR	98	95	88	81	67	30	13	A-6(6)	S079	22.2
709+00	24' LT	0-5	BROWN	99	99	99	97	74	26	09	A-4(4)	S080	18.3
717+00	06' RT	0-5	BR/GR	99	93	86	76	54	37	19	A-6(7)	S081	26
717+00	15' RT	0-5	BROWN	99	96	90	84	65	26	10	A-4(4)	S082	24.7

STA.#	LOC. DI	<b>EPTH</b>	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
725+00	06' LT (	0-5	BR/GR	98	96	86	69	55 S	37	20	A-6(8)	S083	25
725+00	18' LT (	0-5	BR/GR	96	89	79	71	52	26	11	A-6(3)	S084	22.8
725+00	29' LT (	0-5	BR/GR	88	84	76	66	50	32	14	A-6(4)	S085	17.6
732+00	06' RT (	0-5	BR/GR	98	94	89	81	64	31	17	A-6(8)	S086	30.1
732+00	15' RT	0-5	BROWN	98	94	85	73	58	23	09	A-4(2)	S087	21.9
741+00	06' LT	0-5	BR/GR	94	88	81	68	53	22	06	A-4(0)	S088	17.4
741+00	15' LT	0-5	BR/GR	99	95	84	73	58	23	08	A-4(2)	S089	15.6
741+00	24' LT	0-5	BR/GR	89	76	64	50	39	22	07	A-4(0)	S090	18.7
750+00	06' RT	0-5	BR/GR	95	91	85	79	74	50	34	A-7-6(24)	S091	31.6
750+00	15' RT	0-5	BROWN	90	82	72	62	56	44	29	A-7-6(12)	S092	26.2
750+00	24' RT	0-5	BR/GR	84	78	71,	60	53	43	28	A-7-6(11)	S093	31.4
756+00	06' LT	0-5	BR/GR	98	91	85	80	71	34	16	A-6(9)	S094	30.8
756+00	15' LT	0-5	BR/GR	96	90	81	74	69	41	24	A-7-6(15)	S095	27.2

JOB: CA0704
JOB NAME: HWY.79 - SOUTH (WIDENING)(S)

Arkansas State Highway Transporation Department

*DATE TESTED* 2/22/2016

Materials Division

COUNTY NO. 7

Michael Benson, Materials Engineer

477+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           477+00         24 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           477+00         24 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           477+00         24 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           485+00         06 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           485+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           483+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           502+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           502+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           502+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           509+00         15 RT         ACHMISC         ACHMISC         SOIL CEMENT         AGG BASE CRS CL-5           509+00         15 RT						
15' RT         ACHMISC         ACHMIBC         SOIL CEMENT           4.0W         -         -           24' RT         ACHMISC         ACHMIBC         SOIL CEMENT           06' RT         ACHMISC         ACHMIBC         SOIL CEMENT           06' LT         ACHMISC         ACHMIBC         SOIL CEMENT           15' LT         ACHMISC         ACHMIBC         SOIL CEMENT		LOC.				
24'RT       ACHMISC       ACHMIBC       SOIL CEMENT         06'RT       ACHMISC       ACHMIBC       SOIL CEMENT         06'LT       ACHMISC       ACHMIBC       SOIL CEMENT         06'LT       ACHMISC       ACHMIBC       SOIL CEMENT         15'LT       ACHMISC       ACHMIBC       SOIL CEMENT         15'RT       ACHMISC       ACHMIBC       SOIL CEMENT         15'RT       ACHMISC       ACHMIBC       SOIL CEMENT         15'LT       ACHMISC       ACHMIBC       SOIL CEMENT         24'LT       ACHMISC       ACHMIBC       SOIL CEMENT         -       -       -       -         06'RT       ACHMISC       ACHMIBC       SOIL CEMENT         -       -       -       -         -       - <td< th=""><th>477+00</th><th>15' RT</th><th>ACHMSC</th><th>ACHMBC</th><th>SOIL CEMENT</th><th>AGG BASE CRS CL-5</th></td<>	477+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG BASE CRS CL-5
24'RT         ACHMISC         ACHMIBC         SOIL CEMENT           06'RT         ACHMISC         ACHMIBC         SOIL CEMENT           06'LT         ACHMISC         ACHMIBC         SOIL CEMENT           15'LT         ACHMISC         ACHMIBC         SOIL CEMENT           15'LT         ACHMISC         ACHMIBC         SOIL CEMENT           15'RT         ACHMISC         ACHMIBC         SOIL CEMENT           15'RT         ACHMISC         ACHMIBC         SOIL CEMENT           15'LT         ACHMISC         ACHMIBC         SOIL CEMENT           24'LT         ACHMISC         SOIL CEMENT           3.0WX         5.0WX         SOIL CEMENT           -         -         -           -         SOIL CEMENT			4.0W	E	Ti .	8.0
06° RT         ACHMISC         ACHMIBC         SOIL CEMENT           5.0W         1.75         4.5           06° LT         ACHMISC         ACHMIBC         SOIL CEMENT           15° LT         ACHMISC         ACHMIBC         SOIL CEMENT           15° RT         ACHMISC         ACHMIBC         SOIL CEMENT           15° RT         ACHMISC         ACHMIBC         SOIL CEMENT           15° RT         ACHMISC         ACHMIBC         SOIL CEMENT           15° LT         ACHMISC         ACHMIBC         SOIL CEMENT           15° LT         ACHMISC         ACHMIBC         SOIL CEMENT           15° RT         ACHMISC         ACHMIBC         SOIL CEMENT	477+00	24' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
OB'LT         ACHMSC         ACHMBC         ACHMBC           5.50W         1.75         4.5           5.50W         2.5W         3.5           15'LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'LT         ACHMSC         ACHMBC         SOIL CEMENT           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           -         -         -         -           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           -         -         -         -           -         -         -           -         -         -	477+00	06' <b>PT</b>	ACHMSC	ACHMBC	SOII CEMENT	AGG BASE OBS OLS
06°LT         ACHMSC         ACHMBC         SOIL CEMENT           15°LT         ACHMSC         ACHMBC         3.5           16°LT         ACHMSC         ACHMBC         SOIL CEMENT           16°LT         ACHMSC         ACHMBC         SOIL CEMENT           15°LT         ACHMSC         ACHMBC         SOIL CEMENT           16°LT         ACHMSC         ACHMBC         SOIL CEMENT           15°LT         ACHMSC         ACHMBC         SOIL CEMENT           16°LT         ACHMSC         ACHMBC         SOIL CEMENT           06°LT         ACHMSC         ACHMBC         SOIL CEMENT           06°LT         ACHMSC         ACHMBC         SOIL CEMENT           06°LT <td></td> <td></td> <td>5.0W</td> <td>1.75</td> <td>4.5</td> <td>4.0</td>			5.0W	1.75	4.5	4.0
5.50W         2.5W         3.5           15°LT         ACHMISC         ACHMIBC         SOIL CEMENT           06°RT         ACHMISC         ACHMIBC         SOIL CEMENT           15°RT         ACHMISC         ACHMIBC         SOIL CEMENT           15°RT         ACHMISC         ACHMIBC         SOIL CEMENT           15°LT         ACHMISC         ACHMIBC         SOIL CEMENT           24°LT         ACHMISC         ACHMIBC         SOIL CEMENT           -         -         -           06°LT         ACHMISC         ACHMIBC         SOIL CEMENT           -         -         -         -           06°LT         ACHMISC         ACHMIBC         SOIL CEMENT           -         -         -         -           06°LT         ACHMISC         ACHMIBC         SOIL CEMENT	485+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
15'LT ACHMSC ACHMBC SOIL CEMENT 4.0 SOWX 1.5X 4.0  15'RT ACHMSC ACHMBC SOIL CEMENT 15'RT ACHMSC ACHMBC SOIL CEMENT 2.50WX 1.5X 4.0  15'RT ACHMSC ACHMBC SOIL CEMENT 4.25WX 3.25WX 3.5  15'LT ACHMSC ACHMBC SOIL CEMENT 24'LT ACHMSC ACHMBC SOIL CEMENT 15'RT ACHMSC ACHMBC SOIL CEMENT 2.5  24'LT ACHMSC ACHMBC SOIL CEMENT 4.0 SOIL CEMENT 2.5  24'LT ACHMSC ACHMBC SOIL CEMENT 3.0WX 5.0WX 4.0  15'RT ACHMSC ACHMBC SOIL CEMENT 3.0WX 5.0WX 4.0  15'RT ACHMSC ACHMBC SOIL CEMENT 3.0WX 5.0WX 4.0  ACHMBC ACHMBC AGG.BASE CRS CL-5  8.0  15'RT ACHMSC ACHMBC AGG.BASE CRS CL-5  8.0			5.50W	2.5W	3.5	9.0
4.0           06° RT       ACHMSC       ACHMBC       SOIL CEMENT         15° RT       ACHMSC       ACHMBC       SOIL CEMENT         15° RT       ACHMSC       ACHMBC       SOIL CEMENT         06° LT       ACHMSC       ACHMBC       SOIL CEMENT         15° LT       ACHMSC       ACHMBC       SOIL CEMENT         24° LT       ACHMSC       ACHMBC       SOIL CEMENT         15° RT       ACHMSC       ACHMBC       SOIL CEMENT         15° LT       ACHMSC       ACHMBC       SOIL CEMENT         15° LT       ACHMSC       ACHMBC       SOIL CEMENT         24° LT       ACHMSC       ACHMBC       SOIL CEMENT         24° LT       ACHMSC       ACHMBC       SOIL CEMENT         26° LT       ACHMSC       ACHMBC       SOIL CEMENT         06° RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5         06° RT       ACHMSC <td>485+00</td> <td>15' LT</td> <td>ACHMSC</td> <td>ACHMBC</td> <td>SOIL CEMENT</td> <td>AGG.BASE CRS CL-5</td>	485+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
06° RT         ACHMSC         ACHMBC         SOIL CEMENT           5.0WX         1.5X         4.0           15° RT         ACHMSC         ACHMBC         SOIL CEMENT           06° LT         ACHMSC         ACHMBC         SOIL CEMENT           15° LT         ACHMSC         ACHMBC         SOIL CEMENT           15° LT         ACHMSC         ACHMBC         SOIL CEMENT           24° LT         ACHMSC         ACHMBC         SOIL CEMENT           15° RT         ACHMSC         ACHMBC         SOIL CEMENT           15° RT         ACHMSC         ACHMBC         SOIL CEMENT           15° RT         ACHMSC         ACHMBC         SOIL CEMENT           24° LT         ACHMSC         ACHMBC         SOIL CEMENT           15° RT         ACHMSC         ACHMBC         SOIL CEMENT           06° RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           06° RT			4.0	i,	•	8.0
5.0WX       1.5X       4.0         15'RT       ACHMSC       ACHMBC       SOIL CEMENT         3.5       -       -         06'LT       ACHMSC       ACHMBC       SOIL CEMENT         4.25WX       3.25WX       3.5         15'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         15'RT       ACHMSC       ACHMBC       SOIL CEMENT         15'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         06'RT       ACHMSC       ACHMBC       SOIL CEMENT         06'RT       ACHMSC       ACHMBC       SOIL CEMENT         06'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5         15'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5         15'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5	493+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
15'RT         ACHMSC         ACHMBC         SOIL CEMENT           3.5         -         -           06'LT         ACHMSC         ACHMBC         SOIL CEMENT           15'LT         ACHMSC         ACHMBC         SOIL CEMENT           24'LT         ACHMSC         ACHMBC         SOIL CEMENT           -         -         -         -           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           24'LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           06'RT         ACHMSC         ACHMBC         SOIL CEMENT           06'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5			5.0WX	1.5X	4.0	10.0
3.5  106' LT ACHMSC ACHMBC SOIL CEMENT 4.25WX 3.25WX 3.5  15' LT ACHMSC ACHMBC SOIL CEMENT 4.0  24' LT ACHMSC ACHMBC SOIL CEMENT -  06' RT ACHMSC ACHMBC SOIL CEMENT 5.25W 2.75  15' RT ACHMSC ACHMBC SOIL CEMENT 4.0  15' RT ACHMSC ACHMBC SOIL CEMENT 4.0  24' LT ACHMSC ACHMBC SOIL CEMENT 6.25W SOIL CEMENT 4.0  -  06' LT ACHMSC ACHMBC SOIL CEMENT -  06' LT ACHMSC ACHMBC SOIL CEMENT 3.0WX 5.0WX 4.0  15' RT ACHMSC ACHMBC AGG.BASE CRS CL-5 8.0  15' RT ACHMSC ACHMBC AGG.BASE CRS CL-5 8.0	493+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
06' LT         ACHMSC         ACHMBC         SOIL CEMENT           4.25WX         3.25WX         3.5           15' LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           06' RT         ACHMSC         ACHMBC         SOIL CEMENT           15' LT         ACHMSC         ACHMBC         SOIL CEMENT           15' LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           24' LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           24' LT         ACHMSC         ACHMBC         SOIL CEMENT           06' LT         ACHMSC         ACHMBC         SOIL CEMENT           06' LT         ACHMSC         ACHMBC         SOIL CEMENT           06' LT         ACHMSC         ACHMBC         SOIL CEMENT           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5			3.5	Ļ	ř	8.0
15'LT ACHMSC ACHMBC SOIL CEMENT 4.0  24'LT ACHMSC ACHMBC SOIL CEMENT - 06'RT ACHMSC ACHMBC SOIL CEMENT 5.25W 2.75  15'RT ACHMSC ACHMBC SOIL CEMENT 4.0  24'LT ACHMSC ACHMBC SOIL CEMENT 4.0  24'LT ACHMSC ACHMBC SOIL CEMENT - 06'LT ACHMSC ACHMBC SOIL CEMENT - 06'RT ACHMSC ACHMBC SOIL CEMENT 3.0WX 5.0WX  15'RT ACHMSC ACHMBC AGG.BASE CRS CL-5 8.0  15'RT ACHMSC ACHMBC AGG.BASE CRS CL-5 8.0	502+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
4.0	502+00	15. T	ACHMSC	ACHMBO	SOIL CEMENT	ACC BASE OBS OLS
24'LT       ACHMSC       ACHMBC       SOIL CEMENT			4.0	1)	1	8.0
06'RT       ACHMSC       ACHMBC       SOIL CEMENT         5.25W       2.75       2.5         15'RT       ACHMSC       ACHMBC       SOIL CEMENT         4.0       -       -         15'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         -       -       -       -         06'RT       ACHMSC       ACHMBC       SOIL CEMENT         3.0WX       ACHMBC       SOIL CEMENT         4.0       ACHMBC       AGG.BASE CRS CL-5         15'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5         8.0       -       8.0         15'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5	502+00	24' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
06'RT         ACHMSC         ACHMBC         SOIL CEMENT           5.25W         2.75         2.5           15'RT         ACHMSC         ACHMBC         SOIL CEMENT           15'LT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           24'LT         ACHMSC         ACHMBC         SOIL CEMENT           -         -         -           06'LT         ACHMSC         ACHMBC         SOIL CEMENT           3.0WX         ACHMBC         SOIL CEMENT           4.0         AGG.BASE CRS CL-5         8.0           15'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           8.0         -         -           15'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5			1	/E	T.	
5.25W       2.75       2.5         15'RT       ACHMSC       ACHMBC       SOIL CEMENT         4.0       —       —         15'LT       ACHMSC       ACHMBC       SOIL CEMENT         24'LT       ACHMSC       ACHMBC       SOIL CEMENT         -       —       —       —         06'RT       ACHMSC       ACHMBC       SOIL CEMENT         3.9WX       5.0WX       4.0         06'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5         8.0       —       8.0         15'RT       ACHMSC       ACHMBC       AGG.BASE CRS CL-5	509+00	06' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
15'RT         ACHMSC         ACHMBC         SOIL CEMENT           4.0         -         -           15'LT         ACHMSC         ACHMBC         SOIL CEMENT           24'LT         ACHMSC         ACHMBC         SOIL CEMENT           -         -         -         -           06'LT         ACHMSC         ACHMBC         SOIL CEMENT           3.0WX         5.0WX         4.0           06'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15'RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           8.0         -         8.0			5.25W	2.75	2.5	9.0
4.0 - SOIL CEMENT 15'LT ACHMSC ACHMBC SOIL CEMENT 4.0	509+00	15' RT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
15'LT ACHMSC ACHMBC SOIL CEMENT 4.0			4.0	₹ <b>.</b>	•	8.0
4.0 - SOIL CEMENT 24' LT ACHMSC ACHMBC SOIL CEMENT	517+00	15' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
24' LT ACHMSC ACHMBC SOIL CEMENT			4.0	1	1	8.0
06' LT         ACHMSC         ACHMBC         SOIL CEMENT           3.0WX         5.0WX         4.0           06' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           3.50         -         8.0           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           -         -         -	517+00	24' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
06' RT         ACHMSC         ACHMBC         SOIL CEMENT           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           15' RT         ACHMSC         ACHMBC         AGG.BASE CRS CL-5           -         ACHMBC         AGG.BASE CRS CL-5			•		•	
3.0WX 5.0WX 4.0  06' RT ACHMSC ACHMBC AGG.BASE CRS CL-5  3.50 - 8.0  15' RT ACHMSC ACHMBC AGG.BASE CRS CL-5	517+00	06' LT	ACHMSC	ACHMBC	SOIL CEMENT	AGG.BASE CRS CL-5
06' RT ACHMSC ACHMBC 3.50 - 15' RT ACHMSC ACHMBC			3.0WX	5.0WX	4.0	7.0
3.50 – 15'RT ACHMSC ACHMBC	525+00	06' RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-5	
15'RT ACHMSC ACHMBC			3.50	1	8.0	
	525+00	15' RT	ACHMSC	ACHMBC	AGG.BASE CRS CL-5	
			1	1		

