ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

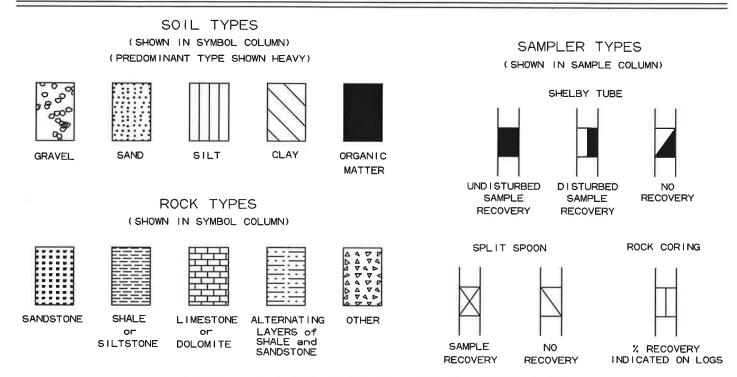


SUBSURFACE INVESTIGATION

IN	BENTO	ON & WASHINGTON	COUNTY
STATE HIGHWAY	265	SECTION	2 & 3
RAND	ALL WOBBE LA	ANE – HWY. 264 (SPRING	GDALE) (S)
FEDERAL AID PROJEC	CT NO	STPC-9399(8)	
STATE JOB NO.		012007	

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.

LEGEND



TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANL	JLAR SOIL		CLAY	CL/	AY-SHALE	8	HALE
*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	Over 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	Penetratio	on.
		31-60	Hard	31-60	Hard	in 60 Blow	sı Medium Hard
		Over 60	Very Hard	0ver 60	Very Hard	Less than	2'
						Penetratio	on
						in 60 Blow	sı 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 (N₆₀) can be obtained by multiplying N_f by the hammer correction factor published on the boring log.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

May 13, 2009

TO: Mr. Charles Clements, Engineer of Roadway Design

SUBJECT: Job No.012007

Randall Wobbe Lane – Hwy. 264 (Springdale) (S)

Route: 265, Sections: 2&3 Washington & Benton County

Transmitted herewith is the requested Soil Survey, Strength Data and Resilient Modulus test results for the above referenced job. The proposed project consists of relocating a two mile section of Highway 265. Design profile and cross sections were not available, but only very minor amounts of cut and fill are anticipated.

Laboratory results indicate low to moderate plasticity clays with considerable gravel contents within the project limits. Due to the cherty (gravelly) nature of the soils, this project is not anticipated to require widespread stabilization or undercut. The existing material should provide a stable working platform with conventional processing. However, if subgrade preparation must be performed during adverse weather conditions, stabilization may be necessary in some locations.

The pond at Station 195+00 is located 80 feet left of centerline based on the revised plans received from Roadway Design on January 23, 2009. The pond is outside of the Right of Way and Construction limits, but the pond levees may seep and cause wet conditions within the project limits. Due to the low probability of this to occur, it is recommended that this issue be addressed during construction if necessary. If the alignment is moved closer to the pond, the Materials Division can provide recommendations for remediation measures to be included in the plans.

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 Lowell.
- 2. Asphalt Concrete Hot Mix

Type	Asphalt Cement%	Mineral Aggregate%
Surface Course	6.0	94.0
Binder Course	5.0	95.0
Base Course	4.5	95.5

Michael C. Benson Materials Engineer

MCB:dsr:bj Attachment

cc: State Constr. Eng. – Master File Copy

District 4 Engineer
District 9 Engineer
Planning Div. – Jared Wiley

G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

MICHAEL BENSON, MATERIALS ENGINEER

SOIL SURVEY REVIEW JOB 012007

DATE TESTED 4/9/2009 COUNTY NO. 76

JOB NAME RANDALL WOBBE LANE-HWY. 264 (SPRINGDALE) (S)

		JOB NAME:	RANDALL V	NORRE LANE-HMA	. 264 (SPRINGDALE)	(S)			
DOCK #	SAMPI	LE# STA#	LOC.	SOIL CLASS	FIELD MOIST.	%pass.#200	L.L.	P.I.	
20090800	S187	101+00	15'LT *	A-6(6)	23.1	79	26	11	
20090801	S188	101+00	41'LT *	A-6(15)	22.6	82	35	20	
20090802	S189	115+00	24'RT **	A-4(4)	16	79	23	8	
20090803	S190	115+00	34'RT *	A-6(5)	15.1	58	28	13	
20090804	S191	115+00	41'LT A	A-4(0)	17.6	59	19	4	
20090805	S192	115+00	24'RT A	A-4(2)	16.8	57	22	8	
20090806	S193	115+00	32'RT A	A-6(5)	14.2	69	25	11	
20090807	S194	123+00	CL *	A-6(11)	20.6	84	31	15	
20090808	S195	131+00	CL *	A-4(2)	19.4	64	23	8	
20090809	S196	139+00	50'RT	A-6(5)	17	57	27	14	
20090810	S197	139+00	CL	A-6(9)	20.1	64	34	19	
20090811	S198	147+00	20'RT	A-6(7)	17.4	64	32	15	
20090812	S199	155+00	19'RT	A-6(10)	18.9	76	29	16	
20090813	S200	155+00	CL	A-6(10)	17.8	68	31	19	
20090814	S201	163+00	18'RT	A-6(2)	11.8	51	24	11	
20090815	S202	163+00	CL	A-6(3)	14.3	51	26	12	
20090816	S203	171+00	7'RT	A-4(5)	21.8	77	24	10	
20090817	S204	171+00	CL	A-6(5)	17.4	67	25	12	
20090818	S205	179+00	CL	A-4(4)	21.2	86	23	7	
20090819	S206	187+00	CL	A-4(4)	21.8	89	24	6	
20090820	S207	195+00	CL	A-6(6)	14.9	74	26	11	
20090821	S208	203+00	CL	A-6(18)	22	84	36	24	
20090822	S209	211+00	CL	A-4(2)	13.8	55	28	9	
20090823	S201	219+00	4'LT	A-6(10)	17.2	57	36	22	
20090824	S211	219+00	17'LT	A-6(10)	15.7	63	34	21	
20090825	RV212	123+00	CL	A-6(7)		85	27	11	
20090826	RV213	203+00	CL	A-6(16)		80	35	22	

