### ARKANSAS DEPARTMENT OF TRANSPORTATION



### SUBSURFACE INVESTIGATION

STATE JOB NO.		012275	
FEDERAL AID PROJEC	CT NO	STPF-0076(135)	
CADDO V	ALLEY – GAI	RLAND CO. LINE (PASSIN	G LANES) (S)
STATE HIGHWAY	7	SECTION	7 & 8
IN	CLA	RK & HOT SPRING	COUNTY

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



### ARKANSAS DEPARTMENT OF TRANSPORTATION

ARDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director

### MATERIALS DIVISION

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

May 6, 2019

TO:

Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT:

Job No. 012275

Caddo Valley - Garland Co. Line (Passing Lanes) (S)

Routes 7 Sections 7 & 8 Clark and Hot Spring Counties

Attached is the requested Soil Survey, strength data and Resilient Modulus test results for the above referenced job. The project consists of widening for passing lanes at four locations on Highway 7. Samples were obtained in the existing travel lanes, shoulder and ditch line.

Laboratory results indicate the subgrade soils consist primarily of moderately plastic sandy clay with isolated locations of highly plastic clay. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction. Rock was encountered at several locations within the project limits, these locations are listed below in Table 1.

Table 1 Location and Depth of Rock

Log mile	Location from Centerline	Depth (ft.)
4.53	6' Rt.	3.5
4.78	6', 14' & 19' Rt.	4.0, 4.0, 1.0
5.28	6', 14' & 22' Lt.	4.0, 2.5, 2.5
5.53	6' Rt.	3.5
5.73	6' Lt.	3.5
7.55	21' Lt.	2.0

Cross sections are not currently available. Earthwork recommendations will be made upon request when plans are further developed and cross sections become available.

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 Bismarck.

2. Asphalt Concrete Hot Mix

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	4.9	95.1
Binder Course	4.0	96.0
Base Course	3.6	96.4

Michael C. Benson Materials Engineer

MCB:pt:bjj Attachment

State Constr. Eng. - Master File Copy

District 6 Engineer District 7 Engineer

System Information and Research Div.

G. C. File

### MICHAEL BENSON, MATERIALS ENGINEER \*\*\* SOIL SURVEY STRENGTH TEST REPORT \*\*\*

DATE	- 04/18/2019	SEQUENCE NO 1
JOB NUMBER	- 012275	MATERIAL CODE - SSRV
		SPEC. YEAR - 2014
		SUPPLIER ID 1
		COUNTY/STATE - 07
		DISTRICT NO 07
JOB NAME -	CADDO VALLEY - GARLAND CO. LINE (PASSING	G LANES) (S)
*****	************	******
*	STATION LIMITS R-VALU	E AT 240 psi *
*****	***********	* * * * * * * * * * * * * * * * * * * *
	BEGIN JOB - END JOB 7	

RESILENT MODULUS

 STA. LM 1.60
 8486

 STA. LM 3.50
 7451

 STA. LM 4.53
 4917

 STA. LM 8.05
 7715

REMARKS -

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AASHTO TESTS : T190

JOB NAME: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)

**Materials Division** 

COUNTY NO. 7 DATE TESTED 4/19/2019

Michael Benson, Materials Engineer

COUN	II IVO.	,	DAIL ILSII	in .	+/ 13/	2019							
STA.#	LOC.	DEPTH	COLOR	#4	#10	#40 E	#80	#200 E S	L.L.	P.I	SOIL CLASS	LAB #: %M	OISTURE
LM 1.60	35 RT	0-5	RED	73	63	55	50	39	22	6	A-4(0)	RV85	
LM 3.50	21 LT	0-5	BROWN	87	81	76	72	61	22	5	A-4(1)	RV86	*
LM 4.53	21 RT	0-5	BROWN	64	58	52	48	39	23	6	A-4(0)	RV87	
LM 8.05	24 LT	0-5	BROWN	75	69	66	61	48	ND	NP	A-4(0)	RV88	
LM .60	06 RT	0-5	GRAY	97	93	89	74	53	ND	NP	A-4(0)	S17	12.3
LM .60	19 RT	0-5	GRAY	95	91	87	67	45	ND	NP	A-4(0)	S18	13.9
LM .60	35 RT	0-5	GRAY	96	93	89	74	52	ND	NP	A-4(0)	S19	14.4
LM .85	05 LT	0-5	GRAY	97	92	87	68	40	ND	NP	A-4(0)	S20	13.8
LM .85	18 LT	0-5	GRAY	88	81	77	72	21	ND	NP	A-2-4(0)	S21	14.3
LM .85	34 LT	0-5	GRAY	86	80	75	65	33	ND	NP	A-2-4(0)	S22	13
LM 1.10	05 RT	0-5	BROWN	100				91	43	23	A-7-6(22)	S23	11.6
LM 1.10	18 RT	0-5	BROWN	100				94	35	15	A-6(14)	S24	11.2
LM 1.10	37 RT	0-5	BROWN	95	89	80	74	65	33	16	A-6(8)	S25	23.4
LM 1.35	06 LT	0-5	BROWN	95	89	83	80	76	33	14	A-6(9)	S26	33.6
LM 1.35	18 LT	0-5	GRAY	95	89	82	76	69	32	13	A-6(7)	S27	22.4
LM 1.35	34 LT	0-5	BROWN	96	91	85	81	74	26	9	A-4(4)	S28	19.6
LM 1.60	06 RT	0-5	RED	97	92	83	79	75	49	24	A-7-6(18)	S29	18.5
LM 1.60	18 RT	0-5	RED	99	93	88	86	84	50	24	A-7-6(22)	S30	18
LM 1.60	35 RT	0-5	RED	96	91	86	84	80	36	15	A-6(11)	S31	16.4
LM 1.80	06 LT	0-5	GRAY	89	83	77	73	66	34	16	A-6(7)	S32	21.2
LM 1.80	18 LT	0-5	GRAY	96	92	87	81	70	30	13	A-6(7)	S33	20.4
LM 1.80	37 LT	0-5	BROWN	91	86	82	74	58	ND	NP	A-4(0)	S34	25.2
LM 2.75	05 RT	0-5	BROWN	99	98	95	93	83	29	10	A-4(7)	S35	17.6
LM 2.75	13 RT	0-5	BROWN	95	90	86	81	64	21	5	A-4(1)	S36	16.8
LM 2.75	22 RT	0-5	BROWN	85	78	71	65	47	ND	NP	A-4(0)	S37	17.9
LM 3.00	05 LT	0-5	BROWN	99	96	92	81	58	19	5	A-4(0)	S38	15.7

STA.	# LOC.	DEPTH	COLOR	#4	#10	#40 E	#80	#200 E S	L.L.	P.I.	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
LM 3.0	00 14 LT	0-5	BROWN	99	94	84	75	50	19	5	A-4(0)	S39	14.9
LM 3.0	00 21 LT	0-5	BROWN	98	92	85	75	45	ND	NP	A-4(0)	S40	17.4
LM 3.2	25 06 RT	0-5	BROWN	100	99	99	94	70	20	5	A-4(1)	S41	10.2
LM 3.2	25 14 RT	0-5	BROWN	99	97	97	92	69	ND	NP	A-4(0)	S42	18.3
LM 3.2	25 24 RT	0-5	BROWN	93	87	80	72	51	ND	NP	A-4(0)	S43	15.3
LM 3.5	50 06 LT	0-5	BROWN	86	80	76	67	49	20	4	A-4(0)	S44	20.1
LM 3.5	50 21 LT	0-5	BROWN	77	71	67	60	44	21	3	A-4(0)	S45	17.9
LM 3.7	75 06 RT	0-5	RD/BR	99	98	96	87	66	ND	NP	A-4(0)	S46	15.5
LM 3.7	75 24 RT	0-5	RD/BR	89	85	82	74	54	ND	NP	A-4(0)	S47	16
LM 3.9	95 06 LT	0-5	BROWN	97	94	91	86	66	21	5	A-4(1)	S48	19.7
LM 3.9	95 20 LT	0-5	BROWN	66	57	50	43	30	ND	NP	A-2-4(0)	S49	20.5
LM 4.5	53 06 RT	0-3.5z	BROWN	96	90	83	78	63	27	12	A-6(5)	S50	13.4
LM 4.5	53 14 RT	0-5	BROWN	94	86	79	72	56	20	5	A-4(0)	S51	14.1
LM 4.5	3 21 RT	0-5	BROWN	77	72	69	64	50	ND	NP	A-4(0)	S52	16.2
LM 4.7	'8 06 LT	0-4z	BROWN	98	90	82	75	58	19	6	A-4(1)	S53	5.7
LM 4.7	'8 14 LT	0-4z	BROWN	90	80	73	60	42	ND	NP	A-4(0)	S54	11
LM 4.7	'8 19 LT	0-1z	BROWN	90	81	74	61	36	ND	NP	A-4(0)	S55	7.2
LM 5.0	3 06 RT	0-5	BROWN	97	94	90	85	70	20	5	A-4(1)	S56	21.1
LM 5.0	3 14 RT	0-5	BROWN	94	91	86	80	65	22	7	A-4(2)	S57	23.1
LM 5.0	3 20 RT	0-5	BROWN	62	58	55	50	39	ND	NP	A-4(0)	S58	18.6
LM 5.2	8 06 LT	0-4z	BROWN	99	98	95	90	83	47	24	A-7-6(21)	S59	9.5
LM 5.2	8 14 LT	0-2.5z	BROWN	79	65	57	46	28	ND	NP	A-2-4(0)	S60	17.5
LM 5.2	8 22 LT	0-2.5z	BROWN	94	89	82	67	43	ND	NP	A-4(0)	S61	17.4
LM 5.5	3 06 RT	0-3.5z	BROWN	98	95	90	84	77	41	22	A-7-6(16)	S62	20.3
LM 5.5	3 14 RT	0-5	BROWN	98	95	90	78	55	23	9	A-4(2)	S63	15.9
LM 5.5	3 19 RT	0-5	BROWN	68	63	57	50	37	23	8	A-4(0)	S64	23.1
LM 5.7	3 06 LT	0-3.5z	GRAY	98	94	91	86	69	29	13	A-6(7)	S65	18
LM 5.7	3 14 LT	0-5	BROWN	98	95	92	88	75	33	14	A-6(9)	S66	18.7

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200 E S	L.L.	P.I.	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
LM 5.73	21 LT	0-5	RED	78	70	61	53	<i>E S</i> 37	23	6	A-4(0)	S67	14.9
LM 7.30	06 RT	0-5	RED	97	95	91	89	81	30	13	A-6(9)	S68	18.3
LM 7.30	15 RT	0-5	RED	92	86	82	79	63	28	11	A-6(4)	S69	25.5
LM 7.30	23 RT	0-5	GRAY	94	91	89	85	64	21	15	A-6(5)	S70	19.3
LM 7.55	06 LT	0-5	BR/GR	93	85	75	69	60	42	20	A-7-6(10)	S71	25.4
LM 7.55	15 LT	0-5	BR/GR	98	96	89	81	73	53	29	A-7-6(21)	S72	16.9
LM 7.55	21 LT	0-2z	BR/GR	69	55	42	35	27	ND	NP	A-2-4(0)	S73	15.7
LM 7.80	05 RT	0-5	BR/GR	99	96	87	82	78	44	21	A-7-6(16)	S74	29.2
LM 7.80	15 RT	0-5	BR/GR	96	93	87	83	79	58	30	A-7-6(26)	S75	26.4
LM 7.80	25 RT	0-5	BR/GR	100				90	55	28	A-7-6(29)	S76	22.8
LM 8.05	05 LT	0-5	BROWN	97	90	84	78	62	22	7	A-4(2)	S77	14.8
LM 8.05	14 LT	0-5	BR/GR	96	87	78	71	53	19	4	A-4(0)	S78	15.9
LM 8.05	24 LT	0-5	BROWN	88	81	73	67	53	21	6	A-4(0)	S79	16.4
LM 8.30	05 RT	0-5	BROWN	95	90	83	79	66	22	7	A-4(2)	S80	10.8
LM 8.30	15 RT	0-5	BROWN	69	59	49	43	35	23	6	A-2-4(0)	S81	10.3
LM 8.30	22 RT	0-5	BR/GR	43	30	21	17	11	ND	NP	A-1-9(0)	S82	11.8
LM 8.50	06 LT	0-5	BR/GR	94	86	77	72	64	28	10	A-4(4)	S83	22.2
LM 8.50	15 LT	0-5	BROWN	89	82	75	71	64	28	10	A-4(4)	S84	22.1

DATE TESTED 4/19/2019

Arkansas State Highway Transporation Department

012275

JOB:

COUNTY NO.