comments: W=MULTIPLE LAYERS, X=STRIPPED

LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

WOOD AND AND AND AND AND ADDRESS OF THE PERSON NAMED IN COLUMN SAFETY OF THE PERSON N	With the particular property of the particular particul	The second name of the second na				
	7.0	4.5	2.5	5.0WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	589+00
	1	1	T	1		
	AGG,BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' LT	581+00
	9.0		1	3.5		
	AGG,BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	581+00
	5.0		2.0X	4.5WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	581+00
	8.0		<u>į</u>	4.5		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	573+00
	7.0	4.0	2.0X	5.5WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	573+00
	Ĭ	t	1			
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' LT	565+00
	6.0	*	1	3.0		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	565+00
	5.0	4.0	3.0	4.0W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	565+00
	8.0	\$#E	1	4.5W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	557+00
	7.0	4.0	2.5X	5.0WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	557+00
	8.0	4.0	2.0X	5.0W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	549+00
	8.0	Ĭ	1	3.5W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	549+00
	Ĭ	1	1	1		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' LT	549+00
		5.0	2.5X	7.50WX		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' RT	541+00
	9.0	577	3	4.0W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	541+00
		1	•	1		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	24' LT	533+00
		8.0	1	3.50		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' LT	533+00
		5.0	2.5X	7.50WX		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' LT	533+00
	TOTEMENT SOCIALINGS				2	
	DAILENT COLUMNING			1		STA#

comments: W=MULTIPLE LAYERS, X=STRIPPED LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

			W=MULTIPLE LAYERS, X=STRIPPED	'=MULTIPLE LAY	- 1	comments:
	(*)	1	1	1		
AGG.BASE CRS CL-5	SOIL CEMENT	ACHMSC	ACHMBC	ACHMSC	30' LT	648+00
8.0	1	1	3	4.0		
AGG.BASE CRS CL-5	SOIL CEMENT	ACHMSC	ACHMBC	ACHMSC	18' LT	648+00
	8.0	1	4	3.75W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	637+00
	8.0	4.0	8.5WX	3.0WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	637+00
	E	II)	1	1		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' LT	627+00
	8.0	ř	F	4.0		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	627+00
	5.0	4.0	2.0	5.0W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	627+00
	8.0	Ĭ	1	3.5		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	621+00
	8.0	5.0	1.5	5.5		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	621+00
	5.0	4.5	2.0	5.0W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	613+00
	8.0	ï	1	4.0		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	613+00
	1	ľ	ì	£.		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' LT	613+00
	1	ř	į	Ĭ		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' RT	605+00
	6.0	Ĭ	Ĭ	3.5W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	605+00
	8.0	2.0	2.0	5.0WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' RT	605+00
	7.0	ī	1	4.0		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' LT	598+00
	5.0	4.0	4.0	5.5W		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	06' LT	598+00
	1	i	ī	Į		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	24' RT	589+00
	8.0	1	1	5.0		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	15' RT	589+00
VDINGS	PAVEMENT SOUNDINGS				LOC.	STA.#
					1	

comments:

W=MULTIPLE LAYERS, X=STRIPPED
LOCATIONS MEASURED FROM C.L.OF EXISTING RDWY

	The state of the s	The state of the s	W-WIII TIDI E I AVEDS V-STDIDDED	-MIII TIDI E I AV	, w	
		4	(4)	(1)		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	24' LT	709+00
		9.0	3	2.5		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' LT	709+00
		4.0	4.0WX	7.0WX		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' LT	709+00
		9.0	1	3.5W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' RT	701+00
		4.0	9.0W	5.25W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' RT	701+00
		6.0	6.5WX	6.0WX		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' LT	692+00
		8.0	E	3.0WX		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' LT	692+00
		I	1	ı		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	24' LT	692+00
		8.0	1	4.0		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' LT	677+00
		4.0	6.25W	8.0W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' LT	677+00
		Ü	ı	f		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	24' LT	677+00
		8.0	Ĭ	4.0W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' RT	671+00
		3.0	8.0	5.0W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' RT	671+00
		į	1	1		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	24' LT	661+00
		8.0	1	3.75		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' LT	661+00
		4.0	9.0W	5.0W		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	06' LT	661+00
4.0	4.0	2.0	8.5	2.5		
AGG.BASE CRS CL-5	SOIL CEMENT	ACHMSC	ACHMBC	ACHMSC	06' RT	653+00
		8.0	1	4.0		
		AGG.BASE CRS CL-5	ACHMBC	ACHMSC	15' RT	653+00
	3.0	1	9.5W	6.5WX		
	AGG.BASE CRS CL-5	SOIL CEMENT	ACHMBC	ACHMSC	09' LT	648+00
NDINGS	PAVEMENT SOUNDINGS				LOC.	SIA.#
VIII VIII VIII VIII VIII VIII VIII VII	BAILER COM					

comments:

W=MULTIPLE LAYERS, X=STRIPPED LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

717+00	06' RT	ACHMSC 3.5WX	ACHMBC 8.0WX	AGG.BASE CRS CL-5
717+00	15' RT	ACHMSC 5.0W	ACHMBC	AGG 10.0
725+00	18' LT	ACHMSC 3.0	ACHMBC	
725+00	29' LT	ACHMSC	ACHMBC	
725+00	06' LT	ACHMSC 7.0W	ACHMBC 4.5W	
732+00	15' RT	ACHMSC 4.5	ACHMBC	
732+00	06' RT	ACHMSC 3.5W	ACHMBC 8.0W	
741+00	06' LT	ACHMSC 9.0W	ACHMBC 5.0W	
741+00	15' LT	ACHMSC 3.5	ACHMBC	
741+00	24' LT	ACHMSC	ACHMBC	
750+00	06' RT	ACHMSC 6.0WX	ACHMBC 5.5WX	
750+00	15' RT	ACHMSC 2.25	ACHMBC	
750+00	24' RT	ACHMSC	ACHMBC	
756+00	15' LT	ACHMSC 2.5	ACHMBC	
756+00	06' LT	ACHMSC	ACHMBC	

comments: W=MULTIPLE LAYERS, X=STRIPPED
LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