Monday, May 11, 2009 Page 1 of 1

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

DATE - 05/11/2009 SEQUENCE NO. - 1

JOB NUMBER - 012007 MATERIAL CODE - SSRVPS

SPEC. YEAR - 2003

SUPPLIER ID. - 1

COUNTY/STATE - 76

DISTRICT NO. - XX

JOB NAME - RANDALL WOBBE LANE-HWY. 264 (SPRINGDALE) (S)

BEGIN JOB - END JOB 15

RESILIENT MODULUS

STA.123+00 7292 STA.203+00 10290

REMARKS -

AASHTO TESTS : T190

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

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

Job No. Date Sampled: Date Tested: Name of Project: County: Sampled By: Lab No.: Sample ID: LATITUDE:	012007 4/15/2009 April 15, 2009 RANDALL WOBBE-WOBBE LANE HWY.264 Code: 72 Name: WASHINGTON 20090825 RV212	Material Code Station No.: Location: (SPRINGDALE)(S) Depth: AASHTO Class: Material Type (1 LONGITUDE:		0-5 A-6(7) 2
1. Testing Inforn	nation:	100000000000000000000000000000000000000		- 80 - 13
	Preconditioning - Permanent Strain > 5% (Y= Testing - Permanent Strain > 5% (Y=Yes or N Number of Load Sequences Completed (0-15)	l=No)		N N 15
2. Specimen Info	ormation:			
	Specimen Diameter (in): Top Middle			3.97 3.95
	Bottom Average Membrane Thickness (in):			3.97 3.96 0.00
	Height of Specimen, Cap and Base (in):			8.04
	Height of Cap and Base (in):			0.00
	Initial Length, Lo (in):			8.04
	Initial Area, Ao (sq. in):			12.34
	Initial Volume, AoLo (cu. in):			99.19
3. Soil Specimen	Woight			
3. John Specimen	Weight of Wet Soil Used (g):			3187.80
4. Soil Properties	S:			
	Optimum Moisture Content (%):			15.7
	Maximum Dry Density (pcf):			109.8
	95% of MDD (pcf):			104.3
	In-Situ Moisture Content (%):			N/A
5. Specimen Pro	perties:			
o. opeo	Wet Weight (g):			3187.80
	Compaction Moisture content (%):			15.1
	Compaction Wet Density (pcf):			122.45
	Compaction Dry Density (pcf):			106.39
	Moisture Content After Mr Test (%):			15.2
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):			#VALUE!
7. Resilient Modu	ılus, Mr:	8	328(Sc)^-0.17546((\$3)^0.32350
8. Comments				
9. Tested By:	DEB D	ate: April 15, 2009		
o. rested by.	<u> </u>	7 pm 10, 2003		

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

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS

RECOMPACTED SAMPLES

SSRVPS 123+00

Material Code Station No.: Location: April 15, 2009 4/15/2009 012007 Date Sampled: Date Tested: Job No.

RANDALL WOBBE-WOBBE LANE HWY.264 (SPRINGDALE)(S) Name of Project:

WASHINGTON Name: Code: 72 County:

Material Type (1 or 2): LONGITUDE: **AASHTO Class:** Depth: 20090825 RV212 Sampled By: Sample ID: Lab No.:

LATITUDE:

A-6(7)

