ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO.			CA0203		
FEDERAL AID PROJE	ECT NO.	ACI	NHPP-0002(41) &	. 9991 & STPR-0002(43)	
	LOUISIANA	STATE LINE	– HAMBURG (W	IDENING) (S)	
STATE HIGHWAY	425	& 82	SECTION	1 & 8	
IN	MOR	EHOUSE PA	RISH, LA & ASHLE	Υ	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.



August 18, 2016 Job No. 15-104 P.O. Box 30970 Little Rock, Arkansas 72260-0970 #1 Trigon Place 72209 (501) 455-2536 FAX (501) 455-4137

Crafton Tull & Associates, Inc. 901 North 47th Street, Suite 200 Rogers, Arkansas 72756

Attn: Mr. Mike Burns, P.E.

SUBGRADE PREPARATION CONSIDERATIONS TASK ORDER C077: JOB NO. CA0201 LA. STATE LINE – HWY 82 (WIDENING) (S) HWY 425 – ASHLEY CO., ARKANSAS

Mr. Burns,

Submitted herewith are the results of the pavement cores obtained for Job CA0201: La. State Line – Hwy 82 (Widening) (S). These services have been performed as a part of Task Order C077. These services were authorized by the Subconsultant Agreement executed July 7, 2015. This study has been performed in general accordance with the services detailed therein and as discussed with Crafton, Tull & Associates, Inc. (Engineer).

The project alignment includes both the northbound and southbound lanes of Hwy 425, in Ashley County, Arkansas from Sta 2+00 (approximate log mile 0.04) to Sta 496+40 (approximate log mile 9.40). The scope of this study phase has included obtaining roadway "typical" pavement cores at an approximate frequency of one (1) core every 1000 ft in alternating northbound and southbound lanes. The scope also included obtaining "special" cores in location–specific groups at locations selected by Arkansas State Highway and Transportation Department (Department). Subgrade conditions in the existing roadway were evaluated by drilling sample borings at the pavement core locations and performing laboratory tests on representative soil samples.

The field and laboratory studies relevant to the roadway widening are discussed in the following report sections. The results of this study are provided in the attachments.

SUBSURFACE EXPLORATION

Subsurface conditions in the roadway widening section of the 9.37-mile project alignment were explored by drilling 100 sample borings to approximately 10-ft depth (Borings R1 through R100). The sample borings were drilled at each typical roadway core location. The subsurface exploration program for the roadway widening borings is summarized in Attachment 1.

The widening borings were typically advanced to a depth of 10 feet. Boring logs of the widening borings, presenting descriptions of the subsurface strata encountered and results of field and laboratory tests, are provided as Plates 1 through 100 of Attachment 2. The approximate boring station location, offset and surface elevation (as provided by Crafton Tull) are also noted on the logs. The ground surface elevation, as provided by the Engineer, is also shown on each boring log. A key to the terms and symbols used on the logs is provided on Plate 101 of Attachment 2.

The widening borings were drilled with truck-mounted SIMCO 2400 and all-terrain buggy-mounted Mobile B-53 rotary-drilling rigs using dry auger drilling techniques. Samples were obtained at approximately 2-ft intervals using a 2-in.-diameter split-barrel sampler driven into the strata by blows of a 140-lb safety hammer with 30-in. drop in accordance with Standard Penetration Test (SPT) procedures. The number of blows required to drive the standard split-barrel sampler the final 12 in. of an 18-in. total drive, or a portion thereof, is defined as the Standard Penetration Number (N). Recorded N-values are shown on the boring logs in the "Blows Per Ft" column.

All samples were removed from sampling tools in the field, examined and visually classified by the field geologist. Samples were then placed in appropriate containers to prevent moisture loss and/or change in condition during transfer to our laboratory for further examination and testing.

The borings were advanced using dry-auger drilling procedures to facilitate groundwater observations. Observations regarding groundwater are noted in the lower right portion of each log. All boreholes were backfilled after obtaining final groundwater readings. If drilled, the existing roadway shoulder was patched with asphalt concrete cold patch.

LABORATORY TESTING

To evaluate soil plasticity and confirm visual classification, laboratory tests consisting of natural water content determinations and classification tests were performed on selected representative soil samples. Natural water content determinations were performed to develop a water content profile for each boring. The results of these tests are plotted on the boring logs as solid circles, in accordance with the scale and symbols shown in the legend located in the upper-right corner.

To verify field classification and to evaluate soil plasticity, liquid and plastic (Atterberg) limit determinations and sieve analyses were performed on selected representative samples. The Atterberg limits are plotted on the logs as small pluses inter-connected with a dashed line using the water content scale. The percent of soil passing the No. 200 Sieve is noted in the "Minus No. 200" column on the log forms. Classification test results, as well as soil classification by the Unified Soil Classification System and AASHTO Classification System, are summarized on Plates 1 through 8 of Attachment 3.

Site Grading and Subgrade Preparation

Site preparation will begin with clearing and grubbing the trees in the alignment and stripping the zone of organic-containing surface soils. All tree stumps should be completely excavated and stumpholes properly backfilled. The depth of stripping will be variable, with deeper stripping depths in the low-lying, poorly drained, and/or heavily wooded areas, and less stripping required in areas of higher terrain. Where the alignment crosses existing drainage features, these must be completely dewatered and wet soils mucked out. In general, the stripping depth is estimated to be about 6 to 12 in. for cleared areas, but may be 24 in. or more in wooded areas. Undercut and removal or stabilization of unsuitable soils will be required. Subgrade preparation, including required subgrade stabilization or undercuts, should extend at least 5 ft beyond the roadway shoulder edges to the extent possible. Site preparation is expected to include existing pavement demolition. All areas where abandoned utilities or culverts are removed should be properly backfilled.

In the event that existing pavements will be covered with fill, the existing pavement surface should be scarified to a minimum depth of 6 inches. The scarified and processed pavement material should be recompacted to a stable condition. Should existing pavements be demolished, consideration may be given to utilizing the processed asphalt concrete and aggregate base for embankment fill. In this case, the demolished materials should be thoroughly blended and processed to a reasonably well-graded mixture with a maximum particle size of 2 inches.

Following demolition, stripping, and any cut, and prior to placing fill or otherwise continuing with subgrade preparation, the extent of weak and/or unsuitable soils should be determined. Proof-rolling is recommended to evaluate subgrade stability. Proof-rolling should be performed with a pneumatic-tired roller, loaded tandem-wheel dump truck, or similar equipment. Soft soils or soils exhibiting a tendency to rut and/or pump should be undercut, processed, and recompacted or replaced with embankment fill, whichever is appropriate. If approved by the Engineer or department, consideration may be given to using additives to improve soil workability and stabilize weak areas. Care must be taken that undercuts, stump holes, etc. are properly backfilled with controlled fill. Based on the results of the borings, the upper 2 to 4 ft of native subgrade soils, more or less, may be unstable, particularly during wet seasons of the year.

At locations where excavations or undercuts encounter shallow water or seepage, backfill should be comprised of select granular backfill, i.e., clean crushed stone meeting the requirements of AASHTO M43 #57, clean sand (AHTD Standard Specifications Section 302, SM-1 with a maximum of 10 percent passing the No. 200 sieve), stone backfill (AHTD Standard Specifications Section 207), or an approved alternate placed to an elevation above the inflow of seepage. Where granular fill is utilized to facilitate subsurface drainage, it should be fully encapsulated with geotextile filter fabric (AHTD Standard Specifications Section 625, Type 2).

Undercutting or improvement of unsuitable surface soils in the roadway alignments is considered likely. Actual improvement or undercut requirements will depend on seasonal site conditions and final site grading plans. Given the high silt content of the native soils, these are particularly susceptible to loss of stability during wet seasons. Subgrade preparation and site grading operations will be significantly easier to perform during dry seasons of the year and where positive surface drainage is maintained throughout the work.

In areas of deeper fill, the potential exists for use of thick initial lifts ("bridging"), as per AHTD criteria. Bridge lifts will be subject to some consolidation. Settlement of a primarily granular fill suitable for use in bridging would be expected to be relatively rapid and long-term post-construction settlement would not be expected to be a significant concern. Where clayey soils are placed in thick lifts, long term settlement will be more significant. We recommend that the use of "bridging" techniques be limited to granular borrow soils, i.e., sand, gravel, or crushed stone. Where fill amounts are limited to less than about 3 ft, bridging will be less effective and the need for undercut or stabilization is considered more likely. Use of bridging techniques and thickened fill lifts should be specifically approved by the Engineer or Department.

Based on the results of the borings, the depth of weak subgrade soils is expected to vary from 2 to 4 ft, more or less, below existing grades. The <u>estimated</u> depths of weak soils that will warrant undercut or improvement are summarized on Plates 1 and 2 of Attachment 4. The estimated depths shown in Attachment 4 have been developed based on the results of the roadway widening borings drilled in 2015. A maximum undercut depth of 3 ft has been assumed, based on the anticipated use of stone backfill (AHTD Standard Specifications Section 207) where the unstable soil zone is relatively deep. The actual unstable soil zone depth must be field verified.

Job No. 15-104 – CA0201 Subgrade Considerations

The undercut/improvement depths summarized in Attachment 4 are provided for <u>estimation</u> <u>purposes</u> only. The depths summarized above have been based on the results of the borings drilled in October and November 2014. The required depth of improvement will vary with seasonal site conditions and final grading plans and must be field verified.

As noted, the undercut or improvement depth requirements will vary with specific site conditions, seasonal precipitation, and construction methods. During dry periods of the year, it is feasible that undercut or stabilization depth can be reduced. Undercut of localized low-lying areas and abandoned drainage features is considered likely even during dry conditions. All roadway subgrade should be evaluated by the Engineer or Department during site grading and subgrade preparation operations. Specific improvement requirements must be field verified. Subgrade improvement, including undercut or stabilization, should extend at least 5 ft outside pavement limits to the extent possible.

In lieu of undercutting and replacing unsuitable soils, consideration may be given to using additives to improve soil workability and stabilize weak areas. Hydrated lime, quick lime, Portland cement, fly ash, or suitable alternate materials may be used as verified by appropriate testing and approved by the Engineer. Additives can be effective where the depth of unstable soils is relatively shallow. Treatment will be less effective in areas where the zone of unstable soils is deep. The optimum application rate of an effective stabilization additive must be determined by specific laboratory tests performed on the alignment subgrade soils.

Positive surface drainage should be established at the start of the work and maintained throughout construction to prevent surface water ponding and subsequent saturation of subgrade soils. Temporary ditches can be very beneficial in controlling surface water and reducing undercut requirements. In addition, subgrade preparation should extend outside the limits of embankment toes to reduce the effects of loss of subgrade support at roadway edges.

Embankment fill may consist of the on-site soils free of significant amounts of organics and debris as per AHTD Standard Specifications Section 210.06. We recommend that the top 18 in. of embankment fill comprising the roadway subgrade is low-plasticity soils with a maximum plasticity index (PI) of 18. Where moderately-plastic clay, i.e., with a PI of 20 or more, is encountered at the subgrade elevation, we recommend that it be undercut or stabilized as required to provide at least 18 in. of pavement subgrade with a PI of 18 or less.

Embankment fill should be placed and compacted as specified in AHTD Standard Specifications Section 210. Some water content adjustment will likely be required to achieve suitable compaction with the use of on-site materials. Additives such as hydrated lime, fly ash, or other approved materials can be utilized to improve workability. The fine-grained on-site soils silty clay and sandy, silty clay are not well suited for use in thick initial fill lifts, i.e., "bridge" lifts. Fill should typically be placed in nominal 6- to 10-in. loose lifts. Density and water content of all earthwork should be maintained until pavement construction is completed.

CLOSING

The information provided herein has been developed based on the results of the sample borings performed in the roadway widening sections at the indicated locations. Subgrade and subsurface conditions could vary elsewhere along the roadway alignment.

GRUBBS, HOSKYN, BARTON & WYATT, INC.

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The following attachments are included and complete this submittal.

Attachment 1

Summary of Roadway Widening Exploration

Program

Attachment 2

Boring Logs

Attachment 3

Classification Test Results

Attachment 4

Estimated Undercut Depths

We appreciate the opportunity to be of service to you during this phase of the project. Should you have any questions regarding this report, or if we may be of additional assistance, please call on us.

Sincerely,

GRUBBS, HOSKYN, **BARTON & WYATT, INC. BARTON & WYATT, INC.**

Blaine M. Orth, P.E. Senior Project Engineer

Mark E. Wy

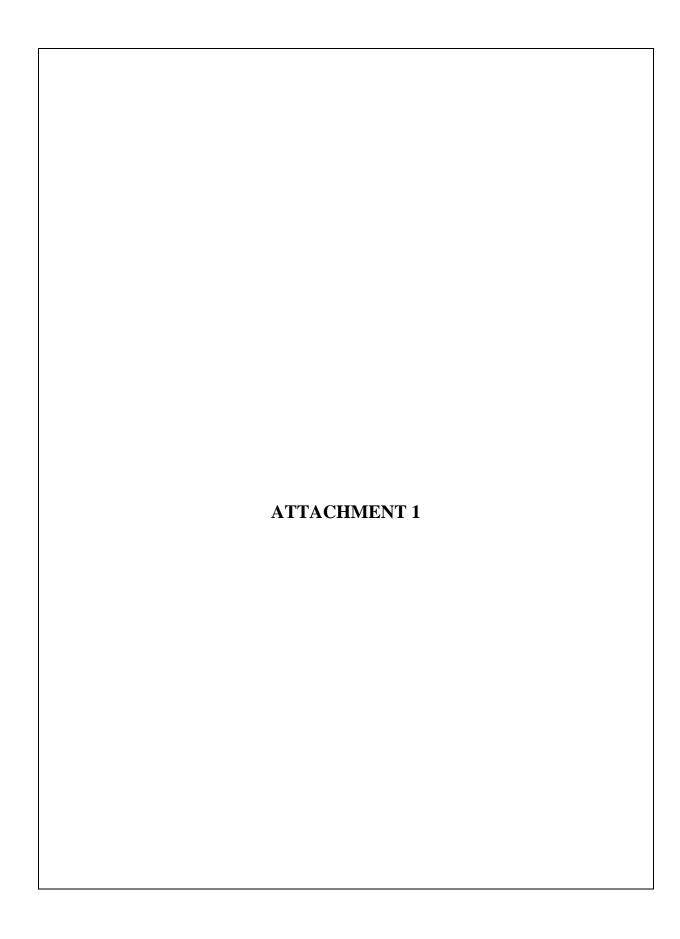
President

BMO/MEW:jw

Copies Submitted:

Crafton Tull & Associates, Inc.

Attn: Mr. Mike Burns, P.E. (1+electronic)



SUBSURFACE EXPLORATION ROADWAY WIDENING

PROJECT: CA0201 - La. State Line - Hwy 82 (Widening) (S)

LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104 Project Length: 9.37 miles +/-

Boring No.	Lane	Approx Sta	Approx. Offset, ft	Surf El, ft	Comp Depth, ft
Roadway bori	ings - Northbo	und (NB)			
R1	NB	17+23.05	34	153.8	10
R2	NB	25+11.13	26	157.8	10
R3	NB	35+14.76	28	152.5	10
R4	NB	45+13.26	18	153.9	10
R5	NB	54+92.43	31	148.8	10
R6	NB	64+62.86	23	146.2	10
R7	NB	74+58.33	29	136.1	10
R8	NB	84+88.15	18	129.9	10
R9	NB	94+74.95	38	125.5	10
R10	NB	104+71.47	19	132.3	10
R11	NB	115+00.39	33	135.2	10
R12	NB	126+53.08	21	142.0	10
R13	NB	134+97.17	36	131.5	10
R14	NB	144+96.92	21	132.7	10
R15	NB	154+95.50	38	127.9	10
R16	NB	167+17.58	19	122.8	10
R17	NB	174+95.05	38	117.5	10
R18	NB	185+07.37	21	122.3	10
R19	NB	194+97.72	36	119.0	10
R20	NB	205+10.61	32	126.3	10
R21	NB	215+05.80	29	123.2	10
R22	NB	224+86.28	20	121.1	10
R23	NB	234+97.35	19	122.2	10
R24	NB	244+99.47	38	114.9	10
R25	NB	255+86.77	33	118.1	10
R26	NB	265+19.09	20	126.8	10
R27	NB	274+99.51	32	135.5	10
R28	NB	283+99.45	32	144.5	10
R29	NB	294+85.74	55	141.7	10
R30	NB	304+89.23	23	134.4	10
R31	NB	314+92.09	38	129.3	10
R32	NB	324+69.00	18	139.4	10
R33	NB	334+66.42	34	147.8	10
R34	NB	344+95.38	33	151.5	10
R35	NB	354+93.26	30	138.0	10
R36	NB	364+93.96	23	137.0	10
R37	NB	375+18.69	32	129.4	10
R38	NB	385+29.42	39	122.6	10

SUBSURFACE EXPLORATION ROADWAY WIDENING

PROJECT: CA0201 - La. State Line - Hwy 82 (Widening) (S)

LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104 Project Length: 9.37 miles +/-

Boring No.	Lane	Approx Sta	Approx. Offset, ft	Surf El, ft	Comp Depth, ft
R39	NB	395+03.17	19	126.9	10
R40	NB	404+62.94	18	128.8	10
R41	NB	415+04.28	36	125.1	10
R42	NB	424+78.85	18	129.6	10
R43	NB	435+00.14	31	127.0	10
R44	NB	444+83.47	17	131.0	10
R45	NB	455+00.32	34	130.2	10
R46	NB	464+91.08	19	132.2	10
R47	NB	474+88.91	30	131.4	10
R48	NB	484+93.49	19	136.5	10
R49	NB	495+08.19	31	136.7	10
R50	NB	504+50.10	20	141.3	10
Roadway bori	<u>ings - Southbor</u>				
R51	SB	20+54.57	-31	155.0	10
R52	SB	30+11.14	-30	154.2	10
R53	SB	39+91.01	-18	155.0	10
R54	SB	49+26.70	-33	150.7	10
R55	SB	60+22.62	-20	147.0	10
R56	SB	70+15.26	-38	139.1	10
R57	SB	80+34.91	-19	132.0	10
R58	SB	90+29.99	-39	125.1	10
R59	SB	99+12.18	-18	129.9	10
R60	SB	110+01.28	-19	135.2	10
R61	SB	120+07.89	-36	141.9	10
R62	SB	130+08.86	-20	137.1	10
R63	SB	139+96.15	-39	128.8	10
R64	SB	149+37.60	-22	131.1	10
R65	SB	160+27.33	-31	123.6	10
R66	SB	170+00.17	-17	122.3	10
R67	SB	179+96.59	-22	123.9	10
R68	SB	189+89.23	-19	122.8	10
R69	SB	199+54.08	-31	120.9	10
R70	SB	210+30.86	-19	126.9	10
R71	SB	220+16.64	-40	117.8	10
R72	SB	230+07.61	-19	122.3	15
R73	SB	240+55.69	-20	121.3	10
R74	SB	250+50.84	-20	123.0	10
R75	SB	260+48.85	-34	121.7	10
R76	SB	270+53.83	-19	132.4	10

SUBSURFACE EXPLORATION ROADWAY WIDENING

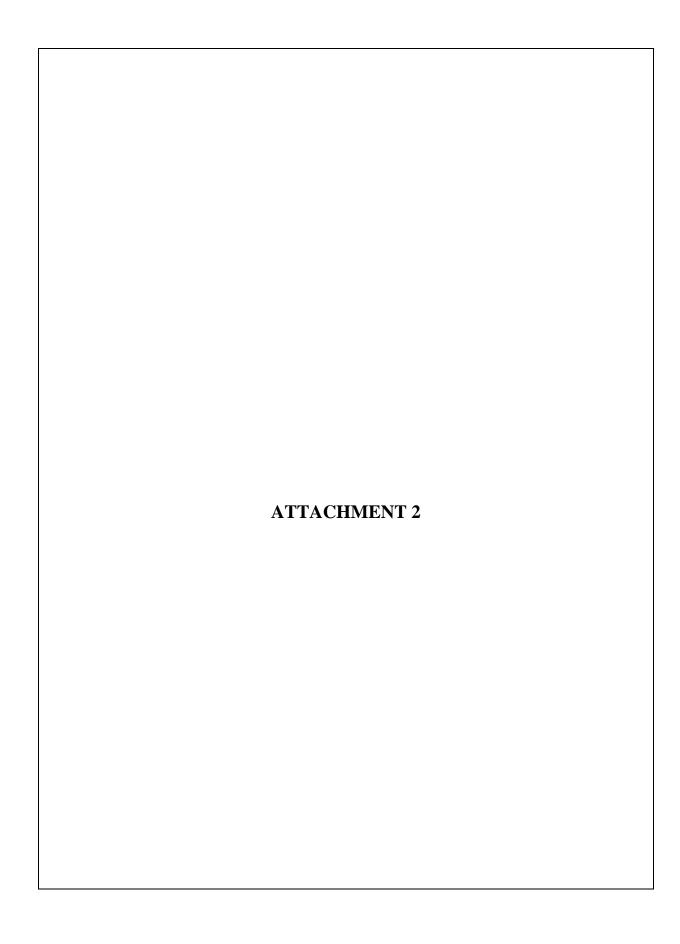
PROJECT: CA0201 - La. State Line - Hwy 82 (Widening) (S)

LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104 Project Length: 9.37 miles +/-

Boring No.	Lane	Approx Sta	Approx. Offset, ft	Surf El, ft	Comp Depth, ft
R77	SB	279+97.01	-21	138.8	10
R78	SB	289+95.09	7	140.9	10
R79	SB	299+93.98	-9	137.8	10
R80	SB	309+63.57	-19	133.9	10
R81	SB	319+97.04	-28	131.5	10
R82	SB	329+73.83	-18	144.8	10
R83	SB	339+49.83	-29	151.0	10
R84	SB	349+64.66	-20	149.6	10
R85	SB	360+35.64	-18	138.4	10
R86	SB	369+53.07	-18	134.9	10
R87	SB	379+74.03	-41	126.2	10
R88	SB	390+03.36	-19	126.9	10
R89	SB	399+91.57	-20	127.3	15
R90	SB	410+19.05	-21	126.7	10
R91	SB	419+83.86	-39	124.7	9.5
R92	SB	429+79.21	-21	130.0	10
R93	SB	439+82.76	-34	127.1	9
R94	SB	449+93.98	-22	132.4	10
R95	SB	459+88.18	-31	129.2	10
R96	SB	469+87.71	-24	133.1	10
R97	SB	479+71.14	-35	133.2	10
R98	SB	490+10.18	-38	134.8	9.6
R99	SB	499+16.13	-35	135.2	10
R100	SB	505+54.13	-92.41	139.9	10

Note: Stationing per CTA report of 06-08-2016



LOGOF BORING NO. R1 CA0201 Hwy 425 Widening

	// Consu	ılting	Engineers CA0201 Hy Ashley Co										
	TYPI	Ξ:	Auger	LC	CATIO	ON: App	prox Sta	a 17+23	, 34 ft	Rt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 153.8	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 PLAST LIMIT	0.4 TC	WA CON	TER TENT 0.8 1.0 1.8 1.0 1.8 1.0 1.8 1.0	0 1.:	2 1. LIQU LIMI — -	ID T	- No. 200 %
			Very stiff light tan and tan clayey silt w/silt pockets and some ferrous stains	30		•	+-1						90
			Stiff tan silty clay w/some ferrous stains	23			•						
- 5			- with occasional ferrous nodules below 4 ft	18									92
			Stiff reddish brown and reddish tan silty clay w/some silt pockets and seams and ferrous stains and nodules	18			•						
- 10			nodules	18			+ •						98
PJ 8-11-16													
LGBNEW 15-104_R LOGS.GPJ 8-11-16				EPTH I						DA ⁻	ΓE: 10	0/12/2	2015