6.0WX

7.0WX

3.0

#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/22/16 SEQUENCE NO 1  JOB NUMBER - CA0704 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 - 07  SUPPLIER NAME - STATE DISTRICT NO 07  NAME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S)  PROJECT ENGINEER - NOT APPLICABLE  PIT/QUARRY - ARKANSAS  LOCATION - CALHOUN COUNTY DATE SAMPLED - 01/14/16						
LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST	IER	TY				CEIVED - 01/15/16
MATERIAL DESC SOI		EY - R VALUE- PAV	EME	ENT SOUNDING		
LAB NUMBER SAMPLE ID TEST STATUS	-	20160251 S007 INFORMATION ONLY	-	20160252 S008 INFORMATIO	_	20160253 S009 INFORMATION ONLY
STATION LOCATION DEPTH IN FEET	-	477+00 06' RT 0-5	**	477+00 15' RT 0-5	- -	477+00 24' RT 0-5
MAT'L COLOR MAT'L TYPE		BR/GR		BR/GR	- - -	BR/GR
LATITUDE DEG-MIN- LONGITUDE DEG-MIN-		33 42 49.50 92 28 15.50	:=:	33 42 92 28	49.50 - 15.40	33 42 49.50 92 28 15.30
3/4	10 -	100 99 95 86		100 98 89 78 67	(2) (3) (4) (4) (4) (4)	100 98 93 86
NO.	80 -	73	-	57		71
NO. LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- - -	54 ND NP A-4(0)	-	39 ND NP A-4(0)	- - - -	46 ND NP A-4(0)
ACHMSC	(IN) -	5 . OW	-	4.0W	-	s e sesen
ACHMBC SOIL CEMENT AGG.BASE CRS CL-5	(IN) - (IN) -	1.75 4.5 4.0	5.0	8.0	3 3 3	
	- - -				:= ::	
	-		-		÷	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

FLOCATIONS MEASURED FROM C.L. OF EXISTING RDWY.

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/2  JOB NUMBER - CA07  FEDERAL AID NO TO E  PURPOSE - SOIL  SPEC. REMARKS - NO S  SUPPLIER NAME - STAT  NAME OF PROJECT - HW  PROJECT ENGINEER - NO  PIT/QUARRY - ARKANS  LOCATION - CALHOU  SAMPLED BY - T. FRAZZ  SAMPLE FROM - TEST H  MATERIAL DESC SOIL	704 BE ASSI BECIFI BECIFI TE BY .79 - DT APPL BAS JIN COUN LEER HOLE	Y SAMPLE CATION CHEC  SOUTH (WID) ICABLE  TY	ENING) (				L CODE EAR R ID. STATE I NO.  MPLED CEIVED	- 20 - 1 - 07 - 07 - 01 - 01	/14/16 /15/16
LAB NUMBER	-	20160254		-	20160255		20160	256	
SAMPLE ID	-	S010			S011		- S012		
TEST STATUS	-	INFORMATION	N ONLY	=	INFORMATIO	N ONLY	- INFOR	ITAMS	ON ONLY
STATION		485+00			485+00		493+0		
LOCATION		06' LT		_	15' LT		06' F	TS	
DEPTH IN FEET		0-5		-	0-5		0-5		
MAT'L COLOR	_	BR/GR		-	BR/GR		BR/GF	5 ==	
MAT'L TYPE	-			-			_	4.0	F 00
LATITUDE DEG-MIN-S		33 42 5		-	33 42			43	
LONGITUDE DEG-MIN-S	SEC -	92 28 1	.8,40		92 28	18.50	92	28	18.90
% PASSING 2	IN			-					
1 1/2	IN			-			-		
	IN			-			100		
·	IN	100		_	100		98		
NO.		99		_	97		92		
	10 -	94		-	90		_ 79		
NO .	40 -	82		-	79		_ 62		
NO.	- 08	69		-	69		- 47		
NO. 2	200 -	54			50		36		
LIQUID LIMIT	_	29		-	21		- 19		
PLASTICITY INDEX	-	13		in.	06		- 05		
AASHTO SOIL	-	A-6(4)		-	A-4(0)		- A-4	(0)	
UNIFIED SOIL	-			-			_		
% MOISTURE CONTENT	-	18.1			20.8		15	5.0	
ACHMSC	(IN) -	5.50W		<u></u>	4.0		<u> </u>	OWX	
ACHMBC	(IN) -	2.5W		~			1		
SOIL CEMENT	(IN) -	3.5		-			4.	0	
AGG.BASE CRS CL-5	(IN) -	9.0		: To	8.0		10	.0	
	_			15			- :		
	_						-		
	••			=			#		
	-			-			_		
	-			_			_		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY.

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/22/16 SEQUENCE NO 3  JOB NUMBER - CA0704 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 - 07  SUPPLIER NAME - STATE DISTRICT NO 07  NAME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S)  PROJECT ENGINEER - NOT APPLICABLE  PIT/QUARRY - ARKANSAS  LOCATION - CALHOUN COUNTY DATE SAMPLED - 01/14/16  SAMPLED BY - T. FRAZIER							
		T X					
SAMPLE FROM - TEST HO					DATE TES		
MATERIAL DESC SOIL	SURVI	EY - R VALUE- I	PAVEME	ENT SOUNDING	GS		
LAB NUMBER	_	20160257	_	20160258	32	20160259	
SAMPLE ID	_	S013	-	S014		S015	
TEST STATUS	_	INFORMATION ON	LY -	INFORMATIO	ON ONLY -	INFORMATION ONLY	
STATION	-	493+00	-	502+00	·=	502+00	
LOCATION	-	15' RT	-	06' LT	Œ	15' LT	
DEPTH IN FEET	-	0-5	_	0-5	-	0-5	
MAT'L COLOR	-	BR/GR	_	BR/GR	· · ·	BR/GR	
MAT'L TYPE	-		-		9		
LATITUDE DEG-MIN-SE	EC -	33 43 5.00			13.50 =	33 43 13.50	
LONGITUDE DEG-MIN-SE	EC -	92 28 18.90	)	92 28	19.40	92 28 19.50	
% PASSING 2	IN		*		æ		
1 1/2 3	IN				·		
3/4	IN	100	=		0.2	100	
3/8 3	IN	99	==:	100	:: <del>-</del>	99	
NO.	4 -	90	-	96	-	96	
	LO -	81	=	87	02	90	
NO.	40 -	70	-	74	92	79	
1.7.4	30 -	59	<del>-</del>	64	-	70	
NO 20	00 -	47		50		56	
LIQUID LIMIT	_	ND	1 <del></del>	ND	<u>=</u>	ND	
PLASTICITY INDEX	-	NP	-	NP	=	NP	
AASHTO SOIL	-	A-4(0)	_	A-4(0)	=	A-4(0)	
UNIFIED SOIL	-		-		= &		
% MOISTURE CONTENT	_	16.1	<del></del>	15.0	=	16.2	
ACHMSC (	IN) -	3.5	_	4.25WX	-	4.0	
	IN) -	H.H.	-	3.25WX	-	1 <del>434</del> 3	
	IN) -	- (-)	-	3.5	-		
AGG.BASE CRS CL-5 (	IN) -	8.0	-	8.0	-	8.0	
	_		-		T-1		
	_		_		-		
	-		-		-		
	-		-		-		
	-		-		-	8	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY.

## MICHAEL BENSON, MATERIALS ENGINEER . \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

JOB NUMBER - CAC FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRA SAMPLE FROM - TEST	AID NO TO BE ASSIGNED						
LAB NUMBER	-	20160260	=	20160261	-	20160262	
SAMPLE ID	-	S016	-	S017	-	S018	
TEST STATUS	-	INFORMATION ONLY	-	INFORMATION O	NLY -	INFORMATION ONLY	
STATION	-	502+00	-	509+00	( <del>40</del> )		
LOCATION			=======================================				
DEPTH IN FEET	-		=				
MAT'L COLOR	-	GR/BR	-	BR/GR	÷	BR/GR	
MAT'L TYPE		22 42 12 50	=		( <del>**</del>	12 00 10	
				33 43 20.4 92 28 19.4			
LONGITUDE DEG-MIN-	·SEC -	92 28 19.60		92 28 19.4	10	92 28 19.40	
% PASSING 2	IN		1		-		
·	: IN				-		
	: IN	100	17				
	IN	99	14	100	-	100	
NO.	4 -	96	le:	97	-	98	
NO.		93	ATT	90 77	100	93 82	
NO.		8 <i>9</i> 84	12	63	-		
	200 -	66	-	47	-	52	
	200	00		<b>T</b> /			
LIQUID LIMIT	_	19	*	21	=	^ ND	
PLASTICITY INDEX	-	03	- #3 55	06	-	NP	
AASHTO SOIL	-	A-4(0)	2	A-4(0)	-	A-4(0)	
UNIFIED SOIL	_	16 5	-	16.7	<i>∞</i>	37.0	
% MOISTURE CONTENT	-	16.5		10.7		17.9	
ACHMSC	(IN) -	55	-	5.25W	7	4.0	
ACHMBC	(IN) -	#:#S	77	2.75	E.	44	
SOIL CEMENT	(IN) -	B. B.		2.5	34		
AGG.BASE CRS CL-5	(IN) _		-	9.0	18	8.0	
	-		=		-		
	-		-				
	-				-		
	-		-				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY.