Materials Division

 $JOB\ NAME$ : CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)

Michael Benson, Materials Engineer

AGG. BASE CRS. CL-AGG. BASE CRS. CL-AGG. BASE CRS. CL-**ACHIM BC ACHIM BC** ACHIM BC PAVEMENT SOUNDINGS 1.75X AGG. BASE CRS. CL-5 AGG. BASE CRS. CL-5 AGG. BASE CRS. CL-5 ACHIM BC 6.5W ACHIM BC ACHIM BC 0.25 AGG. BASE CRS. CL-5 **ACHIM SC ACHM SC ACHIM SC** ACHM BC **ACHIM BC ACHIM BC** 3.5X 0.75 BST BST BST AGG. BASE CRS. CL-5 AGG. BASE CRS. CL-5 AGG. BASE CRS. CL-5 **ACHIM BC ACHIM BC ACHIM BC ACHIM BC** ACHIM BC ACHIM BC ACHM SC **ACHIM SC** ACHM BC **ACHIM BC** ACHM BC ACHM SC **ACHIM BC** ACHIM BC 7.75W 8.5W 1.25X 7.0W 1.25 6.5 **ACHIM SC ACHIM SC ACHIM SC ACHIM SC ACHM SC ACHIM SC ACHIM SC** ACHIM SC **ACHIM SC** ACHM SC **ACHIM SC ACHIM SC ACHIM SC ACHIM SC** ACHIM SC ACHIM SC **ACHM SC** 2.75W 4.75W 6.25W 3.25W 3.0W 2.5W 6.0W 5.0W 3.5W 1.75 3.0W 7.5W 34 LT 05 RT 18 RT 35 RT 37 RT 06 RT 18 RT 18 LT 06 LT 34 LT 06 LT **06 RT** 35 RT 05 LT 18 LT 19 RT 18 LT STA.# LOC. LM 1.80 LM 1.10 LM 1.35 LM 1.35 LM 1.60 LM 1.60 LM 1.80 LM 1.10 LM 1.10 LM 1.35 LM 1.60 LM .60 LM .85 LM .85 LM .60 LM .60 LM .85

Monday, May 06, 2019

W=MULTIPLE LAYERS, X=STRIPPED

comments:

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AGG. BASE CRS. CL-5	AGG. BASE CRS. CL-5 8.0	AGG. BASE CRS. CL-5 7.0	AGG. BASE CRS. CL-5	ACHM SC	ACHM SC	ACHM SC	AGG. BASE CRS. CL-5 8.0	AGG. BASE CRS. CL-5 6.0	AGG. BASE CRS. CL-5	ACHMBC 2.75	ACHMBC	ACHMBC 1.75						
ACHM BC	ACHM BC 2.75	ACHM BC 4.75W	ACHIM BC	ACHM SC 3.75X	ACHIM SC 3.75W	ACHIM SC	ACHM SC	ACHIM SC 6.25W	ACHM SC	ACHM SC 3.5WX	ACHM SC	ACHM SC 3.75X	ACHM BC	ACHM BC 3.75X	ACHM BC	ACHM BC	ACHM BC 6.0	ACHM BC
ACHIM SC	ACHM SC 10.0W	ACHM SC 2.75	ACHIM SC	ACHIM SC 2.5	ACHM SC 2.5	ACHM SC	ACHM SC 10.75W	ACHM SC 2.5X	ACHM SC	ACHM SC 6.5W	ACHM SC	ACHM SC 5.5W	ACHM SC	ACHM SC 6.75W	ACHM SC	ACHM SC 10.5WX	ACHM SC 6.5W	ACHIM SC
37 LT	05 RT	13 RT	22 RT	05 LT	14 LT	21 LT	06 RT	14 RT	24 RT	17 90	21 LT	06 RT	24 RT	06 LT	20 LT	06 RT	14 RT	21 RT
LM 1.80	LM 2.75	LM 2.75	LM 2.75	LM 3.00	LM 3.00	LM 3.00	LM 3.25	LM 3.25	LM 3.25	LM 3.50	LM 3.50	LM 3.75	* LM 3.75	LM 3.95	LM 3.95	LM 4.53	LM 4.53	LM 4.53

PAVEMENT SOUNDINGS

STA.# LOC.

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Page 3 of 4

06 LT ACHM SC ACHM BC 13.0W 2.0 14 LT ACHM SC ACHM BC 19 LT ACHM SC ACHM BC 06 RT ACHM SC 12.0W 14 RT ACHM SC 6.5W 20 RT ACHM SC 10.0W 14 LT ACHM SC 06 RT ACHM SC 11.5W 19 RT ACHM SC 06 RT ACHM SC 10.0W 22 LT ACHM SC 06 RT ACHM SC 11.5W 14 LT ACHM SC 06 RT ACHM SC 06 LT ACHM SC 06 RT ACHM SC 10.0W 21 LT ACHM SC 06 RT ACHM SC 10.0W 21 LT ACHM SC 06 RT ACHM SC 10.0W 21 LT ACHM SC 06 RT ACHM SC 10.0W 21 LT ACHM SC 10.0W 21 LT ACHM SC	AGG. BASE CRS. CL-5 4.0 AGG. BASE CRS. CL-5	
13.0W ACHM SC 8.75W ACHM SC 12.0W ACHM SC 10.0W ACHM SC 6.5W ACHM SC 11.5W ACHM SC	2.0 AGG. BASE CRS. CL-5 4.0 AGG. BASE CRS. CL-5	
8.75W ACHM SC	AGG. BASE CRS. CL-5 AGG. BASE CRS. CL-5	
ACHM SC  12.0W  ACHM SC  6.5W  ACHM SC  10.0W  ACHM SC  11.5W  ACHM SC	AGG. BASE CRS. CL-5	
ACHM SC  12.0W  ACHM SC  ACHM SC  10.0W  ACHM SC  ACHM SC  11.5W  ACHM SC		
23 RT ACHM SC		
06 LT ACHM SC ACHM SC 2.5 4.5X	ACHM SC 2.0	

Monday, May 06, 2019

STA.# LOC.	LOC.			PAVEMENT SOUNDINGS	SDAI
LM 7.55	15 LT	ACHM SC	ACHM SC	ACHM SC	
		5.5	ı	ı	
LM 7.55	21 LT	ACHM SC	ACHM SC	ACHM SC	
		ı	1		
LM 7.80	05 RT	ACHM SC	ACHM SC	ACHM SC	
		4.0		1.0	
LM 7.80	15 RT	ACHM SC	ACHM SC	ACHM SC	
		5.0	1	1	
LM 7.80	25 RT	ACHM SC	ACHM SC	ACHM SC	
		1	ı	1	
LM 8.05	05 LT	ACHM SC	ACHM SC	ACHM SC	
		4.0	1.0X	5.0	
LM 8.05	14 LT	ACHM SC	ACHM SC	ACHM SC	
		6.5	1		
LM 8.05	24 LT	ACHM SC	ACHM SC	ACHM SC	
		ı	ı		
LM 8.30	05 RT	ACHM SC 9.25W			
LM 8.30	15 RT	ACHM SC 5.0			
LM 8.30	22 RT	ACHM SC			
		1			
LM 8.50	06 LT	ACHM SC	ACHM SC	ACHM SC	
		4.0	1.0X	3.5	
LM 8.50	15 LT	<b>ACHIM SC</b>	ACHM SC	ACHM SC	

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

Job No. Date Sampled: Date Tested: Name of Project:	012275 2/26/19 April 16, 2019 CADDO VALLEY - GARLAND CO. LINE (PAS	Material Code Station No.: Location: SSING LANES)(S)	SSRVPS LM 1.60 35'RT
County: Sampled By: Lab No.: Sample ID: LATITUDE:	Code: 7 Name: CALHOUN DICKERSON/BUNTON 20190720 RV85	Depth: AASHTO Class: Material Type (1 or LONGITUDE:	0-5 A-4 (0) 2
1. Testing Inform	nation:		
roomig imom	Preconditioning - Permanent Strain > 5% (Y=	=Yes or N= No)	N
	Testing - Permanent Strain > 5% (Y=Yes or N Number of Load Sequences Completed (0-15)	5.f	N 15
2. Specimen Info	rmation:		
*	Specimen Diameter (in):		
	Тор		3.95
	Middle		3.94
	Bottom		3.96
	Average		3.95
	Membrane Thickness (in):		0.01
	Height of Specimen, Cap and Base (in):		8.02
	Height of Cap and Base (in):		0.00
	Initial Length, Lo (in):		8.02
	Initial Area, Ao (sq. in):		12.18
	Initial Volume, AoLo (cu. in):		97.68
3. Soil Specimen	Weight:		
	Weight of Wet Soil Used (g):		3286.90
4. Soil Properties	:		
	Optimum Moisture Content (%):		12.5
	Maximum Dry Density (pcf):		117.1
	95% of MDD (pcf):		111.2
	In-Situ Moisture Content (%):		N/A
5. Specimen Prop	perties:		
o. opcomici i ioj	Wet Weight (g):		3286.90
	Compaction Moisture content (%):		12.6
	Compaction Wet Density (pcf):		128.21
	Compaction Dry Density (pcf):		113.86
	Moisture Content After Mr Test (%):		12.5
6. Quick Shear Te	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	lus, Mr:	10425	(Sc)^-0.24750(S3)^0.40093
8. Comments			
9. Tested By:	GW D	Date: April 16, 2019	

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

LM 1.60 SSRVPS 35'RT Material Code Station No.: Location: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S) April 16, 2019 2/26/19 012275 Name of Project: Date Sampled: Date Tested: Job No.