	Consu	lting	Engineers CA0201 Ashley										
	TYPI	Ξ: /	Auger	LC	CATIO	ON:	Approx	Sta 25+	+11, 26	ft Rt			
					F		CC	HESI	ON, TO	N/SQ F	Т		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W U FT	0	2 0.4	0.6	0.8	1.0	1.2 1	.4 I	200 %
DEPTH,	SYIV	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT	C	WATER	Т	LIQU LIM	JID IT	- No.
			SURF. EL: 157.8	18	ر	1	0 20	30	40	50	60 7	' '0	
			Very stiff gray and tan clayey silt, sandy w/trace organics (fill)	29		•	+	+					91
			- stiff, gray, tan and brown clayey silt with clay pockets below 2 ft	11			•	•					_
- 5				8			•						-
			Stiff reddish tan and tan silty clay w/some ferrous stains and some clay partings	15			•						_
		V	Stiff tan and reddish tan clay, slightly silty w/occasional fine sandy silt pockets	15			+-	-					95
- 10 -		/ \											
15	-												
15	COMF DATE		TION DEPTH: 10.0 ft 16-15	DEPTH IN BORI						DA	ATE: 9)/16/20)15

	Consu	lting	g Engineers CA0201 HV Ashley Co	wy 42 ounty,	5 Wid Arka	denin nsas	g							
	TYPI	≣:	Auger	LC	CATIO	ON: A	Approx	x Sta	35+1	5, 28 ft	:Rt			
_				F	⊢ .		(COHE	SION	I, TON	/SQ F	Τ		9
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.	.2 0.	.4 (0.6	0.8 1	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM	BEOORII FION OF WATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ Li	ASTIC MIT		CON	ATER NTENT		LIQU LIM	JID IT	- No.
	- WIFT		SURF. EL: 152.5	В		1	0 2	0	30	40	50 6	60 7	' '0	
			Very stiff light tan and tan clayey silt w/organic inclusions, rootlets and some ferrous stains	28		•	+	┝╈						85
			Firm reddish tan and tan silty clay w/some silt pockets and some ferrous stains and nodules	6			• -	-						90
- 5		V V	- stiff below 4 ft	16			•)						
				22				•						
- 10			Very stiff red clay w/occasional silt seams and partings	26				•						
	-													
2	-													
11-11-0 C-10-00-00-00-00-00-00-00-00-00-00-00-00-	COM		TION DEPTH: 10.0 ft DE	рти	TO WA	TED								
					NG: D						DA	TE: 1	0/13/2	2015

LOGOF BORING NO. R4 CA0201 Hwy 425 Widening

	Consu	ılting	Engineers CA0201 F Ashley C										
	TYPE	≣:	Auger	LC	CATIO	ON: Ap	oprox	Sta 45+1	3, 18 ft	Rt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 153.9	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 PLAS LIM +	0.4	0.6 0.6 CO	0.8 1 ATER NTENT	/SQ FT	2 1. LIQU LIMI	ID T	- No. 200 %
			Stiff brown clayey silt, sandy w/fine to coarse gravel (fill) - medium dense reddish tan and tan silt below 0.5 ft	19		•	4-	- 30	40 3	30 8		,	61
			Stiff gray, tan and brown clayey silt	13				•					
- 5			Stiff gray and tan silty clay w/some ferrous nodules and stains	11			•	•					
			- firm below 6 ft	9			•	,					
			- stiff below 8 ft	12			•	,					
- 10													
068.GPJ 8-11-18													
LGBNEW 19-104_K LOGS.GPJ 8-11-16				DEPTH TO BORI						DA	TE: 9	/16/20	15

LOGOF BORING NO. R5 CA0201 Hwy 425 Widening

	// Consu	ulting	Engineers CA0201 Hy Ashley Co			
	TYPI	E:	Auger	LC	CATIO	ON: Approx Sta 54+92, 31 ft Rt
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 148.8	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT 0.2 0.4 0.6 0.8 1.0 1.2 1.4 PLASTIC WATER LIQUID LIMIT CONTENT LIMIT 10 20 30 40 50 60 70
			Very stiff light tan and tan silty clay, slightly sandy w/trace organics and organic stains	26		
			- stiff, tan to reddish tan below 2.5 ft - with more sand below 4 ft	22		90
5			Stiff red and reddish tan fine sandy clay - very stiff below 6 ft	32		● ++ 42
- 10			Dense reddish tan silty fine sand w/some clay pockets	41		•
19-11-8 LOGS: GPJ 8-11-16						
15 15					TO WA	



LOGOF BORING NO. R6 CA0201 Hwy 425 Widening

	// Consu	lting	Engineers CA0201 Ashley											
	TYPE	Ξ:	Auger	LC	CATIO	ON:	Appro	x Sta	64+63	, 23 ft	Rt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT				0.6 0	\supset —	/SQ F	Γ 2 1. LIQU LIMI	ID	- No. 200 %
			SURF. EL: 146.2	BL(5		+	 20) – –	50 6	0 7		'
		M	Medium dense gray and tan fine sandy silt, slightly clayey - reddish tan, gray and tan below 2	18		•		##-						84
- 5			Stiff reddish tan, gray and tan clayey silt	14			• 1		-+					90
				10			•							
- 10				20			•							
1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-														
15 Managar				DEPTH TIN BORII							DA	TE: 9	/16/20)15



LOGOF BORING NO. R7 CA0201 Hwy 425 Widening

	Consu	lting	g Engineers	CA0201 Hw Ashley Co											
	TYPI	Ξ: .	Auger		LO	CATIO	ON:	Appro	x Sta	74+58,	29 ft	Rt			
		,			FT	VT			COHE	SION,	TON/	'SQ F	Γ		9
H, FT	SYMBOL	J_ES	DESCRIPTION OF MA	TEDIAL	PER	RY V U FT	0	.2 0	0.4 0	.6 0.	8 1	.0 1	.2 1.	4	200 %
DEPTH,	SYM	SAMPLES		IERIAL	SLOWS PER	UNIT DRY WT LB/CU FT	PLA L	ASTIC IMIT		WAT CONT	ER ENT		LIQU LIMI	ID T	- No. 3
		1	SURF. EL: 136.1 Very stiff to hard light tan	and tan	Δ		1	0 2	20 3	80 40) 5	0 6	0 7	0	
			Very stiff to hard light tan silty clay w/numerous silt and organic inclusions ar stains and nodules	pockets ad ferrous	50/10'		•	-	+	+					90
					37			•							
- 5 -			Very stiff tan, reddish tan clay, slightly sandy w/ferr and nodules	and gray ous stains	35			● H					+		95
			Very stiff red and reddish clay w/organic stains	brown	32				•						
			ciay wiorganic stains												
- 10 -					36										
	-														
-15															
13			TION DEPTH: 10.0 ft 0-13-15			O WA						DA	TE: 1	0/13/2	015

	Consu	ılting	Engineers CA0201 h Ashley (
	TYPE	Ξ: /	Auger	LC	CATIO	ON: Ap	prox S	sta 84+8	8, 18 ft	Rt			
_				ь	۲.		СО	HESION	I, TON/	'SQ F	Γ		,0
H, FT	BOL	J_ES	DECODIDITION OF MATERIAL	PER	RY V U FT	0.2	0.4	0.6	0.8 1	.0 1	.2 1.	4	200 %
ОЕРТН,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLAST LIMIT	ΓIC T	W/ COI	ATER NTENT		LIQU LIMI	ID T	- No. 2
		/	SURF. EL: 129.9	B	_	10	20	30	40 5	0 6	0 7	0	
			Stiff gray, brown and tan silty clay w/occasional fine gravel (fill)	20		•	+	-++					72
			Stiff brown and gray clayey silt, slightly sandy	14			•						
- 5 -				15			•						
			Stiff brown and gray silty clay w/silt pockets and occasional ferrous nodules	13			•						
			- slightly sandy below 8 ft	16									
10 -				16									
	_												
	COMF DATE			DEPTH T					1	DA	TE: 9	/9/2015	<u> </u>

LOG OF BORING NO. R9 CA0201 Hwy 425 Widening

	Consu	lting	Engineers CA0201 H Ashley C											
	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Appro	x Sta	94+7	5, 38 ft	t Rt			
1_				ᇤ	5		(COHE	ESION	I, TON	/SQ F	Γ		.0
H .T.	BOL	SES.	DEGODIDATION OF MATERIAL	PER	RY V	0	.2 0).4 I	0.6	0.8 1	1.0 1	.2 1	.4 I	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		W/ CON	ATER NTENT		LIQU LIM	JID IT	- No. 2
			SURF. EL: 125.5	B	>	1	0 2	20	30	40	50 6	60 7	0	
		M	Very stiff light tan and tan silty clay w/silt pockets, ferrous stains and organic inclusions, very dry	36		•	4	├ - -						82
		M	- stiff to very stiff below 2 ft	24			•	•						
- 5		M	Very stiff reddish tan and tan silty clay w/trace fine sand and organic stains	35				•						
		<u> </u>	- with numerous organic stains and trace organics below 6 ft	42				-	-					62
- 10			Very stiff reddish tan, tan and gray fine sandy clay w/fine sand pockets and numerous organic stains	38				•						
100 M 10-104 K LOGS.GPO 8-11-10 T 10-104 K LOGS.GPO 8-11-104 K LOGS.GPO 8-11-10 T 10-104 K LOGS.GPO 8-11-104 K LOGS.GPO 8-11-10 T 10-104 K LOGS.GPO 8-11-104 K LOG	-													
15 15 15 15 15 15 15 15 15 15 15 15 15 1				EPTH I BORI							DA	TE: 1	0/13/2	2015

Consul	ting Eng	ineers CA0201 H											
TYPE	: Aug	er	LC	CATIO	ON:	Appro	ox Sta	a 104 [.]	+71, 1	9 ft Rt			
			ᇤ	5		(COH	IESIO	N, TO	N/SQ	FT		.0
30L			PER	₹ JFT	0	.2 0).4 I	0.6	0.8	1.0	1.2	1.4	200 %
SYMI	SAME	DESCRIPTION OF MATERIAL	OWS	NIT DE LB/CI	PL/ Li	ASTIC IMIT		CC	/ATER	Т	LIC LII	UID VIT	- No. 2
	/		B	\supset	1	0 2	 20	30	40	50	60	† 70	
	Stin (fill	f gray and tan clayey silt, sandy	23			• +	┡╌╋						84
	So cla	t reddish tan, gray and tan silty y w/some ferrous nodules and ins	6			-	I	+	-				88
	- fii 4 -	m, with some silt pockets from 6 ft	8				•						_
	- st	iff below 6 ft	13				•						-
			13				•						
													-
												0/0/05	15
	COMP	TYPE: Aug TYPE: Aug Sallaway Stiff (fill) - fir 4 -	Ashley Completion of Material Description of Material Surf. El.: 132.3 Stiff gray and tan clayey silt, sandy (fill) Soft reddish tan, gray and tan silty clay w/some ferrous nodules and stains - firm, with some silt pockets from 4 - 6 ft - stiff below 6 ft	Consulting Engineers CAD201 HWy 42 Ashley County, TYPE: Auger LC DESCRIPTION OF MATERIAL SURF. EL: 132.3 Soft reddish tan, gray and tan silty clay w/some ferrous nodules and stains Soft reddish tan beautiful to the stains Soft reddish tan beautiful to the stains 6 - firm, with some silt pockets from 4 - 6 ft 8 - stiff below 6 ft COMPLETION DEPTH: 10.0 ft DEPTH:	Consulting Engineers CAD201 HWy 425 WIG Ashley County, Arka TYPE: Auger DESCRIPTION OF MATERIAL SURF. EL: 132.3 Stiff gray and tan clayey silt, sandy (fill) Soft reddish tan, gray and tan silty clay w/some ferrous nodules and stains - firm, with some silt pockets from 4 - 6 ft - stiff below 6 ft 13 COMPLETION DEPTH: 10.0 ft DEPTH TO WA	COMPLETION DEPTH: 10.0 ft CAUZUI HWY 425 WIGENIN Ashley County, Arkansas CAUZUI HWY 425 WIGENIN Ashley County, Arkansas TYPE: Auger LOCATION: LUCATION: LUCATIO	Consulting Engineers CAU201 Hwy 425 Wildening Ashley County, Arkansas TYPE: Auger LOCATION: Approximately Surface and Stains Soft reddish tan, gray and tan silty clay w/some ferrous nodules and Stains Soft reddish tan gray and tan silty clay w/some ferrous nodules and Stains 6 - stiff below 6 ft 13 COMPLETION DEPTH: 10.0 ft DEPTH TO WATER	Consulting Engineers CAU201 Hwy 425 Widening Ashley County, Arkansas TYPE: Auger LOCATION: Approx St. COP- COP- COP- COP- COP- COP- COP- COP-	Ashley County, Arkansas TYPE: Auger COATION: Approx Sta 104-	Ashley County, Arkansas TYPE: Auger LOCATION: Approx Sta 104+71, 1 DESCRIPTION OF MATERIAL SURF. EL: 132.3 Stiff gray and tan clayey silt, sandy (fill) Soft reddish tan, gray and tan silty clay w/some ferrous nodules and stains - firm, with some silt pockets from 4 - 6 ft - stiff below 6 ft COMPLETION DEPTH: 10.0 ft DEPTH TO WATER	CANDIDATION DEPTH: 10.0 ft DEPTH TO WATER	Ashley County, Arkansas TYPE: Auger LOCATION: Approx Sta 104+71, 19 ft Rt COHESION, TON/SQ FT Q2 0,4 0,5 0,8 1,10 1,2 PASTIC COMPLETION of MATERIAL SURF, EL: 132.3 Siff gray and tan clayey silt, sandy Completion of the silt pockets from 4 - 6 ft COMPLETION DEPTH: 10.0 ft DEPTH TO WATER	Ashley County, Arkansas TYPE: Auger LOCATION: Approx Sta 104+71, 19 ft Rt LOCATION: Approx Sta 104+71, 19 ft Rt COHESION, TON/SQ FT LOCATION: Approx Sta 104+71, 19 ft Rt LOCATION: Approx Sta 104+71, 19 ft Rt COHESION, TON/SQ FT COHESION, TON/SQ FT LOCATION: Approx Sta 104+71, 19 ft Rt COHESION, TON/SQ FT COHESION, TON/SQ FT LOCATION STA 104+71, 19 ft R

Consu	Ion & Wyatt, Inc.	CA0201 Hw Ashley Co										
TYPE	: Auger		LO	CATIO	ON: App	orox S	ta 115+	00, 33	ft Rt			ı
			FT	⊢		COI	HESION	I, TON	/SQ F	Γ		.0
H, FT BOL	S DESCRIPTION O	E MATERIAL	PER	RY V U FT	0.2	0.4	0.6	0.8 1	.0 1	.2 1.	4	200 %
DEPTH, F	DESCRIPTION O SURF. EL: 135.2	F MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLAST LIMIT	 ic	WA CON	ATER NTENT		LIQU LIMI	ID T	- No. 2
	Very stiff light tan ar w/silt pockets and se ferrous stains and ne	nd tan silty clay eams and odules	50/7"		10	+ -	30	+	50 6	0 7	0	83
5 -	Very stiff tan, reddis silty clay w/organic sinclusions and ferrounodules	h tan and gray stains and us stains and	50/7		•			-				85
	Very stiff tan and red clay, slightly sandy vand organic stains		28									
	Very stiff red and red clay w/silt pockets a	nd seams	32				•					
10 - 2 - 4												
	LL PLETION DEPTH: 10.0 ft : 10-13-15		PTH T BORIN					1	DA	TE: 1	0/13/2	2015

	Consu	lting	Engineers CA0201 Hv Ashley Co											
	TYPE	Ξ:	Auger	LC	CATIO	ON:	Appro	ox St	a 126	+53, 2	21 ft R	t		
1				ᇤ	Ļ			COF	HESIC	N, TC	N/SC	FT		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0	.2	0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYM	SAMI		3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT +	; 	C	VATER ONTEN	R NT 	L 	IQUID LIMIT	
	(1)	_	SURF. EL: 142.0	В		1	0	20	30	40	50	60	70	
			Stiff gray and tan silty clay w/fine gravel (fill)	17		,	• -	┝┤┥	F					78
			Firm gray and tan clayey silt w/occasional ferrous nodules and stains	8			•	•						
- 5				10				•						
			- stiff, reddish tan clayey silt, sandy below 6 ft	14				•						
		M	Stiff gray, reddish tan and tan fine sandy silt, slightly clayey	13				•						
- 10														
2														
LGBNEW 19-104_R LOGS.GPJ 8-11-16														
CGBNEW					TO WA							DATE	: 9/1	0/2015

LOG OF BORING NO. R13 CA0201 Hwy 425 Widening

	Consu	lting		Hwy 42 County									
	TYPI	Ξ:	Auger	LC	CATIO	ON: A	Approx	x Sta 13	4+97, 36	ft Rt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 131.5	BLOWS PER FT	UNIT DRY WT LB/CU FT		2 0. ASTIC MIT	4 0.6	ON, TOI	1.0 1	LIQU	ID T	- No. 200 %
			Very stiff light tan and tan silty cla w/silt pockets and ferrous stains	ay 35		1	0 2 +	0 30	40	50 6	0 7	0	83
			Very stiff tan and mottled red silty clay, very dry	33			•						
- 5		V	Stiff tan and reddish brown clay	21			+	•				+	89
			Stiff olive tan and gray clay	20				•					
- 10			Stiff olive tan and gray clay w/organic stains	21				•					
LGBNEW 15-104 R LOGS.GPJ 8-11-16													
15 15 15 15 15 15 15 15 15 15 15 15 15 1			TION DEPTH: 10.0 ft 0-13-15	DEPTH IN BORI						DA	TE: 1	0/13/2	2015

	TYPE	≣: <i>i</i>	Auger			ON: A								
ᇤ	١,	ပ		F	TW T			COHE		\sim	I/SQ F	Т		%
	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.:	2 0.	.4 0).6 (0.8	1.0	1.2 1	.4	200 %
DEPTH,	SYN	SAM	BEGGINI HON OF WATERWAY	SWC	LB/C	PLA	STIC MIT		WA CON	TER ITENT		LIQU LIM	JID IT	8
			SURF. EL: 132.7	BL(5		+	 0 3		-		+	70	'
			Stiff tan silty clay, sandy (fill)											
				16		•	+	- +						80
			Stiff arous brown and tan alayou ail	4										_
			Stiff gray, brown and tan clayey sil w/some ferrous nodules and stains	17				•						_
5 -				20				>						
			Medium dense tan clayey fine sand w/ferrous nodules and stains	d										-
			w/ferrous nodules and stains	20			•							
				19			•							
10 -	* • / • /													_
	_													
	_													

	Consu	lting	Engineers CA0201 Hw Ashley Co)						
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx S	Sta 154	+95, 3	8 ft Rt			
1.				ᇤ	<u></u>		CC	HESIC	ON, TC	N/SQ	FT		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.2	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PLA LII	STIC MIT L — — -	(C	WATER ONTEN	t IT - — — -	LIC LII	UID MIT L	S S
			SURF. EL: 127.9	В		10	20	30	40	50	60	70	
		M	Stiff brown silty clay w/numerous silt pockets and ferrous stains and nodules, very dry	23		•	,						
		M M	- very stiff, tan below 2.5 ft	34			•						76
- 5		M	Very stiff brown, tan and gray silty clay w/silt pockets	28			•						
		<u> </u>	Very stiff brown, tan and gray silty clay w/fine sand pockets and lignite inclusions	32			+•	-#					48
- 10			- reddish tan with more sand below 8.5 ft	32			•						_
9.7 8-11-16													
04_R LOGS.G													
LGBNEW 15-104_RLOGS.GPJ 8-11-16					TO WA					[DATE:	10/13/2	2015

LOG OF BORING NO. R16 CA0201 Hwy 425 Widening

	7 torney C	County	Arka	dening nsas	,					
TYPI	E: Auger	LC	CATIO	ON: A	Approx S	ta 167	+18, 19	ft Rt		
_		ᇤ	۲.		CO	HESIC	N, TON	I/SQ F	Т	
H, FT BOL	DESCRIPTION OF MATERIAL	PER	RY V	0.2	2 0.4	0.6	0.8	1.0 1	.2 1.	4
DEPTH, F'	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LII	STIC MIT	CC	VATER		LIQU LIMI	
	SURF. EL: 122.8	<u>B</u>		10	20	30	40	50 (50 70	0
	Stiff tan clayey silt, sandy (fill)									
	- with some fine to coarse gravel to	28		•	++					2
	- very stiff gray and tan clayey silt below 2 ft	27		•						
5		22		•						
	Medium dense gray and tan silt, slightly clayey w/trace organics	11			•					
	Stiff gray and tan clayey silt									
10	<u></u>	17			•			ļ		
15 COM	PLETION DEPTH: 10.0 ft	DEPTH	TO WA	ATER						

Consulting	CA0201 Hv Ashley Co										
TYPE:	Auger	LC	CATIO	ON: Ap							
		ᇤ	⊢		CO	HESION	I, TON/	'SQ F	Γ		vo.
SYMBOL SAMPLES	DESCRIPTION OF MATERIAL	PER	ORY V	0.2	0.4	0.6	0.8 1	.0 1	.2 1.	4	200 %
SYMBC SAMPL		BLOWS PER	UNIT DRY WT LB/CU FT	PLAST LIMI +	TIC T	COI	ATER NTENT		LIQU LIMI	ID T	- No.
	SURF. EL: 117.5 Very stiff light tan and tan silty clay	Ш		10	20	30	40 5	60 6	0 7	0	
	Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	37		•							
	Very stiff tan and reddish tan silty clay, slightly sandy w/silt pockets and ferrous stains	30			•+-	+					83
5	- tan below 4 ft	43									
	Very stiff tan and reddish tan fine sandy clay w/ferrous stains	35		4	+• - ·	+					63
		23									
- 10											
15 COMPLE DATE: 1											
COMPLE DATE: 1			ΓΟ W <i>A</i> NG: D		l	l	ı	DA	TE: 1	0/13/20	015

LOGOF BORING NO. R18 CA0201 Hwy 425 Widening

	TYPI	≣: T	Auger		CATIO	ON:	App							
Ħ	ب ا	S		RFT	UNIT DRY WT LB/CU FT	,				- O	N/SQ F			%
	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PE	DRY CU F		0.2	0.4	0.6	0.8		1.2 1	.4	200 %
DEPTH,	SYI	SAN		BLOWS PER	NIT LB/	PL L	ASTI IMIT	С	CC	VATER ONTEN	Т	LIQL LIM	JID IT	8
	иг		SURF. EL: 122.3	В			10	20	30	40	50	60 7	'0 	
			Firm brown, gray and tan clayey silt, sandy w/trace organics (fill)											
		\parallel		8			•	+						74
		$/\!\!\!/$												
			Medium dense tan and gray fine				-							
		$\frac{1}{2}$	Medium dense tan and gray fine sandy silt				+	+		+				
		\mathbb{N}		18		•								
			Stiff gray and tan clayey silt											
5 -		$\sqrt{}$		16				•						
		1		10										
			harry and man from C. Off											
			- brown and gray from 6 - 8 ft											
		\parallel		16										
		\mathcal{H}												
			Firm to stiff tan and gray silty clay w/fine sandy silt pockets											
			witine sandy slit pockets											
			- stiff below 9 ft	11										
10 -		1		╽										
	_													
	1							+	+	+		+		-
	1													
	1													
	1													
<u> </u>													L	
					TO WA						D/	ATE: 9)/10/2	-

	Bar Consu	t or Iting	Ashley Co	vy 42	5 Wid	denin	g	113						
	TYPE	<u>:</u> ,	Auger	LC	CATIO	ON:	Appro	x Sta	194+9	98, 36	ft Rt			
_				ե	5			COHE	SION	, TON	/SQ F	Т		\ 0
'	30L	LES		PER	Y FT	0	.2 ().4 (0.6 (0.8 1	1.0 1	.2 1	.4	00 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PĻ	ASTIC IMIT		WA	TER ITENT		LIQU LIM	IID	No. 200 %
	0)	S	SURF. EL: 119.0	3L0	NS J		+-			-		+	.	-
		Η,				1	0 2	20	30	40 5	50 6	50 7	0	
		₩.	Stiff light tan and tan silty clay w/silt pockets and ferrous stains and trace organics											
		X	ado organios	17		•	+	+						86
		Н												
			- very stiff, tan and reddish tan											
		\mathbb{H}	- very stiff, tan and reddish tan below 2 ft											
		X		26			•							
		/\												
			- trace fine sand below 4 ft											
		\mathbf{H}	trace fine dana below 1 ft											
5 -		X		42				1						
		Μ												
		H.	Stiff gray tan and reddish tan fine											
		H :	Stiff gray, tan and reddish tan fine sandy clay w/fine sand pockets and ferrous stains and organics											
		X	ierrous stains and organics	19			+•		+					68
		Н												
		Н												
		X		18										
10-		1		 					-	-				
	-													
	-													
-														
<u></u>	-								-					
	-													
2														
	1													
1-1-6 CD CD THE TOTAL MARKET														
15	COME	II.	TION DEPTH: 10.0 ft DE	PTH	TO WA	TFR								
					NG: D						DA	TE: 1	0/13/2	015