#### MICHAEL BENSON, MATERIALS ENGINEER

\*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\* - 02/22/16 DATE SEQUENCE NO. - 5 JOB NUMBER - CA0704 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 - 07 DISTRICT NO. - 07 SUPPLIER NAME - STATE NAME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S) PROJECT ENGINEER - NOT APPLICABLE PIT/QUARRY - ARKANSAS LOCATION - CALHOUN COUNTY DATE SAMPLED - 01/14/16 SAMPLED BY - T.FRAZIER DATE RECEIVED - 01/15/16 SAMPLE FROM - TEST HOLE DATE TESTED - 02/22/16 MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS - 20160264 - 20160265 - S020 - S021 LAB NUMBER - 20160263 SAMPLE ID - S019 - INFORMATION ONLY - INFORMATION ONLY - INFORMATION ONLY TEST STATUS - 517+00 = 517+00 517+00 STATION 15' LT 24' LT LOCATION - 06' LT 0-5 - 0-5 DEPTH IN FEET 0-5 - BR/GR BR/GR BR/GR MAT'L COLOR MAT'L TYPE LATITUDE DEG-MIN-SEC - 33 43 28.20 = 33 43 28.20 = 33 43 28.20 92 28 20.90 92 28 21.00 LONGITUDE DEG-MIN-SEC -92 28 20.70 2 IN -% PASSING 1 1/2 IN. -3/4 IN. - 100 100 100 3/8 IN. - 99 98 4 - 90 99 NO. NO. 10 - 77 95 96 . 86 NO. 40 - 66 92 <del>-</del> 76 NO. 80 - 54 84 NO. 200 - 40 57 63 - ND LIQUID LIMIT - ND = 17 PLASTICITY INDEX - NP 02 NP AASHTO SOIL - A-4(0) A-4(0) A-4(0)UNIFIED SOIL 18.7 % MOISTURE CONTENT 16.9 ± 17.8 (IN) -- 4.0 ACHMSC 3.0WX ACHMBC (IN) -5.0WX ---(IN) -=== SOIL CEMENT 4.0 AGG.BASE CRS CL-5 (IN) 7.0 8.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/2  JOB NUMBER - CA07  FEDERAL AID NO TO B  PURPOSE - SOIL  SPEC. REMARKS - NO S  SUPPLIER NAME - STAT.  NAME OF PROJECT - HW  PROJECT ENGINEER - NO  PIT/QUARRY - ARKANS  LOCATION - CALHOU  SAMPLED BY - T.FRAZI  SAMPLE FROM - TEST H  MATERIAL DESC SOIL	04 E ASSI SURVE PECIFI E Y.79 - T APPI AS N COUN ER	Y SAMPLE CATION CHECK SOUTH (WIDENING) ICABLE		MATERIAL SPEC. YE SUPPLIER COUNTY/S DISTRICT  DATE SAM DATE REC DATE TES	ID 1 TATE - 07
LAB NUMBER	_	20160266	= 20160267	-	20160268
SAMPLE ID	_	S025	- S026		S027
TEST STATUS	_			ON ONLY	INFORMATION ONLY
STATION	_		525+00		533+00
LOCATION	-	06' RT	15' RT	72	06' LT
DEPTH IN FEET	-	0-5	0 - 5	-	0-5
MAT'L COLOR	_	BR/GR	_ BR/GR		BR/GR
MAT'L TYPE	-		======================================		
LATITUDE DEG-MIN-S	EC -	33 43 35.80	33 43	35.80	33 43 43.40
LONGITUDE DEG-MIN-S	EC -	92 28 23.10	92 28	23.00	92 28 25.70
% PASSING 2	IN		-		8
1 1/2			=		
	IN -		-	25	
	IN	100	100	: <del>*</del>	100
NO.	4 -	97	99	5 <del>.7</del> 0	99
NO.	10 -	94	96		95
NO.	40 -	87	94	2	86
NO.	80 -	76	æ 89	350	77 =
NO. 2	00 -	56	64		62
LIQUID LIMIT		1.7	- ND	_	20
PLASTICITY INDEX	_	17 03	- NP	_	04
AASHTO SOIL	_	A-4(0)	- A-4(0)	_	A-4(0)
UNIFIED SOIL	_	A-4(0)	- A-4(0)	-	A-4(0)
% MOISTURE CONTENT		15.2	- 19.6	-	19.0
			17.0		
	(IN) -	3.50		-	7.50WX
	(IN) -		- 122	-	2.5X
AGG.BASE CRS CL-5	(IN) _	8.0	-	-	5.0
	_		325		
	-			-	
	-		-	-	
	-		:秦: (2)	57 A1	
	_			_	
	_				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAO FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T. FRAZ SAMPLE FROM - TEST	B NUMBER - CA0704 MATERIAL CODE - SSRVPS  DERAL AID NO TO BE ASSIGNED SPEC. YEAR - 2014  RPOSE - SOIL SURVEY SAMPLE SUPPLIER ID. = 1  EC. REMARKS - NO SPECIFICATION CHECK COUNTY/STATE - 07  PPLIER NAME - STATE DISTRICT NO 07  ME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S)  OJECT ENGINEER - NOT APPLICABLE  T/QUARRY - ARKANSAS  CATION - CALHOUN COUNTY DATE SAMPLED - 01/14/16  MPLED BY - T.FRAZIER DATE RECEIVED - 01/15/16  MPLE FROM - TEST HOLE DATE TESTED - 02/22/16  TERIAL DESC SOIL SURVEY - R VALUE - PAVEMENT SOUNDINGS  LAB NUMBER - 20160272 - 20160273 - 20160274  SAMPLE ID - S028 - S029 - S030						
	_						
	_						
TEST STATUS	_			TION ONLY - INFORMATION ONLY			
STATION	_	541+00	- 549+00	549+00			
LOCATION	_	15' RT	06' LT	- 15' LT			
DEPTH IN FEET	_	0-5	0-5	0-5			
MAT'L COLOR	_	BR/GR	BR/GR	BR/GR			
MAT'L TYPE	-		= =				
LATITUDE DEG-MIN-	SEC -	33 43 51.20		3 59.00 - 33 43 59.10			
LONGITUDE DEG-MIN-	SEC -	92 28 27.90	92 2	8 28.80 92 28 28.90			
% PASSING 2	IN		-				
1 1/2	IN		=	.=.			
3/4	IN -		=	=			
3/8	IN	100	100	100			
NO.	4 -	97	97	99			
	10 -	92	_ 89	94			
	40 -	83	_ 77	. <u>-</u> 85 °			
NO.	80 <i>-</i> 200 <i>-</i>	73	- 66 54	- 75 59			
NO.	200 -	57	54				
LIQUID LIMIT	-	23	- 20	- ND			
PLASTICITY INDEX	-	06	- 05	- NP			
AASHTO SOIL	-	A-4(1)	- A-4(0)	A-4(0)			
UNIFIED SOIL	-	00.6	- 17 (	15.0			
% MOISTURE CONTENT	_	20.6	17.8	16.0			
ACHMSC	(IN) -	4.0W	= 5.0W	- 3.5W			
ACHMBC	(IN) -	55	2.0X	- ੂ ਨ			
SOIL CEMENT	(IN) -	#E	4.0				
AGG.BASE CRS CL-5	(IN) -	9.0	8.0	8.0			
	-		-	-			
	_		340	<b>*</b>			
	_		=: =:	-			
	_		=0 =0	~ =			

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/2  JOB NUMBER - CA07  FEDERAL AID NO TO B  PURPOSE - SOIL  SPEC. REMARKS - NO S  SUPPLIER NAME - STAT  NAME OF PROJECT - HW  PROJECT ENGINEER - NO  PIT/QUARRY - ARKANS  LOCATION - CALHOU  SAMPLED BY - T.FRAZI  SAMPLE FROM - TEST B  MATERIAL DESC SOIL	04 SE ASSI SURVE SPECIFI SE SY.79 - OT APPI SAS IN COUN	Y SAMPLE CATION CHECK SOUTH (WIDENING) ICABLE		MATERIAL SPEC. YEA SUPPLIER COUNTY/S' DISTRICT  DATE SAM DATE REC DATE TES	ID 1 FATE - 07 NO 07  PLED - 01/14/16 EIVED - 01/15/16
LAB NUMBER	-	20160275	- 2016027	6	20160277
SAMPLE ID	-	S031	_ S032		S033
TEST STATUS	-	INFORMATION ONLY	- INFORMA	TION ONLY -	INFORMATION ONLY
STATION	-	549+00	557+00	-	557+00
LOCATION	-	24' LT	_ 06' RT	-	15' RT
DEPTH IN FEET	-	-	0-5	-	0-5
MAT'L COLOR	-	GR/BR	_ GR/BR	24	BR/GR
MAT'L TYPE	-	22 42 50 10	- 22 4	4 7 00	33 44 7.00
LATITUDE DEG-MIN-S		33 43 59.10 92 28 29.10		4 7.00 = 8 29.40	33 44 7.00 92 28 29.20
LONGITUDE DEG-MIN-S	EC -	92 20 29,10	<i>J</i>	0 29.40	JZ Z0 ZJ.Z0
% PASSING 2	IN -		-	-	
1 1/2			_	-	
	IN: -		-		100
·	IN	100	100	2	* 98
NO.		99	98 - 93	-	93 85
NO. NO.	10 -	95 93	_ 93 _ 87	28	75
	80 -	81	- 70	1 <del>70</del>	62
NO. 2		68	52	_	46
LIQUID LIMIT	-	ND	- ND	>=	ND
PLASTICITY INDEX	-	NP	- NP	12	NP
AASHTO SOIL	-	A-4(0)	A-4(0)		-A-4(0)
UNIFIED SOIL	_	15.6	14.7	,	18.2
% MOISTURE CONTENT	_	15.6			10.2
	(IN) -	(#.#)	= 5.0WX	-	4.5W
	(IN) -	(m)	2.5X	-	364
SOIL CEMENT	(IN) -		4.0	_	8.0
AGG.BASE CRS CL-5	(IN)		7 . 0	_	0.0
	20		: <del>=</del> :	-	
	<del>=</del> .		( <del></del>	-	
	20		1 <del>2</del>	-	
	=			-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE - 02/3  JOB NUMBER - CAO  FEDERAL AID NO TO D  PURPOSE - SOID  SPEC. REMARKS - NO S  SUPPLIER NAME - STAY  NAME OF PROJECT - H  PROJECT ENGINEER - NO  PIT/QUARRY - ARKAN  LOCATION - CALHO  SAMPLED BY - T.FRAZ  SAMPLE FROM - TEST S  MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPI SAS UN COUN IER HOLE	Y SAMPLE CATION CHECK SOUTH (WIDENING) ICABLE			SPEC. Y SUPPLIE COUNTY/ DISTRIC  DATE SA DATE RE DATE TE	L CODE - SSRVPS  EAR - 2014  R ID 1  STATE - 07  T NO 07  MMPLED - 01/14/16  CCEIVED - 01/15/16
LAB NUMBER	-			20160279		- 20160280
SAMPLE ID		20160278 S034		S035		= 20160280 = S036
TEST STATUS	_					- INFORMATION ONLY
STATION		565+00	-	565+00	K	= 565+00
LOCATION	-	06' LT	*	15' LT		24' LT
DEPTH IN FEET	-	0-5	-	0-5		0-5
MAT'L COLOR	-	BR/GR	-	BR/GR		BROWN
MAT'L TYPE	-		-			=
LATITUDE DEG-MIN-S			-	33 44 1		33 44 14.80
LONGITUDE DEG-MIN-	SEC -	92 28 30.20		92 28 3	0.30	92 28 30.40
% PASSING 2	IN		(4)			#
	IN		**			-
	IN		30 20			100
	IN	100	_	100		- 99 - 00
	4 -	91	-	99		98
NO.		77	77.0	91 76		96 93
NO.		63 52	20	65		= 86
NO.		41	-	54		72
	200	44				
LIQUID LIMIT	-	ND	*	22		- 30
PLASTICITY INDEX	-	NP		06		- 13 - 7 (7)
AASHTO SOIL UNIFIED SOIL	_	A-4(0)		A-4(1)		- A-6(7)
% MOISTURE CONTENT	_	18.7	*	17.7		22.5
						22.3
ACHMSC	(IN) -	4.0W	***	3.0		表 (表表) (2) (2)
ACHMBC	(IN) -	3.0 4.0	-			
SOIL CEMENT AGG.BASE CRS CL-5	(IN) -	5.0	-	6.0		===
AGG.DADE CKD CE-5	(114)	5 . 0	-	0.0		<b>3</b> 5
	<b>3</b>		-			
			-			
	=2		; <del>; ; ;</del> ;			<b>.</b> ≈0
	=		-			S 2