	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	Max.	Cyclic	Contact	LVDT 1		(04)
		Stress	Load		Load	Axial	Stress	Stress	and 2		
						Stress					
DESIGNATION	လိ	Scyclic	Р _{мах}	P _{cyclic}	Pcontact	S _{max}	Scyclic	Sconlact	Havg	చ్	Ď
UNIT	psi	psi	lbs	sql	sql	psi	psi	psi	ıı	in/in	isd
Sequence 1	0.9	2.0	25.3	22.6	2.7	2.1	1.8	0.2	0.00110	0.00014	13,386
Sequence 2	6.0	4.0	47.4	44.7	2.7	3.8	3.6	0.2	0.00232	0.00029	12,533
Sequence 3	6.0	6.0	2.69	66.1	3.6	5.7	5.4	0.3	0.00369	0.00046	11,685
Sequence 4	0.9	8.0	92.6	86.5	6.1	7.5	7.0	0.5	0.00534	0.00066	10,559
Sequence 5	6.0	10.0	114.7	106.0	8.7	9.3	8.6	0.7	0.00704	0.00088	9,822
Sequence 6	4.0	2.0	25.0	22.4	2.7	2.0	1.8	0.2	0.00129	0.00016	11,269
Sequence 7	4.0	4.0	46.5	43.8	2.7	3.8	3.5	0.2	0.00276	0.00034	10,330
Sequence 8	4.0	6.0	67.2	64.4	2.8	5.4	5.2	0.2	0.00434	0.00054	9,675
Sednence 9	4.0	8.0	89.9	84.6	5.3	7.3	6.9	0.4	0.00606	0.00075	9,104
Sequence 10	4.0	10.0	112.4	104.6	7.8	9.1	8.5	9.0	0.00786	0.00098	8,676
Sequence 11	2.0	2.0	24.7	22.0	2.7	2.0	1.8	0.2	0.00153	0.00019	9,342
Sequence 12	2.0	4.0	45.4	42.6	2.8	3.7	3.5	0.2	0.00327	0.00041	8,499
Sequence 13	2.0	6.0	65.3	62.4	2.8	5.3	5.1	0.2	0.00514	0.00064	7,916
Sequence 14	2.0	8.0	9.98	82.1	4.5	7.0	6.7	0.4	0.00705	0.00088	7,582
Sequence 15	2.0	10.0	108.6	101.6	7.0	8.8	8.2	9.0	0.00908	0.00113	7.292

DATE	DATE
DEB	
TESTED BY	REVIEWED BY

April 15, 2009

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

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

Name: WASHINGTON

Job No.

012007

Material Code SSRVPS

Date Sampled:

4/15/2009

Station No.: 123+00

Date Tested:

April 15, 2009

Location: CL

Name of Project: RANDALL WOBBE-WOBBE LANE HWY.264 (SPRINGDALE)(S)

County: Sampled By: Code: 72

Depth: 0-5

Lab No .:

20090825

AASHTO Class: A-6(7)

Sample ID: RV212 Material Type (1 or 2): 2

LATITUDE:

LONGITUDE:

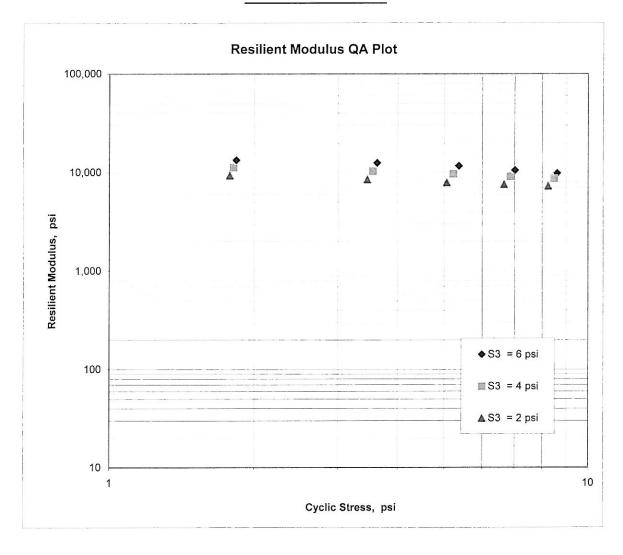
$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$

K1 = 8,328

K2 = -0.17546

 $K5 = \overline{0.32350}$

 $R^2 = 0.97$



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

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

Job No. Date Sampled: Date Tested: Name of Project: County: Sampled By: Lab No.: Sample ID: LATITUDE:	012007 4/21/2009 April 22, 2009 RANDALL WOBBE LANE-HWY.264 (SPRIN Code: 72 Name: WASHINGTON 20090825 RV213		SSRVPS 203+00 CL 0-5 A-6(16) 2): 2
1. Testing Inform	nation:		
	Preconditioning - Permanent Strain > 5% ('Testing - Permanent Strain > 5% (Y=Yes or Number of Load Sequences Completed (0-	N=No)	N N 15
2. Specimen Info			
3. Soil Specimen			3.95 3.96 3.95 3.95 0.00 8 0.00 8 12.27 98.20
	Weight of Wet Soil Used (g):		3273.00
4. Soil Properties			
	Optimum Moisture Content (%): Maximum Dry Density (pcf): 95% of MDD (pcf): In-Situ Moisture Content (%):		17.0 107.9 102.5 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 (%):		3273.00 16.8 127.00 108.73 16.7
6. Quick Shear To	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Modu	ılus, Mr:	13391(Sc)^-0.19630(S3)^0.22812
8. Comments			
9. Tested By:	DEB	Date: April 22, 2009	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

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

SSRVPS

203+00 CL

Material Code Station No.: Location: April 22, 2009 4/21/2009 012007 Date Sampled: Date Tested: Job No.