	Consu	tor Iting	Engineers CA0201 H Ashley C	lwy 42	5 Wid	dening								
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Approx	Sta 20)5+11,	32 ft F	₹t			
_		_		ᇤ	١.		C	OHES	ION, T	ON/S	Q FT	-		9
÷	30L	LES		PER	 	0.:	2 0.4	4 0.6	0.8	1.0	1.	2 1.	4	6 00
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	WS	UNIT DRY WT LB/CU FT	PLA	STIC MIT		WATE CONTE	R_		LIQU LIM	ID	No. 200 %
	0)	S	SURF. EL: 126.3	BLOWS PER FT	<u>S</u>	'	+					-+		-
-		H		+-		10) 20	30	40	50	60	0 7	0	
		H :	Stiff gray and tan silty clay, slightly sandy											
		İΧ		10			•+							81
		Н												
		Н												
-		X		13				•						
		Н												
		1												
		Ц						_						
- 5 -		M		17				•						
		4												
		<u> </u>	Firm grov brown roddish top and											
		H :	Firm gray, brown, reddish tan and tan silty clay, sandy w/some ferrous nodules and stains											
			rerrous nodules and stains	9				•						
		4												
			Stiff gray, raddish tan and raddish											
			Stiff gray, reddish tan and reddish brown fine sandy clay w/some ferrous nodules and stains											
			rerrous nodules and stains											
		V		14										
10-		4		+						_				
_														
-														
11-6 C-0.000 M + 11-6														
z 														
15	00::-	<u> </u>	TION DEDTIL 40.0%	FDT	TO 111									
50.1				EPTH [*] N BORII							DA ⁻	TE: 9	/16/20	15

	TYPE	Ē: /	Auger	LC	CATIO	ON:	Approx	s Sta 2	15+06	6, 29 ft	t Rt			
			-	E		ION: Approx Sta 215+06, 29 ft Rt COHESION, TON/SQ FT								
ᇤᆝᇹ		ES		R	UNIT DRY WT LB/CU FT	0	.2 0.4	-	—С)——	_	1.2 1.4		% C
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	R S		L L					<u> </u>	I	. 200
DEP	S	SAI		Ŏ	LB/(PLA L	ASTIC IMIT		WAT CONT	ER ENT		LIQU LIM	ID IT	S S
			SURF. EL: 123.2	BL	⊃	1	0 20	30	40) — —)) 6	- 	0	Ċ
			Very stiff reddish brown and reddish tan silty clay, slightly sandy, very dry	50/8"		•								
			with fine sand pockets below 2 ft	41			+	-+						76
		H.,	James Att and distributions of the analysis	_										
5 -			Very stiff reddish brown fine sandy clay w/fine sand pockets and ferrous stains and organics	40			•							
		M	- stiff below 6 ft											
		<u> </u>	- with more sand below 8 ft	23			+							55
		M		21			•							
10 -				-+										

	Consu	lting	Engineers CA0201 F Ashley C				9	_						
	TYPE	<u>:</u>	Auger	LC	CATIO	ON: A	Appro	x Sta 2	24+86	5+20 ft	t Rt			ı
١.				ᇤ	L		(COHES	SION,	TON/S		. 0		
H, FI	BOL	SJ.	DESCRIPTION OF MATERIAL	PER	UNIT DRY WT LB/CU FT	0	2 0	.4 0.6	3.0	3 1.0	0 1.	2 1.	4	200 %
DEPT	DEPTH, FT SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER		PLA LI	STIC MIT		WAT	ER ENT		LIQU LIMI	ID T	- No. 3
	X 91 .5 C 1	_	SURF. EL: 121.1	<u> </u>		10	-	0 30	40	50) 6	0 7	0	
			8 inches: Brown fine sandy silt w/fine to coarse gravel (fill)			•								
			Stiff gray, brown and reddish brown silty clay (fill)	14			• +							76
			- firm, gray and tan below 2 ft											
				10			•							
							_							
5				9			•							
			Loose brown and gray silt, slightly											
	- - - 	X	Loose brown and gray silt, slightly clayey w/some ferrous stains and trace organics	9			•							
			Stiff tan and gray clayey silt											
		M		13										
10		/ _												
0 -														
110 Cd9:CD0. The Local Cd9:CD0.														
1 1														
15	COMP			DEPTH N BORII					<u> </u>		DA	TE: 9	/16/20)15

	// Consu	lting	CA0201 F Engineers CA010 Ashley C											
	TYPE	Ē: <i>i</i>	Auger	LC	CATIO	ON: A	Approx	Sta 2	34+9	7, 19 t	ft Rt			
				ᇤ	5		C	OHES	SION,	TON	/SQ F	Γ		.0
, FT	30L	LES)ER	X V JFT	0.	2 0.	4 0.6	6 0.	.8 1	.0 1	.2 1.	.4	% 00
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PI A	STIC		WA ⁻	TFR		LIQU	IID	No. 200 %
ᆸ	S	S/S	0.1.05 51 400.0	0		LI	ASTIC MIT +		WA ²	TĒNT ———		LIQU LIMI	Ť	Z
<u> </u>			SURF. EL: 122.2	1 —		10	0 20	30) 4	0 5	50 6	0 7	0	
<u> </u>			w/fine to coarse gravel (fill)											
		M	6 inches: Brown silty fine sand w/fine to coarse gravel (fill) Medium dense tan silty clay, sandy (fill)	26			4							73
		Ν	(1111)				•	•						'
i														
		M				_								
		M		22		•								
 		Н												
- 5		IXI		15		•								
<u> </u>		Д												
<u> </u>														
			Stiff gray and brown clayey silt											
l		M		11										
		\mathbb{N}		''										
	\mathcal{M}	Н												
 		ΙXΙ		13			•							
10	ш	1												
<u> </u>	-													
L														
]													
	1													
	1													
\vdash	1													
\vdash	-													
15	00145		TION DEDTH: 40.0#) 	[\								
	DATE			DEPTH ⁻ N BORII							DA	TE: 9	/16/20)15

	Consu	lting	p Engineers CA0201 Ashley				- 								
	TYPE	Ξ:	Auger	LC	CATIO	ON: App	: Approx Sta 244+99, 38 ft Rt								
1 _				ᇤ	5		COH	IESION	, TON/S	SQ F1	-		٠,0		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.2	0.4	0.6	0.8 1.0) 1.	2 1.	4	200 %		
DEPTH,	SYN	SAM	SURF. EL: 114.9	BLOWS PER	UNIT DRY WT LB/CU FT	PLASTI LIMIT	C 	WA CON	TER ITENT		LIQU LIMI		- No.		
			Very stiff light tan and tan silty clay w/silt pockets and seams			10	20	30 	40 50) 6	0 7	0	77		
		X	Very stiff to hard gray and brownish gray silty clay w/ferrous stains and nodules	50/6"		•									
- 5		M M	- tan and gray with organic stains below 4 ft	50/11		•	,								
		X	Stiff gray and raddish tan cilty slav	50/5"		•									
			Stiff gray and reddish tan silty clay slightly sandy	18		●	- · +						67		
- 10		<u> </u>		-+											
01-1-0															
1-10 C49:C40 C41:C41:C41:C41:C41:C41:C41:C41:C41:C41:			TION DEDTH: 40.0#	DERTIL	FO 14/),TED									
LGBINE				DEPTH I						DA	TE: 1	0/14/2	015		

	Consu	tor Iting		0201 Hw shley Co	vy 42	5 Wid	dening		,					
	TYPE	Ξ: /	Auger		LO	CATIO	ON: Ap	pprox S	Sta 255+8	37, 33 ft	Rt			
TH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERI	IAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2	0.4		0.8 1.0		2 1.		No. 200 %
DEPTH,	λS		SURF. EL: 118.1		BLOW	UNIT LB/	PLAS LIM + 10	STIC IIT 20		TER ITENT 40 50	6	LIQU LIMI - +		N
			Very stiff to hard light tan and silty clay w/silt pockets, ferror stains and rootlets	d tan us	50/10'		•	+	-+					76
			Very stiff reddish tan and tan clay w/silt pockets and seam		50			•						
- 5 -			Stiff tan, reddish tan and gray sandy clay	y fine	14		4	-	+					69
		V			21			•						
- 10 -														
15														
15			TION DEPTH: 10.0 ft 0-14-15		PTH 1 BORIN						DA	TE: 1	0/14/2	015

	Consu	lting		1 Hwy 42 / County									
	TYPE	Ξ: ,	Auger	L	OCATI	ON:	Approx	Sta 26:	5+19, 2	20 ft R	t		
١.				ᇤ	L		CC	DHESI	ON, TO	ON/SQ	FT		
H, FT	SYMBOL	SJ-	DESCRIPTION OF MATERIAL	PER	RY V	0	.2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYM	SAMPLES		3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT	C	WATER ONTEN	R NT 	LIC LI	QUID MIT +	- No.
	6 V (SURF. EL: 126.8			1	0 20	30	40	50	60	70	
			Loose brown sandy fine to coarse gravel, slightly clayey (fill)	e 6			++						39
		M	Stiff gray and tan silty clay w/son ferrous nodules and stains	ne 14			OI -		+				78
- 5 -		M	Stiff gray and tan silty clay	12				•					
		M	- firm with ferrous nodules and stains below 6 ft	8			•	•					
			- with some clay pockets from 8 - 10 ft	-									
- 10 -			- stiff below 9 ft	11			•						
15 Hore Market 15 Hor	-												
15 15													
LGDINE	COMF		TION DEPTH: 10.0 ft -10-15	DEPTH IN BOR							DATE:	9/10/20	015

	Consult	ing Engineers	CA0201 Hv Ashley Co										
	TYPE:	Auger		LC	CATIO	ON: A	pprox S	Sta 274	4+99, 3	2 ft Rt			
1.				ե	L		CC	HESI	ON, TO	N/SQ	FT		
H, FI	SYMBOL	MESCRIPTI	ON OF MATERIAL	PER	RY W	0.2	0.4	0.6	0.8	1.0	1.2 1	.4	200 %
DEPTH,	SYN			3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC IIT	C	WATER	T	LIQU LIM	JID IT	No.
		SURF. EL: 135.		՝ □		10	20	30	40	50	60	70	
		Firm light tan ar w/silt pockets al and trace organ	nd tan silty clay nd ferrous stains ics	7			• +-						76
		Stiff tan, reddisl clay, slightly sar and seams and nodules	n tan and gray silty ndy w/silt pockets ferrous stains and	15			•						
- 5				20			•						
		-	wn and red clay ly pockets and nd organic stains	17			+-	•			+		94
		- with fine sandy 8 ft	/ clay seams below	23			•						
- 10 -													
LGBNEW 15-104_R LOGS.GPJ 8-11-16	-												
401-7													
15 15 16 16 16 16 16 16 16 16 16 16 16 16 16		L LETION DEPTH: 10. 10-14-15		PTH BORII							ATE: ^	10/14/2	2015

	Bar Consu	tor Iting	Engineers CA0201 Hv Ashley Co	vy 42	5 Wid	denin	g	120						
	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Appro	ox Sta	ı 283+	99, 32	ft Rt			
L L		S		2 FT	TM			СОН	ESION	N, TON	/SQ F	Т		%
DEPTH, F	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT		l	0.4	-1		1.0 1	1	.4	No. 200 %
	S	SA	SURF. EL: 144.5	BLOM	UNIT		ASTIC IMIT + -			ATER NTENT 		LIQU LIM	•	N -
			3 inches: Silty fine sand w/fine to coarse gravel (fill)			, i	0	20	30	40	50 6	50 7	70	
	-	\/	Medium dense gray and tan silt (fill)	21		•	_	++						86
	//		Firm gray and tan silty clay, sandy											
				9				- -	#					87
- 5 -		M	- stiff below 4 ft	16			•							
				10										
				16			•							
		M	Stiff gray, reddish tan and tan silty clay w/some ferrous stains and some clay partings											
- 10 -		<u>\</u>		15										
	-													
	-													
15														
15					TO WA		ı	1	1	1	DA	TE: 9)/16/20	15

	Consu	lting	Engineers CA0201 Ashley											
	TYPE	<u>:</u> /	Auger	LC	CATIO	ON: /	Approx	Sta :	294+8	6, 55 1	ft Rt			
١. ا				ᇤ	L		С	OHE	SION,	TON	'SQ F	Т		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W	0.	2 0.4	4 0	.6 0	.8 1	.0 1	.2 1	.4 I	200 %
DEPTH,	SYM	SAMI		BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC MIT +		WA'	TER TENT		LIQU LIM	IID IT	- No.
			SURF. EL: 141.7 Very stiff light tan and tan silty clay W/silt pockets, ferrous stains and crace organics and rootlets			1	0 20	<u> </u>	60 4 	0 5	50 6	50 7	70	87
		-	stiff below 2 ft	14		•	,							
- 5			Stiff reddish brown and reddish tar silty clay w/ferrous stains and organic stains	14 1				•						
			Stiff reddish tan and brown clay, slightly slickensided w/organic stains	15			-	+ +	•				79	98
		-	red below 8 ft	19					•					
- 10 -				_										
				DEPTH IN BORII						ı	DA	TE: 1	0/14/2	2015

	TYPI	<u> </u>	Auger			ON: A	Approx				- -		
Ħ		တ္က		RFT	TW _T								%
	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL) PEI	ORY SU F	0.	2 0.4	0.6		1	1.2 1	.4	200 %
DEPTH,	SYI	SAN		BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC MIT	CC	VATER ONTENT		LIQL LIM	JID IT	- No.
			SURF. EL: 134.4	BL	<u> </u>	1	+ 0 20	30	40	50	60 7	0	·
			Stiff brown and tan clayey silt, sandy (fill)										
		\bigvee		11		•	++						59
		\mathbb{A}											
		+	Stiff gray and tan clayey silt										
		$\frac{1}{\sqrt{1}}$											
				16			•						
5 -		$\sqrt{}$		10			•						
o -		Δ		10									
			E: 4 (199										
			Firm to stiff gray, brown and tan silty clay w/ferrous nodules and stains										
		X	Stairis	10			•						
		\mathcal{H}											
		1	Stiff reddish tan clay w/silt pockets	3									
		\bigvee		15					١.				0.4
10 -		\mathbb{L}					+•		+				84
10													

	Bar Consu	t O n	n & Wyatt, Inc. CA0201 Engineers CA9201 Ashley	Hwy 42	25 Wi	denin	g	J						
	TYPE	Ē: /	Auger	L	OCAT	ION:	Appro	x Sta	314+9	2, 38	ft Rt			
_				ㅂ	Ļ		•	COHE	SION	, TON	/SQ F	Т		.0
 	30L	SAMPLES)ER	UNIT DRY WT	c	0.2 0	0.4 0	.6 0).8 1	.0 1	.2 1	.4	No. 200 %
DEPTH,	SYMBOL	AMP	DESCRIPTION OF MATERIAL	WS	T DF	PL	ASTIC IMIT		WA	TER TENT		LIQU LIM	JID	lo. 2
	0)	S	SURF. EL: 129.3	BLOWS PER FT		L	+) – –		+	•	-
			Very stiff to hard light tan and tan silty clay w/silt pockets and ferrou stains, very dry to 2 ft	50/9	"	•	10 2	20 3 + -+	0 4	10 5	50 €	60 7	70	86
			- very stiff below 2 ft											
				34			•							
5 -) 	Very stiff tan and reddish tan silty clay	37			•	-+						90
			Very stiff gray fine sandy clay w/ferrous stains	26				•						
10			- olive gray and reddish tan with numerous lignitic inclusions and stains below 8.5 ft	24										
10 -														
0	_													
-6 C-5														
11-6 CENTED THE MARKET THE TOTAL THE	<u> </u>													
15 15			TION DEPTH: 10.0 ft 0-14-15	DEPTH IN BOR			1	1	I	1	DA	TE: 1	0/14/2	015

	Consu	lting	n & Wyatt, Inc. CA0201 Engineers CA9201 Ashley	Hwy 42	5 Wid	denin	g	_					
	TYPI	Ξ: /	Auger	LC	CATIO	ON:	Approx S	Sta 324+	69, 18 f	t Rt			
				ㅂ	► .		CC	HESION	I, TON/	SQ F	Γ		<u> </u>
±	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	0.	.2 0.4	0.6	0.8 1	.0 1	.2 1.	4	No. 200 %
DEPTH,	SYM	AMF	DESCRIPTION OF MATERIAL	WS	IT DI	PĻĄ	ASTIC IMIT	WA	ATER NTENT		LIQU LIM	ĪĎ	6.2
		$\left[\begin{array}{c} \sigma \end{array} \right]$	SURF. EL: 139.4	BLO	S		+		●		+		_
	7/11	\parallel	Firm gray, brown and tan clayey silt, slightly sandy (fill)				0 20	30	40 5	0 6	0 7	U	
		$\int \int d^3x dx$	silt, slightly sandy (fill)										
		$\bigg] \bigg]$		8			•+	+					86
			Firm gray and tan clayey silt w/some ferrous nodules and stain										
		╢ `	w/some ferrous nodules and stain	S									
		$\bigg] \bigg]$		7			•						
			Firm gray, brown and tan silty clay w/some ferrous nodules and stain	/									
		₩ '	w/some ferrous nodules and stain										
5		\mathbb{N}		8									
		,	- stiff below 6 ft										
		1/											
				14			•						
		,	- with silt pockets below 8 ft										
			·										
		\mathbf{M}											
				13			•						
10		#		-+									
	1												
	1												
	1												
	1												
	1												
15	1												
15	COM	∐ PLF	TION DEPTH: 10.0 ft	DEPTH	TO W	L ATFR							
			-11-15	IN BORI						DA	TE: 9	/11/20	15

	Consu	IO r Iting	A & Wyatt, Inc. CA0201 Engineers CA0201 Ashley		25 Wi	denin	g							
	TYPE	Ē: <i>i</i>	Auger	L	OCATI	ON:								
					١.		(COHE	ESION	, TON	I/SQ F	Т		Q.
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PER	ORY V	0	.2 0	.4 (0.6	0.8	1.0 1	1.2 1	.4 I	200 %
DEPTH,	SXI	SAN	OUDE EL. 447.0	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT +		CON	ATER ITENT		LIQU LIM 	JID IT	- No.
			SURF. EL: 147.8			1	0 2	20	30	40	50	60 7	'0 	
			Very stiff light tan and tan silty cla w/numerous silt pockets and occasional ferrous stains, very dr	y 47		•								
		\ \/	- stiff, tan and brownish yellow below 2 ft											
		X		23			•+		+					90
- 5 -			Stiff tan and reddish tan silty clay w/silt pockets and ferrous stains	21			•							
			Stiff reddish tan and gray fine sandy clay											
		V	sandy clay	21			•							
			Stiff red and reddish brown clay w/silt pockets and seams											
- 10 -				24					,	•				
	_													
0	_													
11-6 CENTRAL MARKET														
Y	_													
15			TION DEPTH: 10.0 ft 0-14-15	DEPTH IN BOR				<u> </u>			DA	ATE: 1	0/14/2	2015

	Consu	lting	Engineers CA0201 Ashley										
T	TYPE	Ξ: /	Auger	LC	CATIO	ON: A _l							ı
_					 		CO	HESIC	N, TON	/SQ F	Т		9
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PER	ORY V	0.2	0.4	0.6	0.8	1.0 1	.2 1	.4 I	200 %
DEPTH,	SYI	SAN		BLOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC IIT 	C(VATER ONTENT		LIQL LIM 	JID IT	- S
			SURF. EL: 151.5 Very stiff light tan and tan silty cla			10	20	30	40	50 6	0 7	70	
			Very stiff light tan and tan silty cla w/silt pockets and ferrous stains	29		•	+	-+					90
] 	Stiff reddish tan and tan silty clay w/silt pockets and seams	44									00
			- tan and gray below 4 ft	11					- 47				93
5 -			tan and gray below 4 ft	13			•						
		<u> </u> 											
		Ž	Stiff to very stiff tan, gray and red silty clay, mottled	24									
			Stiff red and reddish brown clay, slightly slickensided										
10 -				21					•				
15	COMF	 LE	TION DEPTH: 10.0 ft	DEPTH	TO WA	ATER							
I	DATE	: 10)-14-15	IN BORI	NG: D	ry				DA	TE: 1	0/14/2	2015

	Consu	tor Iting	Engineers CA0201 Hy Ashley Co	wy 42	5 Wid	denin	g							
	TYPI	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta	354+9	3, 30 1	ft Rt			
_				ᇤ	5			COHE	SION	TON	/SQ F	Γ		\ 0
, T	30L	LES		PER	\ Y Y T=	0	.2 0).4 (0.6	.8 1	.0 1	.2 1.	.4	% 00
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		WA CON	TER TENT		LIQU LIMI	IID IT	- No. 200 %
			SURF. EL: 138.0	B		1	0 2	20 :	30 4	0 5	50 6	0 7	0	
			Very stiff light tan and tan silty clay w/silt pockets and organic inclusions	32		•								
			Stiff tan and reddish tan clay w/organic stains and inclusions	14			+	•						93
			Organia de la											
- 5 -			Stiff red and reddish tan clay, slightly silty w/occasional organic stains	12				•						
		V A		13					•					
		1												
	-	<u> </u>	Stiff red and reddish tan silt w/numerous organic stains	22				•	-NON	-PLAS	TIC-			93
10	 1 1 1 1	_		 -										
	_													
	-													
-														
5														
1														
				EPTH T			<u> </u>		1			TC: 4	0/4/4/0	0015
<u>.</u>	DATE	: 10	0-14-15 IN	BORI	NG: D	ry					DA	TE: 1	0/14/2	015

LOGOF BORING NO. R36 CA0201 Hwy 425 Widening

	Consu	lting		0201 Hwy 42 shley County										
	TYPI	Ξ:	Auger	L	OCATIO	ON:	Аррі	rox S	ta 364 [.]	+94, 23	ft Rt			
				Ħ	T			COI	HESIO	N, TOI	N/SQ F	Т		,0
H, FT	BOL	ار ا	DECODIDATION OF MATER	PER	RY V	(0.2	0.4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATER	TAI LANGE BEOWS PER	UNIT DRY WT LB/CU FT	PL L	ASTIC	C 	CC	VATER ONTENT	— — — –	LIQU LIM	IID IT	- No. 2
			SURF. EL: 137.0				10	20	30	40	50	60 7	0	
			Stiff gray, tan and reddish ta clay, sandy	16			•	+-		-+				85
			Chiff arou and ton ailth alou											-
			Stiff gray and tan silty clay	12				+ -			-			90
			- with clay partings below 4 f	t										
- 5 -				12				•						-
		17	Stiff reddish brown clay w/fe stains	rrous										
		X		15				_						-
			Medium dense reddish tan fi sandy silt	ne										
- 10 -		\bigvee		19		•								
15														
15														
			TION DEPTH: 10.0 ft -11-15	DEPTH IN BOR							DA	NTE: 9	/11/20)15

	Consu	lting	Engineers CA0201 H Ashley C											
	TYPI	<u> </u>	Auger	LO	CATIO	ON: /	Approx	Sta 37	' 5+19,	32 ft	Rt			
⊥		(0)		ᇤ	↓ .		С	OHES	ION, T	ON/S	Q F1	Γ		%
H, FT	SYMBOL	JES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.	2 0.4	4 0.6	0.8	1.0	1.	.2 1	.4	200 %
DEPTH,	SYIV	SAMPLES	SURF. EL: 129.4	BLOWS PER	UNIT DRY WT LB/CU FT		ASTIC MIT +	(WATE CONTE	R NT		LIQU LIMI	IID IT	- No.
			Very stiff to hard light tan and tan silty clay w/ferrous stains and nodules and trace organics and organic stains	50/10'		•	0 20	30	40	50	6	0 7	0	
			Very stiff tan, reddish tan and brown clay w/trace fine sand	36			•+				+			87
5 -			Very stiff tan, reddish tan and gray silty clay, slightly sandy w/silt pockets and ferrous stains and nodules	28			+			-				83
		V M	- stiff to very stiff with more sand below 6 ft	24			•							
10 -			Very stiff tan and gray fine sandy clay w/ferrous stains and organic stains	50/8"			•							
				DEPTH 1							DA	TE: 1	0/14/2	2015