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L.OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE       -       02/24/16       SEQUENCE NO       -       11         JOB NUMBER       -       CA0704       MATERIAL CODE -       -       SSRVE         FEDERAL AID NO       TO BE ASSIGNED       SPEC. YEAR -       -       2014         PURPOSE       -       SOIL SURVEY SAMPLE       SUPPLIER ID       -       1         SUPPLIER NAME -       -       NO SPECIFICATION CHECK       COUNTY/STATE -       -       07         NAME OF PROJECT -       -       HWY.79 - SOUTH (WIDENING)(S)       -       07         PROJECT ENGINEER -       NOT APPLICABLE       -       NOT APPLICABLE         PIT/QUARRY -       ARKANSAS       -       DATE SAMPLED -       01/14         SAMPLED BY -       T.FRAZIER       DATE RECEIVED -       01/15         SAMPLE FROM -       TEST HOLE       DATE TESTED -       02/22         MATERIAL DESC -       SOIL SURVEY - R VALUE - PAVEMENT SOUNDINGS								
LAB NUMBER	_	20160281	-	20160282	_	20160	283	
SAMPLE ID	_			S038		S039		
TEST STATUS	-						MATION ONLY	
STATION	_			573+00		581+0		
LOCATION	-	06' RT		15' RT	-	06' L		
DEPTH IN FEET	-	0-5	-	0-5	-	0-5		
MAT'L COLOR	_	BROWN	-	BR/GR	_	BR/GR		
MAT'L TYPE	-		-		_			
LATITUDE DEG-MIN-	SEC -		-	33 44 2		33	44 30.70	
LONGITUDE DEG-MIN-	SEC -	92 28 30.50		92 28 3	30.40	92	28 30.90	
% PASSING 2	IN		_		-			
1 1/2	IN		-		-			
3/4	IN		-		-			
3/8	IN	100	-	100	-	100		
NO.	4 -	97	_	92	- 2	97		
NO.		92	_	82	_	91		
NO.	40 -	85	-	72	-	84		
NO.		74	-	62	=	74		
NO.	200 -	49		42		61		
LIQUID LIMIT	-	ND		ND	_	21		
PLASTICITY INDEX	_	NP		NP	-	07		
AASHTO SOIL	-	A-4(0)	-	A-4(0)	-	A-4 (	1)	
UNIFIED SOIL	_				_			
% MOISTURE CONTENT	-	11.4	-	16.2	_	18	.7	
ACHMSC	(IN) -	5.5WX	-	4.5	-	4.5	wx	
ACHMBC	(IN) -	2.0X	-		-	2.0		
SOIL CEMENT	(IN) -	4.0			17			
AGG.BASE CRS CL-5	(IN)	7 . 0	-	8.0	3	5.0	•	
	_		_		-	·		
	_					8		
	-		•		5	è		
	-		522			i i		
	-		-		:-			

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAC FEDERAL AID NO TO	BE ASSI L SURVE SPECIFI ATE HWY.79 - NOT APPI NSAS DUN COUN ZIER HOLE	Y SAMPLE CATION CHE SOUTH (WI ICABLE	IDENING) (		NT SOUNDIN	MATERIA SPEC. SUPPLIA COUNTY DISTRIA DATE S DATE R DATE I	AL YEA ER /SI CT	ID CATE - NO PLED - EIVED -	\$5 20 1 07 07	RVPS 14 /14	'16 '16
LAB NUMBER	93	20160284		-	20160285		_	201602	86		
SAMPLE ID	(44)	S040			S041			S042			
TEST STATUS	≅:	INFORMATI	ON ONLY	*	INFORMATI	ON ONLY		INFORM	ITAI	ON C	NLY
STATION	=	581+00		<u>.</u>	581+00		-	589+00			
LOCATION	=	15' LT		.⊽// 	24' LT		\ <del>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</del>	06' RI	1		
DEPTH IN FEET	<b>20</b>			-	0-5		_	0-5			
MAT'L COLOR	골인	BR/GR		$x \mapsto x \in X$	BROWN		æ	BR/GR			
MAT'L TYPE	×2			-			$\sigma$	8 11			
LATITUDE DEG-MIN-						30.70	-			38.	
LONGITUDE DEG-MIN-	·SEC	92 28	31.10		92 28	31.20		92	28	32.	60
% PASSING 2	IN			$\pm i$							
-	IN						-				
	IN			*							
	IN.	100		+	100		-	100			
NO.	4	99			97			99			
NO.		97		-	94 91		-	97 89			
NO.		93 88		-	84		-	76			
NO.		73			69		-	56			
	200										
LIQUID LIMIT	7	22			20		-	18			
PLASTICITY INDEX	320				04		_	03			
AASHTO SOIL	#3	A-4(3)		-	A-4(0)		_	A-4 (C	))		
UNIFIED SOIL	==:	21.0		-	19.8		_	7.0	0		
% MOISTURE CONTENT		21.9			19.0			10.	. 8		
ACHMSC	(IN) -	3 . 5		-			=	5.0	٧X		
ACHMBC	(IN) -			-	S#190			2.5			
SOIL CEMENT	(IN) -	17.7		_	2000		-	4.5			
AGG.BASE CRS CL-5	(IN)	9.0		-			<b>=</b> 70	7.0			
	=6			_			-				
	*			-			*				
	<b>≅</b> //			-			-				
	50 50			-			_				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/3 JOB NUMBER - CAO FEDERAL AID NO TO 3 PURPOSE - SOI SPEC. REMARKS - NO 3 SUPPLIER NAME - STA NAME OF PROJECT - HI PROJECT ENGINEER - NO PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST 3 MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL SAS UN COUN IER HOLE	Y SAMPLE CATION CHECK  SOUTH (WIDENING) ICABLE TY		SUPPLIER COUNTY/ST DISTRICT  DATE SAMI DATE RECI DATE TEST	CODE - SSRVPS  AR - 2014  ID 1  CATE - 07  NO 07  PLED - 01/14/16  EIVED - 01/15/16
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-S  LONGITUDE DEG-MIN-S	- - - - SEC -	S043 INFORMATION ONLY 589+00 15' RT 0-5 BR/GR	589+00 24' RT 0-5 BROWN	ONLY -	20160289 S045 INFORMATION ONLY 598+00 06' LT 0-5 BR/GR 33 44 45.90 92 28 38.30
% PASSING 2 1 1/2 3/4 3/8 NO. NO. NO.	IN IN IN IN 10 - 40 -	100 90 80 69 56	100 97 95 89 74 48		100 90 75 58 40 24
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT		12.2	20 04 A-4(0)	74 64 65 72	ND NP A-1-B(0)
ACHMSC ACHMBC SOIL CEMENT AGG.BASE CRS CL-5	(IN) - (IN) - - - - -	5.0			5.5W 4.0 4.0 5.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

AASHTO TESTS : T24 T88 T89 T90 T265

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# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE       - 02/22/16       SEQUENCE NO 1       14         JOB NUMBER       - CA0704       MATERIAL CODE - 5       5 SSRVPS         FEDERAL AID NO TO BE ASSIGNED       SPEC. YEAR - 2       2014         PURPOSE       - SOIL SURVEY SAMPLE       SUPPLIER ID 6       1         SPEC. REMARKS - NO SPECIFICATION CHECK       COUNTY/STATE - 6       0       0         SUPPLIER NAME - STATE       DISTRICT NO 6       0       0         NAME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S)       0       0       0         PROJECT ENGINEER - NOT APPLICABLE       DATE SAMPLED       0       0         PIT/QUARRY - SAMPLED BY - T. FRAZIER       DATE SAMPLED       0       0         SAMPLE FROM - TEST HOLE       DATE RECEIVED - 7       0       0       0         MATERIAL DESC SOIL SURVEY - R VALUE - PAVEMENT SOUNDING       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0									
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-LONGITUDE DEG-MIN-	- - - - - - - SEC -	20160290 S046 INFORMATION ONLY 598+00 15' LT 0-5 BR/GR	- 20160291 - S047 - INFORMAT - 605+00 - 06' RT - 0-5 - BR/GR	- 20160292 - S048 ION ONLY - INFORMATIO - 605+00 - 15' RT - 0-5 - BR/GR - 33 44					
% PASSING 2 1 1/2 3/4 3/8 NO. NO. NO.	IN IN IN IN 4 - 10 - 40 - 80 - 200 -	100 99 97 92 80 68	- - 100 - 99 - 93 - 85 - 73 - 63 46	- 100 - 92 - 77 - 59 - 40 - 26 19					
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- - - -	04	- 20 - 05 - A-4(0) - 17.6	- ND - NP - A-1-B(0) -					
ACHMSC ACHMBC SOIL CEMENT AGG.BASE CRS CL-5	(IN) - (IN) - (IN) - - - - - -	4.0	- 5.0WX - 2.0 - 2.0 - 8.0	- 3.5W  - 6.0 					

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L.OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

	5011	,							
DATE - 02/	22/16					NO 15			
JOB NUMBER - CA0	704				MATERIAL	CODE - SSRVPS			
FEDERAL AID NO TO					SPEC. YEA	AR - 2014			
PURPOSE - SOIL SURVEY SAMPLE SUPPLIER ID 1									
SPEC. REMARKS - NO	SPECIFI	CATION CHECK			COUNTY/ST	TATE - 07			
SUPPLIER NAME - STA					DISTRICT	NO 07			
NAME OF PROJECT - H			(S)						
PROJECT ENGINEER - N		ICABLE							
PIT/QUARRY - ARKAN									
LOCATION - CALHO		ITY				PLED - 01/14/16			
SAMPLED BY - T.FRAZ						EIVED - 01/15/16			
SAMPLE FROM - TEST						TED - 02/22/16			
MATERIAL DESC SOI	L SURV	EY - R VALUE- PAV	EME	ENT SOUNDING	GS				
LAB NUMBER	_	20160293	4	20160294	° <b>≥</b>	20160295			
SAMPLE ID	-	S049		S050	-	S051			
TEST STATUS	_	INFORMATION ONLY	**	INFORMATIO	ON ONLY -	INFORMATION ONLY			
STATION	_	605+00	-	613+00	(A)	613+00			
LOCATION	_	24' RT	-	06' LT	~	15' LT			
DEPTH IN FEET	_	0-5	*	0-5	3 <del>4</del>	0-5			
MAT'L COLOR	_	BROWN	-	BR/GR		BR/GR			
MAT'L TYPE	-		(C)		·				
LATITUDE DEG-MIN-	SEC -	33 44 51.80	**	33 44	59.10 =	33 44 59.10			
LONGITUDE DEG-MIN-	SEC -	92 28 42.60		92 28	46.30	92 28 46.50			
% PASSING 2	IN		_		_	ja:			
	IN		-		_				
•	IN		-		-				
	IN	100	*	100	-	100			
	4 -	95		91	-	99			
NO.		87	-	83	-	95			
	40 -	79	-	70	_	83			
NO.	80 -	67		57	-	65			
	200 -	56		46		49			
						10			
LIQUID LIMIT	<b>≅</b>	~=	-	ND	_	19 05			
PLASTICITY INDEX	-	06	_	NP	_				
AASHTO SOIL	-50	A-4(1)	_	A-4(0)	_	A-4(0)			
UNIFIED SOIL		01.0	_	16.0	=	10.0			
% MOISTURE CONTENT		21.8		16.9		19.0			
ACHMSC	(IN) -	42	-	5.0W	4	4.0			
ACHMBC	(IN) -		-	2.0	₩.				
SOIL CEMENT	(IN) -		-	4.5	=				
AGG.BASE CRS CL-5	(IN) _	27.00	_	5.0	(7) (2)	8.0			
	===		_		-				
	<del>≅</del> /(		-		<del>(20</del> )				
	<b>3</b> 0		-		-				
	70		-						
	i→::		-		-				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/3 JOB NUMBER - CAO FEDERAL AID NO TO 3 PURPOSE - SOI SPEC. REMARKS - NO 3 SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST 3 MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL SAS UN COUN IER HOLE	Y SAMPLE CATION CHE SOUTH (WI ICABLE TY	DENING)			SEQUENCE MATERIA SPEC. YESUPPLIE COUNTY/DISTRICE DATE SEDATE REDATE TEGS	AL ZEA ZR ZT ZT	CODE - R - ID PATE - NO PLED -	SS 20 1 07 07	RVPS 14 /14/16
LAB NUMBER	_	20160296		20	20160297		-	201602	9.9	
SAMPLE ID	_	S052			S053			S054		
TEST STATUS	_		ON ONLY			ON ONLY			ITAI	ON ONLY
STATION	_		.011 01121		621+00			621+00		
LOCATION	_			-	06' RT		-	15' R7	1	
DEPTH IN FEET	_	0-5		-	0-5		-	0-5		
MAT'L COLOR	_	BR/GR		-	BR/GR		_	BR/GR		
MAT'L TYPE	-			_			72			
LATITUDE DEG-MIN-			59.10	4	33 45	7.10	-	33	45	7.10
LONGITUDE DEG-MIN-	SEC -	92 28	46.50		92 28	46.70		92	28	46.60
3/4 3/8 NO. NO.	4 - 10 - 40 - 80 -	100 99 90 81 70 66 55			100 99 86 73 59 44			100 98 89 78 64 50 38		
LIQUID LIMIT	_	22		_	19		-	ND		
PLASTICITY INDEX	_	07		_	05		æ	NP		
AASHTO SOIL	_			-	A-2-4(0)		155	A-4 (	))	
UNIFIED SOIL	-			-			77	=		
% MOISTURE CONTENT	-	18.7		-	13.0		_	12	. 1	
ACHMSC	(IN) -	5 500		_	5.5		_	3.5		
ACHMBC	(IN) -			_	1.5		-	(25.7)		
SOIL CEMENT	(IN) -			-	5.0		-			
AGG.BASE CRS CL-5	(IN) -			-	8.0		-	8.0		
	_			_			_			
	_			_			_			
	-			-			_			
	-			-			-	0		
	-			-			-			