Depth: CALHOUN Name: DICKERSON/BUNTON Code: 7 County:

Material Type (1 or 2): LONGITUDE: AASHTO Class: 20190720 **RV85** Sampled By: LATITUDE: Sample ID: Lab No .:

A-4(0)

0-5

lient	snin			Σ	- 76	18,245	332	292	322	328	187	13,108	303	328	311	920	20	20	90	98
Resilient	Modulus			2	psi	18,2	16,332	14,567	12,922	12,328	15,487	13,	11,603	10,828	10,611	12,079	9,950	8,920	8,606	8 486
Resilient	Strain			ယ်	in/in	0.00010	0.00022	0.00037	0.00056	0.00072	0.00012	0.00028	0.00046	0.00065	0.00083	0.00015	0.00035	0.00058	0.00080	0.00101
Average	Recov Def.	and 2		H	, ii	0.00081	0.00180	0.00300	0.00446	0.00580	0.00095	0.00221	0.00370	0.00525	0.00666	0.00120	0.00284	0.00465	0.00642	0.00810
Actual	Applied	Stress		Scontact	psi	0.2	0.2	0.3	0.5	0.7	0.2	0.2	0.2	9.0	9.0	0.2	0.2	0.2	0.3	0.5
Actual	Applied	Stress		Scyclic	psi	1.8	3.7	5.4	7.2	8.9	1.8	3.6	5.4	7.1	8.8	1.8	3.5	5.2	6.9	8.6
Actual	Applied	Axial	Stress	S <sub>max</sub>	psi	2.1	3.9	5.7	7.7	9.6	2.1	3.8	5.6	7.5	9.4	2.0	3.8	5.4	7.2	9.1
Actual	Applied	Load		Pcontact	sql	2.8	2.8	3.6	6.1	8.5	2.8	2.8	2.8	5.1	7.6	2.8	2.8	2.8	4.3	6.7
Actual	Applied Cyclic Load	Cyclic Foad		Poyolic	sql	22.4	44.5	66.3	87.5	108.6	22.3	44.0	65.2	86.3	107.4	22.0	45.9	63.0	84.0	104.4
Actual A	Applied Applied	Load		P <sub>max</sub>	sql	25.2	47.4	6.69	93.5	117.1	25.1	46.7	0.89	91.4	115.0	24.7	45.7	8.59	88.2	111.1
Nominal	Maximum	Stress		Seyclic	psi	2.0	4.0	0.9	8.0	10.0	2.0	4.0	0.9	8.0	10.0	2.0	4.0	0.0	8.0	10.0
Chamber	Confining			Š	psi	0.9	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	Sednence 8	Sednence 9	Sequence 10	Sequence 11	Sequence 12	Sequence 13	Sequence 14	Sequence 15

April 16, 2019	
DATE	DATE
dW	
TESTED BY	REVIEWED BY

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

Job No.

012275

Material Code SSRVPS

Date Sampled:

2/26/19

Station No.: LM 1.60

Date Tested:

Location: 35'RT

April 16, 2019

County:

Name of Project: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)

Sampled By:

Code: 7 DICKERSON/BUNTON

Name: CALHOUN

Lab No .:

20190720

Depth: 0-5

Sample ID:

RV85

AASHTO Class: A-4 (0)

Material Type (1 or 2): 2 LONGITUDE:

LATITUDE:

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

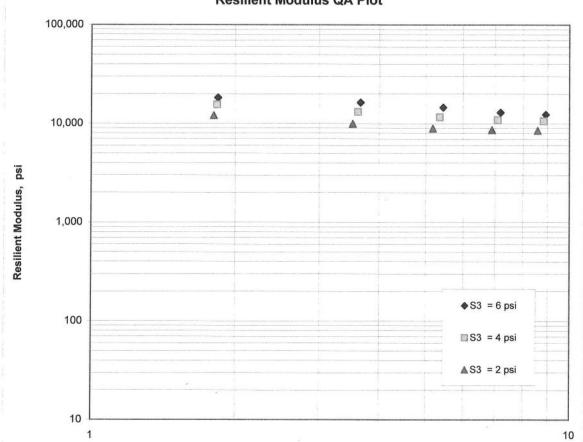
K1 = 10,425

K2 = -0.24750

K5 = 0.40093

 $R^2 = 0.99$ 

### **Resilient Modulus QA Plot**



Cyclic Stress, psi

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

**Material Code** 

SSRVPS

Job No.

012275

Date Sampled:	2/26/19	Station No.:	LM 3.50
Date Tested:	April 16, 2019	Location:	21'LT
Name of Project:	CADDO VALLEY - GARLAND CO. LINE (PASSIN	G LANES)(S)	
County:	Code: 7 Name: CALHOUN	D 4	0.5
Sampled By:	DICKERSON/BUNTON	Depth:	0-5
Lab No.: Sample ID:	20490721 RV86	AASHTO Class: Material Type (1 or 2)	A-4 (1) 2
LATITUDE:	KV80	LONGITUDE:	. 2
		20.1011022.	
1. Testing Inform			
	Preconditioning - Permanent Strain > 5% (Y=Yes	***	N
	Testing - Permanent Strain > 5% (Y=Yes or N=No	0)	N
	Number of Load Sequences Completed (0-15)		15
2. Specimen Info	rmation:		
	Specimen Diameter (in):	50	
	Тор		3.95
	Middle		3.95
	Bottom		3.95
	Average		3.95
	Membrane Thickness (in):		0.01
	Height of Specimen, Cap and Base (in):		8.02
	Height of Cap and Base (in):		0.00
	Initial Length, Lo (in):	27	8.02
	Initial Area, Ao (sq. in):		12.18
	Initial Volume, AoLo (cu. in):		97.68
3. Soil Specimen	Weight:		
o. con opcomen	Weight of Wet Soil Used (g):		3178.80
	(3).		2.7.5.00
4. Soil Properties			
	Optimum Moisture Content (%):		15.1
	Maximum Dry Density (pcf):		112.7
	95% of MDD (pcf):		107.1
	In-Situ Moisture Content (%):		N/A
5. Specimen Pro	perties:		
	Wet Weight (g):		3178.80
	Compaction Moisture content (%):		15.3
	Compaction Wet Density (pcf):		123.99
	Compaction Dry Density (pcf):		107.54
	Moisture Content After Mr Test (%):		15.2
6. Quick Shear To	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	ılus. Mr:	13044(Sc	c)^-0.35007(S3)^0.29066
8. Comments			
_			
9. Tested By:	GW Date:	April 16, 2019	

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

SSRVPS LM 3.50 21'LT Material Code Station No.: Location: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S) April 16, 2019 2/26/19 012275 Name of Project: Date Sampled: Date Tested: Job No.

AASHTO Class: Depth: CALHOUN Name: DICKERSON/BUNTON Code: 7 20490721 Sampled By: Lab No.: County:

Sample ID: RV86 LATITUDE:

A-4 (1) 2

Material Type (1 or 2):

LONGITUDE:

0-5

Axial Max. Axial Cyclic Load
Stress Load
S <sub>cyclic</sub> P <sub>max</sub> P <sub>cyclic</sub>
sql
2.0 25.1 22.4
4.0 47.3 44.7
6.0 69.8 66.4
8.0 92.7 86.9
10.0 115.2 106.9
2.0 25.2 22.6
4.0 47.1 44.4
6.0 68.2 65.5
8.0 90.6 85.6
10.0 112.9 105.5
2.0 25.1 22.5
4.0 46.6 43.9
6.0 66.8 64.2
8.0 87.9 83.8
10.0 110.5 103.9

April 16, 2019

DATE

MΩ

REVIEWED BY

TESTED BY

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

Job No.

012275

**Material Code SSRVPS** 

Date Sampled:

2/26/19

Station No.: LM 3.50

Date Tested:

April 16, 2019

Location: 21'LT

M CD '

Name of Project: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)

County:

Code: 7

Name: CALHOUN

Sampled By:

DICKERSON/BUNTON

Depth: 0-5

Lab No .:

20490721

AASHTO Class: A-4(1)

Sample ID:

RV86

Material Type (1 or 2): 2

LATITUDE:

LONGITUDE:

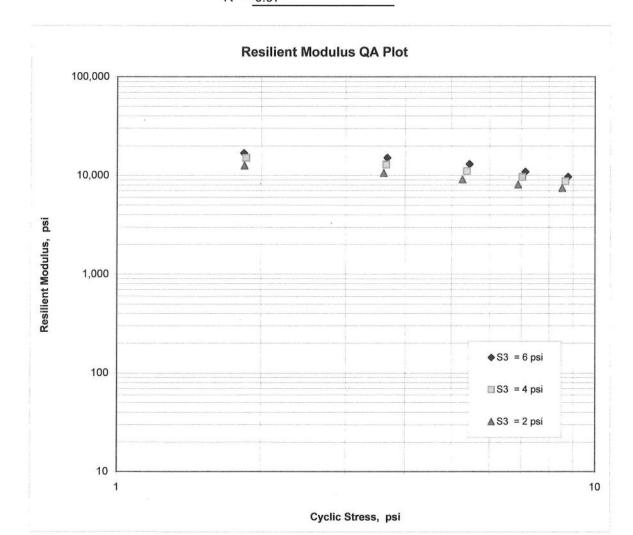
$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$

K1 = 13,044

K2 = -0.35007

K5 = 0.29066

 $R^2 = 0.97$ 



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

Job No. Date Sampled: Date Tested: Name of Project: County:	012275 2/26/19 April 16, 2019 CADDO VALLEY - GARLAND CO. LINE (PA	Material Code Station No.: Location: .SSING LANES)(S)	SSRVPS LM 4.53 21'RT	
Sampled By: Lab No.:	DICKERSON/BUNTON 20190722	Depth: AASHTO Class		0-5 A-4 (0)
Sample ID: LATITUDE:	RV87	Material Type ( LONGITUDE:		2
1. Testing Inform				
	Preconditioning - Permanent Strain > 5% (Y			N
	Testing - Permanent Strain > 5% (Y=Yes or Number of Load Sequences Completed (0-1			N 15
	Number of Load Sequences Completed (0-1	3)		13
2. Specimen Info				
	Specimen Diameter (in):			
	Тор			3.95
	Middle			3.95
	Bottom Average			3.95 3.95
	Membrane Thickness (in):			0.01
	Height of Specimen, Cap and Base (in):			8.02
	Height of Cap and Base (in):			0.00
	Initial Length, Lo (in):			8.02
	Initial Area, Ao (sq. in):			12.18
	Initial Volume, AoLo (cu. in):			97.68
3. Soil Specimen	Weight:			
or com operation	Weight of Wet Soil Used (g):			3399.40
4 Sail Proportion				
4. Soil Properties	Optimum Moisture Content (%):			14.2
	Maximum Dry Density (pcf):			118.6
	95% of MDD (pcf):			112.7
	In-Situ Moisture Content (%):			N/A
5. Specimen Pro	nortice:			
o. opcomicir i to	Wet Weight (g):			3399.40
	Compaction Moisture content (%):			14.4
	Compaction Wet Density (pcf):			132.60
	Compaction Dry Density (pcf):			115.91
	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:	7	145(Sc)^-0.40009	(S3)^0.50811
8. Comments				
9. Tested By:	GW	Date: April 16, 2019		

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

LM 4.53 SSRVPS 21'RT 0-5 Material Code Station No.: Location: Depth: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S) CALHOUN Name: April 16, 2019 Code: 7 012275 2/26/19 Name of Project: Date Sampled: Date Tested: County: Job No.

County: Code: 7 Name: CALHOUN
Sampled By: DICKERSON/BUNTON
Lab No.: 20190722
Sample ID: RV87
LATITUDE:

A-4 (0) 2

Material Type (1 or 2):

LONGITUDE:

AASHTO Class:

Applied	_	Actual	Actual Actual Applied Applied	Actual Actual Applied Applied
Max. Axial		Contact	Cyclic Load Contact Load	Max. Axial Cyclic Load Contact Load Load
Stress				
Smax		P <sub>cyclic</sub> P <sub>contact</sub> S <sub>n</sub>	Pontact	Poydic Pontact
psi			sql	sql sql
2.1	1.4		1.4	23.8 1.4
3.9	1.3		1.3	46.4 1.3
5.8	2.2		2.2	68.2 2.2
7.7	9.4		4.6	89.0 4.6
9.6	6.5		6.5	110.9 6.5
2.1	1.8		1.8	23.4 1.8
	1.7	1.7		46.3 44.6
	2.0	65.0 2.0		65.0
	3.8	87.7 3.8		87.7
	6.3	109.3 6.3		109.3
	1.6	23.1 1.6		23.1
	1.9	42.9 1.9		42.9
	1.8	63.2 1.8		63.2
	3.2	85.3 3.2		85.3
	5.5	107.6 5.5		107.6

DATE April 16, 2019	
GW	
TESTED BY	REVIEWED BY

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

Job No.