Name of Project: RANDALL WOBBE LANE-HWY.264 (SPRINGDALE)(S)

County: Code: 72 Name: WASHINGTON

Sampled By:
Lab No.: 20090825
Sample ID: RV213

A-6(16) 2

AASHTO Class:

Depth:

0-5

Material Type (1 or 2): 2	LONGITUDE:	
Sample ID: RV213	LATITUDE:	

	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	တ်	S _{cyclic}	Р	P _{cyclic}	Pcontact	S _{max}	Scyclic	Sconlact	Havg	చ్	Σ̈́
UNIT	psi	psi	sql	lbs	sql	psi	psi	psi	in	in/in	psi
Sequence 1	0.9	2.0	24.9	22.1	2.8	2.0	1.8	0.2	0.00081	0.00010	17,805
Sequence 2	6.0	4.0	46.5	43.7	2.9	3.8	3.6	0.2	0.00170	0.00021	16,710
Sequence 3	0.9	6.0	68.1	64.3	3.8	5.5	5.2	0.3	0.00269	0.00034	15,581
Sequence 4	6.0	8.0	89.6	83.3	6.3	7.3	6.8	0.5	0.00391	0.00049	13,865
Sequence 5	6.0	10.0	109.2	100.4	8.8	8.9	8.2	0.7	0.00537	0.00067	12,184
Sequence 6	4.0	2.0	24.6	21.8	2.8	2.0	1.8	0.2	0.00091	0.00011	15,580
Sequence 7	4.0	4.0	45.7	42.8	2.9	3.7	3.5	0.2	0.00189	0.00024	14,786
Sequence 8	4.0	6.0	0.99	63.1	2.9	5.4	5.1	0.2	0.00300	0.00037	13,719
Sednence 9	4.0	8.0	87.4	82.0	5.4	7.1	6.7	9.0	0.00423	0.00053	12,623
Sequence 10	4.0	10.0	107.1	99.2	7.9	8.7	8.1	9.0	0.00560	0.00070	11,548
Sequence 11	2.0	2.0	24.2	21.3	2.9	2.0	1.7	0.2	0.00103	0.00013	13,424
Sequence 12	2.0	4.0	44.9	42.0	2.9	3.7	3.4	0.2	0.00215	0.00027	12,736
Sequence 13	2.0	0.9	64.3	61.3	3.0	5.2	5.0	0.2	0.00339	0.00042	11,793
Sequence 14	2.0	8.0	84.0	79.5	4.5	6.8	6.5	0.4	0.00468	0.00058	11,071
Sequence 15	2.0	10.0	104.0	97.1	6.9	8.5	7.9	9.0	0.00615	0.00077	10,290

DATE	DATE
DEB	
TESTED BY	REVIEWED BY

April 22, 2009

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

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

Job No.

012007

Material Code SSRVPS

Date Sampled:

4/21/2009

Station No.: 203+00

Date Tested:

April 22, 2009

Location: CL

Name of Project: RANDALL WOBBE LANE-HWY.264 (SPRINGDALE)(S)

County:

Code: 72

Name: WASHINGTON

Sampled By:

Lab No .:

20090825

Depth: 0-5 AASHTO Class: A-6(16)

Sample ID: RV213 Material Type (1 or 2): 2

LATITUDE:

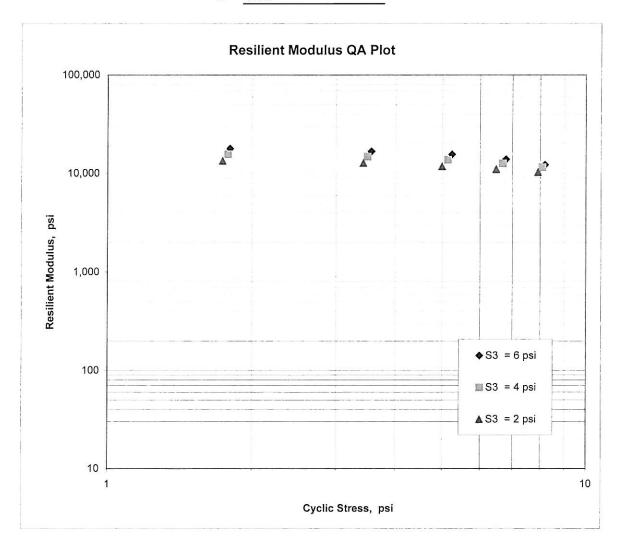
LONGITUDE:

$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$
 $K1 = 13,391$

K2 = -0.19630

K5 = 0.22812

 $R^2 = 0.92$



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 - F PROJECT ENGINEER - N PIT/QUARRY - ARKAN	BE ASSI L SURVE SPECIFI UNTIES RANDALL TOT APPL TISAS TPLE COU AMER, T.	Y SAMPLE CATION CHEC WOBBE LANE ICABLE NTIES FRAZIER	CK -HWY. 264		MATERIAL SPEC. YE SUPPLIER COUNTY/S DISTRICT E) (S) DATE SAM DATE REC DATE TES	[0.104.009] Approxim	03
LAB NUMBER	-	20090800	-	20090801	_	20090802	
SAMPLE ID	-	S187	-	S188	_	S189	
TEST STATUS		INFORMATIO	ON ONLY -	INFORMATIO			ON ONLY
STATION	_		1 5 100-1	101+00		115+00	
LOCATION		15'LT *	=	41'LT *		24'RT **	
DEPTH IN FEET		0-5'	_	0-5'	-	0-5'	
MAT'L COLOR MAT'L TYPE	_	BROWN	-	BROWN	-	BROWN	
LATITUDE DEG-MIN-	SEC -	36 12	10.70 -	36 12	10 80 -	36 12	3.60
LONGITUDE DEG-MIN-					11.00	2.8	.80
% PASSING 2							
	IN IN		_		_		
	IN				_		
	IN		_		-		
NO.	4 -	100	_	100	_	100	
NO.	10 -	97	_	100	_	97	
NO.	03030	93	=	99	, —	92	
NO.		88	<u></u>	93	-	88	
NO.	200 -	79		82		79	
LIQUID LIMIT	-	26	=	35	_	23	
PLASTICITY INDEX	. 	11	_	20	_	8	
AASHTO SOIL	-	A-6(6)	_	A-6(15)	_	A-4(4)	
UNIFIED SOIL	_	22.1	_	22.6	-	1.6.0	
% MOISTURE CONTENT		23.1		22.6		16.0	
ACHM SURFACE	(IN) -	4.25W	-		-	4.5W	
ACHM BINDER	(IN) -	5.75W	_		_	5.0	
AGG BASE CRS CL7	(IN) -	3.0	_		-	5.0	
	_		=		-		
	_		_		_		
			_		=		
	_		-		_		
	_		-		-		