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

## MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE - 02/ JOB NUMBER - CAO FEDERAL AID NO TO DURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL SAS UN COUN GIER HOLE	Y SAMPLE CATION CHECK  SOUTH (WIDENING) ICABLE TY			MATERIAL SPEC. YE SUPPLIER COUNTY/S DISTRICT  DATE SAN DATE REC DATE TES	ID 1 TATE - 07 NO 07  MPLED - 01/14/16 CEIVED - 01/15/16
LAB NUMBER	_	20160299	77	20160300	-	20160301
SAMPLE ID	_	S055		S056		S057
TEST STATUS	_		-	INFORMATIO		INFORMATION ONLY
STATION	_	627+00	$+ \epsilon$	627+00		627+00
LOCATION	-	06' LT	= 1	15' LT	-	24' LT
DEPTH IN FEET	-	0-5	7	0-5	_	0-5
MAT'L COLOR	-	BR/GR	_	BR/GR	_	BROWN
MAT'L TYPE	-		æ:		-	
LATITUDE DEG-MIN-		33 45 13.10	-	33 45	13.10 -	33 45 13.10
LONGITUDE DEG-MIN-	SEC -	92 28 46.80		92 28	46.90	92 28 47.10
% PASSING 2	IN		34		_	
1 1/2	IN		**		-	2
3/4	IN		77	100	-	100
3/8	IN	100	-	99	-	98
NO.	4 -	96	_	95	-	98
NO.	10 -	92	7.	89	_	94
NO.	40 -	81	4	76	-	77
NO.	80 -	65	-	61	-	67
NO.	200 -	47		43		54
LIQUID LIMIT	_	ND	_	17	n <del>-</del>	ND
PLASTICITY INDEX	_	NP	-	02	0=	NP
AASHTO SOIL	_	A-4(0)	-		20	A-4(0)
UNIFIED SOIL	-	( - /	-		K <del>s</del>	
% MOISTURE CONTENT	_	12.9	-	10.9	· ·	14.4
	(IN) -	5.0W		4.0	_	N. Carlotte
ACHMSC ACHMBC	(IN) -	2.0	-	4.0	9	
SOIL CEMENT	(IN) -	4.0	_	(==		
AGG.BASE CRS CL-5	(IN) -	5.0	-	8.0	:	
	W === (W) =	5.0			5	(1) (2) - 왕
	_		:50.0 7450			
	_		_			•
	_		-			53
	-		1			€. •

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAO FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T. FRAZ SAMPLE FROM - TEST MATERIAL DESC SOI	BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL ISAS OUN COUN ZIER HOLE	Y SAMPLE CATION CHECK SOUTH (WIDENING) ICABLE TY	EME	ENT SOUNDING	MATERI SPEC. SUPPLI COUNTY DISTRI DATE S DATE S DATE T	AL YEA ER /ST CT CT	ID 1 PLED - 01/14/16 EIVED - 01/15/16 CED - 02/22/16
LAB NUMBER	-	20160302		20160303		-	20160304
SAMPLE ID	-	S058		S059			S060
TEST STATUS	-	INFORMATION ONLY			N ONLY		
STATION	-		-	637+00		-	648+00
LOCATION	-	00 111	_	15' RT		_	09' LT
DEPTH IN FEET	-	0-5	-	0-5		_	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR		_	BR/GR
MAT'L TYPE	-	22 45 02 00	-	22 4- 4		-	22 45 24 20
LATITUDE DEG-MIN-	SEC -	33 45 23.00		33 45 2 92 28 4		-	33 45 34.10
LONGITUDE DEG-MIN-	SEC -	92 28 46.50		92 28	46.50		92 28 46.10
% PASSING 2	IN		=			-	
	IN <sub>e</sub> -		-			-	
•	IN		=	100		-	
	IN	100	_	96		_	100
	4 -		-	88		_	96
NO.		76		78		-	91
NO.			772	64		-	85
NO.	80 - 200 -	52	-	48 35		-	79 66
NO.	200 -	36		35			66
LIQUID LIMIT	-	ND	-	ND		-	25
PLASTICITY INDEX	-	NP	-	NP		<del></del>	08
AASHTO SOIL	-	A-4(0)	2000 2000	A-2-4(0)		ä	A-4(3)
UNIFIED SOIL	-		-			-	
% MOISTURE CONTENT	-	11.1		12.9			18.6
ACHMSC	(IN) -	3.0WX	-	3.75W		-	6.5WX
ACHMBC	(IN) -	8.5WX	-	**		-	9.5W
SOIL CEMENT	(IN) -	4.0	-			-	
AGG.BASE CRS CL-5	(IN) _	8.0	_	8.0		_	3.0
	_		_			_	
	_		-			_	
	-		-			-	
	-		-			-	
	-		-			-	
REMARKS - W=MULTIPI	E LAYER	S, X=STRIPPED					

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

3

## MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE - 02/ JOB NUMBER - CAO FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL SAS UN COUN IER HOLE	Y SAMPLE CATION CHI SOUTH (WI ICABLE	ECK			MATERIAL SPEC. YE SUPPLIER COUNTY/S DISTRICT  DATE SAI DATE REC DATE TES	NO 19 CODE - SSRVPS  AR - 2014 ID 1 TATE - 07 NO 07  MPLED - 01/14/16 CEIVED - 01/15/16 STED - 02/22/16	
LAB NUMBER							00160205	
LAB NUMBER SAMPLE ID		20160305 S061			20160306 S062		20160307 S063	
TEST STATUS	_	ZMEODMATI SUGI	ON ONLY	-	TNEODMATT	- VIIIO IIC	INFORMATION ONLY	V
STATION	_	648+00	ION ONLI	-	648+00	ON ONLI	653+00	-
LOCATION		18' LT		27/	30' LT		06' RT	
DEPTH IN FEET		0-5		-	0-5	72	0-5	
MAT'L COLOR		BR/GR		=	BR/GR	K	BROWN	
MAT'L TYPE	-	,		-				
LATITUDE DEG-MIN-	SEC -	33 45	34.00	-17	33 45		33 45 38.50	
LONGITUDE DEG-MIN-	SEC -	92 28	46.20		92 28	46.30	92 28 44.90	
% PASSING 2	IN			-				
	IN			=				
·	IN			=)		-	100	
	IN	100		-	100	92	99	
·	4 -	97		-	98	-	98	
NO.	10 -	90		27	93	-	96	
NO.	40 -	78		20 20	88	1973 27 <b>4</b>	92	
NO.	80 -	68		-	81	-	<b># 83</b>	
NO.	200 -	58			68		59	
LIQUID LIMIT	_	19			23		22	
PLASTICITY INDEX	_				08	_	07	
AASHTO SOIL	_	A-4(0)		223	A-4(3)	_		
UNIFIED SOIL	_	A 1(0)			11 1(3)	-	11 1 (1)	
% MOISTURE CONTENT	_	18.1		-	15.1	-	18.5	
ACHMSC	(IN) -	4.0			:5:5		2.5	
ACHMBC	(IN) -				588 SB		8.5	
ACHMSC	(ÎN) -			-		a <del>.</del>	2.0 4.0	
SOIL CEMENT	(IN) _	0.0	-	100			4.0	
AGG.BASE CRS CL-5	(IN) _	8 . 0		-	18.81	2	4.0	
	-			-		₩	2	
	_			_		-		
	_			-				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L.OF EXISTING RDWY

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# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE - 02/ JOB NUMBER - CA0 FEDERAL AID NO TO DEPLIER NAME - SOIL SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N	704 BE ASSI L SURVE SPECIFI TE WY.79 -	Y SAMPLE CATION CHECK SOUTH (WIDENIN			MATERIAL SPEC. YEA SUPPLIER COUNTY/ST	NO 20 CODE - SSRVPS AR 2014 ID 1 FATE - 07 NO 07
PIT/QUARRY - ARKAN LOCATION - CALHO		TV			ኮአጥፑ ሮአጠ	PLED - 01/14/16
SAMPLED BY - T.FRAZ						EIVED - 01/15/16
SAMPLE FROM - TEST	HOLE					TED - 02/22/16
MATERIAL DESC SOI	L SURVE	EY - R VALUE-	PAVEME	ENT SOUNDIN	IGS	
LAB NUMBER	-	20160308	-	20160309	Sign	20160310
SAMPLE ID	_	S064	-	S065	84	S066
TEST STATUS	-	INFORMATION ON	LY -	INFORMATI	ON ONLY -	INFORMATION ONLY
STATION	-	653+00	_	661+00	S-75	661+00
LOCATION		15' RT 0-5	_	06' LT	% <u>=</u>	15' LT 0-5
DEPTH IN FEET		BR/GR	-	0-5 BROWN	:=	BR/GR
MAT'L COLOR MAT'L TYPE	_	Bit/ Git	_	21101111	S#6	#
LATITUDE DEG-MIN-	SEC -	33 45 38.5	o –	33 45	46.30	33 45 46.30
LONGITUDE DEG-MIN-				92 28	42.30	92 28 42.40
% PASSING 2	IN		*		_	
	IN		.=2.0		-	
3/4	IN	100	=)	100	=	100
3/8	IN	98	20	99		98
NO.	4 -	97		99		96
NO.		93	<b>3</b> )	97	-	92
	40 -	88	=	93	8=	86
NO .		81	-	87	\;	79
NO.	200 -	67		74		66
LIQUID LIMIT	## A	24	-	37	≣	33
PLASTICITY INDEX	<b>≔</b> 8		-	24	=	19
AASHTO SOIL	=	A-4(4)	_	A-6(15)	-	A-6(10)
UNIFIED SOIL	=:		_	10.5	2	
% MOISTURE CONTENT	=	19.4		19.7		24.2
ACHMSC	(IN) -	4.0	-	5.0W	-	3.75
ACHMBC	(IN) -		-	9.0W	-	(500)
AGG.BASE CRS CL-5	(IN) -	8.0	_	4.0	-	8.0
	<b>3</b> 9		_		-	
	-		_		-	
	<b>34</b> 8		-		-	
	#0		-		_	
	3		-		-	g.