	Consu	lting	Engineers CA0201 H Ashley C				g							
	TYPE	Ξ:	Auger	LC	CATIO	ON: /	Appro	x Sta	385+2	29, 39 f	t Rt			Γ
Ι.				ᇤ	L		(COHE	SION	, TON/	SQ F	Γ		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NRY W	0.	2 0	.4 0	.6 (0.8 1	.0 1	.2 1	.4 I	200 %
DEPTH,	SYN	SAM	SURF. EL: 122.6	BLOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT +		CON	ATER ITENT		LIQU LIMI 	IID IT	- No.
		X	Hard light tan and tan silty clay w/silt pockets and ferrous stains and organic inclusions	50/6"		10	0 <u>2</u>		30	40 5	0 6	60 7	0	90
- 5			Very stiff reddish tan, tan and gray silty clay, slightly sandy w/silt pockets and numerous ferrous stains and concretions	31			•							
			Very stiff reddish tan, olive gray and gray sandy clay w/fine sand pockets	29			-10 -			-+				56
- 10			Medium dense tan and reddish tan silty fine sand	17		•								
1-11-8 (1-12-12-12-12-12-12-12-12-12-12-12-12-12														
15				EPTH T							DA	TE: 1	0/14/2	2015

	Consu	lting	Engineers CA0201 Hv Ashley Co	•			_							
	TYPE	Ξ: .	Auger	LC	CATIO	ON:			395+0					
FT		S		FT			(COHE	SION	, TON	/SQ F	Γ		%
	SYMBOL	PLE	DESCRIPTION OF MATERIAL	H H	AY F	0	.2 0).4 I	0.6 ().8 <i>'</i>	1.0 1	.2 1	.4	200
DEPTH,	SYN	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		WA CON	TER ITENT		LIQU LIMI	IID T	Š
			SURF. EL: 126.9	BL(5		+			●	- — — - 50 6	+	0	'
		X	Very dense brown and tan fine sand, slightly clayey w/fine to coarse gravel (fill)	50/6"		•	+-	+						13
		V	- dense with some clay layers below 2 ft	46		•								
		/\ 	Stiff to very stiff gray, tan and reddish tan silty clay w/silt pockets											
5 -			Stiff to very stiff gray, tan and reddish tan silty clay w/silt pockets and ferrous stains and nodules and organic inclusions (possible fill)	25			•		+					86
			- firm with numerous organic stains and inclusions from 6 to 8 ft	7				•						
		M	- stiff to very stiff with trace coarse gravel and ferrous nodules below 8 It											
10 -		1		26										
				PTH BORII								TE: 1	0/19/2	015

	Bar Consu	tor Iting	Engineers CA0201 H Ashley C	lwy 42	5 Wid	dening	9	,					
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Approx S	sta 404+	-63, 18 t	ft Rt			
Ι.				ᇤ	_		CO	HESIO	N, TON	/SQ F	Γ		
±	l Z	LES		ER	 Y F	0.:	2 0.4	0.6	0.8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	STIC MIT	W CO	ATER NTENT		LIQU LIM	IID T	Š.
"			SURF. EL: 128.8	BL(5	10	+	30		 50 6	+	0	'
			6 inches: Sandy fine to coarse										
			6 inches: Sandy fine to coarse gravel (fill) Very stiff tan silty clay, sandy (fill)	_									
		\mathbb{N}	- firm, tan and brown clayey silt below 2 ft - sandy from 2 - 4 ft	8			•	+					91
5 -		X X		7			•						
- 10 -			Very stiff tan and gray clayey silt, sandy	37			•						
	-												
0	-												
8-11-1 1-11-8	-												
1-11-8 C45.850-73 F01-91 M-10-85 C45.850-73 F01-91	-												
15 18 18 18 18 18 18 18 18 18 18 18 18 18	COMF DATE			DEPTH T N BORII						DA	TE: 9	/17/20)15

	Consu	lting		1 Hwy 42 County								
	TYPE	Ξ: /	Auger	LC	CATIO	ON: Approx	Sta 415+	04, 36 ft	t Rt			
l ∟				ᄩ	 	C	OHESION	N, TON/S	SQ F1	Γ		Q.
H, H	BOL	J'ES	DECORUPTION OF MATERIAL	PER	Y V	0.2 0.4	4 0.6	0.8 1.0	0 1.	.2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC LIMIT	W. COI	ATER NTENT		LIQU LIMI	ID T	- No. 2
			SURF. EL: 125.1	-		10 20	30	40 50	0 6	0 7	0	
			Very stiff light tan and tan silty cla w/silt pockets, ferrous stains and rootlets	41		• +						87
				41		•						
- 5 -			- hard, brownish gray below 4 ft	50/9	•	•						
		<u> </u>	- brown and tan below 6 ft	50/4'		•						
			Stiff light brown and gray fine sandy clay w/ferrous stains	20		+ ●-	+					69
- 10 -												
	-											
ļ												
15			TION DEPTH: 10.0 ft 0-15-15	DEPTH IN BORI					DA	TE: 1	0/15/2	2015

	Bar Consu	ton Iting	Engineers CA0201 HV Ashley Co	vy 42	5 Wid	dening		_					
	TYPI	Ξ: /	Auger	LC	CATIO	ON: A	Approx	Sta 424	+79, 18	ft Rt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 129.6	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 PLA LII	2 0.4 STIC MIT	0.6 0.6 CC	0.8 1 /ATER ONTENT	.0 1	.2 1. LIQU LIMI		- No. 200 %
			5 inches: Brown sand w/fine to coarse gravel (fill) Very stiff tan clayey silt, sandy (fill)	41		•	4	+					69
			- stiff below 2.5 ft	17			•						
- 5 -				27			•						
			Stiff gray and tan clayey silt, sandy	18			•						
		 	- with more fine sand below 8 ft	22			•						
- 10 -													
	COMP DATE				TO WA					DA	TE: 9	/17/20	15

	Consu	ION Iting	A & Wyatt, Inc. CA0201 H Engineers Ashley C	lwy 42	5 Wid	dening	g	10					
	TYPE	<u>:</u> /	Auger	LC	CATIO	ON: /	Approx	k Sta 435	+00, 31	ft Rt			
╽ _┖				ᇤ	5.		C	OHESIC	N, TON	/SQ F	Т		\ 0
H H	BOL	LES	DECORPTION OF MATERIAL	PER	Y V T∃ V	0.	2 0.	4 0.6	0.8	1.0 1	.2 1	.4	000
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	STIC MIT	V	VATER ONTENT		LIQU LIM	IID IT	No. 200 %
			SURF. EL: 127.0	-	5	10	+			- — — - 50 6	+	0	'
			Very stiff to hard tan and light tan silty clay w/silt pockets and ferrous stains, very dry	50/9"		•	+						75
		M	- very stiff, tan below 2 ft				_						
		<u> </u>		45			•						
			- hard below 4 ft	50/9"			•						
- 5 -													
		M :	Very stiff reddish tan and tan fine sandy clay	28			+•		_ -				80
		<u> </u>											
10 -				40			•						
15													
15													
				EPTH T N BORII						DA	TE: 1	0/15/2	015

	Consu	lting	Engineers CA0201 H Ashley C											
	TYPI	Ξ: .	Auger	LC	CATIO	ON:	Appro	x Sta	444+8	33, 17	ft Rt			
				ᇤ	Ļ		(COHE	SION	, TON	/SQ F	Т		.0
H, FT	30L	LES		PER	γ V Y	0	.2 0.	.4 0).6 (0.8	1.0 1	.2 1	.4	% 00:
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/	ASTIC IMIT		WA CON	ATER ITENT		LIQL LIM	JID IT	- No. 200 %
			SURF. EL: 131.0	BLO	5		+	 :0		-	- — — - 50 6	+	0	'
			Stiff tan and gray clayey silt, sandy (fill)											
		\mathbb{N}	(····)	17				┡╌╼╋╸						81
	M			''				•						0
	4111		Circo to a good groot player all											
	\mathcal{H}		Firm tan and gray clayey silt w/some ferrous stains and nodules											
				9			-	-+						86
		1												
<u> </u>		\bigvee					•							
5		\mathbb{N}		7										
			- very stiff from 6 - 8 ft											
		\mathbb{N}		30			•							
		\mathcal{H}												
			- stiff from 8 - 10 ft											
		$\sqrt{}$												
		\mathbb{N}		17			•							
10		Ħ		T										
	-										-			
-														
5														
10 4 -														
11-11-0 C-10-00-00-00-00-00-00-00-00-00-00-00-00-				EPTH I BORI						1	DA	TE: 9	/11/20)15

	Consu	lting	Engineers CA0201 H Ashley C										
	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Approx	Sta 45	5+00, 3	34 ft Rt			1
1.				ᇤ	F		CC	DHESI	ON, TO	N/SQ	FT		
H, H	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY √ U FT	0.	.2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ LI	ASTIC IMIT	С	WATER	R NT	LIC LI	DUID MIT	No.
			SURF. EL: 130.2	B	ر	1	0 20	30	40	50	60	T 70	
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	38		•	+	-+					91
			- tan, reddish tan and brown below 2 ft	45			•						
- 5			- hard below 4.5 ft	50/10	,,		•						
		M	- stiff below 6 ft	23			•						
- 10 -			Very stiff reddish tan and gray silty clay w/fine sand pockets and ferrous stains	35			•	-+					84
	-												
8-11-16 0-11-16													
LGBNEW 15-104_R LOGS.GPJ 8-11-16													
GBNEW				EPTH '							DATE:	10/15/	2015

		Consu	lting	Engineers CA0201 H Ashley C											
		TYPI	Ξ: .	Auger	LO	OCATIO	ON:	Appro	x Sta	1464·	+91, 1	9 ft R	t		
					ᇤ	L		(COH	ESIO	N, TC	N/SQ	FT		
	H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY √ U FT	0	.2 0	.4	0.6	0.8	1.0	1.2	1.4	200 %
	DEPTH,	SYIV	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CC	VATER	l IT	L	IQUID LIMIT	N -
L				SURF. EL: 132.2		ر	1	10 2	20	30	40	50	60	70	
			Н١	Brown sand w/fine to coarse gravel (fill)											-
-			1	Dense tan clayey silt, sandy (fill)	43		•	+	-+						75
				Soft gray and tan clayey silt w/occasional ferrous nodules and stains	6			•							
-	5 -			Firm gray and tan silty clay	8			•							
-				Stiff gray and tan clayey silt	17			•							
-	10 -				19			•							
-															
11-16		_													
LGBNEW 15-104 R LOGS.GPJ 8-11-16															
LGBNEW 1:					EPTH N BORI								DATE	E: 9/17/	2015

	Consu	lting		Hwy 42 County			
	TYPE	Ξ: ,	Auger	LC	CATIO	FION: Approx Sta 474+89, 30 ft Rt	
1_				ե	5	COHESION, TON/SQ FT	.0
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.2 0.4 0.6 0.8 1.0 1.2 1.4	200 %
DEPTH,	SYM	SAMI	DESCRIPTION OF MATERIAL SURF. EL: 131.4	BLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC WATER LIQUID LIMIT CONTENT LIMIT ++	- No.
			Very stiff tan and light tan silty cla w/silt pockets and ferrous stains, very dry	42 31		10 20 30 40 50 60 70 ++	91
- 5 -		X 	Stiff tan, reddish tan and gray silt clay w/silt pockets and occasiona organic stains	23			
			- with fine sand pockets and ligning inclusions below 6 ft	20			
- 10 -			Stiff reddish tan and gray fine sandy clay w/lignite inclusions	22		+ • +	41
	-						
101-11-8 KEOGO MARIE MAR	-						
15 May 15			TION DEPTH: 10.0 ft 0-15-15	DEPTH IN BORI			015

	Consu	ılting	n & Wyatt, Inc. CA0201 Hy Bengineers CAshley Co	vy 42	5 Wid	dening								
	TYPI	≣:	Auger	LC	CATIO	ON: /	Appro	x Sta	484+9	3, 19	ft Rt			
١.				ե	L		(COHE	SION	, TON	/SQ F	Т		
	l o	SAMPLES		BLOWS PER FT	UNIT DRY WT LB/CU FT	0.	2 0	.4 0	.6 0).8 1	.0 1	.2 1.	.4	200 %
DEPTH,	SYMBOL	MP	DESCRIPTION OF MATERIAL	VS F	두	PIΔ	STIC	•	\Λ/Δ	TER	1	LIOU	ווח	No. 2(
	Ś	S	0	l o		Ĺ	STIC MIT +		CÓN	TER TENT		LIQU LIMI	ΪŤ	Ž
		 	SURF. EL: 136.5	<u> </u>	-	10	2	20 3	30 <u>4</u>	10 5	50 6	0 7	0	
		17	4 inches: Brown silt w/fine to coarse gravel	1										
		\mathbb{N}	Medium dense tan and brown clayey silt, sandy (fill)	22		•	+	- -						84
	Ш	1	ciay by circ, carray ()					_						
		1												
			Firm tan and gray clayey silt											
		\mathbb{N}												
		\mathbb{M}		8			•							
	7111													
			- stiff with silty clay pockets below 4 ft											
		\mathcal{H}	4 ft											
- 5 -	W	1)		19										
		\mathcal{H}												
	7111													
	7111	\mathbb{H}												
		\mathbb{N}		20			•							
		1												
		1												
		1	Stiff gray, reddish tan and tan silty clay w/some silt pockets and ferrous stains											
]	ferrous stains											
		$\sqrt{}$		١				_						
		\mathbb{N}		15				•						
- 10 -		Ħ		 										
	-													
	-													
15														
				EPTH :						_				
	DATE	: 9	-17-15 IN	BORI	NG: D	ry					DA	TE: 9	/17/20	15

LOGOF BORING NO. R49 CA0201 Hwy 425 Widening

	Consu	lting		1 Hwy 42 7 County										
	TYPI	Ξ:	Auger	L	OCATI	ON:	Appro	x Sta	495+0	08, 31	ft Rt			
_		3		FFT	TV.		(COHE	SION	I, TOI	N/SQ F	Т		%
IH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	JRY.	(0.2 0).4 (0.6	0.8	1.0	.2 1	.4 I	200 %
DEPTH,	SYI	SAIV		3LOWS PER	UNIT DRY WT LB/CU FT	PL L	ASTIC IMIT		CON	ATER NTENT	-	LIQL LIM	JID IT	- S
			SURF. EL: 136.7	<u> </u>	_ر		10 2	 20	30	40	50	50 7	'0 I	
		1//	Very stiff light brown silty clay, slightly sandy											
		X		50		•	+		+					85
			 hard, tan with occasional ferrou nodules and stains below 2 ft 	ıs										
		\mathbb{N}		50/7	•									
			Very stiff tan and reddish tan silty clay w/silt pockets and seams	y										
5 -		\bigvee	ciay wisiii pockets and seams	33			•			+				90
		Δ												
			- with ferrous stains nodules belo 6 ft	ow										
		M	6 ft											
		\mathbb{N}		41			•							
		П												
		M	- gray, tan and reddish tan below ft	<i>,</i> 9										
40		\mathbb{N}	ft	50										
10 -														
	-													
	_													
	<u> </u> 													
	-													
	_													
			TION DEPTH: 10.0 ft	DEPTH			1		1					
	DATE	: 1	0-15-15	IN BOR	NG: E)ry					DA	NTE: 1	0/15/2	2015

	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Approx	Sta 504	+50, 20	ft Rt			
				F	—		CC	HESIC	N, TO	N/SQ F	-T		
Ħ,	占	ES		Ä R	Υ FT	0	.2 0.4	0.6	 0.8	1.0	1.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PĻ	ASTIC IMIT	V	VATER ONTENT		LIQL LIM	JID I	No. 20
		0	SURF. EL: 141.3	BLC	N T		+ 0 20	30	JNTENT 	 50	+	0	7
			Medium dense brown sandy fine to coarse gravel, slightly clayey (fill)	18		•	++						15
			Firm tan and gray clayey silt (fill)	8			•						
5 -			Ctiff brown and grow alove wilt	8			•						
			Stiff brown and gray clayey silt	20			•						
		:	Stiff gray silty clay w/occasional ferrous nodules and stains	19									
10 -													

	Bar Consu	tor Iting	Engineers CA0201 Ashley	Hwy 42	5 Wid	denin	g	•						
	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Approx	x Sta 2	0+55,	31 ft l	_t			
				ㅂ	5		C	COHES	SION,	TON/S	SQ F	Γ		\ 0
 	30L	SAMPLES		BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 0.	4 0.6	0.8 -	3 1.(0 1	.2 1.	.4	No. 200 %
DEPTH,	SYMBOL	4MP	DESCRIPTION OF MATERIAL	NS I	B/CL	PL/	ASTIC IMIT		WAT CONT	ER		LIQU LIM	IID	lo. 2
	0)	Š	SURF. EL: 155.0	31.0		L	IMIT + − -		CONT	ENT		LIMI 	IT	_
			Stiff gray, tan and reddish tan silty clay w/silt pockets and seams and ferrous and organic stains and organic inclusions			1	0 2	0 30	40	50	0 6	0 7	0	87
- 5 -			Very stiff tan and reddish tan silty clay w/organic stains and ferrous nodules	36			+	•	-+					93
			- stiff below 6 ft	20				•						
- 10 -			Very stiff red and reddish brown clay, slightly silty	28				•						
-15														
15														
			TION DEPTH: 10.0 ft 0-20-15	DEPTH IN BORI							DA	TE: 1	0/20/2	015

	Consu	lting	Engineers CA0201 H Ashley C										
	TYPE	<u>:</u> ,	Auger	LC	CATIO	ON: A	pprox S	Sta 30+	11, 30 ft	Lt			
.				ᇤ	Ļ		CC	HESIO	N, TON	/SQ F	Т		
1, FT	30L	LES		PER	γ √ V	0.2	0.4	0.6	0.8 1	I.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 154.2	3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIW	STIC IIT 	CC	/ATER ONTENT		LIQU LIM	IID IT	- No. 2
		1	Very stiff light tan and tan silty clay w/silt pockets and seams and occasional ferrous stains and organic inclusions, very dry light tan, tan and brown with ferrous nodules below 2 ft			10	20	30 +	40 5	50 €	60 7	0	84
5 -			Stiff tan, reddish tan and gray silty clay w/occasional ferrous stains and nodules	15			•						
			- mottled, red and gray with some organic stains below 7 ft	16			+•			+			96
10-			Stiff red and reddish brown clay w/silt pockets and trace fine sand and organic stains	16				•					
				DEPTH TO BORII						DA	TE: 1	0/20/2	2015

	Bar Consu	tor	L & Wyatt, Inc. Engineers CA0201 H	wy 42	5 Wid	denin	g	.00						
	TYPI	Ξ: ,	Auger	LC	CATIO	ON: A	Appro	ox Sta	39+9	1, 18 f	t Lt			
╽ᇈ				ᇤ	5		•	COH	ESION	I, TON	/SQ F	Т		\o
H, FT	30L	LES		PER	₹ V J FT	0.	.2 0).4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/	ASTIC IMIT		W	ATER NTENT		LIQL LIM	ΪĎ	- No. 2
			SURF. EL: 155.0	BLC	5		+	— — – 20		●		+	70	1
			Dense gray and tan fine sandy silt, slightly clayey (fill) - with fine to coarse gravel to 2 ft	50/10		•	•	++						69
- 5		<u></u>	Medium dense tan and gray fine sandy silt, slightly clayey w/trace organics	17			•							
				22			•							
- 10 -			Stiff reddish brown clay, slightly blocky w/gray and tan silt pockets and seams	19				•						
15														
15	COMP DATE			 EPTH							DA	TE: 9)/9/201	5

	Consu	lting	Engineers CA0201 H Ashley C										
	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Approx S	Sta 49 [.]	+27, 33	3 ft Lt			
١.				ᇤ	F		CC	HESI	ON, TO	ON/SQ) FT		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W	0.	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYM	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC IMIT +	C	WATER ONTEN	R NT 		IQUID LIMIT	
			SURF. EL: 150.7	<u> </u>		1	0 20	30	40	50	60	70	
			Very stiff light tan, tan and reddish tan silty clay w/silt pockets and seams, ferrous stains and nodules and organic inclusions, very dry	37			•						
				44		•	#	 					93
- 5		<u> </u>	- hard below 4 ft	50/7"	,								
			Very stiff red and reddish brown clay w/trace silt, slightly slickensided and some ferrous and organic stains	39								+	99
- 10			Very stiff reddish brown and reddish tan silty clay w/organic stains	32			•						
3-11-16	 												
LGBNEW 15-104_R LOGS.GPJ 8-11-16													
15 15				EPTH T BORII							DATE	: 10/	20/2015

	T) (D)	_	Ashley Co					0.	00.00					
	TYPI	E: T	Auger		CATIO	ON:	Approx							
_	١.	(0		FT	¥_		(ESION	I, TON	/SQ F	Т		%
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	0	.2 0.	4	0.6	0.8	1.0	I.2 1	.4 I	200 %
DEPTH,	N X	AM	DESCRIPTION OF MATERIAL	MS	IT D	PĻ	ASTIC IMIT		WA	ATER NTENT		LIQL LIM	ΪĎ	8
		0)	SURF. EL: 147.0	BLC			+			-				_
	Yby		Brown silt w/fine to coarse gravel (fill)			•	0 2	0	30	40	50	50 7	0	
		$\fint \$	(till) Very stiff gray, reddish tan and tan	+										
		$\frac{1}{2}$	Very stiff gray, reddish tan and tan clayey silt, sandy (fill)	25		•	+	+						74
		\mathcal{H}												
		#	Soft tan and brown clavev silt											
		\mathcal{H}	Soft tan and brown clayey silt w/occasional ferrous nodules and stains											
		1	Stallis	6				•						
		A												
			6											
5 -		\mathbb{N}	- firm to stiff below 4.5 ft	10										
		1												
		1	Firm to stiff tan and brown silty clay w/occasional ferrous nodules and											
		\bigvee	stains	10										
		\mathbb{N}		10										
			- stiff with fine sandy silt pockets below 8 ft											
		1	below 8 ft											
				15				•						
10 -		\mathcal{H}		+							-			
	<u> </u> 													
15	СОМІ	PLE	TION DEPTH: 10.0 ft DI	PTH	TO WA	TER			-1	1	1	1	1	

	Consu	lting	Engineers CA0201 I Ashley C											
	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta	70+15	5, 38 ft	Lt			
				ᇤ	L			COHE	SION	, TON/	SQ F	Т		
H, FT	SYMBOL	SJ-	DESCRIPTION OF MATERIAL	PER	RY W U FT	0.	.2 ().4 (0.6	0.8 1	.0 1	.2 1	.4 I	200 %
DEPTH,	SYM	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 139.1	BLOWS PER	UNIT DRY WT LB/CU FT		ASTIC IMIT +			TER ITENT		LIQU LIM		- No.
			Stiff tan, reddish tan and gray silty clay w/some silt pockets and ferrous and organic stains	23		1	0 2	# +	4	40 5	60 €	60 7	70	89
			Firm tan, reddish tan and gray silty clay w/trace fine sand and organic inclusions and stains	13			•							94
- 5 -		<u> </u>	Firm red and reddish brown clay w/some silt pockets and trace fine sand, slightly slickensided with organic inclusions and stains	9			'			•)
		1	sand, slightly slickensided with organic inclusions and stains - stiff below 8 ft	11					•					
40		V	our bolow o it	18										
- 10 -														
				DEPTH T						1	DA	TE: 1	0/20/2	2015