012275

Material Code SSRVPS

Date Sampled:

2/26/19

Station No.: LM 4.53

Date Tested:

April 16, 2019

Location: 21'RT

Name of Project: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)

County:

Code: 7

Name: CALHOUN

Sampled By:

DICKERSON/BUNTON

Depth: 0-5

Lab No .:

20190722

AASHTO Class: A-4 (0)

Sample ID:

RV87

Material Type (1 or 2): 2

LATITUDE:

LONGITUDE:

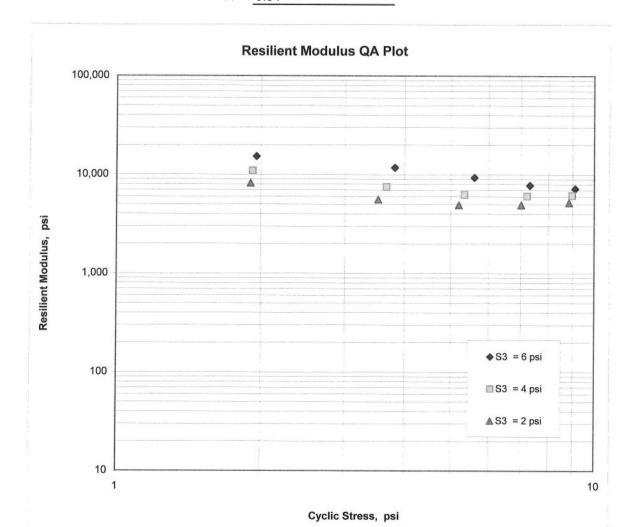
$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$

K1 = 7,145

K2 = -0.40009

K5 = 0.50811

 $R^2 = 0.91$ 



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

Job No. Date Sampled: Date Tested: Name of Project:	012275 2/26/19 April 16, 2019 CADDO VALLEY - GARLAND CO. LINE (PAS	Material Code Station No.: Location: SSING LANES)(S)	SSRVPS LM 8.05 24'LT
County: Sampled By: Lab No.: Sample ID: LATITUDE:	Code: 7 Name: CALHOUN DICKERSON/BUNTON 20190723 RV88	Depth: AASHTO Class: Material Type (1 LONGITUDE:	0-5 A-4 (0) or 2):
1. Testing Inform			
	Preconditioning - Permanent Strain > 5% (Y= Testing - Permanent Strain > 5% (Y=Yes or N Number of Load Sequences Completed (0-15)	N=No)	N N 15
2. Specimen Info	ormation:		
	Specimen Diameter (in): Top Middle		3.95 3.95
	Bottom Average Membrane Thickness (in):		3.95 3.95 0.01
	Height of Specimen, Cap and Base (in): Height of Cap and Base (in): Initial Length, Lo (in):		8.02 0.00 8.02
	Initial Area, Ao (sq. in): Initial Volume, AoLo (cu. in):		12.18 97.68
3. Soil Specimen	Weight:		
	Weight of Wet Soil Used (g):		3301.10
4. Soil Properties	3:		
	Optimum Moisture Content (%): Maximum Dry Density (pcf): 95% of MDD (pcf): In-Situ Moisture Content (%):		10.8 119.2 113.2 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 (%):		3301.10 11.0 128.76 116.00 10.7
6. Quick Shear Te	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	ılus, Mr:	75	80(Sc)^-0.15291(S3)^0.43621
8. Comments		TTF units and the survey of th	
9. Tested By:	GW D	Pate: April 16, 2019	

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

LM 8.05 SSRVPS 24'LT Material Code Station No.: Location: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S) April 16, 2019 2/26/19 012275 Name of Project: Date Sampled: Date Tested: Job No.

Depth: CALHOUN Name: DICKERSON/BUNTON Code: 7

Material Type (1 or 2): 2 LONGITIME LONGITUDE: 20190723 **RV88** County: Sampled By: LATITUDE: Sample ID: Lab No.:

0-5

	Chamber	Nominal	Actual	Actual	Actual	Actual	Actual	Actual	Average	Resilient	Resilient
	Confining	Maximum	Applied	Applied	Applied	Applied	Applied	Applied	Recov Def.	Strain	Modulus
<b>PARAMETER</b>	Pressure	Axial	Max. Axial	Max. Axial Cyclic Load	Contact	Max.	Cyclic	Contact	LVDT 1		
		Stress	Load		Load	Axial	Stress	Stress	and 2		
						Stress					
DESIGNATION	လိ	S <sub>cyclic</sub>	P <sub>max</sub>	Poyelic	Pcontact	Smax	Scyclic	Scontact	T	చ	×
LINO	psi	psi	sql	sql	sql	psi	psi	psi	Î .=	in/in	isd
Sequence 1	0.9	2.0	25.3	22.7	2.6	2.1	1.9	0.2	0.00098	0.00012	15,290
Sequence 2	0.9	4.0	47.5	44.9	5.6	3.9	3.7	0.2	0.00210	0.00026	14,100
Sequence 3	0.9	0.9	70.4	0.79	3.4	5.8	5.5	0.3	0.00334	0.00042	13,201
Sequence 4	0.9	8.0	94.4	88.5	5.9	7.8	7.3	0.5	0.00477	0.00059	12,226
Sequence 5	0.9	10.0	118.5	110.2	8.3	9.7	9.1	0.7	0.00614	0.00077	11,824
Sequence 6	4.0	2.0	25.0	22.4	2.6	2.1	4.6	0.2	0.00117	0.00015	12,592
Sequence 7	4.0	4.0	46.7	44.0	2.6	3.8	3.6	0.2	0.00265	0.00033	10,927
Sequence 8	4.0	0.9	68.1	65.4	2.6	5.6	5.4	0.2	0.00426	0.00053	10,104
Sednence 9	4.0	8.0	92.4	87.4	5.0	7.6	7.2	0.4	0.00578	0.00072	9,954
Sequence 10	4.0	10.0	116.2	108.7	7.5	9.5	8.9	9.0	0.00721	0.00000	9,923
Sequence 11	2.0	2.0	24.7	22.0	2.7	2.0	1.8	0.2	0.00150	0.00019	9,684
Sequence 12	2.0	4.0	45.0	42.3	2.7	3.7	3.5	0.2	0.00339	0.00042	8,201
Sequence 13	2.0	0.9	65.5	62.9	2.6	5.4	5.2	0.2	0.00536	0.00067	7,715
Sequence 14	2.0	8.0	98.6	84.3	4.3	7.3	6.9	0.4	0.00718	0.00000	7,729
Sequence 15	2.0	10.0	112.8	106.0	8.9	9.3	8.7	9.0	0.00881	0.00110	7 922

April 16, 2019	
DATE	DATE
GW	
TESTED BY	REVIEWED BY

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

Job No.

012275

Material Code SSRVPS

**Date Sampled:** 

2/26/19

Station No.: LM 8.05

Date Tested:

April 16, 2019

Location: 24'LT

County:

Name of Project: CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S) Name: CALHOUN

Sampled By:

Code: 7

Lab No .:

DICKERSON/BUNTON

Depth: 0-5

20190723

AASHTO Class: A-4 (0)

Sample ID:

RV88

Material Type (1 or 2): 2

LATITUDE:

LONGITUDE:

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

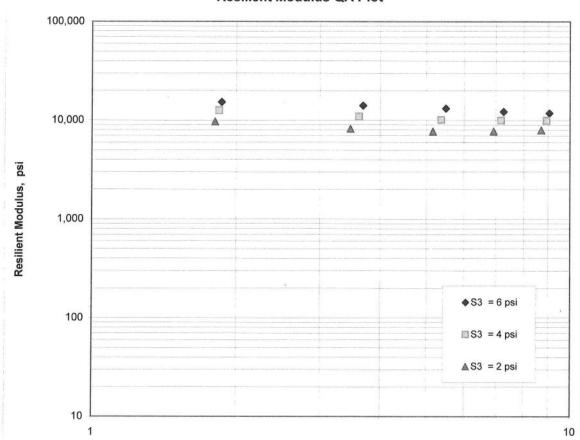
K1 = 7,580

K2 = -0.15291

K5 = 0.43621

 $R^2 = 0.97$ 

### **Resilient Modulus QA Plot**



Cyclic Stress, psi

### MICHAEL BENSON, MATERIALS ENGINEER

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

	DOLL	DOINGEL / LINE	BIIBINI DO	ONDING IDDI	I INDI ONI	
DATE - 04/2  JOB NUMBER - 0122  FEDERAL AID NO TO II  PURPOSE - SOII  SPEC. REMARKS - NO S  SUPPLIER NAME - COUN  NAME OF PROJECT - CA  PROJECT ENGINEER - NO  PIT/QUARRY - ARKANS  LOCATION - MULTII  SAMPLED BY - DICKERS	275 BE ASSI L SURVE SPECIFI NTIES ADDO VA DT APPI SAS	CATION CHECK LLEY - GARLAI	ND CO. L		MATERIAI SPEC. YE SUPPLIEF COUNTY/S DISTRICT NG LANES)  DATE SAN	S NO 1 CODE - SSRVPS FAR - 2014 DITATE - 76 NO XX (S) FAPLED - 02/26/18 CEIVED - 03/18/19
SAMPLE PROM - 1651 I	JOLE				DATE TES	STED - 04/19/19
MATERIAL DESC SOI	L SURVE	CY - R VALUE	- PAVEME	NT SOUNDING	GS	
LAB NUMBER	-	20190652			-	20190654
SAMPLE ID		S17		S18		S19
	-	INFORMATION	ONLY -	INFORMATIO		INFORMATION ONLY
STATION		LM .60	_	LM .60		LM .60
LOCATION		06 RT 0-5	_	19 RT	_	35 RT 0-5
DEPTH IN FEET		GRAY	-	0-5 GRAY	-	
MAT'L COLOR MAT'L TYPE	_	GRAI	_	GRAI	-	GRAY
LATITUDE DEG-MIN-S	SEC -	34 11 23	.30 -	34 11 :	23.30 -	34 11 23.30
LONGITUDE DEG-MIN-S					21.20	93 04 21.00
% PASSING 2	TN		_			
1 1/2			_		_	
	IN		-	100	-	
3/8	IN	100	-	97	-	100
NO.	4 -	97	_	95	_	96
NO.	10 -	93	_	91	_	0.2
NO.	40 -	89		87	-	89
	80 -	74	277	67	-	
NO. 2	200 -	53		45		52
LIQUID LIMIT		ND	_	ND	-	ND
	_		_	NP	-	NP
AASHTO SOIL	_	A-4(0)	_	A-4(0)	_	A-4 (0)
UNIFIED SOIL	-	10.0	_	12.0	_	4 9 9
% MOISTURE CONTENT	-	12.3		13.9		14.4
	(IN) -	7.5W	_	3.5W	-	
AGG. BASE CRS. CL-5	(IN) -	5.0	_	5.0	_	
	_		_		_	
	-		_		-	
	-		-		-	
	_		-		_	
	_		_		_	
	-		-		-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - O PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKE SAMPLE FROM - TEST	BE ASSIL SURVE SPECIFI JNTIES CADDO VA NOT APPI NSAS LPLE COU RSON/BUI HOLE	CY SAMPLE CCATION CHECK  ALLEY - GARLAND CO LICABLE  UNTIES NTON	). LINE (PA:	MATERIA SPEC. Y SUPPLIE COUNTY/ DISTRIC SSING LANES)  DATE SA DATE RE DATE TE	STATE - 76 T NO XX
MATERIAL DESC SO					
LAB NUMBER	_	20190655	- 2019065 - S21		20190657
SAMPLE ID TEST STATUS	_	S20			- S22 - INFORMATION ONLY
STATION		LM .85	- LM .85		- LM .85
LOCATION		05 LT	- 18 LT		- 34 LT
DEPTH IN FEET		0-5	- 0-5		0-5
MAT'L COLOR	_	GRAY	_ GRAY		GRAY
MAT'L TYPE	-		_		_
LATITUDE DEG-MIN-					- 34 11 35.60
LONGITUDE DEG-MIN-	SEC -	93 04 27.20	93 (	27.40	93 04 27.50
% PASSING 2	IN		-	ž	_
1 1/2	: IN		_	5	_
	IN		- 100		100
	IN	100	96		95
NO.		97	- 88		_ 86
NO.		92	_ 81		_ 80
NO.		87 68	- 77 - 72	*	_ 75 - 65
NO.		40	21	ž.	33
	200	40	2 1		
LIQUID LIMIT	-	ND	- ND	3	- ND
PLASTICITY INDEX	_	NP	- NP		- NP
AASHTO SOIL UNIFIED SOIL	<u></u>	A-4(0)	- A-2-4	(0)	A-2-4(0)
	_	12 0	- 14.	2	12.0
% MOISTURE CONTENT		13.8			13.0
ACHM SC	(IN) -	3.0W	- 2.75V	V.	
ACHM SC	(IN) -	1.25X			
ACHM SC ACHM BC	(IN) -	0.75 6.5W	0.25		
ACHM BC	(IN) _	0.5W	- 0.25 1.75	7	
AGG. BASE CRS. CL-5	(IN) _		_ 8.0		-
	-		_		_
	-		_		======================================
	-		-		=