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - F PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRA SAMPLE FROM - TEST	TO4 BE ASSIL SURVE SPECIFITE WY.79 TOT APPI ISAS DUN COUNCIER HOLE	EY SAMPLE CATION CHECK - SOUTH (WIDENING) LICABLE		MATER SPEC. SUPPL COUNT DISTR  DATE DATE DATE	IAL YEA IER Y/ST ICT SAM REC	NO 21 CODE - SSRVPS AR - 2014 ID 1 CATE - 07 NO 07 PLED - 01/14/16 EIVED - 01/15/16 TED - 02/22/16
MATERIAL DESC SO						
LAB NUMBER		20160311		20160312		20160313
SAMPLE ID		S067		S068		S069
TEST STATUS	220					INFORMATION ONLY 671+00
STATION LOCATION		661+00 24' LT	-	671+00 06' RT		15' RT
DEPTH IN FEET		0-5	-	0-5	22	0-5
MAT'L COLOR		BR/GR	-	BR/GR	44	BR/GR
MAT'L TYPE	-	211, 011	-		***	
LATITUDE DEG-MIN-	SEC =	33 45 46.30	-	33 45 55.60	=======================================	33 45 55.50
LONGITUDE DEG-MIN-	SEC -	92 28 42.60		92 28 37.30		92 28 37.20
% PASSING 2	IN.		-		_	
	IN.		-		_	
•	IN.		-		-	
	IN	100	2	100	-	100
NO.	4 -	96	-	99	-	98
NO.	10 =	92	-	97	_	95
NO.	40 -	88	-	92	_	87
NO.			-		-	81
NO.	200 -	64		79		72
LIQUID LIMIT	=	26	; <del></del>	53	-	48
PLASTICITY INDEX	:=:	12	77	35	-	33
AASHTO SOIL	9-6	A-6(5)	-	A-7-6(28)	*	A-7-6(22)
UNIFIED SOIL	→ 8				=	
% MOISTURE CONTENT	=	16.8	-	36.6		21.6
ACHMSC	(IN) -	( Table )	: ***	5.0W	1770	4.0W
ACHMBC	(IN) -	:5:5	-	8.0	_	
AGG.BASE CRS CL-5	(IN) -	(2000 miles)	-	3.0	:#:	8.0
	-		-		-	
	2		*		_	
	-		-		-	
	( <del>-</del> 2)		-		-	
			3.55 73.55		1000 1000	
	_		2.73		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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## MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

DATE - 02/ JOB NUMBER - CAO FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPI SAS UN COUN GIER HOLE	Y SAMPLE CATION CHECK SOUTH (WIDENING) ICABLE		MATERI SPEC. SUPPLI COUNTY DISTRI DATE I DATE I	IAL YEA IER Y/ST ICT SAMI	PLED - 01/14/16 EIVED - 01/15/16
LAB NUMBER	_	20160314	_	20160315	2	20160316
SAMPLE ID	_	S070		S071		S072
TEST STATUS	_					INFORMATION ONLY
STATION	-	677+00	-	677+00		677+00
LOCATION	-	06' LT	-	15' LT	77	24' LT
DEPTH IN FEET	_	0-5	-	0-5	_	0-5
MAT'L COLOR	_	BR/GR	_	BR/GR	_	BROWN
MAT'L TYPE	-		-		7	5
LATITUDE DEG-MIN-		33 46 1.00	-	33 46 1.10	22	33 46 1.10
LONGITUDE DEG-MIN-	SEC -	92 28 34.50		92 28 34.70		92 28 34.70
% PASSING 2	IN		_		_	
1 1/2	IN		-	×	-	
3/4	IN	100	-		-	
3/8	IN	96	_	100	_	100
	4 -		_	97	_	98
NO.	· ·		-	93	_	95
	40 -	78	-	82	-	92
NO.		71	-	72	-	82
NO.	200 -	57		58		57
LIQUID LIMIT	-	40	-	30	2	24
PLASTICITY INDEX	-	26	-	17	-	08
AASHTO SOIL	-	A-6(11)	-	A-6(6)	-	A-4(2)
UNIFIED SOIL	-		_		2	
% MOISTURE CONTENT	-	21.9		29.6		20.9
ACHMSC	(IN) -	8 . OW	-	4.0	-	
ACHMBC	(IN) -	6.25W	_	(M) (M)	-	75.5
AGG.BASE CRS CL-5	(IN) -	4.0	-	8.0	-	
	_		-		; <del></del> ;	
	_		-		225	
	-		-		(#)	
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REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAC FEDERAL AID NO TO	BE ASSI L SURVE SPECIFI TE WY.79 - TOT APPI ISAS DUN COUN ZIER HOLE	EY SAMPLE CATION CHECK SOUTH (WIDENING) LICABLE		DATE SAMPLED - 01/14/16 DATE RECEIVED - 01/15/16 DATE TESTED - 02/22/16
LAB NUMBER	_	20160317	-	20160318 - 20160319
SAMPLE ID	_	S073	-	S074 = S075
TEST STATUS	-	INFORMATION ONLY		INFORMATION ONLY - INFORMATION ONLY
STATION	-	692+00	-	692+00 - 692+00
LOCATION	-	06' LT		15' LT 24' LT
DEPTH IN FEET	-	0-5	_	0-5
MAT'L COLOR	-	BR/GR	-	BR/GR BROWN
MAT'L TYPE	-	22 46 14 10	-	32 46 14 10
LATITUDE DEG-MIN-		33 46 14.10 92 28 27.50	-	10 11.10 = 1.00
LONGITUDE DEG-MIN-	SEC -	92 28 27 50		92 28 27.70 92 28 27.90
% PASSING 2	IN		-	-
	IN		#T/2	# # # # # # # # # # # # # # # # # # #
	IN	100	_	100
	IN	99	-	99 - 100
NO.	4 -	96	-	97 - 99 - 96 - 96
NO.		91 86	-	96 <u> </u>
NO.	80 -	78	-	91 - 85
NO.		57		52 58
LIQUID LIMIT	-	23	:=:	
PLASTICITY INDEX AASHTO SOIL	_	06 A-4(1)	-	
UNIFIED SOIL	_	A-4 (1)	-	A-4(0) - A-6(4)
% MOISTURE CONTENT	_	22.8	=	17.6
ACHMSC				
ACHMBC	(IN) -	6.0WX 6.5WX		3.0WX
AGG.BASE CRS CL-5	(IN) -	6.0	-	8.0
1100.DEDI CRO CH-J	- TTAY	0.0	-	8.0
	-			<u>-</u>
	-		-	- -
	_		-	- -
	-		-	<del>-</del>
	-		-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED - LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAC FEDERAL AID NO TO	BE ASSI L SURVE SPECIFI TE WY.79 - OT APPL ISAS DUN COUN ZIER HOLE	Y SAMPLE CATION CHECK  SOUTH (WIDENING) ICABLE TY			MATERIAI SPEC. YE SUPPLIES COUNTY/S DISTRICT  DATE SA DATE RE DATE TE	E NO 24 L CODE - SSRVPS EAR - 2014 R ID 1 STATE - 07 T NO 07  MPLED - 01/14/16 CEIVED - 01/15/16 STED - 02/22/16
	LI BOKVE					
3/4 3/8 NO. NO. NO.	SEC - SEC - IN IN IN 10 - 40 - 80 -	S076 INFORMATION ONLY 701+00 06' RT 0-5 BROWN  33 46 22.20 92 28 23.10  100 98 95 90 84		701+00 15' RT 0-5 BR/GR 33 46 2 92 28 1	ONLY -	20160322 S078 INFORMATION ONLY 709+00 06' LT 0-5 BR/GR 33 46 29.40 92 28 19.40 100 98 97 91 79 67
	200 -	67		63		52
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	-	27 11 A-6(5) 22.0		27 11 A-6(4) 24.7	2 7 2 2 2	27 10 A-4(2) 23.4
ACHMSC ACHMBC AGG.BASE CRS CL-5	(IN) - (IN) - - - - -	5.25W 9.0W 4.0	F 16 3 3 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3.5W  9.0	54 55 55 55 55 55 55 55 55 55 55 55 55 5	7.0WX 4.0WX 4.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED - LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

AASHTO TESTS : T24 T88 T89 T90 T265

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAC FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN	BE ASSILL SURVE SPECIFIATE HWY.79 - NOT APPINSAS DUN COUNZIER HOLE	Y SAMPLE CATION CHECK SOUTH (WIDENING) LICABLE			SPEC. YE SUPPLIER COUNTY/S DISTRICT  DATE SAM DATE REC DATE TES	CODE - SSRVPS AR - 2014 ID 1 TATE - 07 NO 07  PLED - 01/14/16 EIVED - 01/15/16	5
LAB NUMBER	-	20160323	1	20160324	-	20160325	
SAMPLE ID	-	S079	. =	S080	7	S081	
TEST STATUS	-	INFORMATION ONLY	-	INFORMATIO	N ONLY =	INFORMATION ON	ĽΥ
STATION	_		-	709+00	-	717+00	
LOCATION	-		-	24' LT	-	06' RT	
DEPTH IN FEET	-	• •	-	0-5	-	0-5	
MAT'L COLOR	-	BR/GR	-	BROWN	-	BR/GR	
MAT'L TYPE	CEC -	22 46 20 40	·	22 46 0		22 46 26 60	
LATITUDE DEG-MIN- LONGITUDE DEG-MIN-		33 46 29.40 92 28 19.60	-		9.50 =	33 46 36.60 92 28 15.50	
	SEC -	92 20 19.00		92 28 ]	L9.70	92 28 15.50	
% PASSING 2	IN		-		2		
	: IN				÷		
	IN -		-				
·	IN	100	5 <del>4</del> 5	100	S.	100	
NO.	4 -	98	-	99	-	99	
NO.		95	=	99	=	93	
		88	-	99	G.	86	
NO.		81 67	-	97 74	-	76	
110.	200 -	6 /		74		54	
LIQUID LIMIT	-	30	-	26	==	37	
PLASTICITY INDEX	-	13	-	09	9	19	
AASHTO SOIL	-	A-6(6)	-	A-4(4)		A-6(7)	
UNIFIED SOIL	-		_		_		
% MOISTURE CONTENT	' -	22.2		18.3		26.0	
ACHMSC	(IN) -	2.5	-	w.w.	) <del>=</del>	3.5WX	
ACHMBC	(IN) -	(#:#)	$\overline{\tau}$	(+:+)	=	8.0WX	
AGG.BASE CRS CL-5	(IN) -	9.0	-		-	8.0	
	_		-		-		
	_		77		-		
	_		2		-		
	-				:-		
	-		*		S=		
	-		ः		\ <del>-</del>		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

AASHTO TESTS : T24 T88 T89 T90 T265

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN	704 BE ASSIGNED L SURVEY SAMP SPECIFICATION TE WY.79 - SOUTH OT APPLICABLE SAS UN COUNTY IER HOLE	I CHECK I (WIDENING)(		SPEC. YEA SUPPLIER COUNTY/ST DISTRICT DATE SAME DATE RECE DATE TEST	CODE - SSRVPS  R - 2014  ID 1  PATE - 07  NO 07  PLIED - 01/14/16  EIVED - 01/15/16
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-	- 717+0 - 15' R - 0-5 - BROWN -	MATION ONLY 0 T	725+00 06' LT 0-5 BR/GR - 33 46 4	N ONLY	20160328 S084 INFORMATION ONLY 725+00 18' LT 0-5 BR/GR 33 46 44.00
3/4	IN IN IN IN 100 4 - 99 10 - 96 40 - 90 80 - 84	28 15.40	92 28 1 - - - 100 98 96 86 69 55	- - - - - - - -	92 28 11.90  100 - 99 96 89 79 71 52
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL * MOISTURE CONTENT ACHMSC ACHMBC AGG.BASE CRS CL-5	- 26 - 10 - A-4(	. 7	- 37 - 20 - A-6(8) - 25.0 - 7.0W - 4.5W - 5.0	  	26 11 _A-6(3) 22.8 3.0
DEMARKS - W-MILTIDI				- - - - -	4.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