	TYPI	<u>≣:</u> 	Auger		CATIO	ON:							
<u> -</u>		က္သ		RFT	₩ T T				SION,)——			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT			.4 0	.6 0.	.8 1	.0 ′	1.2 1	.4
DEP	SYI	SAN		OWS	NIT I	PL/ L	ASTIC IMIT		CON	TER TENT		LIQL LIM	JID IT
			SURF. EL: 132.0	В	⊃	1	0 2	0 3	 30 4	0 5	50	- 	0
	M		Stiff gray and tan clayey silt, sandy (fill)										
	M	\mathbb{N}		21		•	4	-					
			- firm to stiff gray and tan clavey										
		H	 firm to stiff, gray and tan clayey silt with trace fine gravel below 2 ft 										
				10			•						
		1											
	M	$\left \cdot \right $	- soft below 4 ft										
								•					
5 -		\mathbb{N}		4									
			Stiff tan, gray and brown silty clay w/ferrous stains and nodules and										
		\mathbb{N}	some clay partings	11									
		\mathbb{A}											
			Stiff gray tan and reddish tan fine										
			Stiff gray, tan and reddish tan fine sandy clay w/some ferrous nodules and stains										
		4		19			•						
10 -				+									

	Bar Consu	tor	CA0201 Hv Engineers CAbley Co	vy 42	5 Wid	idening
	TYPI	Ξ:	Auger	LC	CATIO	TION: Approx Sta 90+30, 39 ft Lt
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 125.1	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT 0.2 0.4 0.6 0.8 1.0 1.2 1.4 PLASTIC WATER LIQUID LIMIT CONTENT LIMIT 10 20 30 40 50 60 70
		X	Hard light tan and tan silty clay w/silt pockets and seams and some ferrous stains and organic inclusions, very dry	50/6"		• + - + 87
- 5		X	Very stiff tan, reddish tan and gray silty clay, slightly sandy w/silt pockets and ferrous stains	42		
		, Action 1, 1980 1, 19	Stiff brown and tan fine sandy clay w/organic stains	23		
- 10 -			Medium dense tan and reddish tan clayey fine sand w/dark gray sandy lignitic inclusions	29		♣+
1-104 K LOGS.GPJ 8-11-16 T T T T T T T T T T T T T T T T T T T				PTH BORII		VATER Dry DATE: 10/20/2015

	Consu	lting	Engineers CA0201 Hv Ashley Co										
	TYPE	<u>:</u>	Auger	LC	CATIO	ON: /	Approx	Sta 99-	+12, 18	ft Lt			
1.				ե	L		C	OHESI	ON, TO	N/SQ	FT		. 0
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W U FT	0.	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYIV	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT	C	WATER	iT - — — —	LIQI LIM	JID IIT -	- No.
			SURF. EL: 129.9	⊞	_	10	0 20	30	40	50	60	70	
		\bigvee	Very stiff gray and tan silty clay, sandy (fill)	30			• +	•					84
		X	Soft brown and tan clayey silt w/some ferrous noduled and stains	6			•						
- 5		\\		6			•						
		\bigvee	Stiff tan and gray silty clay	15			•						-
			- brown and tan with numerous ferrous nodules and stains below 8 ft	16			•						
- 10													-
LGBNEW 15-104 R LOGS.GPJ 8-11-16													-
15-104 R LOG													
LGBNEV	DATE				TO WA						DATE: 9	9/9/201	15

	_	Ashley Co					<u></u>						
TYPI	E: /	Auger		CATIO	ON: A								
_ .	(0)		F	٨.			COH	ESIO	N, TO	N/SQ	FT		%
SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	SU FI	0.2	! C).4 I	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PLA: LIN	STIC //IT -		CC	VATER ONTEN	T	LIQI LIN	JID 1IT -	No.
	/	SURF. EL: 135.2	Δ.		10	2	20	30	40	50	60	70	
		3 inches: Brown silt w/fine to coarse gravel fill) Stiff gray and tan silty clay, sandy (fill)	18			• +		+					84
		- soft, brown and gray from 2 - 4 ft ∫ Soft brown and tan clayey silt w/ferrous stains	6			•	•						_
5		- stiff below 4.5 ft	20			•							
		Firm gray silty clay w/occasional ferrous nodules and stains	9				•						
		- stiff, reddish tan and gray below 8 ft											
10	$\frac{1}{1}$		18 				•			_	_		
													_
15 COMI DATE				L ΓΟ W <i>A</i> NG: D					1	Г	DATE: 9	2/15/20	115

	Consu	lting	g Engineers CA0201 Hv Ashley Co											
	TYPE	Ξ:	Auger	LC	CATIO	ON:	Appro	x Sta	120+	08, 36	ft Lt			
		(0		F	۲۷.		(COH	ESION	N, TON	I/SQ F	Т		%
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PEF	NY \	0	.2 0).4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		W. COI	ATER NTENT		LIQU LIMI	IID T	- No.
			SURF. EL: 141.9 Very stiff to hard light tan and tan	Δ.		1	0 2	20	30	40	50 6	60 7	0	
		X	Very stiff to hard light tan and tan silty clay w/silt pockets and seams and ferrous stains and organic inclusions, very dry to 2 ft	50/7"		•	+	+						79
		M		24										
		<u> </u>	Very stiff tan and reddish tan silty	31										
- 5		M	Very stiff tan and reddish tan silty clay, sandy w/ferrous and organic stains	30			•	+						76
		M	Stiff tan and reddish tan fine sandy clay w/ferrous and organic stains	19			•							
- 10 -		V	Medium dense reddish tan silty fine sand w/ferrous stains	18										
S.GPJ 8-11-16														
LGBNEW 15-104 R LOGS.GPJ 8-11-16														
C I					TO WA				•		DA	TE: 1	0/20/2	:015

	Bar Consu	tor Ilting	Engineers CA0201 Ashley	Hwy 42	5 Wid	denin	g	UZ						
	TYPI	≣: /	Auger	LC	CATIO	ON: A	Appro	x Sta	130+0	9, 20 f	t Lt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 137.1	BLOWS PER FT	UNIT DRY WT LB/CU FT	0. PL/ Ll	2 0 ASTIC MIT		WA-CON	IER TENT	.0 1	.2 1. LIQU LIMI 1	ID T	- No. 200 %
			Stiff tan clayey silt, slightly sandy (fill)	16		•	<u> </u>	<u> </u>	<u> </u>				<u> </u>	82
			- stiff gray and tan fine sandy clay below 2 ft	16			+ ·	+						67
- 5 -			- very stiff gray and tan silty clay below 4 ft	24			•							
			Very stiff gray and reddish tan fine sandy clay	34			•							
			Very stiff reddish brown clay w/some gray and tan silt pockets and some ferrous stains	25				•						
- 10 -														
15														
15	COMI DATE			DEPTH IN BORII							DA	TE: 9	/4/201	5

	Consu	lting	Engineers CA0201 H										
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx	Sta 13	9+96, 3	39 ft Lt			
١.				ᇤ	F		С	OHESI	ON, TO	ON/SQ	FT		
E	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY W SU FT	0.	2 0.4	1 0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYI	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT +		WATER CONTEN	R NT 	LIC LII	UID VIT +	- No
			SURF. EL: 128.8	<u> </u>	_	10	0 20	30	40	50	60	70	
		V	Stiff to very stiff light tan, tan and reddish tan silty clay w/silt pockets and seams and ferrous stains and organic inclusions	25									
		M	- very stiff, slightly sandy below 2 ft	41			-		#				81
- 5			Dense to hard gray, tan and reddish tan clayey fine sand w/ferrous and organic stains	50/11			•						_
				32			+		+				47
- 10			Dense reddish tan silty fine sand	31		•							
15				EPTH .									
3	DATE	: 10	0-20-15 IN	BORI	NG: D	ry				I	DATE:	10/20/2	2015

	Bar Consu	t O r Iting	Engineers CA0201 Hw Ashley Co	ıy 42	5 Wid	idening
	TYPE	<u>:</u> : /	Auger	LC	CATIO	TION: Approx Sta 149+38, 22 ft Lt
_				F	5	COHESION, TON/SQ FT
, FT	30L	SAMPLES		PER	\ } F∓	0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.7 0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.7 0.2 0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2
DEPTH,	SYMBOL	4MP	DESCRIPTION OF MATERIAL	NSI		S PLASTIC WATER LIQUID 9 LIMIT CONTENT LIMIT 2
🛱	0)	Š	SURF. EL: 131.1	BLOWS PER FT	UNIT DRY WT LB/CU FT	CONTENT LIMIT
		<u> </u>				10 20 30 40 50 60 70
		\forall	Stiff tan and gray silty clay w/silt pockets (fill)			
		X		20		●+ + 83
		Μ				
-						
-		\forall				
-		X		23		
-		Н				
-						
-		\forall				
- 5		X		18		
		Μ				
			- very stiff below 6 ft			
		\forall	very sum below s it			
		X		30		
		/\				
-			Medium dense reddish tan silty fine			
			Medium dense reddish tan silty fine sand (fill)			
		\mathbf{H}				
		X		25		
10-	414141	1		<u></u> -		
-						
-						
-						
<u> </u>						
30						
1-11-8 C40:S90-3 4-11-18 1-19 1-19 1-19 1-19 1-19 1-19 1-1						
15 15	COM		TION DEPTH: 10.0 ft DE	рти -	[[/ATER
Genr	DATE				NG: D	

LOG OF BORING NO. R65 CA0201 Hwy 425 Widening

	Consu	lting	g Engineers CA0201 Ashley	Hwy 4 County										
	TYPI	≣:	Auger	L	OCAT	ION:	Appro	ox Sta	a 160+	27, 31	ft Lt			
1.				ᇤ	F			СОН	ESIO	N, TON	I/SQ F	Γ		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NRY W	<u>-</u>	0.2	0.4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT	PI	LASTIC LIMIT +	; 	W. CO	ATER NTENT		LIQU LIM	IID IT	- No.
			SURF. EL: 123.6	-			10	20	30	40	50 6	0 7	'0 I	
		X	Hard light tan, tan and reddish tan silty clay w/some fine sand pockets, ferrous stains and organ inclusions, very dry	n nic 50/6	6"	(+	- -	-					64
		X		50/6	5"		•							
- 5			Dense reddish brown and tan clayey fine sand w/ferrous and organic stains	40			•	•						
		M M	- reddish brown and reddish tan below 6 ft	32			-10							36
- 10 -		V V		33			•							
11-11-3 K10.635, GED 361-11-18 K10.635, GED 361-11-11-11-11-11-11-11-11-11-11-11-11-1														
15- -15-			TION DEPTH: 10.0 ft 0-20-15	DEPTH IN BOR			<u> </u> R				DA	 .TE: 1	0/20/2	2015

	Consu	ilting	Engineers CA0201 H Ashley C											
	TYPI	≣:	Auger	LC	CATIO	ON:	Appro	x Sta	170+0	00, 17	ft Lt			
		(0)		ㅂ	► .		•	COHE	SION	I, TON	/SQ F	Γ		%
H. H.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	7. F. U.	0	.2 0).4	0.6	0.8 1	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM	BEGGINI FIGHT OF IMPRIENTE	3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CON	ATER NTENT		LIQU LIM	ID T	- No.
	\$00,000		SURF. EL: 122.3	<u> </u>)	1	0 2	20	30	40	50 6	60 7	0	
			Very dense reddish tan fine sand, slightly silty w/fine gravel and organic inclusions, very dry (fill)	50/6'	,	•								12
			Stiff brown and gray silty clay w/ferrous nodules and organic inclusions (fill)	16			•							
- 5			- slightly sandy with fine to coarse gravel below 4 ft	15			4	-	-					87
		V	Soft tan and gray silty clay, slightly sandy w/ferrous nodules and concretions	6			4	• +						89
			- stiff below 8 ft	13				•						
10		11		+										
01-1-0														
1-10 Cd9:Cd9:Cd9: Td9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:C														
15				EPTH BORI			1	1	1	1	DA	TE: 1	0/20/2	2015

	Consu	ton Iting		Hwy 42 County	5 Wid	denin	g	.						
	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta 1	79+9	7, 22	ft Lt			
				F	⊢ .		(COHES	SION,	TON	/SQ F	Γ		9
H, H	SYMBOL	SAMPLES	DECODIDATION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 0	.4 0.	6 0	.8 1	.0 1	.2 1.	.4	No. 200 %
DEPTH,	NX.	AMF	DESCRIPTION OF MATERIAL	WS	IT D	PĻ	ASTIC IMIT		WA	TER TENT		LIQU LIM	ΪĎ	9.
		$\left[\circ \right]$	SURF. EL: 123.9	BLO	S		+) – – –		+		_
		H,	Very stiff to hard tan fine sandy clay (fill)			1	0 2	0 30) 4	0 5	50 6	0 7	0	
		M '	clay (fill)											
		$\backslash\!\!\!\backslash$		50		•	-	┝╌╌╋						68
	1111		Stiff gray clayey silt w/occasional ferrous nodules and stains											
		$\int_{\mathbb{R}^{3}}$	rerrous nodules and stains											
		∭		12										
		.	- firm below 4 ft											
_		M						ullet						
 5 -		1		9										
		П												
		<u> </u>	Very stiff gray and tan silty clay											
		\mathbb{M}		36										
		Δ												
		1												
		M		50										
10-		1												
	_													
	-													
15 A Market														
5														
<u> </u>														
15	COM		TION DEDTH: 40.0 #	DEDTI	TO 14/	\								
3	DATE		TION DEPTH: 10.0 ft -15-15	DEPTH IN BORI							DA	TE: 9	/15/20	15

Grubbs, Hoskyn, Barton & Wyatt, Inc. Consulting Engineers

	Bar Consu	tor	A & Wyatt, Inc. Engineers CA0201 H	wy 42	5 Wid	denin	g	.00						
	T) (D)	_						0.1	100	. 00 . 46				
	TYPI	=: 	Auger			JN:				+89, 19	N/SQ F	т		
ᇤ		ဂ္ဂ		ᅜ	T.			0.4 0.4	0.6	0.8			.4	% (
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPE	CUF			1					1	- No. 200 %
	S	SAI		BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT	; 	CC	ATER	Г — — —	LIQU LIM	JID IT •	2
	X # 9 6 1		SURF. EL: 122.8	一面		1	10	20	30	40	50	60 7	70	
	-	\parallel	Medium dense gray and tan fine sandy silt (fill)											
	-	X		19		•								
		Н												
			Soft gray and tan silty clay											
		\mathbf{M}										+		
		\mathbb{N}		4			+	- -	- +					88
		1	Firm gray and tan silty clay w/some silt pockets											
_		M	siit pockets	7			+	-	-	- -				92
5		\mathbb{N}		/										
			- stiff with occasional ferrous nodules and stains below 6 ft											
		\mathbb{N}		17										
		1												
		\mathbf{H}												
				15			•	,						
10		\mathcal{H}		+								+		
2														
5														
15 15 Market Mar	COM41		TION DEDTIL: 40.0 #	- DTU	[\								
1	DATE			EPTH [·] BORI							D.	ATE: 9	9/3/201	5

	Consu	lting		Hwy 42 County,										
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Appro	x Sta	199+	54, 31	ft Lt			
				ᇤ	L		(COH	ESION	I, TON	I/SQ F	Т		
H, FI	BOL	J'ES	DECODIDION OF MATERIAL	PER	RY V	0.	.2 0).4 	0.6	0.8	1.0	1.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 120.9	BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC IMIT		CON	ATER NTENT		LIQL LIM	JID IT	- No. 2
		X	Hard light tan and tan silty clay w/silt pockets, ferrous stains and organic inclusions, very dry to 2 f			•	0 2	1	30	40	50	60 7	70	78
			Very stiff gray, reddish tan and ta silty clay, slightly sandy w/silt seams	an 28			•							
5 -			- very stiff to hard below 4 ft	50/11			•		+					86
		- Tolling - County -	Very stiff reddish tan and tan fine sandy clay w/ferrous stains and nodules and organic stains	28										
			- stiff below 8 ft											
10 -				16			•							
			TION DEPTH: 10.0 ft 0-20-15	DEPTH IN BORII							D	 ATE: 1	0/20/2	2015

	Bar Consu	tor	n & Wyatt, Inc. CA0201 Engineers CA9201 Ashley	Hwy 42	5 Wid	/idening
	TYPI	≣:	Auger	LC	CATIO	TION: Approx Sta 210+31, 19 ft Lt
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 126.9	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT 0.2 0.4 0.6 0.8 1.0 1.2 1.4 PLASTIC WATER LIQUID LIMIT CONTENT LIMIT 10 20 30 40 50 60 70
			Very stiff gray and brown fine sandy clay	31		• + - + 67
			Soft to firm gray and tan clayey sil	7		•
- 5 -			Soft gray and tan silty clay w/some silt pockets and some ferrous nodules and stains	e 6		
			- very stiff below 6 ft	29		•
			Medium dense tan and reddish tal clayey fine sand w/some ferrous nodules and stains	n 27		•
- 10 -	-					
	-					
	COMI		TION DEPTH: 10.0 ft -3-15	DEPTH IN BORI		

LOG OF BORING NO. R71 CA0201 Hwy 425 Widening

	Consu	lting	p Engineers CA0201 HV Ashley Co											
	TYPI	<u>:</u>	Auger	LC	CATIO	ON:	Appro	x Sta	220+	17, 40	ft Lt			
1_				ᇤ	 		•	COH	ESION	I, TON	/SQ F	Γ		\ \ •
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.	2 0).4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM	DESCRIPTION OF WATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLA Li	ASTIC MIT		W. OOI	ATER NTENT		LIQU LIM	IID IT	No.
		_	SURF. EL: 117.8	B	<u> </u>	1	0 2	20	30	40	50 6	60 7	0	
		M	Very stiff to hard light tan and tan silty clay w/silt pockets and seams, some ferrous stains and organic inclusions, very dry to 2 ft	50/11	•	•	+	. — — .						88
			- slightly sandy with some ferrous nodules below 2 ft	50			•							
- 5		M	Stiff gray, tan and reddish tan silty clay, slightly sandy w/ferrous stains and nodules and organic stains	23			•							
		M M	- with fine sand pockets and seams and some lignite inclusions below 6 ft	21			- -	+						71
- 10			Stiff gray and reddish tan fine sandy clay	23			•							
11-16														
LGBNEW 15-104_R LOGS.GPJ 8-11-16														
151 15- 15- 16- 16- 16- 16- 16- 16- 16- 16- 16- 16				PTH BORI							DA	TE: 1	0/19/2	2015

LOGOF BORING NO. R72 CA0201 Hwy 425 Widening

	// Consu	lting	Engineers CA0201 Hv Ashley Co				9							
	TYPE	Ξ:	Auger	LC	CATIO	ON: A	Appro	x Sta	230+0	8, 19 ·	ft Lt			
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 122.3	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.: PLA LII	2 0 STIC MIT	.4 0	WA CON	TER TENT	/SQ F7	LIQU LIMI	ID T	- No. 200 %
			Medium dense brown clayey fine to coarse gravel (fill)	26		•		+	+					23
			Firm reddish tan and tan clayey silt (fill) - slightly sandy from 2 - 4 ft	9			•							
- 5			Soft tan and gray silty clay w/occasional ferrous nodules and stains	5			•	-						92
			Firm brown and tan silty clay - soft below 8 ft	8				•						
- 10				6				•						
91-11-8 C-5-3-3 T-11-6 M-SING-1 M-SING-			von chiff bolow 4.4 ft											
12-104 Landa		\bigvee	- very stiff below 14 ft	31				•						
15 15	COMP				TO WA						DA	TE: 9	/15/20)15

	Consu	lting	Engineers CA0201 Ashley	1 Hwy 42 / County				-						
	TYPI	Ξ: .	Auger	L	OCATI	ON:	Appro	x Sta	240+5	56, 20 1	ft Lt			ı
Ι.				ᇤ	_			COHE	SION	, TON	/SQ F	Γ		
Η̈́.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	AYN V FT	0	.2 ().4 ().6 (0.8 1	.0 1	.2 1	.4	200 %
DEPTH, FT	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CON	ATER ITENT		LIQU LIMI	IID T	- No.
			SURF. EL: 121.3	-		1	-	20 ;	30 4	40 5	50 6	0 7	0	
			Clayey fine sand w/fine to coarse gravel (fill)	;		•								
			Stiff gray and brown silty clay, sandy	14			•+	-+						75
			- firm below 2 ft											
		X		7			•							
- 5 -			- soft reddish tan, gray and brown silty clay w/some silt pockets and some ferrous stains below 4 ft	n i 4				•						
		V V	Soft tan and gray silty clay w/decayed organics	6										
			Firm tan and gray alay w/ailt											
- 10 -			Firm tan and gray clay w/silt pockets	8				•						
10-														
	COMP DATE		TION DEPTH: 10.0 ft -3-15	DEPTH IN BOR							DA	TE: 9	/3/201	5

	Consu	lting	CA0201 Hv Engineers CAbley Co	vy 42	5 Wid	idening
	TYPI	Ξ: μ	Auger	LC	CATIO	ION: Approx Sta 250+51, 20 ft Lt
1_				ㅂ	5	COHESION, TON/SQ FT
±	SYMBOL	SAMPLES		BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.0 0.0 0.8 1.0 0.2 1.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
DEPTH,	J. W.	AMF	DESCRIPTION OF MATERIAL	WS		5 PLASTIC WATER LIQUID 9 LIMIT CONTENT LIMIT 2
		တ	SURF. EL: 123.0	BLO	5	LIMIT CONTENT LIMIT
	PH	K	3 inches: Brown silt w/fine to			10 20 30 40 50 60 70
		M	coarse gravel Very stiff gray and tan silty clay.			
		X	Very stiff gray and tan silty clay, sandy (fill)	24		♦ + - +
		H				
		1	- loose, slightly clayey from 2 - 4 ft			
		\bigvee				
		X		7		
		Н				
			- soft, tan and brown clayey silt below 4 ft			
		\bigvee	below 4 ft			
5		X		5		
		Н				
		M				
		X		5		
		Н				
			Very stiff tan and gray clayey silt w/some ferrous nodules and stains			
			w/some terrous nodules and stains			
		M				
		Ň		40		
10		\vdash		 -		
	1					
2]					
5						
5						
15 15 A 1						
15						ATER DATE: 0/45/2045
3	DATE	: 9-	-15-15 IN	ROKI	NG: D	Dry DATE: 9/15/2015

LOG OF BORING NO. R75 CA0201 Hwy 425 Widening

	Consu	lting	Engineers CA0201 F Ashley C										
	TYPE	Ē: .	Auger	LC	CATIO	ON: A	Approx	Sta 26	0+49, 3	34 ft Lt			
1.				ե	 		C	OHESI	ON, TO	ON/SQ	FT		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY W	0.:	2 0.4	0.6	0.8	1.0	1.2 1	.4	200 %
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT +		WATER	R NT 	LIQU LIM	JID IT •	- No.
			SURF. EL: 121.7	-	_	10	0 20	30	40	50	60	70	
		M	Very stiff light tan, tan and reddish tan silty clay w/some silt pockets and seams and ferrous nodules, very dry	50/10		•	+	+					69
		X		50/9'		•	•						
- 5			Dense reddish brown clayey fine sand w/organic stains	45			•						
		Н	- reddish tan and reddish brown with ferrous organic stains below 6 ft	34			-		 				49
		M	- tan and reddish tan below 8 ft										
10				50			•						
	_												
1 8-11-16													
R LOGS.GF													
1-104 K LOGS, GPJ 8-11-16 1-20				DEPTH TO BORI							OATE: 1	0/19/2	2015

	Consu	LO r Iting	Engineers CA0201 How Ashley Co	wy 42	5 Wid	denin	9							
	TYPE	Ξ: /	Auger	LC	CATIO	ON: /	Appro	x Sta	270+5	54, 19	ft Lt			
١.				F	 		(SION	, TON	/SQ F	Γ		
[.	٦	SAMPLES		ER	\ <u>``</u> \	0.	2 0	.4 (),6 (),8 1	.0 1	.2 1	.4	No. 200 %
DEPTH,	SYMBOL	MP	DESCRIPTION OF MATERIAL	S F	H S	DI A	CTIC		10/0	TED	1	шоп	ווח	5. 20
H	S	SA		BLOWS PER FT	UNIT DRY WT LB/CU FT	LI	STIC MIT		CON	TER		LIQU LIMI	ΪΤ	ž
			SURF. EL: 132.4	B		1) 2	20	30 4	40 :	50 6	60 7	0	
	Ш		Very stiff gray and tan clayey silt, sandy - with trace fine to coarse gravel to 1.5 ft											
	ИИ		- with trace fine to coarse gravel to	l										
		∭	1.5 π	31		9	-	- +						79
	Ш	Н												
	Ш]	- stiff dense below 3 ft											
	M	Н												
	4111	1		15			•							
		Δ												
	Ш	1												
	Ш													
_		M												
- 5 -	Ш	Ň		14										
	Ш	Н												
	1111													
		Н												
	Ш	1		19										
	Ш	1												
	Ш]												
	W	₩.	- gray and tan fine sandy clay below 9 ft											
		ĮXI	bělow 9 ft	19			•							
10 -	ии	4		+						-	-			
	-													
L														
	1													
	1													
	-													
-	-													
<u> </u>														
15														
				EPTH T							D.4	TE: ^	121204	5
-15	DATE	. 9	->-10 IN	BORII	NG: D	чy					DA	TE: 9	/ <i>3</i> /201	5