REMARKS - W=MULTIPLE LAYERS

_

AASHTO TESTS : T24 T88 T89 T90 T265

^{- * =} LOCATIONS MEASURED FROM C.L. EXISTING RANDALL WOBBE LANE

^{- ** =} LOCATION MEASURED FROM C.L. CONTRUCTION

MICHAEL BENSON, MATERIALS ENGINEER

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

SPEC. REMARKS - NO SUPPLIER NAME - COU NAME OF PROJECT - R PROJECT ENGINEER - N PIT/QUARRY - ARKAN	BE ASSI L SURVE SPECIFI UNTIES RANDALL SOT APPL SSAS PLE COU AMER, T.	Y SAMPLE CATION CHEC WOBBE LANE- ICABLE NTIES FRAZIER	CK -HWY. 264			MATERI SPEC. SUPPLI COUNTY DISTRI (S) (S) DATE S DATE F DATE T	AL YEA ER /SI CT SAMI	EIVED -	20 1 76 XX	03 / /16/09 /30/09
LAB NUMBER	_	20090803		_	20090804		_	200908	0.5	
SAMPLE ID		S190			S191			S192	00	
TEST STATUS					INFORMATIO	N ONLY			IATI	ON ONLY
STATION		115+00			115+00		-	115+00		
LOCATION		34'RT *	·	_	41'LT A		_	24'RT	A	
DEPTH IN FEET		0-2.5'Z	8	_	0-5'		_	0-5'		
MAT'L COLOR	-	BROWN	3	_	BROWN		<u> </u>	BROWN		
MAT'L TYPE LATITUDE DEG-MIN-	CEC -	26 12	3 50	-	36 12 1	16 70	-	26	10	16.60
LONGITUDE DEG-MIN-				_		56.00	-			55.90
		54 07	. 70		J4 00 .	30.00		24	00	33.70
% PASSING 2	IN			-			-			
	IN IN			_			_			
	IN			_			-			
NO.		100	•	-	100		_	100		
NO.		88	,	_	93			92		
NO.	40 -	73		_	79		_	76		
NO.	80 -	66		_	71		-	67		
NO.	200 -	58			59			57		
LIQUID LIMIT	_	28	<u> </u>	_	19		_	22		
PLASTICITY INDEX	<u> </u>	13		-	4		-	8		
AASHTO SOIL	-	A-6(5)	,	-	A-4(0)		-	A-4 (2)	
UNIFIED SOIL	-			_			_			
% MOISTURE CONTENT	-	15.1	•	_	17.6			16.	8	
ACHM SURFACE	(IN) -		,	_	6.0W		-	4.0V	J	
ACHM BINDER	(IN) -			-			-	6.50	J	
AGG BASE CRS CL7	(IN) -			-	5.0		-	5.0		
	_			_			_			
	_			_			_			
	_		,	_			-			
	_		•	_			_			
	_			_			_			

REMARKS - W=MULTIPLE LAYERS

- Z=AUGER REFUSAL

- A=RANDALL WOBBE LANE

- * = LOCATION MEASURED FROM C.L. CONTRUCTION

AASHTO TESTS : T24 T88 T89 T90 T265

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 - B PROJECT ENGINEER - N PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - M. CREA SAMPLE FROM - TESTH MATERIAL DESC SOI	BE ASSI L SURVE SPECIFI NTIES ANDALL OT APPL ISAS PLE COU AMER, T. OLE	Y SAMPLE CATION CHECK WOBBE LANE-H ICABLE NTIES FRAZIER	(IWY. 264		MATERIAL SPEC. YEA SUPPLIER COUNTY/ST DISTRICT () (S) DATE SAM DATE RECI DATE TES	NO 3 CODE - SSRVPS AR - 2003 ID 1 CATE - 76 NO XX PLED - 03/16/09 EIVED - 03/30/09 FED - 04/09/09
LAB NUMBER	-	20090806				20090808
SAMPLE ID		S193		S194		S195
TEST STATUS	_		ONLY -			INFORMATION ONLY
STATION		115+00	_	123+00		131+00
LOCATION DEPTH IN FEET		32'RT A 0-5'	_	CL * 0-5'		CL * 0-2'Z
MAT'L COLOR		BROWN	_	BROWN		BROWN
MAT'L TYPE	_	BROWN	_	BROWN	_	Divonity
LATITUDE DEG-MIN-	SEC -	36 12 16	5.50 -	36 12 1	1.00 -	36 12 17.30
LONGITUDE DEG-MIN-	SEC -	94 06 55	5.80	94 07	3.40	94 07 9.80
% PASSING 2	IN		_		-	
1 1/2	IN		-		-	
	IN		=			
	IN		_	2.22	_	511
	4 -			100 99	=	100
NO.		93 83	_	98	-	87 84
NO.		1000000	==	93	_	77
	200 -			84		64
LIQUID LIMIT	_	25	_	31		23
PLASTICITY INDEX			=	15	_	8
AASHTO SOIL	-	A-6(5)	_	A-6(11)	=	A-4(2)
UNIFIED SOIL	-		_		_	
% MOISTURE CONTENT	-	14.2	-	20.6		19.4
ACHM SURFACE	(IN) -	4.OW	×-		_	
AGG BASE CRS CL7	(IN) -	5.0	-		-	
	_		_		_	
	_		-		-	
	-		-		-	
	_		_		_	
	_		_		_	
	-		_		-	