2

#### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 02/ JOB NUMBER - CAO FEDERAL AID NO - TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - CALHO SAMPLED BY - T.FRAZ SAMPLE FROM - TEST MATERIAL DESC SOI	704 BE ASSI L SURVE SPECIFI TE WY.79 - OT APPI SAS UN COUN LIER HOLE	Y SAMPLE CATION CHECK  SOUTH (WIDENING) ICABLE		SPEC. YEAR SUPPLIER COUNTY/ST DISTRICT  DATE SAM DATE RECURDATE TEST	CODE - SSRVPS AR - 2014 ID 1 FATE - 07 NO 07  PLED - 01/14/16 EIVED - 01/15/16
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-  LONGITUDE DEG-MIN-	- - - - - - SEC -	725+00 29' LT 0-5 BR/GR	732+00 06' RT 0-5 BR/GR	ON ONLY =	20160331 S087 INFORMATION ONLY 732+00 15' RT 0-5 BROWN 33 46 50.20 92 28 8.20
% PASSING 2 1 1/2 3/4 3/8 NO. NO.	IN IN IN IN 4 - 10 - 40 - 80 -	100 95 88 84 76 66	- 100 - 98 - 94 - 89 - 81 - 64		100 98 94 85 73 58
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT ACHMSC	(IN) -		- 31 - 17 - A-6(8) - 30.1 - 3.5W	- - - - -	23 09 -A-4(2) 21.9 4.5
ACHMBC AGG.BASE CRS CL-5	(IN) -		- 8.0W - 4.0 - - - - -	- - - - - - - -	8.0

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

		, , , , , , , , , , , , , , , , , , , ,					
	/22/16				SEQUENCE	NO 28	
JOB NUMBER - CAC	704				MATERIAL	CODE - SSRVPS	
FEDERAL AID NO TO BE ASSIGNED SPEC. YEAR - 2014							
		Y SAMPLE			SUPPLIER	ID 1	
SPEC. REMARKS - NO	SPECIFI	CATION CHECK			COUNTY/S	TATE - 07	
SUPPLIER NAME - STA	ATE				DISTRICT	NO 07	
NAME OF PROJECT - F	HWY.79 -	- SOUTH (WIDENING)	(S)			*	
PROJECT ENGINEER - 1	OT APPI	LICABLE					
PIT/QUARRY - ARKAN	ISAS						
LOCATION - CALHO	OUN COUN	1TY			DATE SAM	IPLED - 01/14/16	
SAMPLED BY - T.FRA	ZIER				DATE REC	EIVED - 01/15/16	
SAMPLE FROM - TEST	HOLE					TED - 02/22/16	
MATERIAL DESC SO	IL SURV	EY - R VALUE- PAV	EME	ENT SOUNDING	GS		
LAB NUMBER	_	20160332	_	20160333	_	20160334	
SAMPLE ID		S088		S089		S090	
TEST STATUS	_					INFORMATION ONLY	
STATION		741+00	_			741+00	
	_		_	741+00			
LOCATION		06' LT 0-5	_	15' LT	-	24' LT	
DEPTH IN FEET			-	0-5	<del>=</del> 1	0-5	
MAT'L COLOR MAT'L TYPE	-	BR/GR	-	BR/GR	<b>=</b>	BR/GR	
		22 46 50 50	-	22 45	<u> </u>	22 46 50 60	
LATITUDE DEG-MIN-				33 46 !		33 46 58.60	
LONGITUDE DEG-MIN-	SEC -	92 28 4.10		92 28	4.30	92 28 4.50	
% PASSING 2	IN		_		-	(3 <del>e</del> )	
1 1/2	IN		-		-		
3/4	: IN	100	-		-	100	
3/8	IN	99	-	100	-	98	
NO.	4 -	94	-	99	-	89	
NO.	10 -	88	_	95	-	76	
NO.	40 -	81	_	84	_	64	
NO.	80 -	68	_	73	_	50	
NO.	200 -	53		58		39	
T TOUTD I THE				0.0			
LIQUID LIMIT	-	22	-	23	-	22	
PLASTICITY INDEX	_	06	-	08	-	0 /	
AASHTO SOIL	-	A-4(0)	-	A-4(2)	=	A-4(0)	
UNIFIED SOIL	_		-		=		
% MOISTURE CONTENT	· -	17.4		15.6		18.7	
ACHMSC	(IN) -	9.0W	12	3.5	12		
ACHMBC	(IN) -	5.0W	-		:=:	<b></b>	
AGG.BASE CRS CL-5	(IN) -	4.0	$i\in$	8.0	·=	==	
	_				320		
	_				-		
	_		-		-		
	_		-				
	_		_		_		
	-		$\sim$		-		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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AASHTO TESTS : T24 T88 T89 T90 T265

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - H PROJECT ENGINEER - N PIT/QUARRY - ARKAN	704 BE ASSIGN L SURVEY SPECIFICE TE WY.79 - OT APPLICA SAS UN COUNT GIER HOLE	SAMPLE ATION CHECK SOUTH (WIDENING)( CABLE			MATERI SPEC. SUPPLI COUNTY DISTRI DATE S DATE S	ICE NO 29  CAL CODE - SSRVPS  YEAR - 2014  JER ID 1  JER ID 07  JER ID 01/14/16  JER ID 01/15/16  JER ID 02/22/16
LAB NUMBER	- 2	20160335	-	20160336		20160337
SAMPLE ID	- 5	3091	le:	S092		- S093
TEST STATUS	- :	INFORMATION ONLY	177	INFORMATIO	N ONLY	- INFORMATION ONLY
STATION	- 1	750+00	12	750+00		750+00
LOCATION	- (	06' RT	~	15' RT		- 24' RT
DEPTH IN FEET	- (	)-5	594	0-5		0-5
MAT'L COLOR	- I	BR/GR	100	BROWN		BR/GR
MAT'L TYPE	_		-			=:: =::
LATITUDE DEG-MIN-		33 47 7.30	$\sim$	33 47	7.30	33 47 7.30
LONGITUDE DEG-MIN-	SEC -	92 28 2.40		92 28	2.30	92 28 2.20
% PASSING 2	IN		_			_
1 1/2	IN		-			_
3/4	IN		-	100		- 100
3/8	IN	100	-	96		90
NO.	4 -	95	_	90		84
NO.	10 -	91	_	82		_ 78
NO.	40 -	85	-	72		_ 71
NO.		79	-	62		- 60
NO.	200 -	74		56		53
LIQUID LIMIT	_	50	-	44		- 43
PLASTICITY INDEX	_	34	*	29		- 28
AASHTO SOIL	_	A-7-6(24)	-	A-7-6(12)		A-7-6(11)
UNIFIED SOIL	_		$\overline{z}$			<u></u>
% MOISTURE CONTENT	-	31.6	-	26.2		31.4
ACHMSC	(IN) -	6.0WX	_	2.25		
ACHMBC	(IN) -	5.5WX	-	2.25		- 22
AGG.BASE CRS CL-5	(IN) -	3.0	-	722		
	- X		-			-
	-		-			~
	. [		-			=
	_		_			
	-		_			-
	-		-			$\times$
REMARKS - W=MULTIPL	E LAYERS	, X=STRIPPED				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

#### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - CAC FEDERAL AID NO TO PURPOSE - SOO SPEC. REMARKS - NO SUPPLIER NAME - STA NAME OF PROJECT - I PROJECT ENGINEER - I PIT/QUARRY - ARKAI	BE ASSI L SURVE SPECIFI ATE WY.79 - NOT APPI NSAS	Y SAMPLE CATION CHECK SOUTH (WIDENIN ICABLE	G) (S)		MATERIA SPEC. Y SUPPLIE COUNTY,	ER ID.	- - -	2014
LOCATION - CALHO SAMPLED BY - T.FRA SAMPLE FROM - TEST MATERIAL DESC SO	HOLE		PAVEME	NT SOUNDIN	DATE R	ECEIVED	-	01/14/16 01/15/16 02/22/16
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN- LONGITUDE DEG-MIN- % PASSING 2  1 1/2 3/4	- - - - - - - -	20160338 S094 INFORMATION ON: 756+00 06' LT 0-5	LY -	20160339 S095 INFORMATIO 756+00 15' LT 0-5 BR/GR				
NO. NO. NO. NO.	4 - 10 - 40 - 80 -	98 91 85 80 71	# # # ! #	96 90 81 74 69		-		
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- - -	34 16 A-6(9) 30.8	- - - -	41 24 A-7-6(15)	,	- - - - - - - - - - - - - - - - - -		
ACHMSC ACHMBC AGG.BASE CRS CL-5	(IN) - (IN) - (IN) - - - - -	6.0WX 7.0WX 3.0		2.5				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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# MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT \*\*\*

JOB NUMBER - FEDERAL AID NO PURPOSE - SPEC. REMARKS - SUPPLIER NAME - NAME OF PROJECT PROJECT ENGINEER PIT/QUARRY - A LOCATION - C SAMPLE FROM - T SAMPLE FROM - T	SOIL SURVEY SAMPLE NO SPECIFICATION CHE STATE - HWY.79 - SOUTH (WI - NOT APPLICABLE RKANSAS CALHOUN COUNTY FRAZIER	IDENING) (S)	SEQUENCE NO. MATERIAL CODE SPEC. YEAR SUPPLIER ID. COUNTY/STATE DISTRICT NO.  DATE SAMPLED DATE RECEIVE DATE TESTED  JAL RESULTS	E - RV - 2014 - 1 - 07 - 07
LONGITUDE DEG- % PASSING 2	- 502+00 - 24' LT - 0-5 - GR/BR - MIN-SEC - 33 43		- RV0 TION ONLY - INF - 589 - 24' - 0-5 - BRO - 3 59.10 - 3 8 29.10 9	ORMATION ONLY +00 RT WN 3 44 38.50 2 28 32.40
LIQUID LIMIT PLASTICITY INI AASHTO SOIL UNIFIED SOIL % MOISTURE CON	- A-4(0)	71 - ND - NP - A-4(0) -	4 - 21 - 06 - A	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

- LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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#### MICHAEL BENSON, MATERIALS ENGINEER

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

```
- 02/22/16
DATE
  SEQUENCE NO. - 2
JOB NUMBER - CA0704
  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 - 07
SUPPLIER NAME - STATE
   DISTRICT NO. - 07
NAME OF PROJECT - HWY.79 - SOUTH (WIDENING)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION
         - CALHOUN COUNTY
  DATE SAMPLED - 01/14/16
SAMPLED BY - T.FRAZIER
  DATE RECEIVED - 01/15/16
SAMPLE FROM - TEST HOLE
  DATE TESTED - 02/22/16
MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS
                     - 20160343 - 20160344
- RV099 - RV100
 LAB NUMBER
   - 20160345
 SAMPLE ID
  - RV101
 TEST STATUS
                     - INFORMATION ONLY - INFORMATION ONLY - INFORMATION ONLY
                     - 627+00 <del>-</del> 692+00
 STATION
   750+00
                                       - 24' LT
 LOCATION
  - 24' RT
                     - 24' LT
  - 0-5
                                      0-5
 DEPTH IN FEET
                   - 0-5
                                   _ BROWN
                 - BROWN
   _ BR/GR
 MAT'L COLOR
 MAT'L TYPE
 LATITUDE DEG-MIN-SEC - 33 45 13.10 - 33 46 14.10 - 33 47
   7.30
 LONGITUDE DEG-MIN-SEC - 92 28 47.10 92 28 27.90
   92 28 2.20
  % PASSING 2 IN. -
            1 1/2 IN. -
              3/4 IN. - 100
   100
                                      - 100
              3/8 IN. - 99
   98
             NO. 4 - 92
   98
   95
             NO. 10 - 83
NO. 40 - 74
   96
                                       _ 94
   88
             NO. 80 - 58
                                       - 92
             NO. 200 - 32
   51
   78
 LIQUID LIMIT
  12
  40
                     - ND
 PLASTICITY INDEX - NP
   06
  24
 AASHTO SOIL
                    - A-2-4(0)
   A-4(0)
  A-6(17)
 UNIFIED SOIL
 % MOISTURE CONTENT
```

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

LOCATIONS MEASURED FROM C.L. OF EXISTING RDWY

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