LOGOF BORING NO. R77 CA0201 Hwy 425 Widening

DESCRIPTION OF MATERIAL A	.4 .00 SID IT .
DESCRIPTION OF MATERIAL A	
10 20 30 40 50 60 7	'
Hard stiff light tan and tan silty clay w/some silt pockets and seams and ferrous stains and organic inclusions	-
	72
- with some ferrous nodules below 2 ft	
- 5 - light tan, tan and gray below 4 ft	
Very stiff tan, reddish tan and gray silty clay, slightly sandy w/ferrous stains and nodules	89
Very stiff reddish brown and red clay, slickensided with organic stains	
COMPLETION DEPTH: 10.0 ft DEPTH TO WATER DATE: 10-19-15 IN BORING: Dry DATE: 1	

	Consu	lting	Engineers CA0201 Ashley	Hwy 42 County									
	TYPI	<u>:</u> :	Auger	L	OCATIO	ON:	Approx	Sta 28	9+95, 7	7 ft Rt			
<u> </u>				ᇤ	5		C	OHESI	ON, TO	DN/SQ	FT		\ \o
H. H.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY V	0	.2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT +		WATER CONTEN	₹ NT 	LIQI LIN	UID 11T	S S
			9 inches: Brown silt w/fine to	В		1	0 20	30	40	50	60	70	
		2	coarse gravel (fill)			•							
		X	Stiff reddish tan and tan silty clay sandy (fill)	13			•+		+				91
		M	Firm brown and gray silty clay w/occasional ferrous nodules and stains	9			+	-	+				82
- 5		V M	- soft from 4 - 6 ft - with silt pockets below 4 ft - stiff below 4 ft	6				•					_
		M		15			•	,					_
10				21			•	,					
	-												
15 Topogo Anna Anna Anna Anna Anna Anna Anna Ann													-
15			TION DEPTH: 10.0 ft -15-15	DEPTH IN BOR							DATE:	9/15/20	015

LOG OF BORING NO. R79 CA0201 Hwy 425 Widening

	// Consu	lting	Engineers CA0201 Hv Ashley Co			
	TYPE	Ξ:	Auger	LC	CATIO	ON: Approx Sta 299+94, 9 ft Lt
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 137.8	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT 0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
			Stiff light tan, tan and reddish tan silty clay w/silt pockets and seams and trace organics - very dry to 2 ft	21		• + + 89
		Ш	- organic stains below 2 ft - very stiff below 2.5 ft	29		•
- 5		M	Stiff tan and reddish tan clay w/ferrous stains and nodules and organic stains	14		+ - + 94
		M	Stiff red clay w/organic stains	12		•
- 10			Medium dense reddish tan silty fine sand	28		35
10						
1-108 K LOGS/GPJ 8-11-18 T LOGS/						
15 15 15 15 15 15 15 15 15 15 15 15 15 1					TO WA	

	Bar Consu	t O N Iting	n & Wyatt, Inc. CA0201 F Engineers CA0201 F Ashley C	lwy 42	5 Wid	denin	g	.					
	TYPE	<u>:</u> /	Auger	LC	CATIO	ON:	Approx	Sta 30	9+64, 19	9 ft Lt			
l ∟				ㅂ	 		C	OHESI	ON, TO	N/SQ F	T		Q.
±	30L	SAMPLES		BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 0.4	4 0.6	0.8	1.0	1.2 1	.4	No. 200 %
DEPTH,	SYMBOL	AMF	DESCRIPTION OF MATERIAL	WS		PĻĄ	ASTIC IMIT	,	WATER CONTEN	_	LIQL LIM	ΊĎ	. S
		ြ	SURF. EL: 133.9	BLO	S		+				+	•	-
			Stiff gray and tan silty clay, slightly sandy (fill)			1	0 20	30	40	50	60 7	0	
		M :	sandy (fill)										
		X		21		•	†	#					81
		Н											
			Firm gray and tan clayey silty w/some ferrous stains and nodules								+		
		₩,	w/some ferrous stains and nodules										
		X		7				•					
			Firm gray and tan silty clay w/some	;									
		M	Firm gray and tan silty clay w/some ferrous nodules and stains and silt pockets					•					
5 -		X		7									
		Н											
		.	- stiff below 6 ft										
		M											
		X		19			1						
		Н											
		M											
		X		11									
10		+		+							+		
	-												
	-												
	-										+		
5													
5	-												
15	-												
15				DEPTH						1		I	I
ā	DATE	: 9-	-3-15 II	N BORI	NG: D	ry				D.	ATE: 9	/3/201	5

	Bar Consu	tor Iting	n & Wyatt, Inc. CA0201 Engineers CA0201 Ashley		5 Wid	denin	g	(01						
	TYPI	Ξ: ,	Auger	LC	CATIO	ON:	Appro	ox Sta	a 319+	97, 28	ft Lt			
				F	Т			COF	IESION	I, TON	/SQ F	Т		_
<u>+</u>	2 Z	SAMPLES		BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2	0.4	0.6	0.8 1	1.0 1	1.2 1	.4	No. 200 %
DEPTH,	SYMBOL	MP	DESCRIPTION OF MATERIAL	VS F	F 5	PI A	ASTIC		\\/	ATER	•	LIOL	חוו	0. 2(
	S	S/	OUDE EL 404.5	LO	ls =	Ľ	ASTIC IMIT +		CO1	ATER NTENT		LIQU LIM 	İŤ	Z
	nn	1	SURF. EL: 131.5	— Н		1	0	20	30	40	50 6	60 7	0	
			Stiff light tan and tan clayey silt w/ferrous stains and organic inclusions	18			•	++						82
		V A	Stiff tan, reddish tan and gray silt clay, slightly sandy w/silt pockets and ferrous stains and nodules	y 11										
- 5 -		M M		16			+	-	-+					91
			- with lignite inclusions below 8 ft	17				•						
- 10 -				22				•						
15	COM	PIF	TION DEPTH: 10.0 ft	DEPTH 1	TO W	ATFR								
			0-16-15	IN BORII							DA	ATE: 1	0/16/2	015

	Bar Consu	tor	n & Wyatt, Inc. CA0201 Bengineers CA0201 Ashley		5 Wid	denin	g	_					
	TYPE	Ξ:	Auger	LC	CATIO	ON: A	Approx S	Sta 329	+74, 18	ft Lt			
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 144.8	BLOWS PER FT	UNIT DRY WT LB/CU FT	0. PLA LI	2 0.4 ASTIC MIT +	0.6	/ATER ONTENT	I.0 1	2 1. LIQU LIMI + 0 7	ID T	- No. 200 %
			Reddish brown fine sandy w/fine t	to		•							
			Reddish brown fine sandy w/fine t coarse gravel (fill) Stiff gray and tan silty clay w/ferrous stains (fill)	12			•+	-+					80
		M	Soft gray and tan silty clay w/silt pockets and seams and ferrous nodules and stains	5			•						
- 5			- firm to stiff below 6 ft	5				•					
			- IIIII to still below o it	11			•						
10				12			•						
	-												
01-11-8 -11-18 -													
1-11-8 (4-0.65) (4-1) 4 FOLGE (4-1) (4-1) 4 FOLGE (4-1) (4-1) 4 FOLGE (4-1) (4			TION DEPTH: 10.0 ft	DEPTH									
<u>n</u>	DATE	: 9	-3-15	IN BORI	NG: D	ry				DA	TE: 9	/3/201	5

	Barl Consu	con & Wyatt, In ting Engineers		vy 42	5 Wid	denin	g	.03						
			Ashley Co											
	TYPE	: Auger				ON: /								
		တ္		BLOWS PER FT	UNIT DRY WT LB/CU FT				(\sim	/SQ F			%
	SYMBOL	SHAMPLES DESCRIE	PTION OF MATERIAL	PE	NRY SU F	0. I	2 0	.4 0	0.6 0	0.8 1	1.0 1	.2 1.	.4	200 %
DEPTH,	SYI	SAM		SMC	NT C	PL <i>P</i> LI	ASTIC MIT		WA CON	TER ITENT		LIQU LIMI	ID T	- No.
-		SURF. EL: 19	51.0	BL(5	10	+	 20		-	- — — — 50 6	+ 50 7		'
		Very stiff ligh w/silt pockets	t tan and tan silty clay and ferrous stains	32		•	-	┣						88
		Stiff tan and i	reddish tan silty clay nic and ferrous stains	13			•							
- 5 -		V V		12			+ -	•		+				90
				17				•						
		Stiff red and	gray clay, mottled											
		- red and gra 8 ft	y, less mottled below											
10		<u></u>		18					•					
11-16														
8 G														
SO	-													
104 R														
LGBNEW 15-104_R LOGS.GPJ 8-11-16		PLETION DEPTH: 10-16-15		 EPTH 1 BORIN							DA	TE: 1	0/16/2	.015

	Bar	tor Iting	& Wyatt, Inc. Edg OF B	wy 42	5 Wid	denin	g	.04						
			Ashley C	ounty,	Arka	แรสร								
	TYPE	<u>:</u> : ,	Auger	LC	CATIO	ON:								ı
				F	► .		(COHE	SION	, TON	I/SQ F	Γ		%
H, FI	SYMBOL	SAMPLES	DECODIDITION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 0	.4 0).6 (0.8	1.0 1	.2 1	.4	- No. 200 %
DEPTH,	NXS	AMF	DESCRIPTION OF MATERIAL	WS	IT D	PĻ/	ASTIC IMIT		WA ACC	TER ITENT		LIQU LIMI	<u>I</u> D	9.0
_			SURF. EL: 149.6	BLC	2		+			-		+		
	FOH	Н				1	0 2	20 3	30 4	40	50 6	0 7	0	
		$\downarrow \uparrow$	Brown and reddish tan silty fine sand w/fine to coarse gravel (fill) Stiff brown and tan silty clay w/trace fine sand (fill)											
		X	w/trace fine sand (fill)	18			•+			+				92
		H												
	hi	\vdash	Firm reddish tan and tan clayey silt											
		Н	, ,											
		ĮΧ		8			•							
-		Н												
		Н					_							
5	4111	X		9										
	-1111	μ												
	Ш		Firm top grouped and alou											
			Firm tan, gray and red clay											
		M		9			+		-	 	├ - +			
		Δ					•							
			- stiff, blocky below 8 ft											
		M		14										
10		M		14										
10														
	1													
	1													
	1													
	1													
<u> </u>	1													
6	1													
<u> </u>	1													
	1													
<u> </u>	1													
1-10 Cd9:Cd9:Cd9: Td9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:Cd9:C	COME	∐ PIF	TION DEPTH: 10.0 ft D	_ EPTH ⁻	L LO M4	TFR				1				<u> </u>
D D D D D D D D D D D D D D D D D D D	DATE			BORII							DA	TE: 9	/15/20)15

	Consu	ilting	n & Wyatt, Inc. CA0201 Engineers CA0201 Ashley	Hwy 4: County									
	TYPE	≣: .	Auger	L	OCATI	ON:		Sta 360					
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL.	ASTIC	1	-0 $-$	1.0		IID T	- No. 200 %
	Ypy		SURF. EL: 138.4 Medium dense brown silt w/fine t coarse gravel (fill)	-	 	,	0 20	30	40	50	60 7	0	
		M	coarse gravel (fill) - very stiff brown and tan silty cla sandy below 1 ft	33		•	• +		+				89
			Soft tan clayey silt w/occasional ferrous nodules and stains	5			•						
- 5 -			stiff below 4 ft	11			•	•					
			Stiff tan silty clay w/occasional ferrous nodules and stains	11			•						
- 10 -				13			•						
15													
15			TION DEPTH: 10.0 ft -15-15	DEPTH IN BOR						D/	ATF: Q	/15/20	15

	Bar Consu	tor Iting	A & Wyatt, Inc. CA0201 Hy Ashley Co	vy 42	5 Wid	denin	g	.00						
	TVDI		·					v Cto	260 . 5	2 10	£4 4			
	IYPE	=:	Auger		CATIO	JIN:					/SQ F			
ᇤ		ဂ္ဂ		BLOWS PER FT	UNIT DRY WT LB/CU FT	,			(\supset —			.4	%
Ŧ	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PE	PR-S		l	1.4	1	1	.0 1		i	200 %
DEPTH,	SXI	SAI) NO	NH LB/	PL/ L	ASTIC IMIT		WA CON	TER		LIQU LIM	IID T	- No.
			SURF. EL: 134.9	В		1	+ 0 2	 20 3	— — - 30	● 40	50 6	 	0	'
			Reddish tan fine sand w/fine to coarse gravel (fill)											
		M	coarse gravel (fill) Stiff gray and tan silty clay (fill)	13			•-	╇						80
		V	Soft gray and tan silty clay w/some silt pockets and ferrous stains	5				+•	+					86
- 5		X	- stiff below 6 ft	6										
		V V	- Suit below o it	16				•						
		V	Stiff gray and reddish brown clay w/some ferrous stains, occasional fine sand pockets and trace organic inclusions	12				•						
- 10		7\												
	_													
al -l l-8	-													
1-1-19 K LOGS:GPJ 8-11-19 T 1-19 T 1-	-													
15 15	COMP				TO WA						DA	TE: 9	/3/201	5

LOGOF BORING NO. R87 CA0201 Hwy 425 Widening

	Consu	lting	Engineers	CA0201 Hw Ashley Co											
	TYPE	Ξ:	Auger		LO	CATIO	ON:	Appro	x Sta	379+7	'4, 41	ft Lt			
					FT	Т			COHE	SION	, TON	I/SQ F	Γ		. 0
H, H	BOL	ار کار	DECODIDEION OF MA	TEDIAL	PER	RY W U FT	0.	.2 ().4 (0.6).8 	1.0 1	.2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MA	TERIAL	3LOWS PER	UNIT DRY WT LB/CU FT	PL/ Li	ASTIC		WA CON	TER TENT		LIQU LIMI	ID T	- No. 2
			SURF. EL: 126.2	o cilty clay	В		1	0 2	20	30 4	40 	50 6	0 7	0	
		M	Very stiff light tan and tai w/silt pockets and ferrou and organic inclusions ai	s stains nd rootlets	50		•								
		M	Very stiff brown, reddish gray silty clay w/ferrous r and stains	tan and nodules	50/9"			>+			•				67
- 5 -					32			•							
		M M	Medium dense reddish ta gray fine clayey fine sand stains and lignitic inclusion	an and d w/ferrous ons	24			-		+					37
	<i>/. /. /</i>		Medium dense tan and refine sand	eddish tan											
10 -					26 		•								
	-														
5	_														
15															
15			TION DEPTH: 10.0 ft 0-16-15			O WA		ı	1	1	ı	DA	TE: 1	0/16/2	:015

	Consu	lting	Engineers CA0201 H Ashley C)						
	TYPI	≣: .	Auger	LC	CATIO	ON: A	Approx	Sta 390	0+03, 1	9 ft Lt			
Ι.				ᇤ	_		C	OHESI	OT, NC	N/SQ F	Т		
±	SYMBOL	PLES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.2	2 0.4	0.6	0.8	1.0	1.2 1	.4 I	200 %
DEPTH, FT	SYM	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 126.9	3LOWS PER	UNIT DRY WT LB/CU FT	-	STIC MIT		WATER ONTEN		LIQU LIM		- No.
	Yhy	H	Medium dense brown silt w/fine to			10	20	30	40	50	60 7	0	
		Щ.	coarse gravel (fill)	_									
		∭	Dense gray and tan silty clay, sandy (fill)	31		•	+	-#					83
			- firm to stiff, brown and gray clayey silt below 2 ft	10			•						
			Soft brown and gray silty clay										_
- 5 -				4									_
			- very soft, damp below 6 ft - perched water at 6 ft	3				•					
			Very stiff gray clayey silt w/occasional ferrous nodules and stains	25			•						
10	Ш	1		+							-		_
0 -													-
-6 .													
				DEPTH TO BORI			ı		1	D,	ATE: 9	/15/20)15

	Consu	lting	Engineers CA0201 Hv Ashley Co										
	TYPE	Ξ: /	Auger	LC	CATIO	ON: Ap _l	prox S	ta 399+	92, 20 1	ft Lt			
١.				ᇤ	 		COI	HESION	, TON	/SQ F	Т		
±	Z Z	LES		Ä	Υ γ I FT	0.2	0.4	0.6	0.8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLAST LIMI	TIC T	W. COI	ATER NTENT	•	LIQL LIM	JID IT	- No. 2
			SURF. EL: 127.3	В	⊃	10	20	30	40 5	50 6	- 30 7	70	
		N ₁	Loose to medium dense brown silt w/fine to coarse gravel (fill) Stiff gray and brown silty clay, sandy (fill)	22		•	•	-+					90
		X		12			•						
- 5			- firm below 6 ft	14			•						
				7				•					
- 10 -			Soft brown and gray clayey silt w/occasional ferrous nodules and stains	5				•					
- 15			Stiff gray silty clay w/some ferrous nodules and stains	22			•						
13	- - - -												
- 20 -													
	-												
0.5	-												
- 25 -													
	COMP				TO WA				1	DA	TE: 9)/14/20)15

T	YPE:	Auger		CATIO	ON:								_
DЕРТН, FT	SYMBOL SAMPI FS	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT).4 	0.6	N, TO 0.8 ATER NTEN	N/SQ 1.0 Γ	1.2 LIC	1.4 DUID MIT	
		SURF. EL: 126.7	B	5		+		30	40	50	60	+ 70	
		4 inches: Brown silt w/fine to coarse gravel (fill) Stiff reddish tan and tan clayey silt, sandy (fill)	17		•	+	+ +						
			20			•							
5		- very stiff below 4.5 ft	31			•							
		Stiff reddish tan, gray, brown and tan clayey silt w/some ferrous nodules and stains	20				•						
10		Dense gray and tan fine sandy silt, slightly clayey	42			•							

LOGOF BORING NO. R91 CA0201 Hwy 425 Widening

Cons	ulting		201 Hwy ley Coun				ļ							
TYP	E: ,	Auger		LO	CATIC	ON: A	ppro	x Sta	419+8	34, 39	ft Lt			
			t	_	⊢		(COHE	SION	, TON	I/SQ F	Т		
SYMBOL	SAMPLES	DESCRIPTION OF MATERIA	, (무 유	RY U FT	0.2	2 0	.4 0).6 (0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SAME	DESCRIPTION OF MATERIAL	L	BLOWS PER	UNIT DRY WT LB/CU FT	PLA: LIN	STIC		WA	TER		LIQU LIM	JID IT	- No.
		SURF. EL: 124.7	-	គ	ر	10	2	20 3	30 4	40	50 6	30 7	0	
		Very stiff to hard light tan and t silty clay w/silt pockets and sea and ferrous stains and organic inclusions, very dry to 2 ft	tan ams 50/	/11"		•	+		+					91
		- hard below 2 ft	50)/5"		•								
- 5 -	X)/6"		•								
		Hard tan and gray silty clay, sli sandy w/numerous silt pockets seams	ightly s and 50)/6")	4	-					89
			50	0/6"										
- 10 -														
		TION DEPTH: 9.5 ft 0-16-15	DEPT IN BO					l	I	1	DA	TE: 1	0/16/2	2015

	Bar Consu	tor	CA0201 Hv Ashley Co	vy 42	5 Wid	denin	g	JL						
	TYPI	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta	429+7	'9, 21	ft Lt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 130.0	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	2 0 ASTIC		WA CON	TER TENT		.2 1. LIQU LIMI	•	- No. 200 %
			3 inches: Loose tan silt w/fine to coarse gravel (fill) Very stiff tan fine sandy clay (fill)	28		•	-		30 4	10 5	50 6	60 7	0	62
			Stiff reddish tan, tan and gray silty clay w/some ferrous stains	14			•	-	-+					90
- 5 -			Stiff gray and tan silty clay	22										
			- very stiff below 6 ft	30			•							
			Stiff brown and gray clayey silt w/occasional ferrous nodules and stains	21			•							
- 10 -	-													
	-													
11-6 C-0.000 A FOLGO MARION TO THE TOTAL MARION THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION TO THE TOTAL MARION T	COMP				TO WA						DA	TF: 9)/14/20	15

LOG OF BORING NO. R93 CA0201 Hwy 425 Widening

	Consu	lting	Engineers CA0201 Ashley	Hwy 42 County	5 Wid Arka	dening Insas	g							
	TYPI	Ξ: /	Auger	LC	CATIO	ON: /	Appro	x Sta	439+8	33, 34	ft Lt			
Ι.					F		(COHE	SION	, TON	/SQ F	Γ		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.	2 0	.4	0.6	0.8 1	1.0 1	.2 1	.4	200 %
DEPTH,	SYIV	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT		CON	TER		LIQL LIM	JID IT	No.
			SURF. EL: 127.1	-	ر ا	10	0 2	20	30 4	40	50 6	60 7	0	
			Very stiff tan and reddish tan silty clay w/ferrous stains and organic inclusions	26		•		+ ·	+					88
			- stiff below 2 ft	19			•							-
- 5 -			- very stiff with some ferrous nodules below 4 ft	35			•							
			- slightly sandy below 6 ft	35			(•						
			Vone stiff ton fine conducilt											_
		Н	Very stiff tan fine sandy silt	50/7	,		•		-NON	I-PLAS	TIC-			76
10														
ω	_													_
0 8-11-1 1-1-1														
LOGS: GF														
-104 R1														
LGBNEW 15-104 R LOGS.GPJ 8-11-16			TION DEPTH: 9.0 ft 0-15-15	DEPTH IN BORI				l			DA	TE: 1	0/15/2	2015

	Bar Consu	tor	g Engineers CA0201	Hwy 42 County	5 Wid	denin	g	•					
	TYPI	Ξ:	Auger	LC	CATIO	ON: A	Approx	Sta 449)+94, 22	ft Lt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 132.4	BLOWS PER FT	UNIT DRY WT LB/CU FT	0. PLA LI	2 0.4 ASTIC MIT +	0.6	ON, TON 0.8 VATER ONTENT 40	1.0	LIQU LIMI	.4 JID IT •	- No. 200 %
			Medium dense tan silt w/fine to coarse gravel (fill) - very stiff gray and tan clayey silt sandy with occasional fine gravel below 0.5 ft	31		•	+	+	40	30	30 7		85
			Soft tan, reddish tan and gray clayey silt w/some ferrous nodules and stains	S 4				•					
- 5 -			Firm to stiff reddish tan and gray silty clay w/occasional ferrous nodules and stains	10)					
			Very stiff tan clayey silt	34			•						
			Very stiff tan silty clay w/silt pockets	27			•						
- 10 -													
			TION DEPTH: 10.0 ft -14-15	DEPTH IN BORI						DA	ATE: 9)/14/20)15

	Consu	lting	Engineers CA0201 H Ashley C											
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx	Sta 4	59+88	, 31 ft	Lt			
_				ᇤ	5		C	OHES	ION, 7	ΓON/S	Q FT	-		\o
H,	BOL	LES	DECORUPTION OF MATERIAL	PER	RY V	0.	2 0.4	4 0.6	0.8	1.0	1.	2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC MIT +		WATE CONTE	ER ENT		LIQU LIMI	ID T	- No. 2
	ן עוזאעוו	H	SURF. EL: 129.2			1	0 20	30	40	50	6	0 7	0	
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	48		•	4	+						80
			Stiff reddish tan, tan and gray silty clay w/trace fine sand and numerous ferrous stains and concrections	13			•							
- 5 -				24			•	•						
			- very stiff with more sand below 6 ft	26			-	-+						70
			Stiff reddish tan and gray fine sandy clay											
10 -				22										
-15 -														
				DEPTH T N BORII							DA	TE: 1	0/15/2	2015

	Bar Consu	tor	n & Wyatt, Inc. CA0201 Engineers CA0201 Ashley		5 Wid	denin	g	U					
	TYPE	Ξ:	Auger	LC	CATIO	ON:	Approx	Sta 469-	+88, 24	ft Lt			
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 133.1	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	2 0.4 ASTIC MIT 0 20	0.6 CC 	0.8 1 ATER ONTENT	.0 1	.2 1. LIQU LIMI		- No. 200 %
			Very stiff brown and tan fine sand clay w/fine to coarse gravel and crushed stone (fill)	30		•	+	-+					42
			Loose brown, tan and gray clayey silt w/silt pockets	8			•						
- 5 -			Very stiff tan silty clay w/silt pockets	29			•						
			- stiff below 6 ft	20			•						
			- gray and tan below 8 ft	23			•						
- 10 -		/\											
01-1-10													
1-104 K LOGS.GPJ 8-11-16 T T T T T T T T T T T T T T T T T T T													
15 15	COMF DATE		TION DEPTH: 10.0 ft -14-15	DEPTH IN BORI						DA	TE: 9	/14/20	15

	Consu	ior Iting	Engineers CA0201 Hv Ashley Co	vy 42	5 Wid	ening				
	TYPE	<u>:</u> : /	Auger	LC	CATIO	N: Approx Sta 479	9+71, 35 ft L	t		
_				F	⊢	COHESIO	ON, TON/SC	FT		<u> </u>
H H	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.2 0.4 0.6	0.8 1.0	1.2 1	.4	200 %
DEPTH,	SYN	SAM	DESCRIPTION OF WATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PLASTIC LIMIT C	WATER ONTENT	LIQU LIM	IID IT	8
			SURF. EL: 133.2	BL(5	+ 10 20 30	40 50	+	0	'
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains and organic inclusions	46		• +				88
			- hard below 2 ft	50/5"		•				
- 5 -				50/8"		•				
			- tan with ferrous stains below 6 ft	50/10		•				
		M	Very stiff reddish tan and tan fine sandy clay w/fine sand pockets and seams and ferrous stains	47		• + +				36
- 10 -										
15										
15				PTH BORII			'	DATE: 1	0/15/2	015

Grubbs, Hoskyn, Barton & Wyatt, Inc.