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

AASHTO TESTS : T24 T88 T89 T90 T265

87 8-

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/ JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - C PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKER SAMPLE FROM - TEST MATERIAL DESC SOI	275 BE ASSI L SURVE SPECIFI NTIES ADDO VA OT APPL SAS PLE COU SON/BUN HOLE	Y SAMPLE CATION CHECK  LLEY - GARLAND CO ICABLE  NTIES TON		MATERI SPEC. SUPPLI COUNTY DISTRI G LANES  DATE S DATE R DATE I	AL YEA ER /ST. CT (S) (S	ID 1 ATE - 7 NO X	014 6 X 2/26/19 3/18/19
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-  LONGITUDE DEG-MIN-			20190659 S24 INFORMATIO LM 1.10 18 RT 0-5 BROWN 34 11 4 93 04	N ONLY		LM 1.10 37 RT 0-5 BROWN	48.40 33.00
% PASSING 2 1 1/2 3/4 3/8 NO. NO.	IN IN IN IN 4 - 10 - 40 - 80 -	100	100	33.30		100 99 95 89 80 74 65	33.00
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	-	43 23 A-7-6(22)	 35 15 A-6(14)			33 16 A-6(8)	
ACHM SC ACHM BC BST AGG. BASE CRS. CL-5	(IN) - (IN) - (IN) - (IN) -	4.75W 7.0W 	1.75  0.75 5.0				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012	BE ASSI L SURVE SPECIFI UNTIES CADDO VA	CATION C				MATERI SPEC. SUPPLI COUNTY DISTRI	AL YEA ER Y/SI	ID 1 TATE - 76 NO XX	PS
LOCATION - MULTI SAMPLED BY - DICKER SAMPLE FROM - TEST	RSON/BUN HOLE	TON				DATE I	RECI	PLED - 02/2 EIVED - 03/1 FED - 03/1	8/19
MATERIAL DESC SOI	IL SURVI	EY - R V.	ALUE- PAVI	EME	NT SOUNDIN	GS			
LAB NUMBER SAMPLE ID	-	20190661 S26		-	20190662 S27		-	20190663 S28	
TEST STATUS STATION LOCATION DEPTH IN FEET		LM 1.35 06 LT	ONLY	-	INFORMATION 1.35 18 LT 0-5	YLNO NC		INFORMATION LM 1.35 34 LT 0-5	ONLY
MAT'L COLOR MAT'L TYPE		BROWN		-	GRAY		-	BROWN	
LATITUDE DEG-MIN- LONGITUDE DEG-MIN-			.70 39.10	-	34 12 93 04		-	34 12 93 04 39	
	IN			_			-		
3/8	IN IN 4 -	100 99 95		-	100 99 95		-	100 99 96	
NO.		89		_	89		-	91	
NO.		83		-	82		-	85	
NO.		80 76		7	76 69		-	81 74	
LIQUID LIMIT	_	33		_	32		_	26	
PLASTICITY INDEX	_	14		-	13		-	9	
AASHTO SOIL	_	A-6(9)		_	A-6(7)		_	A-4 (4)	
UNIFIED SOIL % MOISTURE CONTENT	_	33.6		_	22.4		_	19.6	
		6.25W						19.0	
ACHM SC ACHM BC	(IN) -	7.75W		_	2.5W 1.25		_		
ACHM BC	(IN) -	3.5X		-			-		
	_			_					
	-			_			-		
	-			-			-		
	_			_			_		
	-			-			_		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

	0011	COLVER , ELLINDE		onbino illo.	. ILLI OIL	-	
JOB NUMBER - 012	BE ASSI L SURVE SPECIFI NTIES CADDO VA NOT APPI	CY SAMPLE CCATION CHECK ALLEY - GARLAND CO LICABLE			MATERI SPEC. SUPPLI COUNTY DISTRI NG LANE	AL YEA ER Y/ST CT S) (	TATE - 76 NO XX
SAMPLED BY - DICKER							EIVED - 03/18/19
SAMPLE FROM - TEST	Seattle broads & Children						TED - 04/19/19
MATERIAL DESC SOI		EY - R VALUE- PAV	EME	ENT SOUNDING			01,13,13
LAB NUMBER SAMPLE ID TEST STATUS	-	20190664 S29	-	20190665 S30		_	20190666 S31 INFORMATION ONLY
STATION		LM 1.60		LM 1.60	N ONLI		LM 1.60
LOCATION	_		-	18 RT			35 RT
DEPTH IN FEET	-		-	0-5		-	0-5
MAT'L COLOR	-	RED	_	RED		_	RED
MAT'L TYPE LATITUDE DEG-MIN-	CEC -	34 12 13.40	-	24 10	12 40	-	24 12 12 50
LONGITUDE DEG-MIN-				34 12 3 93 04	42.70		34 12 13.50 93 04 42.20
% PASSING 2	IN		_			_	
	IN		-			_	
3/4	IN		-	100		-	
3/8	IN	100	_	99		-	100
NO.	4 -	97	_	99		_	96
	10 -	92	-	93		_	91
NO.		83	-	88		-	86
NO.		79	_	86			84
NO.	200 -	75		84			80
LIQUID LIMIT	-	49	_	50		-	36
	-	24	-	24		-	15
AASHTO SOIL	_	A-7-6(18)	-	A-7-6(22)			A-6(11)
UNIFIED SOIL	-					_	
% MOISTURE CONTENT		18.5		18.0			16.4
	(IN) -	6.0W	-	3.25W		_	
ACHM BC	(IN) -	6.5	_	10.0		_	
AGG. BASE CRS. CL-5	(IN) -	6.0	_	10.0		_	
	_		_			_	
	-		-0			-	
	_		_			_	
	-		_				
	-		_			-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - O PROJECT ENGINEER - N PIT/QUARRY - ARKAN	BE ASSIGNED L SURVEY SA SPECIFICATI INTIES CADDO VALLEY SOT APPLICATI ISAS PLE COUNTIE RSON/BUNTON HOLE	ON CHECK  - GARLAND CO.  BLE	. LINE (PA	MATERIAL SPEC. YE. SUPPLIER COUNTY/S' DISTRICT ASSING LANES)(  DATE SAM DATE REC DATE TES	TATE - 76 NO XX
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-  LONGITUDE DEG-MIN-	- 201 - S32 - INF - LM - 06 - 0-5 - GRA -	90667 ORMATION ONLY 1.80 LT Y	- 201906 - S33 - INFORM - LM 1.8 - 18 LT - 0-5 - GRAY	668 - MATION ONLY - 30 - - - -	20190669 S34 INFORMATION ONLY LM 1.80 37 LT 0-5 BROWN 34 12 25.80 93 04 45.90
<pre>% PASSING 2</pre>	IN IN IN IN 10 IN 9 4 - 8 10 - 8 40 - 7	0 6 9 3 7	- 100 - 99 - 96 - 92 - 87 - 81		100 97 91 86 82 74 58
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	-		- 30 - 13 - A-6(7 - 20.	_	ND NP A-4(0)
ACHM SC ACHM BC AGG. BASE CRS. CL-5	(IN) - 8	. OW . 5W	- 3.0v  10.0	-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - C PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKER SAMPLE FROM - TEST	BE ASSI L SURVE SPECIFI INTIES CADDO VA NOT APPI ISAS PLE COU RSON/BUN HOLE	Y SAMPLE CATION CHECK  LLEY - GARLAND CO ICABLE  NTIES ITON	. LINE (	MATERI SPEC. SUPPLI COUNTY DISTRI PASSING LANES DATE S DATE S	YEAR ER ID. YSTATE CT NO. S) (S)	- 7 DE - SSRVPS - 2014 - 1 C - 76 - XX  D - 02/26/19 ED - 03/18/19 - 04/19/19
MATERIAL DESC SON LAB NUMBER SAMPLE ID TEST STATUS STATION LOCATION DEPTH IN FEET MAT'L COLOR MAT'L TYPE LATITUDE DEG-MIN- LONGITUDE DEG-MIN-	- - - - - - - - -	20190670 \$35 INFORMATION ONLY LM 2.75 05 RT 0-5 BROWN 34 16 8.00	- 20190 - S36 - INFOI - LM 2 - 13 R - 0-5 - BROWN	0671 RMATION ONLY .75 N 16 8.10	- S3 - IN - LM - 22 - O- - BR	FORMATION ONLY 2.75 RT
% PASSING 2 1 1/2 3/4	IN IN IN IN 4 - 10 - 40 - 80 -	100 99 98 95 93 83	- - 100 - 95 - 90 - 86 - 81 64	33.70	- 10	00 93 85 78 71 65
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT ACHM SC ACHM BC AGG. BASE CRS. CL-5	(IN) - (IN) - (IN) -	29 10 A-4(7) 17.6 10.0W 2.75 8.0	- 2.	6.8 75 75W	- N - N - A 	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/ JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - C PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKER	275 BE ASSI L SURVE SPECIFI NTIES ADDO VA OT APPI SAS PLE COU	CATION CHE LLEY - GAF ICABLE NTIES	ick			MATER: SPEC. SUPPL: COUNTY DISTR: NG LANE	IAL YEA IER Y/ST ICT S) (:	ID 1 PATE - 76 NO XX
SAMPLE FROM - TEST MATERIAL DESC SOI		Y - R VAI	JIE- PAVE	MF	NT SOUNDING		TEST	ΓED - 04/19/19
LAB NUMBER SAMPLE ID TEST STATUS STATION	- - -	20190673 S38	ON ONLY	- - -	20190674 S39		-	20190675 S40 INFORMATION ONLY LM 3.00
LOCATION DEPTH IN FEET MAT'L COLOR MAT'L TYPE	-			-	14 LT 0-5 BROWN			21 LT 0-5 BROWN
LATITUDE DEG-MIN-: LONGITUDE DEG-MIN-:			19.40 52.20	-		19.30 52.20	-	34 16 19.30 93 08 52.30
3/4	10 - 40 - 80 -	100 99 96 92 81 58			100 99 94 84 75 50			100 98 92 85 75 45
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT		19 5 A-4(0)		1 1 1 1	19 5 A-4(0)		1 1 1 1	ND NP A-4(0)
ACHM SC ACHM SC ACHM SC AGG. BASE CRS. CL-5	(IN) - (IN) - (IN) - - - - -	2.5 3.75X 3.0 8.0			2.5 3.75W  6.0			
	-			- - -				