REMARKS - W=MULTIPLE LAYERS

- Z=AUGER REFUSAL

- A=RANDALL WOBBE LANE

- * = LOCATIONS MEASURED FROM C.L. CONTRUCTION

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 - COUNTY NAME OF PROJECT - REPROJECT ENGINEER - NEW PIT/QUARRY - ARKAN LOCATION - MULTI SAMPLED BY - M. CREASAMPLE FROM - TESTHOLD SAMPLE FROM - TESTH	007 BE ASSIGNED L SURVEY SAMPLE SPECIFICATION CHECK NTIES ANDALL WOBBE LANE-HWY. 20 OT APPLICABLE SAS PLE COUNTIES MER, T.FRAZIER	MATER SPEC. SUPPL COUNT DISTR 64 (SPRINGDALE) (S) DATE DATE DATE DATE	NCE NO 4 IAL CODE - SSRVPS YEAR - 2003 IER ID 1 Y/STATE - 76 ICT NO XX SAMPLED - 03/16/09 RECEIVED - 03/30/09 TESTED - 04/09/09
	- S196 - INFORMATION ONLY	- S197 - INFORMATION ONLY - 139+00 - CL - 0-4.2'Z - BROWN - 36 12 25.30	
% PASSING 2 1 1/2 3/4 3/8 NO. NO. NO.	IN IN IN IN 4 - 100 10 - 90 40 - 77	- - - - 100 - 90 - 79 - 73 64	- - - - 100 - 94 - 85 - 77 64
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- 27 - 14 - A-6(5) - 17.0	- 34 - 19 - A-6(9) - 20.1	- 32 - 15 - A-6(7) - 17.4
	(IN) - 4.5W	- - - - - -	- 4.5W - - - - - -

REMARKS - W=MULTIPLE LAYERS

- Z=AUGER REFUSAL

- LOCATIONS MEASURED FROM C.L. CONTRUCTION

AASHTO TESTS : T24 T88 T89 T90 T265

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

0011	DOTALET / THE BILLIE DO	onding that which	
DATE - 04/30/09 JOB NUMBER - 012007 FEDERAL AID NO TO BE ASSIPURPOSE - SOIL SURVESTED, SUPPLIER NAME - COUNTIES NAME OF PROJECT - RANDALL PROJECT ENGINEER - NOT APPIPIT/QUARRY - ARKANSAS LOCATION - MULTIPLE COUSTIPUT - MULTIPLE COUSTIPUT - MULTIPLE COUSTIPUT - SAMPLED BY - M. CREAMER, TO SAMPLE FROM - TESTHOLE MATERIAL DESC SOIL SURVESTED	CY SAMPLE CATION CHECK WOBBE LANE-HWY. 264 LICABLE UNTIES FRAZIER	COUNTY/STATE DISTRICT NO. (SPRINGDALE) (S) DATE SAMPLED DATE RECEIVED DATE TESTED	- SSRVPS - 2003 - 1 - 76 - XX - 03/16/09 - 03/30/09
LAB NUMBER -	20090812 -	20090813 - 2009	0814
SAMPLE ID -		S200 - S201	
		INFORMATION ONLY - INFO	
		155+00 - 163+	
	19'RT -	CL - 18'R	
	0-5'	0-5' - 0-5'	
MAT'L COLOR -	BROWN	BROWN BROW	N
MAT'L TYPE -	_	_	
LATITUDE DEG-MIN-SEC -	36 12 41.00 -	36 12 41.00 - 36	12 48.90
LONGITUDE DEG-MIN-SEC -	94 07 11.70	94 07 11.80 94	07 11.50
% PASSING 2 IN			
1 1/2 IN			
		_	
3/4 IN 3/8 IN	_	_	
NO. 4 -	100	100 - 100	
NO. 10 -	99	96 86	
NO. 40 -	96 _	92 _ 74	
NO. 80 -	89 –	84 – 64	
NO. 200 -	76	68 51	
	250000		
LIQUID LIMIT -	29 -	31 - 24	
PLASTICITY INDEX -	16 -	19	
AASHTO SOIL -	A-6(10)	A-6(10) - A-6	(2)
UNIFIED SOIL -		17.0	1 0
% MOISTURE CONTENT -	18.9	17.8	1.8
ACHM SURFACE (IN) -	4.25W -	- 4.	75W
_	-	- ,	
-	=	_	
	_	-	
	_	_	
-	=	-	
=	=	=	
-	=		
-	-	-	