LOG OF BORING NO. R98

	Consu	tor Iting	A & Wyatt, Inc. CA0201 H	lwy 42	5 Wid	dening							
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Approx	Sta 490	0+10, 3	38 ft Lt			Γ
l ∟				ᇤ	١.		С	OHESI	ON, TO	ON/SQ	FT		Q.
H, FT	BOL) LES	DECODIDATION OF MATERIAL	PER	RY V U FT	0.2	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLA LII	STIC MIT 	C	WATER ONTEN	R NT 	LIQ LIN	UID ⁄IIT F	- No. 3
			SURF. EL: 134.8			10	20	30	40	50	60	70	
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains - hard below 2 ft	46		•							
			- Hard below 2 It	50/9"		•	+		-				88
- 5 -		X —	Hard reddish tan. tan and grav siltv	50/8"		•	•						
			Hard reddish tan, tan and gray silty clay, slightly sandy w/organic stains - tan and gray below 6.5 ft	50/11			•	+					84
		X.	Hard reddish brown and reddish tan fine sandy clay w/ferrous stains and organic stains	50/7"			•						
- 10 -	-												
15	-												
15				EPTH T N BORII					1	[DATE:	10/15/2	2015

LOG OF BORING NO. R99 CA0201 Hwy 425 Widening

	Consu	lting	Engineers CA0201 F Ashley C										
	TYPI	Ξ: .	Auger	LC	CATIO	ON: A	pprox S	Sta 499+	16, 35	ft Lt			
1_				ᇤ	5		CO	HESIO	N, TON	I/SQ F	Γ		\o
H, H	SYMBOL	J ES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.2	0.4	0.6	0.8	1.0 1	.2 1	.4 I	200 %
DEPTH,	SYM	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC	W CO	ATER NTENT		LIQU LIM	IID IT	- No.
			SURF. EL: 135.2	B		10	20	30	40	50 6	60 7	0	
		M	Hard light tan and tan silty clay w/silt pockets and ferrous stains, very dry	50/10		•	+	· — - 4					90
		X	- tan and reddish tan below 2 ft	50/6"		•							
- 5		M	- tan and gray below 4 ft	50/11			•						
		M	Very stiff tan and gray silty clay, mottled w/fine sand pockets	44		•	OH						82
- 10		V	Very stiff tan and reddish tan fine sandy clay w/ferrous stains and nodules	40			•						
	-												
15-104 R LOGS: GPJ 8-11-16													
7 H													
15 15 15 15 15 15 15 15 15 15 15 15 15 1				DEPTH TO BORI						DA	 .TE: 1	0/15/2	2015

LOG OF BORING NO. R100

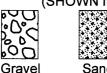
	Consu	lting		1 Hwy 42 / County				•					
	TYPI	Ξ:	Auger	LC	CATIO	ON:	Approx	Sta 505	5+54, 9	2 ft Lt			T
Ι.				ᇤ	F		C	OHESI	ON, TO	N/SQ I	FT		
H H	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY √ U FT	0	.2 0.4	0.6	0.8	1.0	1.2 1	.4	No. 200 %
DEPTH, FT	SYIV	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT	C	WATER	t IT - — — —	LIQU LIM	JID IT	- No.
	2/2 4		SURF. EL: 139.9	-		1	0 20	30	40	50	60 7	70	
			Medium dense brown clayey fine sand (fill)	17		•	#-	+					41
			- loose reddish tan, tan and gray silty clay below 2 ft	4			+)— —- -	+				96
- 5			- stiff gray clayey silt below 4 ft	12			•						
				18			•						
			Very stiff gray and tan silty clay w/occasional silt pockets	41			•						
- 10													
15													
15	COMI		TION DEPTH: 10.0 ft -17-15	DEPTH IN BORI					l	D	ATE: 9)/17/20)15



SYMBOLS AND TERMS USED ON BORING LOGS

SOIL TYPES

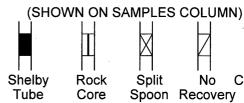
(SHOWN IN SYMBOLS COLUMN)





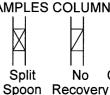






Rock

Core



SAMPLER TYPES



Predominant type shown heavy

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on No. 200 sieve): Includes (I) Clean gravels and sands, and (2) silty or clayey gravels and sands. Condition is rated according to relative density, as determined by laboratory tests.

DESCRIPTIVE TERM	N-VALUE	RELATIVE DENSIT
VERY LOOSE	0-4	0-15%
LOOSE	4-10	15-35%
MEDIUM DENSE	10-30	35-65%
DENSE	30-50	65-85%
VERY DENSE	50 and above	85-100%

FINE GRAINED SOILS (major portion passing No. 200 sieve): Includes (1) Inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings or by unconfined compression tests.

DESCRIPTIVE TERM

UNCONFINED **COMPRESSIVE STRENGTH**

TON/SQ. FT.

VERY SOFT	Less than 0.25
SOFT	0.25-0.50
FIRM	0.50-1.00
STIFF	1.00-2.00
VERY STIFF	2.00-4.00
HARD	4.00 and higher

NOTE: Slickensided and fissured clays may have lower unconfined compressive strengths than shown above, because of planes of weakness or cracks in the soil. The consistency ratings of such soils are based on penetrometer readings.

TERMS CHARACTERIZING SOIL STRUCTURE

SLICKENSIDED - having inclined planes of weakness that are slick and glossy in appearance. FISSURED - containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.

LAMINATED - composed of thin layers of varying color and texture.

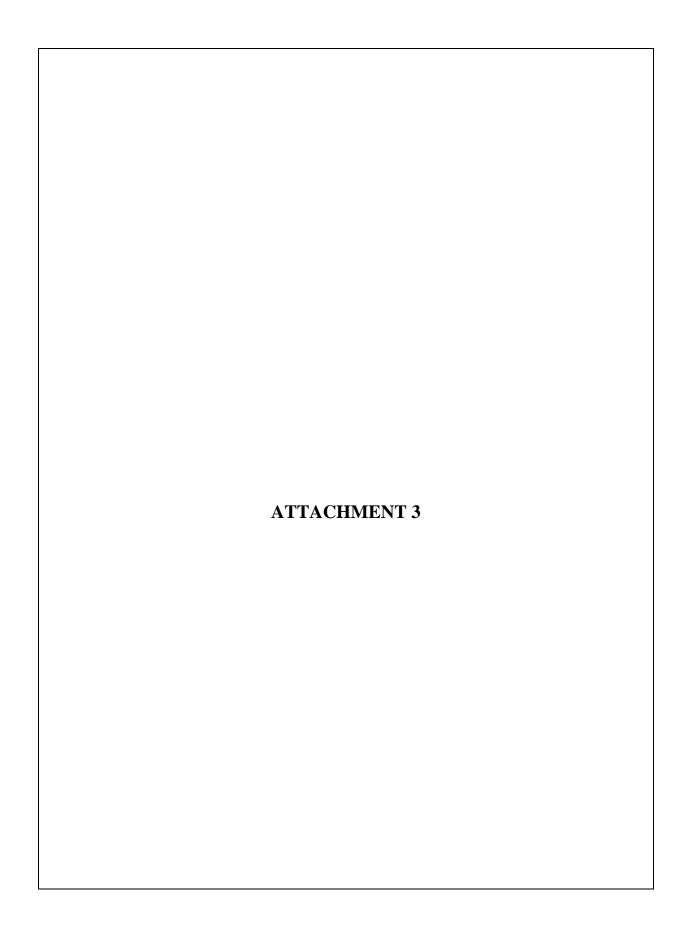
INTERBEDDED - composed of alternate layers of different soil types.

CALCAREOUS - containing appreciable quantities of calcium carbonate.

WELL GRADED - having a wide range in grain sizes and substantial amounts of all intermediate particle sizes.

POORLY GRADED - predominantly of one grain size, or having a range of sizes with some intermediate sizes missing.

Terms used on this report for describing soils according to their texture or grain size distribution are in accordance with the UNIFIED SOIL CLASSIFICATION SYSTEM, as described in Technical Memorandum No.3-357, Waterways Experiment Station, March 1953



PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

DODING	SAMPLE	WATER	A	TERBERG	LIMITS	SIEVE ANALYSIS							LINHELED	A A CILITIO
BORING NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			UNIFIED CLASS.	AASHTO CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R1	0.5-1.5	9	27	23	4							90	CL-ML	A-4
R1	4.5-5.5	20	36	18	18							92	CL	A-6
R1	9-10	23	39	18	21							98	CL	A-6
R2	0.5-1.5	6	25	20	5							91	CL-ML	A-4
R2	9-10	22	54	16	38							95	СН	A-7-6
R3	0.5-1.5	7	24	20	4							85	CL-ML	A-4
R3	2.5-3.5	11	26	20	6							90	CL-ML	A-4
R4	0.5-1.5	10	23	18	5							61	CL-ML	A-4
174	0.5-1.5	10	23	10								01	CL-WIL	Λ-4
R5	2.5-3.5	16	41	17	24							90	CL	A-4
R5	6.5-7.5	14	25	20	5							42	SM-SC	A-4
R6	0.5-1.5	5	23	21	2							84	ML	A-4
R6	4.5-5.5	16	36	19	17							90	CL	A-4 A-6
Ro	1.5 5.5	10	30	1)	17							70	CL	710
R7	0.5-1.5	8	34	20	14							90	CL	A-6
R7	4.5-5.5	16	61	18	43							95	СН	A-7-6
D.O.	0.5.1.5	1.1	2.4	10	1.6							70	CT	A 6
R8	0.5-1.5	11	34	18	16							72	CL	A-6
R9	0.5-1.5	7	26	19	7							82	CL	A-4
R9	6.5-7.5	14	28	15	13							62	CL	A-6
R10	0.5-1.5	13	25	19	6							84	CL-ML	A-4
R10	2.5-3.5	22	35	20	15							88	CL	A-6
R11	0.5-1.5	11	43	18	25							83	CL	A-7-6
R11	4.5-5.5	12	38	14	24							85	CL	A-6
														110
R12	0.5-1.5	11	26	18	8							78	CL	A-4
D 10	0.5.1.5	0	20	10	1.1							02	CT	A -
R13	0.5-1.5	9	30	19	11							83	CL	A-6
R13	4.5-5.5	21	73	18	55							89	CH	A-7-6

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE	WATER	A'.	ITERBERG	LIMITS	SIEVE ANALYSIS							UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			CLASS.	CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R14	0.5-1.5	9	26	18	8							80	CL	A-4
R15	2.5-3.5	14	44	15	29							76	CL	A-7-6
R15	6.5-7.5	18	31	14	17							48	SC	A-6
R16	0.5-1.5	5	21	16	5							48	CL-ML	A-4
R17	2.5-3.5	16	30	19	11							83	CL	A-6
R17	6.5-7.5	17	27	14	13							63	CL	A-6
D10	0.7.1.7	1.4	21	10	2							7.5	3.47	
R18	0.5-1.5	14	21	18	3							75	ML	A-4
D10	0515	7	25	10	7							9.6	CI	A 4
R19	0.5-1.5 6.5-7.5	7 17	25 31	18 12	19							86 68	CL CL	A-4
R19	0.3-7.3	17	31	12	19							08	CL	A-6
R20	0.5-1.5	14	28	18	10							81	CL	A-4
K20	0.5-1.5	14	20	10	10							01	CL	A-4
R21	2.5-3.5	16	26	14	12							76	CL	A-6
R21	6.5-7.5	16	30	14	16							55	CL	A-6
1(21	0.5 7.5	10	30	1-7	10							33	CL	71 0
R22	0.7-1.5	13	30	19	11							76	CL	A-6
R23	0.5-1.5	8	28	18	10							73	CL	A-4
R24	0.5-1.5	8	27	16	11							77	CL	A-6
R24	9-10	13	21	15	9							67	CL	A-4
R25	0.5-1.5	11	35	14	21							76	CL	A-6
R25	4.5-5.5	19	31	13	18							69	CL	A-6
					_									
R26	0.5-1.5	9	18	15	3	100	100	91	77	70	63	39	SM	A-4
R26	2.5-3.5	16	36	18	18							78	CL	A-4
D27	0.7.1.7	10	20	10	1.1							7.6	CI	1.6
R27	0.5-1.5	12	30	19	11							76	CL	A-6
R27	6.5-7.5	26	65	17	48							94	CH	A-7-6

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE	WATER		TERBERG				SIEV			UNIFIED	AASHTO		
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			CLASS.	CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R28	0.5-1.5	8	24	19	5							86	CL	A-4
R28	2.5-3.5	19	29	20	9							87	CL	A-4
R29	0.5-1.5	7	39	21	18							87	CL	A-6
R29	6.5-7.5	31	79	22	57							98	СН	A-7-6
R30	0.5-1.5	8	21	16	5							59	CL-ML	A-4
R30	9-10	20	44	16	28							84	CL	A-7-6
R31	0.5-1.5	7	28	20	8							86	CL	A-4
R31	4.5-5.5	16	25	17	8							90	CL	A-4
R32	0.5-1.5	15	27	20	7							86	CL-ML	A-4
R33	2.5-3.5	15	34	19	5							90	CL-ML	A-4
701			2.0									0.0	~-	
R34	0.5-1.5	11	30	21	9							90	CL	A-4
R34	2.5-3.5	20	39	20	19							93	CL	A-6
R35	2.5-3.5	21	59	18	41							93	СН	A 7.6
R35	9-10	21 22	39	Non-Pla								93	CH CL	A-7-6 A-6
KSS	9-10	22		Non-Fia	Suc							93	CL	A-0
R36	0.5-1.5	13	39	20	19							85	CL	A-6
R36	2.5-3.5	20	48	19	29							90	CL	A-7-6
N30	2.5-5.5	20	70	1)								70	CL	71-7-0
R37	2.5-3.5	13	54	16	38							87	СН	A-7-6
R37	4.5-5.5	16	42	14	28							83	CL	A-6
107	11.0 0.0	10		11								0.5	CE	110
R38	2-2.7	8	31	17	14							90	CL	A-6
R38	6.5-7.5	15	46	13	33							56	CL	A7-6
	2.2 ,.0													0
R39	0.5-1	3	20	16	4							13	GM-GC	A-2-4
R39	4.5-5.5	18	32	18	14							86	CL	A-6
					_									
R40	0.5-1.5	9	32	20	12							91	CL	A-6

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE	WATER		TERBERG		SIEVE ANALYSIS PERCENT PASSING							UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			CLASS.	CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R41	0.5-1.5	8	30	20	10							87	CL	A-4
R41	9-10	16	25	11	14							69	CL	A-6
	7 - 7													
R42	0.5-1.5	6	26	19	7							69	CL-ML	A-4
11.2	0.0 1.0	Ŭ			,							U)	02 112	
R43	0.5-1.5	6	28	20	8							75	CL	A-4
R43	6.5-7.5	19	42	14	28							80	CL	A-6
R44	0.5-1.5	9	27	19	8							81	CL	A-4
R44	2.5-3.5	20	27	20	7							86	CL-ML	A-4
					•									
R45	0.5-1.5	9	28	20	8							91	CL	A-4
R45	9-10	15	27	14	13							84	CL	A-6
R46	0.5-1.5	6	25	18	7							75	CL	A-4
					·									
R47	0.5-1.5	9	36	18	18							91	CL	A-6
R47	9-10	18	34	13	21							41	SC	A-6
R48	0.5-1.5	8	27	19	8							84	CL	A-4
R49	0.5-1.5	6	31	18	13							85	CL	A-6
R49	4.5-5.5	15	39	17	22							90	CL	A-6
R50	0.5-1.5	3	18	15	3	100	100	72	53	41	28	15	GM	A-1-a
R51	0.5-1.5	21	30	20	10							87	CL	A-4
R51	4.5-5.5	21	37	17	20							93	CL	A-6
R52	0.5-1.5	9	27	20	7							84	CL-ML	A-4
R52	6.5-7.5	21	51	16	35							96	CH	A-7-6
R53	0.5-1.5	6	24	20	4							69	CL-ML	A-4
R54	2.5-3.5	8	31	19	12							93	CL	A-6

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE	WATER		TERBERG		SIEVE ANALYSIS PERCENT PASSING							UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			CLASS.	CLASS.
110.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R54	6.5-7.5	20	67	19	48							99	СН	A-7-6
R55	0.5-1.5	6	22	18	4							74	CL-ML	A-4
R56	0.5-1.5	9	27	21	6							89	CL-ML	A-4
R56	4.5-5.5	24	48	16	32							94	CL	A-7-6
R57	0.5-1.5	7	26	19	7							71	CL	A-4
R58	0.5-1	7	30	19	11							87	CL	A-6
R58	9-10	15	27	14	13							28	SC	A-2-6
R59	0.5-1.5	11	30	18	12							84	CL	A-6
R60	0.5-1.5	12	32	18	14							84	CL	A-6
R61	0.5-1.5	5	25	18	7							79	CL-ML	A-4
R61	4.5-5.5	16	24	16	8							76	CL	A-4
R62	0.5-1.5	8	25	20	5							82	CL-ML	A-4
R62	2.5-3.5	10	23	16	7							67	CL-ML	A-4
R63	2.5-3.5	13	41	14	27							81	CL	A-7-6
R63	6.5-7.5	15	34	13	21							47	SC	A-6
R64	0.5-1.5	12	36	16	20							83	CL	A-6
R65	0.5-1	9	26	16	10							64	CL	A-4
R65	6.5-7.5	18	36	16	20							36	SC	A-6
R66	0.5-1	2										12	GM-GP	A-2-4
R66	4.5-5.5	17	28	18	10							87	CL	A-4
R66	6.5-7.5	24	27	19	8							89	CL	A-4
R67	0.5-1.5	5	28	20	8							68	CL	A-4

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE	WATER		TERBERG		SIEVE ANALYSIS PERCENT PASSING							UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING			CLASS.	CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R68	2.5-3.5	21	32	18	14							88	CL	A-6
R68	4.5-5.5	23	45	18	27							92	CL	A-6
R69	0.5-1	5	24	20	4							78	CL-ML	A-4
R69	4-5	15	33	15	18							86	CL	A-6
R70	0.5-1.5	9	26	16	10							67	CL	A-4
R71	0.5-1.5	8	34	17	17							88	CL	A-6
R71	6.5-7.5	14	22	12	10							71	CL	A-4
D.52	0.5.1.5		2.5	2.5	10							22	99	1 2 1
R72	0.5-1.5	8	35	25	10							23	GC	A-2-4
R72	4.5-5.5	18	29	20	9							92	CL	A-4
D72	0515	1.4	26	17	0							75	CI	A 4
R73	0.5-1.5	14	26	17	9							75	CL	A-4
R74	0.5-1.5	9	29	19	10							88	CL	A-4
K/4	0.5-1.5	9	29	19	10							00	CL	A-4
R75	0.5-1.3	6	27	17	10							69	CL	A-4
R75	6.5-7.5	13	41	14	27							49	SC	A-7-6
10/3	0.5-7.5	13	71	17	21							7/	<u>SC</u>	11-7-0
R76	0.5-1.5	9	25	20	5							79	CL-ML	A-4
10,0	0.0 1.0			20	J							,,	CE IVIE	11 1
R77	0.5-1	5	28	19	9							72	CL	A-4
R77	6.5-7.1	14	44	15	29							89	CL	A-7-6
R78	0.8-1.5	16	35	19	16							91	CL	A-6
R78	2.5-3.5	22	34	20	14							82	CL	A-6
R79	0.5-1.5	10	35	21	14							89	CL	A-6
R79	4.5-5.5	24	65	18	47							94	CH	A-7-6
R79	9-10	7										35	SM	A-2-4
R80	0.5-1.5	8	29	20	9							81	CL	A-4
					_									
R81	0.5 - 1.5	12	23	20	3							82	ML	A-4

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

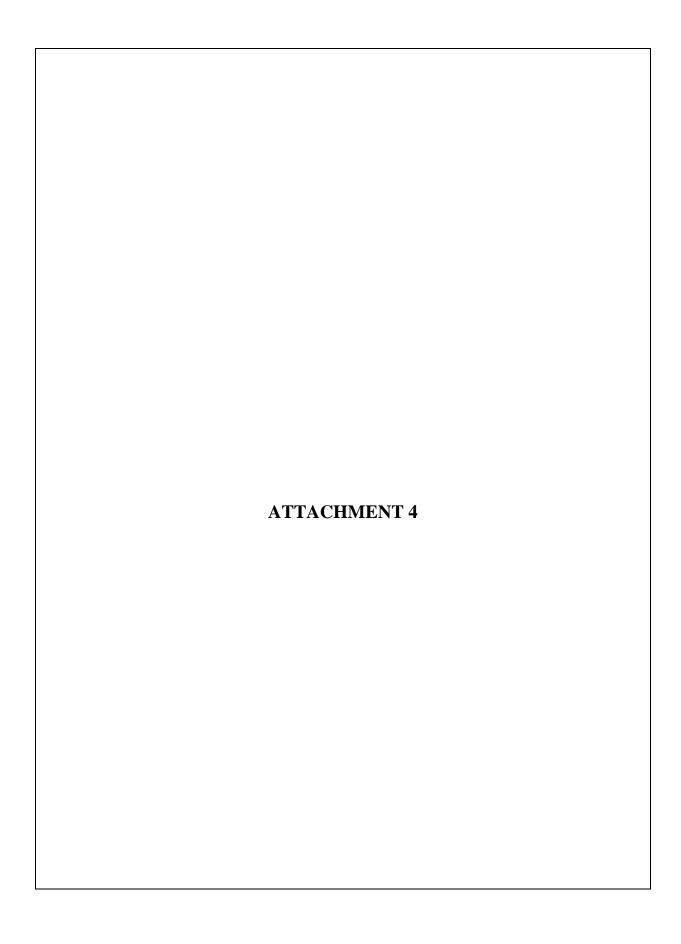
GHBW JOB No.: 15-104

BORING	SAMPLE	WATER	A	TERBERG	LIMITS			SIEV	E ANAI	LYSIS			UNIFIED	AASHTO
	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCI	ENT PA	SSING				
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R81	4.5-5.5	19	33	16	17							91	CL	A-6
R82	0.5-1.5	16	28	20	8							80	CL	A-4
R83	0.5-1.5	8	29	20	9							88	CL	A-4
R83	4.5-5.5	21	43	15	28							90	CL	A-7-6
70.4	0.5.1.5	1.5	4.1	2.1	20							0.2	GT.	
R84	0.5-1.5	15	41	21	20							92	CL	A-7-6
R84	6.5-7.5	30	56	17	39								СН	A-7-6
R85	1-1.5	12	36	18	18							89	CL	A-6
Kos	1-1.3	12	30	10	10							09	CL	A-0
R86	0.5-1.5	16	27	20	7							80	CL-ML	A-4
R86	2.5-3.5	24	34	21	13							86	CL	A-6
1100	2.0 0.0				- 10							- 00		110
R87	2.5-3.5	11	38	14	24							67	CL	A-7-6
R87	6.5-7.5	15	37	14	23							37	SC	A-6
R88	0.5-1.5	9	29	20	9							83	CL	A-4
D .00	0.7.1.7	1.7	22	10	10							00	OT.	
R89	0.5-1.5	15	32	19	13							90	CL	A-4
R90	0.5-1.5	5	24	18	6							67	CL	A-4
K90	0.5-1.5	3	24	10	U							07	CL	A-4
R91	0.5-1.5	10	34	18	16							91	CL	A-6
R91	6.5-7	12	28	15	13							89	CL	A-6
R92	0.5-1.5	7	27	19	8				-			62	CL	A-4
R92	2.5-3.5	20	35	20	15							90	CL	A-6
R93	0.5-1.5	7	30	21	9							88	CL	A-4
R93	8.5-9.1	15		Non Pla	stic							76	ML	A-4
D04	0.5.1.5		25	20	_							0.5	CI MI	A 4
R94	0.5-1.5	6	25	20	5							85	CL-ML	A-4
R95	0.5-1.5	6	28	19	9							80	CL	A-4
NYJ	0.3-1.3	U	40	19	9							0U	CL	A-4