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/2 JOB NUMBER - 0122 FEDERAL AID NO TO BE PURPOSE - SOIL SPEC. REMARKS - NO S SUPPLIER NAME - COUNT NAME OF PROJECT - CA PROJECT ENGINEER - NO PIT/QUARRY - ARKANS LOCATION - MULTIP SAMPLED BY - DICKERS SAMPLE FROM - TEST HE MATERIAL DESC SOIL	75 E ASSI SURVE PECIFI TIES DDO VA T APPL AS LE COU ON/BUN OLE	CATION CHECLICATION CHEC	CK LAND CO.	L	INE (PASSIN	MATERI SPEC. SUPPLI COUNTY DISTRI IG LANE DATE :	YEAL YEA YEA YST CCT S) (:	TATE - 76 NO XX
LAB NUMBER	_	20190676		_	20190677		-	20190678
SAMPLE ID	_	S41		-	S42		-	S43
TEST STATUS	-	INFORMATIO	ON ONLY			N ONLY		INFORMATION ONLY
STATION		LM 3.25		_	LM 3.25		_	LM 3.25
LOCATION	_	00 111		-	14 RT 0-5		-	24 RT 0-5
DELTH IN LEEL		0-5 BROWN			U-5 BROWN		-	BROWN
MAT'L COLOR MAT'L TYPE	_	DKOWN		_	BROWN		_	DROWN
LATITUDE DEG-MIN-SI	EC -	34 16	31.30	_	34 16 3	31.30	_	34 16 31.40
LONGITUDE DEG-MIN-SI			.30		93 09	.30		93 09 .20
1 1/2 3 3/4 3	IN				100			100
3/8		100		_	99 99		-	99 93
NO.	10 -	99		-	97		-	87
	40 -	99		_	97		-	80
	30 -	94		_	92		_	72
NO. 20	00 -	70			69			51
LIQUID LIMIT PLASTICITY INDEX	_	20 5		-	ND NP		-	ND NP
AASHTO SOIL UNIFIED SOIL	_	A-4(1)		-	A-4(0)		-	A-4(0)
% MOISTURE CONTENT	_	10.2		_	18.3		-	15.3
	IN) -	10.75W		-	2.5X		-	
	IN) -			-	6.25W		_	
AGG. BASE CRS. CL-5 (	IN) _	8.0		_	6.0		_	
	_			-			-	
	-			-			-	
	_			_			_	
	_			_			-	
	-			-			-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

	5011	SORVEI / TAVEME	141 200	JUDING 1591	. KELOKI	
DATE - 04/ JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - C PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKER	BE ASSI L SURVE SPECIFI NTIES ADDO VA OT APPI ISAS PLE COU	LLEY - GARLAND LICABLE UNTIES			MATERI SPEC. SUPPLI COUNTY DISTRI NG LANES	
SAMPLE FROM - TEST						ESTED - 04/19/19
MATERIAL DESC SOI	IL SURVE	EY - R VALUE- P	PAVEME	NT SOUNDING	GS	
LAB NUMBER SAMPLE ID TEST STATUS STATION LOCATION DEPTH IN FEET MAT'L COLOR MAT'L TYPE	-	LM 3.75 24 RT 0-5	LY -	S48	ON ONLY	- 20190684 - S49 - INFORMATION ONLY - LM 3.95 - 20 LT - 0-5 - BROWN
LATITUDE DEG-MIN-				34 16		- 34 16 48.70
LONGITUDE DEG-MIN-	SEC -	93 09 22.70		93 09	34.30	93 09 34.40
3/4 3/8 NO. NO. NO.	IN IN IN IN 4 - 10 - 40 - 80 - 200 -	100 94 89 85 82 74		100 99 97 94 91 86 66		- 100 - 94 - 83 - 66 - 57 - 50 - 43 30
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	-	A-4 (0)	-	21 5 A-4(1)		- ND - NP - A-2-4(0) - 20.5
ACHM SC	(IN) -		_	6.75W		
ACHM BC	(IN) -		-	3.75X		
	_		_			_
	-		-			-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012 FEDERAL AID NO TO	BE ASSI L SURVE SPECIFI UNTIES CADDO VA NOT APPI USAS PLE COU RSON/BUN HOLE	Y SAMPLE CATION CHECK LLEY - GARLAND ICABLE INTIES ITON	) CO. LINE	M S S C D E (PASSING I I	DATE SAME	ATE - 76 NO XX
LAB NUMBER	_	20190685	- 20	190686	-	20190687
SAMPLE ID	_	S50	- S5			S52
TEST STATUS	<del></del>	INFORMATION O	NLY - IN	FORMATION	ONLY -	INFORMATION ONLY
STATION	-	LM 4.53	- LM	4.53	-	LM 4.53
LOCATION	_	00 111		RT	_	21 RT
DEPTH IN FEET	_	0 0.02	-	-5	_	0-5
MAT'L COLOR MAT'L TYPE		BROWN	_ BF	ROWN	_	BROWN
LATITUDE DEG-MIN-	SEC -	34 17 12.1	- 0 -	34 17 12	.10 -	34 17 12.10
LONGITUDE DEG-MIN-				93 09 48		93 09 48.50
% PASSING 2	IN		_			100
	IN			.00	_	91
	IN	100		99	-	83
NO.		96	_	94	-	77
NO.	10 -	90	_	86	_	72
NO.	40 -	83	-	79	_	69
NO.	80 -	78	-	72	-	64
NO.	200 -	63		56		50
LIQUID LIMIT	_	27	- 2	20	_	ND
PLASTICITY INDEX	_	12	- [	5	-	NP
AASHTO SOIL	-	A-6(5)	- P	A-4(0)	-	A-4(0)
UNIFIED SOIL			_		_	
% MOISTURE CONTENT	-	13.4	_	14.1		16.2
ACHM SC	(IN) -	10.5WX	-	6.5W		
ACHM BC	(IN) -		_	6.0	* <del>=</del>	
	_		_		_	
	_		_		-	
	_		<u> </u>		-	
	-		_		-	
	_		_		-	
	_		_		_	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

JOB NUMBER - 012 FEDERAL AID NO TO	BE ASSI IL SURVE SPECIFI JNTIES CADDO VA NOT APPI JSAS IPLE COU RSON/BUI HOLE	CATION CHECK  LLEY - GARLAND  LICABLE  NTIES  NTON	CO. LINE (PAS	MATERIAL SPEC. YES SUPPLIER COUNTY/S' DISTRICT SING LANES)(  DATE SAM DATE REC DATE TES	TATE - 76 NO XX
LAB NUMBER	-	20190688	- 2019068	9 -	20190690
SAMPLE ID	_	S53	- S54		S55
TEST STATUS	-	INFORMATION ON	LY - INFORMA		INFORMATION ONLY
STATION	-	LM 4.78	- LM 4.78	_	LM 4.78
LOCATION	-	06 LT	- 14 LT	-	19 LT
DEPTH IN FEET	_	0-4z	_ 0-4z		0-1z
MAT'L COLOR	-	BROWN	_ BROWN		BROWN
MAT'L TYPE	_		-	-	
LATITUDE DEG-MIN-		34 17 23.70		7 23.70 -	34 17 23.70
LONGITUDE DEG-MIN-	·SEC -	93 09 48.80	93 0	9 48.80	93 09 48.90
% PASSING 2	- TEXT (197)		-	-	
	IN		-	_	
	IN	200 C 100 C	- 100	_	100
	IN	100	96	_	98
NO.		98	_ 90	_	90
NO.		90	_ 80	-	81
NO.		82 75	_ 73 _ 60	_	74 61
NO.		58	42	_	36
	200		12		
LIQUID LIMIT	-	19	- ND	-	ND
PLASTICITY INDEX		6	- NP	_	NP
AASHTO SOIL	_0	A-4(1)	- A-4(0)	_	A-4(0)
UNIFIED SOIL	_	F 7	_ 11 0	-	7 0
% MOISTURE CONTENT		5.7	11.0		7.2
ACHM SC	(IN) -	13.0W	- 8.75W	_	
ACHM BC	(IN) -	2.0		_	
AGG. BASE CRS. CL-5	(IN) -	2.0	- 4.0	_	and the test
	_			92	
	-		-	S-	
	-		-	_	
	3 <u>44</u>		_		
	_		5		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

AASHTO TESTS : T24 T88 T89 T90 T265

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

DATE - 04/19/1  JOB NUMBER - 012275  FEDERAL AID NO TO BE A  PURPOSE - SOIL SU  SPEC. REMARKS - NO SPEC  SUPPLIER NAME - COUNTIE  NAME OF PROJECT - CADDO  PROJECT ENGINEER - NOT A  PIT/QUARRY - ARKANSAS  LOCATION - MULTIPLE  SAMPLED BY - DICKERSON,  SAMPLE FROM - TEST HOLE  MATERIAL DESC SOIL SU	SSI PRVE SS PPI COU	CATION CHI LLEY - GA ICABLE NTIES ITON	ECK	. I	INE (PASSIN	SPEC. Y SUPPLIE COUNTY/ DISTRIC NG LANES)  DATE SA DATE RE DATE TE	L CODE EAR R ID. STATE T NO. (S) MPLED CEIVED	- SSRVPS - 2014 - 1 - 76
LAB NUMBER	-	20190691		-	20190692		20190	0693
SAMPLE ID		S56		_	S57		- S58	
TEST STATUS	_	INFORMAT	ON ONLY	_	INFORMATIO	N ONLY	- INFO	RMATION ONLY
STATION		LM 5.03		-	LM 5.03	79	- LM 5	.03
LOCATION	-	00 1(1		-	14 RT	3	20 R	ľ
DEPTH IN FEET	-	0-5		_	0-5		0-5	
MAT'L COLOR MAT'L TYPE	_	BROWN		-	BROWN	6	_ BROWN	1
LATITUDE DEG-MIN-SEC	_	34 17	38.70	_	34 17 3	38.60	- 34	17 38.60
LONGITUDE DEG-MIN-SEC		93 09	44.90			44.80		09 44.70
% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40 NO. 80 NO. 200		100 97 94 90 85 70			100 99 94 91 86 80 65		100 73 64 62 58 55 50 39	
LIQUID LIMIT	-	20		-	22		- ND	
PLASTICITY INDEX AASHTO SOIL	-	5			7 A-4(2)		- NP	(0)
UNIFIED SOIL	_	A-4(1)		-	A-4 (Z)		A-4	(0)
% MOISTURE CONTENT		21.1		_	23.1	9	- 10	3.6
ACHM SC (IN)	_	12.0W		_	6.5W			_
(117)	_	12.00		_	0.50			
	-			-			-	
	-			-			-	
	_			_			-	
	_			_			_	
	-			-			_	
	-			-			_	
	-			-			_	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