REMARKS - W=MULTIPLE LAYERS

- LOCATIONS MEASURED FROM C.L. CONTRUCTION

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AASHTO TESTS : T24 T88 T89 T90 T265

MICHAEL BENSON, MATERIALS ENGINEER

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

SPEC. REMARKS - NO SPEC SUPPLIER NAME - COUNTIES NAME OF PROJECT - RANDA PROJECT ENGINEER - NOT A PIT/QUARRY - ARKANSAS	SSIGNED RVEY SAMPLE IFICATION CHECK S LL WOBBE LANE-HWY. 26 PPLICABLE COUNTIES T.FRAZIER		DATE SAMPLED - DATE RECEIVED - DATE TESTED -	SSRVPS 2003 1 76 XX 03/16/09 03/30/09
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	- 20090815 - \$202 - INFORMATION ONLY - 163+00 - CL - 0-5' - BROWN - 36 12 49.00	- 20090816 - S203 - INFORMATION - 171+00 - 7'RT - 0-5' - BROWN - 36 12 5	- 2009081 - S204 N ONLY - INFORMA - 171+00 - CL - 0-5' - BROWN - 36 1.	
% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40 NO. 80	- - - -	- - - - 100 - 97 - 92 - 86 77	- - - - 100 - 91 - 83 - 77 67	
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT ACHM SURFACE (IN)	- 26 - 12 - A-6(3) - 14.3 -	- 24 - 10 - A-4(5) - 21.8 - 4.0W 	- 25 - 12 - A-6(5) - 17.4 	
	-	-	_	

REMARKS - W=MULTIPLE LAYERS

- LOCATIONS MEASURED FROM C.L. CONTRUCTION

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AASHTO TESTS : T24 T88 T89 T90 T265

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/30/0 JOB NUMBER - 012007 FEDERAL AID NO TO BE A PURPOSE - SOIL SU SPEC. REMARKS - NO SPEC SUPPLIER NAME - COUNTIE NAME OF PROJECT - RANDA PROJECT ENGINEER - NOT A PIT/QUARRY - ARKANSAS LOCATION - MULTIPLE SAMPLED BY - M.CREAMER, SAMPLE FROM - TESTHOLE MATERIAL DESC SOIL SU	SSIGNED RVEY SAMPLE IFICATION CHECK S LL WOBBE LANE-HWY. 26 PPLICABLE COUNTIES T.FRAZIER	4 (SPRINGDALE)	DATE SAMPLED - 03/16/09 DATE RECEIVED - 03/30/09 DATE TESTED - 04/09/09
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	- \$205 - INFORMATION ONLY - 179+00 - CL - 0-4.0'Z - BROWN - 36 13 3.80	- 187+00 - CL - 0-5' - BROWN - 36 13	- 20090820 - S207 N ONLY - INFORMATION ONLY - 195+00 - CL - 0-5' - BROWN - 9.60 - 36 13 16.40 94 06 56.30
<pre>% PASSING 2 IN. 1 1/2 IN. 3/4 IN. 3/8 IN. NO. 4 NO. 10 NO. 40 NO. 80</pre>	-	- - - - 100 - 99 - 98 - 94 89	- - - - 100 - 94 - 87 - 82 74
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT	- 23 - 7 - A-4(4) - 21.2 	- 24 - 6 - A-4(4) - 21.8	- 26 - 11 - A-6(6) - 14.9

REMARKS - Z = AUGER REFUSAL

- LOCATIONS MEASURED FROM C.L. CONTRUCTION

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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 ***

DATE - 04/30 JOB NUMBER - 01200 FEDERAL AID NO TO BE PURPOSE - SOIL SPEC. REMARKS - NO SP SUPPLIER NAME - COUNT NAME OF PROJECT - RAN PROJECT ENGINEER - NOT PIT/QUARRY - ARKANSA LOCATION - MULTIPLE SAMPLED BY - M. CREAME SAMPLE FROM - TESTHOL MATERIAL DESC SOIL	ASSIGNED SURVEY SAN ECIFICATION IES DALL WOBBN APPLICABN S E COUNTIES R, T.FRAZ	MPLE ON CHECK E LANE-HWY. 2 LE S IER			DATE S DATE R DATE T	AL CC YEAR ER IC /STAT CT NC AMPLE	DDE	SSRVPS 2003 1 76
LAB NUMBER SAMPLE ID	- 2009 - S208	35 35 705		20090822 S209		- 20 - Si	009082 201	3
TEST STATUS	100 C C C C C C C C C C C C C C C C C C	RMATION ONLY		INFORMATIO 211+00	N ONLY		NFORMA' 19+00	TION ONLY
STATION LOCATION	- 203+ - CL	-00	-	211+00 CL		- 4		
DEPTH IN FEET			=	0-5'		- 0-		
MAT'L COLOR	- BROW	IN	_	BR/RD		- RI	ED	
MAT'L TYPE LATITUDE DEG-MIN-SEG	- 36	13 23 10	-	36 13 3	88.80	_	36 1	3 54.50
LONGITUDE DEG-MIN-SEC			_		51.70	_		6 51.30
	V. –		_			_		
1 1/2 I	1		-			-		
3/4 II			_			_		
3/8 II			_	100			100	
NO. 4	T. 1671/71 D		-	93		- '	89	
NO. 40			_	86		_	72	
NO. 80			-			-	66	
NO. 200) - 84			55			57	
LIQUID LIMIT	- 36		_	28			36	
PLASTICITY INDEX AASHTO SOIL	- 24 - A-6	. /101	_	9			22	\
UNIFIED SOIL	- A-6	5(18)	-	A-4(2)		- F	A-6(10)
% MOISTURE CONTENT	- 2	22.0	-	13.8		_	17.2	
ACHM SURFACE (I	N) -		_			_	3.0	
AGG.BASE. CRS.CL7 (I	и) –		-			-	5.0	
	_		_			_		
	-		_			_		
	_		_			6.75 0.000		
	-		_			-		
			-			_		
			_					