AASHTO TESTS : T24 T88 T89 T90 T265

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### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/19 JOB NUMBER - 012275 FEDERAL AID NO TO BE AS PURPOSE - SOIL SUR SPEC. REMARKS - NO SPECI SUPPLIER NAME - COUNTIES NAME OF PROJECT - CADDO PROJECT ENGINEER - NOT AP PIT/QUARRY - ARKANSAS LOCATION - MULTIPLE C SAMPLED BY - DICKERSON/B SAMPLE FROM - TEST HOLE MATERIAL DESC SOIL SUR	VEY SAMPLE FICATION CHECK  VALLEY - GARLAND CO PLICABLE  DUNTIES UNTON		MATERIAL SPEC. YEA SUPPLIER COUNTY/ST DISTRICT NG LANES)(  DATE SAM DATE REC: DATE TES	ID 1 PATE - 76 NO XX
LAB NUMBER	20190694	- 20190695	-	20190696
SAMPLE ID	- S59	- S60	-	S61
TEST STATUS	- INFORMATION ONLY	- INFORMATIO		INFORMATION ONLY
	- LM 5.28	- LM 5.28	_	LM 5.28
	- 06 LT	- 14 LT	_	22 LT
	- 0-4z	- 0-2.5z	-	0-2.5z
MAT'L COLOR MAT'L TYPE	- BROWN	_ BROWN	_	BROWN
LATITUDE DEG-MIN-SEC	- 34 17 51 10	- - 34 17	51.10 -	34 17 51.10
LONGITUDE DEG-MIN-SEC			48.80	93 09 48.80
% PASSING 2 IN.				
1 1/2 IN.		_	_	
3/4 IN.		- 100	_	100
3/8 IN.		- 96	-	97
NO. 4	- 99	79	-	94
NO. 10	- 98	_ 65	_	89
NO. 40	30	_ 57	-	82
NO. 80 -		- 46	-	67
NO. 200	- 83	28		43
LIQUID LIMIT	- 47	- ND	-	ND
PLASTICITY INDEX	- 24	- NP	-	NP
AASHTO SOIL	A-7-6(21)	- A-2-4(0)	_	A-4(0)
UNIFIED SOIL -		- 17 5	-	
% MOISTURE CONTENT -	9.5	17.5		17.4
ACHM SC (IN)	10.0W	- 6.0W	% <u>~</u>	
	•	_	-	
		_	_	
			_	
:-		-		
		=	×1000	
		=	_	
-		_	_	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

50	OIL SORVEI / LAVERENI	SOUNDING IEST	KELOKI
DATE - 04/19/1 JOB NUMBER - 012275 FEDERAL AID NO TO BE A PURPOSE - SOIL SU SPEC. REMARKS - NO SPEC SUPPLIER NAME - COUNTIE NAME OF PROJECT - CADDO PROJECT ENGINEER - NOT A PIT/QUARRY - ARKANSAS LOCATION - MULTIPLE	SEQUENCE NO 16  MATERIAL CODE - SSRVPS  SPEC. YEAR - 2014  SUPPLIER ID 1  COUNTY/STATE - 76  DISTRICT NO XX  IG LANES)(S)		
SAMPLED BY - DICKERSON/			DATE RECEIVED - 03/18/19
SAMPLE FROM - TEST HOLE			DATE TESTED - 04/19/19
MATERIAL DESC SOIL SU		EMENT SOUNDING	
LAB NUMBER			- 20190699
SAMPLE ID	002	- S63	- S64
			N ONLY - INFORMATION ONLY
		- LM 5.53	- LM 5.53
LOCATION	- 06 RT	- 14 RT	_ 19_RT
DEPTH IN FEET		_ 0-5	_ 0-5
	- BROWN	_ BROWN	_ BROWN
MAT'L TYPE	- 24 10 4 10	-	- 24 10 4 10
LATITUDE DEG-MIN-SEC		- 34 18 93 09	
LONGITUDE DEG-MIN-SEC	- 93 09 53.10	93 09	53.00 93 09 52.90
% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40		- - - 100 - 98 - 95 - 90 - 78	- 100 - 87 - 73 - 68 - 63 - 57 - 50
NO. 80 NO. 200		- 78 55	- 50 37
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL	- 41 - 22 - A-7-6(16)	- 23 - 9 - A-4(2)	- 23 - 8 - A-4(0)
% MOISTURE CONTENT	- 20.3	15.9	23.1
ACHM SC (IN)	) - 11.5W	- 8.75W	
	_		-
	_	_	_
	_	_	. <del></del>
	100 100		<u> </u>
	-	_	
	=	-	_
	_	-	-
	_	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

DATE - 04/19/19 JOB NUMBER - 012275 FEDERAL AID NO TO BE AS PURPOSE - SOIL SUR SPEC. REMARKS - NO SPECT SUPPLIER NAME - COUNTIES NAME OF PROJECT - CADDO PROJECT ENGINEER - NOT AS PIT/QUARRY - ARKANSAS LOCATION - MULTIPLE OF SAMPLED BY - DICKERSON/S SAMPLE FROM - TEST HOLE MATERIAL DESC SOIL SU	COUNTY/STATE DISTRICT NO. G LANES)(S)  DATE SAMPLED DATE RECEIVED DATE TESTED	- SSRVPS - 2014 - 1 - 76 - XX - 02/26/19 - 03/18/19		
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-SEC  LONGITUDE DEG-MIN-SEC		- LM 5.73 - 14 LT - 0-5 - BROWN - 34 18 1	- LM 5. - 21 LT - 0-5 - RED	MATION ONLY 73 18 13.80
% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40 NO. 80	- - - 100	- 100 - 98 - 95 - 92 - 88 - 75	- 100 - 97 - 86 - 78 - 70 - 61 - 53	10
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- 29 - 13 - A-6(7) - 18.0	- 33 - 14 - A-6(9) - 18.7	- 23 - 6 - A-4(	0)
ACHM SC (IN)		- 6.25W		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/19  JOB NUMBER - 012275  FEDERAL AID NO TO BE ASSIGNED  PURPOSE - SOIL SURVEY SAM  SPEC. REMARKS - NO SPECIFICATIO  SUPPLIER NAME - COUNTIES  NAME OF PROJECT - CADDO VALLEY  PROJECT ENGINEER - NOT APPLICABL  PIT/QUARRY - ARKANSAS  LOCATION - MULTIPLE COUNTIES  SAMPLED BY - DICKERSON/BUNTON  SAMPLE FROM - TEST HOLE  MATERIAL DESC SOIL SURVEY -	N CHECK - GARLAND CO. LIN E	MATERIAL SPEC. YEA SUPPLIER COUNTY/ST DISTRICT NE (PASSING LANES) (S  DATE SAMI DATE RECE DATE TESS	PATE - 76 NO XX
LAB NUMBER - 2019	0703 - 2	20190704 -	20190705
SAMPLE ID - S68	_ S		S70
TEST STATUS - INFO	RMATION ONLY - I	NFORMATION ONLY -	
STATION - LM 7			LM 7.30
LOCATION - 06 R	S	.5 RT _	23 RT
DEPTH IN FEET - 0-5 MAT'L COLOR - RED	_	0-5 RED	0-5 GRAY
MAT'L COLOR - RED MAT'L TYPE -		_	GRAI
LATITUDE DEG-MIN-SEC - 34	19 32.00 -	34 19 32.00 -	34 19 32.00
LONGITUDE DEG-MIN-SEC - 93	10 23.60	93 10 23.40	93 10 23.40
% PASSING 2 IN	_	_	
1 1/2 IN	_	2	
3/4 IN	-	100 -	100
3/8 IN 100	_	96	96
NO. 4 - 97	_	92	94
NO. 10 - 95	-	86	91
NO. 40 - 91 NO. 80 - 89	-	82 <u> </u>	89 85
NO. 200 - 81	_	63	64
LIQUID LIMIT - 30 PLASTICITY INDEX - 13		28 – 11 –	21 15
AASHTO SOIL - A-6		A-6(4)	A-6(5)
UNIFIED SOIL -	_	-	H 0(3)
	8.3	25.5	19.3
ACHM SC (IN) - 10	.OWX -	4.75 -	
-	=	_	
-	-	-	
_		_	
~	=	-	
-	-	-	
5	_	-	
~	7 <u>- 1</u>		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

DATE - 04/19/19  JOB NUMBER - 012275  FEDERAL AID NO TO BE AS  PURPOSE - SOIL SUR  SPEC. REMARKS - NO SPECI  SUPPLIER NAME - COUNTIES  NAME OF PROJECT - CADDO  PROJECT ENGINEER - NOT AR  PIT/QUARRY - ARKANSAS  LOCATION - MULTIPLE OF  SAMPLED BY - DICKERSON/R  SAMPLE FROM - TEST HOLE  MATERIAL DESC SOIL SUR	MATE SPEC SUPP COUN DIST LINE (PASSING LATE DATE DATE	ENCE NO 19  RIAL CODE - SSRVPS  E. YEAR - 2014  LIER ID 1  ITY/STATE - 76  RICT NO XX  NES)(S)  E SAMPLED - 02/26/19  E RECEIVED - 03/18/19  E TESTED - 04/19/19	
SAMPLE ID TEST STATUS STATION LOCATION DEPTH IN FEET MAT'L COLOR	- LM 7.55 - 06 LT - 0-5 - BR/GR - 34 19 45.60	- LM 7.55 - 15 LT - 0-5 - BR/GR	
% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40 NO. 80	- - 100 - 98 - 93 - 85 - 75	- 100 - 98 - 96 - 89 - 81	- 100 - 97 - 80 - 69 - 55 - 42 - 35 27
PLASTICITY INDEX	- 42 - 20 - A-7-6(10) - 25.4	- 53 - 29 - A-7-6(21) - 16.9	- ND - NP - A-2-4(0) - 15.7
ACHM SC (IN) ACHM SC (IN) ACHM SC (IN)	- 4.5X	- 5.5    	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/ JOB NUMBER - 012 FEDERAL AID NO TO PURPOSE - SOI SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - C PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - DICKER SAMPLE FROM - TEST	MATERI SPEC. SUPPLI COUNTY DISTRI PASSING LANES DATE S DATE S	YEAR ER ID. 7/STATE CT NO. S) (S) SAMPLED RECEIVED	- SSRVPS - 2014 - 1 - 76			
MATERIAL DESC SOI	L SURVE	EY - R VALUE- PAV	EMENT SO	UNDINGS	*	
LAB NUMBER	-	20190709	- 20190	710	- 2019	0711
SAMPLE ID	-	S74	- S75		- S76	
TEST STATUS	-	TITE OF CHARLES OF CHARLE				
STATION		LM 7.80	- LM 7.		- LM 7	
LOCATION	_	00 111	_ 15 RT	ľ	- 25 F	RT
DEPTH IN FEET			_ 0-5 _ BR/GF	)	0-5 BR/0	T.
MAT'L COLOR MAT'L TYPE	_	BR/GR	_ DK/GI	`	- DK/C	J.K.
LATITUDE DEG-MIN-	SEC -	34 19 56.00	- 34	19 56.10	- 34	19 56.10
LONGITUDE DEG-MIN-		93 10 34.30	93		93	
% PASSING 2	IN IN		-		-	
	IN		- 100		_	
	IN	100	- 98		-	
NO.		99	- 96		- 100	)
NO.		96	_ 93		_	
NO.	40 -	87	_ 87		_	
NO.		82	- 83		-	
NO.	200 -	78	79		90	)
LIQUID LIMIT	-	44	- 58		- 55	
PLASTICITY INDEX	_	21	- 30		- 28	
AASHTO SOIL	-	A-7-6(16)	- A-7	-6(26)	- A-7	7-6(29)
UNIFIED SOIL	_		_		_	
% MOISTURE CONTENT	-	29.2	20	6.4	2	22.8
ACHM SC	(IN) -	4.0	- 5.0	)		
ACHM SC	(IN) -	2.0X		-		
ACHM SC	(IN) -	1.0		-		
	_		_		_	
	-		-		-	
	1070		-			
	_		_		_	
	-				-	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

AASHTO TESTS : T24 T88 T89 T90 T265

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### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/19 SEQUENCE NO 21  JOB NUMBER - 012275 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 - 76  SUPPLIER NAME - COUNTIES DISTRICT NO XX  NAME OF PROJECT - CADDO VALLEY - GARLAND CO. LINE (PASSING LANES)(S)  PROJECT ENGINEER - NOT APPLICABLE  PIT/QUARRY - ARKANSAS  LOCATION - MULTIPLE COUNTIES DATE SAMPLED - 02/26/1  SAMPLED BY - DICKERSON/BUNTON DATE RECEIVED - 03/18/1						CODE - SSRVPS R - 2014 ID 1 ATE - 76 NO XX	
SAMPLE FROM - TEST	HOLE				DATE 7		ED - 04/19/19
MATERIAL DESC SOI	L SURVE	Y - R VALUE- PAV	EME	ENT SOUNDING	SS		
LAB NUMBER		20190712		20190713			20190714
SAMPLE ID	_	S77		S78	N ONT V		S79
TEST STATUS STATION	_	INFORMATION ONLY LM 8.05		LM 8.05	N ONLY		LM 8.05
LOCATION	_		-	14 LT		-	24 LT
DEPTH IN FEET	-		-	0-5		-	0-5
MAT'L COLOR	-	BROWN	_	BR/GR		_	BROWN
MAT'L TYPE	-	04 00 0 70	-			-	
LATITUDE DEG-MIN-S LONGITUDE DEG-MIN-S		34 20 8.70 93 10 44.00	-		8.60 44.10	-	34 20 8.50 93 10 44.20
		JJ 10 44.00		55 10 .	44.10		JJ 10 44.20
% PASSING 2	IN IN		_			-	
	IN		_			_	100
	IN	100	-	100	*	-	96
NO.	4 -	97	_	96		-	88
NO.	10 -	90	_	87		_	81
		84	_	78		-	73
NO.		78	-	71		-	67
NO. 2	200 -	62		53			53
LIQUID LIMIT	-	22	-	19		-	21
PLASTICITY INDEX AASHTO SOIL	_	7	_	4		_	6
UNIFIED SOIL	_	A-4 (2)	-	A-4(0)		_	A-4 (0)
% MOISTURE CONTENT	_	14.8	0.22	15.9		-	16.4
	(IN) -	4.0	_	6.5		_	
	(IN) -	1.0X	_			_	
ACHM SC	(IN) -	5.0	-			-	
	_						
	-		_			_	
	1. <del>11.1</del> 2		-			-	
	_		_			_	
	-		_			_	

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

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

	OIL BORVET / PAVEMENT	SOUNDING IEST	KEFORT
DATE - 04/19/1 JOB NUMBER - 012275 FEDERAL AID NO TO BE A PURPOSE - SOIL SU SPEC. REMARKS - NO SPEC SUPPLIER NAME - COUNTIE NAME OF PROJECT - CADDO PROJECT ENGINEER - NOT A PIT/QUARRY - ARKANSAS	5000 CONSTRUCTION & STORY		
LOCATION - MULTIPLE	COUNTIES		DATE SAMPLED - 02/26/19
LOCATION - MULTIPLE SAMPLED BY - DICKERSON SAMPLE FROM - TEST HOLE	/BUNTON		DATE RECEIVED - 03/18/19
SAMPLE FROM - TEST HOLE	E		DATE TESTED - 04/19/19
MATERIAL DESC SOIL S	URVEY - R VALUE- PAVE	EMENT SOUNDING	SS
LAB NUMBER SAMPLE ID TEST STATUS	- 20190715 - S80	- 20190716 - S81	- 20190717 - S82 N ONLY - INFORMATION ONLY - LM 8.30 - 22 RT - 0-5 - BR/GR
STATION	- IM 8 30	- IM 8 30	- I.M 8 30
LOCATION	- 05 RT	- 15 RT	- 22 RT
DEPTH IN FEET	- 0-5	- 0-5	- 0-5
MAT'I COLOR	- BROWN	- BROWN	- BR/GR
MAT'L TYPE	_		
LATITUDE DEG-MIN-SEC	- 34 20 18.80	- 34 20 3	18.90 - 34 20 19.00
			51.80 93 10 51.90
% PASSING 2 IN.			
1 1/2 IN.		- 100	- 100
3/4 IN.	100	100	- 92 - 61
3/8 IN.	99	- 84 - 69	61
		- 59 59	_ 43
	- 90 - 83	-	_ 30 _ 21
	- 79		_ 21 _ 17
	- 66	35	11
LIQUID LIMIT		- 23	- ND
PLASTICITY INDEX			- NP
	- A-4(2)	- A-2-4(0)	A-1-9(0)
UNIFIED SOIL	See.	· <del>-</del>	_
% MOISTURE CONTENT	- 10.8	10.3	11.8
ACHM SC (IN	) - 9.25W	- 5.0	=
	· <u>-</u>	_	-
	=	-	-
	5	_	_
	_	_	<u>-</u>
	-	-0	:=
	-	_	-
	-	-	-
	_	-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/19  JOB NUMBER - 012275  FEDERAL AID NO TO BE ASSIGNED  PURPOSE - SOIL SURVEY SAMPLE  SPEC. REMARKS - NO SPECIFICATION CHECK  SUPPLIER NAME - COUNTIES  NAME OF PROJECT - CADDO VALLEY - GARLAND CO. LINE (PASSIN PROJECT ENGINEER - NOT APPLICABLE  PIT/QUARRY - ARKANSAS						SEQUENCE NO. MATERIAL COE SPEC. YEAR SUPPLIER ID. COUNTY/STATE DISTRICT NO. NG LANES)(S)	DE - - -	SSRVPS 2014 1
LOCATION - MULTIP SAMPLED BY - DICKERS SAMPLE FROM - TEST HO	LE COU ON/BUN OLE	TON				DATE SAMPLES DATE RECEIVED	ED -	
MATERIAL DESC SOIL	SURVE	SY - R VA	LUE- PAVI	EME	NT SOUNDIN	GS		
LAB NUMBER	-	20190718		-	20190719	-		
SAMPLE ID	-	S83		-	S84	_		
TEST STATUS	· -	INFORMAT	ION ONLY	-	INFORMATIO	ON ONLY -		
STATION	-	LM 8.50		_	LM 8.50	-		
LOCATION	_	06 LT		_	15 LT	-		
DEPTH IN FEET	_	0-5		-	0-5	_		
MAT'L COLOR	-	BR/GR			BROWN	_		
MAT'L TYPE	_			_		_		
LATITUDE DEG-MIN-SH	EC -	34 20	25.50	-	34 20	25.40 -		
LONGITUDE DEG-MIN-SH	EC -	93 10	59.50		93 10	59.60		
% PASSING 2	IN			_		_		
1 1/2 1				_		=		
	IN	100		-	100	20		
	IN	99		-	94	#		
NO.		94		-	89	-		
NO.		86		_	82	-		
	40 -	77		_	75	_		
NO. 8	30 -	72		_	71	_		
NO. 20		64			64			
I TOUTD I TWIT					0.0			
LIQUID LIMIT	1 <u></u>	28		-	28	_		
PLASTICITY INDEX	-	10		_	10	_		
AASHTO SOIL	_	A-4(4)		-	A-4(4)	_		
UNIFIED SOIL	ile <del>o</del> li			_	00.1	<u>~</u>		
% MOISTURE CONTENT	_	22.2			22.1			
ACHM SC (	IN) -	4.0		-	6.5	_		
ACHM SC (	IN) -	1.0X		-		-		
ACHM SC (	IN) -	3.5		-		_		
	_			-		-		
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	-			_		-		
	-			-		-		
	-			-		-		

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/1  JOB NUMBER - 012275  FEDERAL AID NO TO BE A  PURPOSE - SOIL SU  SPEC. REMARKS - NO SPEC  SUPPLIER NAME - COUNTIE  NAME OF PROJECT - CADDO  PROJECT ENGINEER - NOT A  PIT/QUARRY - ARKANSAS  LOCATION - MULTIPLE  SAMPLED BY - DICKERSON  SAMPLE FROM - TEST HOLE  MATERIAL DESC SOIL SO	ASSIGNED URVEY SAMPLE CIFICATION CHECK ES O VALLEY - GARLAND CO. APPLICABLE COUNTIES /BUNTON	. LINE (PASSIN	DATE SAMPLED - 02/26/19 DATE RECEIVED - 03/18/19 DATE TESTED - 04/19/19
LAB NUMBER  SAMPLE ID  TEST STATUS  STATION  LOCATION  DEPTH IN FEET  MAT'L COLOR  MAT'L TYPE  LATITUDE DEG-MIN-SEC	- LM 1.60 - 35 RT - 0-5 - RED - 34 12 13.50	- LM 3.50 - 21 LT - 0-5 - BROWN - 34 16 3	
NO. 40	- 100 - 94 - 86 - 73 - 63 - 55 - 50	93 09 100 - 91 - 87 - 81 - 76 - 72 - 61	6.50 93 09 48.50  100 - 91 - 75 - 64 - 58 - 52 - 48 39
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- 22 - 6 - A-4(0) 	- 22 - 5 - A-4(1) 	- 23 - 6 - A-4(0) 

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED

### MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/19/19  JOB NUMBER - 012275  FEDERAL AID NO TO BE AS  PURPOSE - SOIL SUR  SPEC. REMARKS - NO SPECI  SUPPLIER NAME - COUNTIES  NAME OF PROJECT - CADDO  PROJECT ENGINEER - NOT AE  PIT/OUARRY - ARKANSAS	SSI RVE IFI VA	Y SAMPLE CATION CH LLEY - GA		CO. LINE	SEQUENCE NO 2  MATERIAL CODE - RV  SPEC. YEAR - 2014  SUPPLIER ID 1  COUNTY/STATE - 76  DISTRICT NO XX  C (PASSING LANES) (S)
LOCATION - MULTIPLE C SAMPLED BY - DICKERSON/E SAMPLE FROM - TEST HOLE					DATE SAMPLED - 02/26/19 DATE RECEIVED - 03/18/19 DATE TESTED - 04/19/19
MATERIAL DESC SOIL SUF	RVE	Y - RESIS	TANCE F	R-VALUE	TO SECURE AND ADDRESS OF THE PROPERTY OF THE P
LAB NUMBER	_	20190723		-	=
SAMPLE ID	-	RV88		-	-
TEST STATUS	-	INFORMAT	ON ONL	Υ -	
STATION	-	LM 8.05		_	2
LOCATION	-	24 LT		_	-
DEPTH IN FEET	-	0-5		_	-
	-	BROWN		_	<u> </u>
MAT'L TYPE	-			_	_
LATITUDE DEG-MIN-SEC		34 20		-	=
LONGITUDE DEG-MIN-SEC	-	93 10	44.20		
% PASSING 2 IN.	_			_	_
1 1/2 IN.	_			-	_
3/4 IN.	-	100		-	=
3/8 IN.	-	82		-	-
NO. 4	-	75		_	<u> </u>
NO. 10	_	69		_	=
NO. 40	-	66		-	-
NO. 80	-	61		_	=
NO. 200	-	48			
LIQUID LIMIT	_	ND		_	_
	_	NP		-	=
AASHTO SOIL	-	A-4(0)		-	-
UNIFIED SOIL	-	7.2		-	-
% MOISTURE CONTENT	_			-	-
	_			_	==
	_			_	_
	-			-	=
	-			-	-
5	-			-	~
8	_			_	_
9	-			_	-
	_			-	-

REMARKS - W=MULTIPLE LAYERS, X=STRIPPED