REMARKS - LOCATIONS MEASURED FROM C.L. CONTRUCTION

AASHTO TESTS : T24 T88 T89 T90 T265

MICHAEL BENSON, MATERIALS ENGINEER

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

DATE - 04/30/09 JOB NUMBER - 012007 FEDERAL AID NO TO BE AS PURPOSE - SOIL SUB SPEC. REMARKS - NO SPECT SUPPLIER NAME - COUNTIES NAME OF PROJECT - RANDAM PROJECT ENGINEER - NOT AM PIT/QUARRY - ARKANSAS LOCATION - MULTIPLE OF SAMPLED BY - M.CREAMER,	SSIG RVEY IFIC S LL W PPLI	SAMPLE ATION CHECK OBBE LANE-HWY. 2 CABLE TIES		DATE SAMPLED	SSRVPS 2003 1 76 XX
SAMPLE FROM - TESTHOLE MATERIAL DESC SOIL SU				DATE RECEIVED DATE TESTED GS	
LAB NUMBER			_	_	
SAMPLE ID		20090824 S211	=		
		INFORMATION ONLY	_	_	
		219+00	=	-	
		17'LT	_	-	
		0-5'		=	
MAT'L COLOR	_ I		_	-	
MAT'L TYPE	_ `			_	
LATITUDE DEG-MIN-SEC	_	36 13 54.70	_	-	
LONGITUDE DEG-MIN-SEC	-	94 06 51.20			
% PASSING 2 IN.			_	<u></u>	
1 1/2 IN.			_	_	
3/4 IN.			_	-	
3/4 IN.			-	<u>==4</u> 0	
NO. 4		100	_	-9	
NO. 10				- ,	
NO. 40		80	_	_	
NO. 80	-	73	_	_	
NO. 200	-	63			
LIQUID LIMIT	_	34	See a		
PLASTICITY INDEX		354(F34)5	-	9200 <u>920</u> 0	
	_	A-6(10)	_	-	
UNIFIED SOIL	_	11 0 (10)	-	-	
% MOISTURE CONTENT	_	15.7	=	_	
	_		-	_	
	_		_		
	_		_	-	
	-		-	-	
	=		-	-	
	_		_	-	
	_				
	_		_	_	

REMARKS - LOCATION MEASURED FROM C.L. CONTRUCTION

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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 ***

```
DATE
            - 04/30/09
                                                     SEQUENCE NO. - 1
JOB NUMBER - 012007
                                                     MATERIAL CODE - RV
FEDERAL AID NO.- TO BE ASSIGNED
                                                     SPEC. YEAR - 2003
PURPOSE - SOIL SURVEY SAMPLE
                                                     SUPPLIER ID. - 1
SPEC. REMARKS - NO SPECIFICATION CHECK
                                                     COUNTY/STATE - 76
SUPPLIER NAME - COUNTIES
                                                     DISTRICT NO. - XX
NAME OF PROJECT - RANDALL WOBBE LANE-HWY. 264 (SPRINGDALE) (S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION
           - MULTIPLE COUNTIES
                                                      DATE SAMPLED - 03/16/09
SAMPLED BY - M.CREAMER, T.FRAZIER
                                                      DATE RECEIVED - 03/30/09
SAMPLE FROM - TESTHOLE
                                                     DATE TESTED - 04/09/09
MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS
                     - 20090825 - 20090826
- RV212 - RV213
  LAB NUMBER
  SAMPLE ID
              - INFORMATION ONLY - INFORMATION ONLY -
- 123+00 - 203+00 -
- CL - CL -
- 0-5' - 0-5' -
- BROWN - BROWN -
  TEST STATUS
  STATION
  LOCATION
  DEPTH IN FEET
 MAT'L COLOR
 MAT'L TYPE
 LATITUDE DEG-MIN-SEC - 36 12 11.00 - 36 13 23.10 -
  LONGITUDE DEG-MIN-SEC - 94 07 3.40 94 06 52.10
           2 IN. -
  % PASSING
             1 1/2 IN. -
               3/4 TN. -
                                      _ 100
               3/8 IN. -
              NO. 4 - 100
              NO. 10 - 99
                                            97
              NO. 40 - 99
                                            95
              NO. 80 - 95
                                        - 88
              NO. 200 - 85
                                            80
 PLASTICITY INDEX - 27
AASHTO SOIL
                                       - 35
                                         - 22
 AASHTO SOIL
                     - A-6(7)
                                            A-6(16)
 UNIFIED SOIL
 % MOISTURE CONTENT
```

REMARKS - LOCATIONS MEASURED FROM C.L. CONTRUCTION

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AASHTO TESTS : T24 T88 T89 T90 T265