PROJECT: Task Order C077: Job No. CA0201 - La. State Line - Hwy 82 (Widening) (S) LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104

BORING	SAMPLE DEPTH	WATER CONTENT		TERBERG PLASTIC	LIMITS PLASTICITY	SIEVE ANALYSIS PERCENT PASSING					UNIFIED	AASHTO		
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
R95	6.5-7.5	15	26	14	12							70	CL	A-6
R96	0.5-1.5	4	28	20	8							41	GC	A-4
R97	0.5-1.5	7	30	19	11							88	CL	A-6
R97	9-10	10	27	16	11							36	SC	A-6
R98	2-3	8	34	17	17							88	CL	A-6
R98	6-7	11	32	15	17							84	CL	A-6
R99	0.5-1.5	10	36	15	21							90	CL	A-6
R99	6.5-7.5	13	33	15	18							82	CL	A-6
R100	0.5-1.5	4	23	19	4							41	SC-SM	A-4
R100	2.5-3.5	22	34	17	17							96	CL	A-6



ESTIMATED UNDERCUT DEPTH

PROJECT: CA0201 - La. State Line - Hwy 82 (Widening) (S)

LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104 Project Length: 9.37 miles +/-

	1	Estimated		
Approximate CL Sta	Directional	undercut depth,	Relevant borings	
Approximate de Sta	Lane	ft	Relevant bornigs	
12+50 to 21+20	Right (NB)	2	R1, R2	
21+20 to 40+15	Right (NB)	3	R3	
40+15 to 59+80	Right (NB)	2	R4, R5	
59+80 to 79+75	Right (NB)	3	R6, R7	
79+75 to 99+75	Right (NB)	2	R8, R9	
99+75 to 109+85	Right (NB)	3	R10	
109+85 to 180+00	Right (NB)	2	R11-R17	
180+00 to 190+00	Right (NB)	3	R18	
190+00 to 319+80	Right (NB)	2	R19-R31	
319+80 to 329+70	Right (NB)	3	R32	
329+70 to 380+20	Right (NB)	2	R33-R37	
380+20 to 390+20	Right (NB)	3	R38	
390+20 to 399+80	Right (NB)	minimal	R39	
399+80 to 409+80	Right (NB)	3	R40	
409+80 to 419+90	Right (NB)	2	R41	
419+90 to 429+90	Right (NB)	3	R42	
429+90 to 460+00	Right (NB)	2	R43, R44, R45	
460+00 to 480+00	Right (NB)	3	R46, R47	
480+00 to 490+00	Right (NB)	2	R48	
490+00 to 500+00	Right (NB)	3	R49	
500+00 to 510+00	Right (NB)	minimal	R50	
12+50 to 25+30	Left (SB)	1	R51	
25+30 to 35+00	Left (SB)	2	R52	
35+00 to 135+00	Left (SB)	3	R53-R62	
135+00 to 154+80	Left (SB)	2	R63, R64	
154+80 to 155+50	Left (SB)	3	R65	
155+50 to 165+00	Left (SB)	minimal	R66	
165+00 to 205+00	Left (SB)	2	R67-R69	
205+00 to 215+00	Left (SB)	3	R70	
215+00 to 225+00	Left (SB)	2	R71	
225+00 to 235+00	Left (SB)	minimal	R72	
235+00 to 275+50	Left (SB)	3	R73-R77	
275+50 to 295+00	Left (SB)	2	R78	
295+00 to 305+00	Left (SB)	3	R79	
305+00 to 325+00	Left (SB)	2	R80, R81	
325+00 to 335+00	Left (SB)	3	R82	
335+00 to 355+00	Left (SB)	2	R83, R84	
355+00 to 375+00	Left (SB)	3	R85-R86	
vn.				

Grubbs, Hoskyn,
Barton & Wyatt, Inc.

CONSULTING ENGINEERS PLATE 1

ESTIMATED UNDERCUT DEPTH

PROJECT: CA0201 - La. State Line - Hwy 82 (Widening) (S)

LOCATION: HWY 425 - Ashley Co., Arkansas

GHBW JOB No.: 15-104 Project Length: 9.37 miles +/-

Approximate CL Sta	Directional Lane	Estimated undercut depth, ft	Relevant borings		
375+00 to 445+00	Left (SB)	2	R87-R93		
445+00 to 455+00	Left (SB)	3	R94		
455+00 to 465+00	Left (SB)	2	R95		
465+00 to 475+00	Left (SB)	3	R96		
475+00 to 495+00	Left (SB)	2	R97, R98		
495+00 to 510+00	Left (SB)	3	R99, R100		

Note: undercut depth limited to 3 ft in anticipation of use of stone backfill.



May 20, 2015 Job No. 14-197 P.O. Box 30970 Little Rock, Arkansas 72260-0970 #1 Trigon Place 72209 (501) 455-2536 FAX (501) 455-4137

Crafton Tull & Associates, Inc. 901 North 47th Street, Suite 200 Rogers, Arkansas 72756

Attn: Mr. Mike Burns, P.E.

RESULTS of GEOTECHNICAL INVESTIGATION and PAVEMENT STUDY TASK ORDER C068: JOB NO. CA0202 HWY. 425-HAMBURG (WIDENING)(S) ASHLEY COUNTY, ARKANSAS

INTRODUCTION

Submitted herewith are the results of the geotechnical investigation and pavement coring performed for Job CA0202: Hwy 425 (Widening)(S). These services have been performed as a part of Task Order C068. The project alignment begins near the intersection of Hwy 425 and Hwy 82 W, at log mile 17.54 (Sta 546+95) and extends north approximately 5.3 miles to log mile 22.87 (Sta 828+40), just north of the Hwy 425/Lion Drive intersection in Hamburg, Arkansas. These services were authorized by the Subconsultant Agreement executed December 11, 2014. This study has been performed in general accordance with the scope of services described in the subconsultant agreement and as discussed with Mr. Mike Burns of Crafton Tull & Associates as the scope of work was refined. The scope of this study phase, as defined by the Department, included obtaining roadway cores at an approximate frequency of one (1) core every 1000 ft in alternating northbound and southbound lanes. The scope also included obtaining cores in special groups located at approximately 0.5-mile intervals in alternating northbound and southbound lanes. Subgrade conditions in the project alignment have been evaluated by drilling borings, obtaining representative soil samples, and performing laboratory tests.

The field and laboratory studies are discussed in the following report sections. Recommendations for subgrade support are provided in a subsequent report section.

FIELD EXPLORATION

The scope of work for this study included coring the existing asphalt concrete to the bottom of the pavement at selected locations, performing sample borings to explore subsurface conditions and obtain samples for laboratory testing, and obtaining bulk samples from test pits excavated along the alignment. The following report sections discuss the field exploration phases of this study. A Site Vicinity Map is provided on Plate 1 of Attachment 1. The approximate core and boring locations are shown on the Plans of Borings, Test Pits and Pavement Cores provided as Plates 2 through 22 of Attachment 1. A Core Sampling Layout is provided in Attachment 2. This includes the "typical" layout with cores at 1000-ft intervals and the "special" layout obtained at 0.5-mile intervals. A summary of the subsurface exploration program is also provided in Attachment 2.

Pavement Cores

The existing asphalt concrete (ACHM) pavements were evaluated by obtaining 4-in.-diameter cores along the existing roadway on a frequency of approximately one (1) core every 1000 feet. A total of 29 cores of the ACHM were obtained in the outer wheel path of the existing roadway. The cores were obtained in alternating northbound and southbound lanes.

The full-depth pavement section was measured at the "special" locations by obtaining 6-in.-diameter location specific cores at approximately every 0.5 mile, alternating between the northbound and southbound lanes. The cores began approximately 10 ft from the existing centerline and continued in 1 ft increments to find where the full depth pavement ends. A total of 63 cores were collected in order to determine full-depth pavement thicknesses.

As noted, the approximate core locations are shown on the plan drawings included in Attachment 1. A summary of the core results is provided in Attachment 3. The summary provides the measured thicknesses of the ACHM cores, including the individual layers where discernible. The summary also includes a subgrade description, where the subgrade was sampled, and comments regarding the cores. Detailed core reports, including core location, photographs, and measurements for each core are also provided in Attachment 3.

The cores were advanced through the asphalt concrete to the underlying soil cement or aggregate base (indicated on core logs). All cores were extracted from the core barrel in the field and measured. Coreholes were patched with cold mix asphalt concrete patch after the cores had been obtained. All cores were returned to our laboratory. In the laboratory, the measurements

obtained in the field were verified, photographs were obtained, and a detailed visual description of each core was made. All cores are presently stored in our Little Rock facility.

Sample Borings

Subsurface conditions in the 5.3-mile project alignment of the existing roadway were explored by drilling 29 sample borings to approximately 5 ft beneath the existing pavement subgrade at each typical roadway core location. In addition, 56 sample borings were drilled to 10-ft depth at offset locations in the proposed roadway alignment. The approximate boring locations are shown in Attachment 1.

The pavement borings were advanced through the 4-in.-diameter core hole in the outer wheel path, to at least 5 ft beneath the existing pavement subgrade. Boring logs for the pavement borings and roadway borings, presenting descriptions of the subsurface strata encountered and results of field and laboratory tests, are provided in Attachments 4 and 5, respectively. The approximate boring station location, offset and surface elevation are also noted on the logs. A key to the terms and symbols used on the logs is also provided with each set of logs.

The pavement borings were drilled with a truck-mounted SIMCO 2400 rotary-drilling rig using dry auger drilling techniques. The roadway borings were typically drilled with an all-terrain buggy-mounted Mobile B-53 rotary-drilling rig. Samples were obtained using a 2-in.-diameter split-barrel sampler driven into the strata by blows of a 140-lb safety hammer with 30-in. drop in accordance with Standard Penetration Test (SPT) procedures. The number of blows required to drive the standard split-barrel sampler the final 12 in. of an 18-in. total drive, or a portion thereof, is defined as the Standard Penetration Number (N). Recorded N-values are shown on the boring logs in the "Blows Per Ft" column.

All samples were removed from sampling tools in the field, examined and visually classified. Samples were then placed in appropriate containers to prevent moisture loss and/or change in condition during transfer to our laboratory for further examination and testing. A summary of classification test results is provided in Attachment 6.

The borings were advanced using dry-auger drilling procedures to the extent possible to facilitate groundwater observations. Observations regarding groundwater are noted in the lower right portion of each log. All boreholes were backfilled after obtaining final groundwater readings. Where drilled through the existing roadway pavement, the pavement was patched with asphalt concrete cold patch.

Test Pits and Bulk Sampling

To obtain bulk samples utilized for evaluation of subgrade support properties in the approximately 5.3-mile project alignment, three (3) test pits were excavated at representative, accessible locations. The approximate test pit locations are shown on the plan drawings included in Attachment 1. The test pit logs are provided in Attachment 5.

LABORATORY TESTING

To evaluate pertinent physical and engineering characteristics of the subgrade soils, laboratory tests consisting of natural water content determinations and classification tests were performed on selected representative soil and rock samples. A total of 49 natural water content determinations were performed to develop a water content data for each boring. The results of these tests are plotted on the boring logs in Attachment 5 as solid circles, in accordance with the scale and symbols shown in the legend located in the upper-right corner.

To verify field classification and to evaluate soil plasticity, 15 liquid and plastic (Atterberg) limit determinations and 15 sieve analyses were performed on selected representative samples. The Atterberg limits are plotted on the logs as small pluses inter-connected with a dashed line using the water content scale. The percent of soil passing the No. 200 Sieve is noted in the "Minus No. 200" column on the log forms. Classification test results, as well as soil classification by the Unified Soil Classification System and AASHTO Classification System, are summarized in Attachment 6.

Additionally, classification tests were performed on the bulk samples obtained from the test pits to develop information on the range of subgrade classification and support properties. Classification test results from the bulk samples are provided on the summary in Attachment 4. Proctor (i.e., moisture-density relationship) tests were performed on three (3) representative samples obtained from the test pits in accordance with the AASHTO T-99 method.

Pavement subgrade support properties were evaluated by performing three (3) CBR tests (AASHTO T-193). For the CBR tests, the specimens were molded at approximately the optimum water content and 95 percent of the maximum dry density as determined by the appropriate laboratory Proctor test. The Proctor and CBR test results are summarized in Attachment 7. The graphical results of the Proctor and CBR tests are also presented in Attachment 7.

To evaluate potential subgrade improvement with stabilization additives, CBR tests were also performed on representative cement- and lime-treated soils. Samples obtained from Test Pit 2 were mixed with either 4 percent Portland cement or 4 percent quicklime (by dry soil weight) and

remolded at approximately 95 percent of the AASHTO T-99 maximum dry density. These test results are provided in Attachment 7 as well.

GENERAL SITE AND SUBSURFACE CONDITIONS

Site Conditions

The Hamburg, Ashley County, Arkansas project alignment extends from near the intersection of Hwy 425 and Hwy 82 W, log mile 17.54 (Sta 546+95) north approximately 5.3 miles to log mile 22.87 (Sta 828+40), just north of the Hwy 425/Lion Drive intersection (Sta 828+40). The project locale is primarily rural with agricultural and timber development along the alignment. The existing highway is a two-lane roadway with an asphalt concrete pavement section and a typical width on the order of 22 to 24 feet.

The existing roadway pavements exhibit moderate to severe rutting and some raveling. Longitudinal and transverse cracks are common. Alligator cracking is frequently apparent, particularly along the shoulders. There are some apparent full-depth pavement repair patches. Localized full-depth failures are evident along the shoulders in some areas. The pavement surface in general is weathered.

The terrain in the project alignment is undulating with surface grades ranging from about El 142 to El 180. The existing roadway is locally on an existing embankment. Drainage ditches are located on both sides of the highway. Surface drainage in the roadway is good, with some "birdbathing" of surface water in pavement ruts. Surface drainage along the roadsides is very poor to fair and standing water is not uncommon.

Subsurface Conditions

The roadway alignment is located in the Gulf Coastal Plain Geologic Province. This area is shown on the <u>Geologic Map of Arkansas</u>¹ to be in an area of Quaternary Terrace deposits. The Terrace deposits are flood-plain deposits comprising terraces of gravel, sand, silt and clay. The depth to bedrock (Paleozoic rocks) is reported to be in excess of 4000 ft in the Hamburg area.

The results of the borings indicate that much of the existing roadway is on existing embankment fill comprised of loose to dense clayey fine to coarse gravel to clayey fine to coarse sand with variable amounts of fine to coarse gravel and soft to stiff silty clay and clayey silt. The

Geologic Map of Arkansas, Arkansas Geologic Commission and U.S. Geologic Survey; 1993

clayey sand and clayey gravel typically provide good subgrade support. The silty clay and clayey silt provide poor to fair subgrade support.

The natural subgrade and near-surface soils are a variable mixture of soft to very stiff silty clay, clayey silt and clay. These soils exhibit variable low to high plasticity, low to moderate shear strength, and variable compressibility. Subgrade support is considered to vary from poor to fair.

Groundwater was encountered at 1- to 7.7-ft depth in March and April 2015. Groundwater levels will vary with seasonal precipitation, surface infiltration, and stream levels in nearby waterways. In addition, perched water could be present at shallow depths in the more pervious onsite fill or in the saturated soils of the existing drainage ditches.

ANALYSES and RECOMMENDATIONS

Pavement Design Subgrade Support Parameters

In light of the results of the borings and the laboratory test results, the subgrade soils in the project alignment are expected to predominately be silty/sandy clay (AASHTO A-6, A-4, and A-7-6), clayey silt (AASHTO A-4) and sandy clay/clayey sand and gravel fill (AASHTO A-2-4, A-2-6, A-1-b, A-4 and A-6). Locally available borrow for use as unclassified embankment fill is expected to be comprised of similar soils. We recommend that soils classifying as A-7-5 and A-7-6 with a plasticity index (PI) in excess of 18 be excluded from use as subgrade within 18 in. of the plan subgrade elevation. The top 18 in. of subgrade soils should have a maximum plasticity index (PI) of 18. The as-built pavement subgrade should be approved by the Engineer or Department based on site observations.

Areas of unsuitable subgrade should be improved by undercut and replacement. Alternatively, improvement by addition of lime, Portland cement or an approved alternative additive may be considered. Laboratory testing has been performed to confirm the suitability of lime or cement to improve weak and unstable subgrade areas and improve subgrade support. Laboratory CBR tests indicate an increase in CBR from 3 to 56 for silty clay (AASHTO A-6) treated with 4 percent quicklime (by dry weight). For silty clay (AASHTO A-6) treated with 4 percent Type I Portland cement (by dry weight) the laboratory CBR value increased from 3 to 91. We recommend a minimum treatment depth of 8 in. where lime- or cement-modified subgrade is utilized. The addition of lime, cement, or other alternative modification additives must be approved by the Engineer or Department.

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Based on the results of the borings and laboratory tests, the following parameters are recommended for use in pavement design.

• Resilient Modulus (M_R):

3000 lbs per sq in.

• R value:

4.6

The parameters above have been developed for a prepared subgrade of the on-site soils which have not been modified by additives.

Site Grading and Subgrade Preparation

Site grading in the alignment of the existing roadway is expected to be relatively minor with embankment fill utilized in the widened roadway sections. Site preparation in the widened section of the roadway alignment should include any necessary clearing and grubbing of trees and underbrush and stripping of the organic-containing surface soils in work areas. Part of the widened section is in roadside drainage ditch areas.

Where fill depths in excess of 3 ft are planned, stumps may be left after close cutting trees to grade, as per AHTD criteria. Otherwise, tree stumps must be completely excavated and properly backfilled. The depth of stripping will be variable, with deeper stripping depths in the low-lying, poorly drained, and/or wooded areas. In general, the stripping depth is estimated to be about 6 to 12 in. in cleared areas, but may be 18 to 24 in. or more in localized wooded areas. All wet and/or organic soils in the existing drainage ditches must be completely mucked out. The zone of organic-containing surface soils should be completely stripped in the embankment footprints.

Where the existing shoulder and roadway pavements are within 3 ft of the plan subgrade elevation, the existing pavement surface should be scarified to a minimum depth of 6 inches. The scarified material should be recompacted to a stable condition. Where pavements are to be demolished, consideration may be given to utilizing the processed asphalt concrete, aggregate base and/or soil cement for embankment fill. In this case, the demolished materials should be thoroughly blended and processed to a reasonably well-graded mixture with a maximum particle size of 2 inches.

Following demolition of existing pavements, stripping, and prior to fill placement or otherwise continuing with subgrade preparation, the extent of weak and unsuitable soils should be determined. Proof-rolling is recommended to evaluate subgrade stability. Proof-rolling should be performed with a loaded tandem-wheel dump truck or similar equipment. Unstable soils exhibiting a tendency to rut and/or pump should be undercut and replaced with suitable fill. Care should be

taken that undercuts, stump holes, and other excavations or low areas resulting from subgrade preparation are properly backfilled with compacted fill.

Based on the results of the project borings and layouts of the project alignment, undercuts to stabilize subgrades are expected. Consequently, some undercut will likely be required in the widened roadway alignment. <u>Estimated</u> undercut depths are summarized in the table below.

Estimated Undercut Depths for Widened Roadway Section

Approximate Station	Directional lane	Estimated undercut depth,	Comments		
546+95 to 720+00	Right	2	Localized soft or wet areas will require undercut up to 6-ft depth. See Borings 18, 22, 23, 27, and 29.		
720+00 to 810+00	Right	2-4	Undercut depth varies from 2 to 4 ft through this section and will depend on seasonal site conditions.		
810+00 to 828+40	Right	Minimal	Some minor undercut may be required, depending on seasonal site conditions.		
546+95 to 645+00 675+00 to 765+00 805+00 to 828+40	Left	2	Localized soft or wet areas will require undercut up to 5-ft depth. See Boring 36.		
645+00 to 675+00	Left	4			
765+00 to 805+00	Left	6			

It should be noted that estimated undercut depths are below existing grade and are based on the results of the borings. Required as-built depth of undercut will vary with seasonal site conditions and final grading plans. As-built undercut requirements must be field verified by the Engineer or Department.

Areas of unsuitable subgrade should be improved by undercut and replacement. Alternatively, improvement by addition of Portland cement or lime may be considered. Laboratory testing has confirmed the suitability of cement or lime addition to stabilize weak subgrade areas and improve subgrade support. Laboratory tests evaluated soil mixtures with a cement or lime addition quantity of 4 percent by soil dry weight. For estimation purposes, this would equate to an application rate of approximately 3.5 lbs per sq yd per in. of treatment depth. The specific appropriate cement or lime application rate must be confirmed by appropriate laboratory testing

based on specific subgrade conditions. In light of the laboratory test results it is anticipated that an application rate of 4 percent by soil dry weight could yield significant improvement in subgrade support. We recommend a minimum treatment depth of 8 in, where additive-modified subgrade is utilized.

CONSTRUCTION CONSIDERATIONS

Positive surface drainage should be established at the start of the work, be maintained during construction and following completion of the project to prevent surface water ponding and subsequent saturation of subgrade soils. Density and water content of all earthwork should be maintained until all work is completed. Subgrade soils that become saturated by ponding water or runoff should be excavated to undisturbed soils. The embankment subgrade should be evaluated by the Engineer during subgrade preparation.

Groundwater was encountered at 1- to 7.7-ft depth in the borings drilled in March and April 2015. Shallow groundwater is not generally expected to impact the work. However, localized perched water, seeps or springs may be present or could be encountered during site grading. Where shallow water is encountered, seepage should be directed to positive discharge at daylight or into storm drainage lines via French drains or blanket drains.

CLOSING

The Engineer, the Department, or a designated representative thereof should monitor site grading, subgrade preparation, and pavement and overlay construction. Subsurface conditions significantly at variance with those encountered in the borings or test pits should be brought to the attention of the Geotechnical Engineer. The conclusions and recommendations of this report should then be reviewed in light of the new information.

The following attachments are included and complete this report.

Attachment 1	Site Vicinity Map and Plan of Borings, Test Pits and
	Pavement Cores
Attachment 2	Core Sampling Layout and Summary of Subsurface
	Exploration
Attachment 3	Core Reports
Attachment 4	Pavement Boring Logs
Attachment 5	Roadway Boring and Test Pit Logs
Attachment 6	Classification Test Results
Attachment 7	Subgrade Support Test Results

We appreciate the opportunity to be of service to you during this phase of the project. Should you have any questions regarding this report, or if we may be of additional assistance, please call on us.

Sincerely,

GRUBBS, HOSKYN, BARTON & WYATT, INC.

Jay R. McKiever, E.I.

Staff Engineer

Mark E. Wyatt, P

President

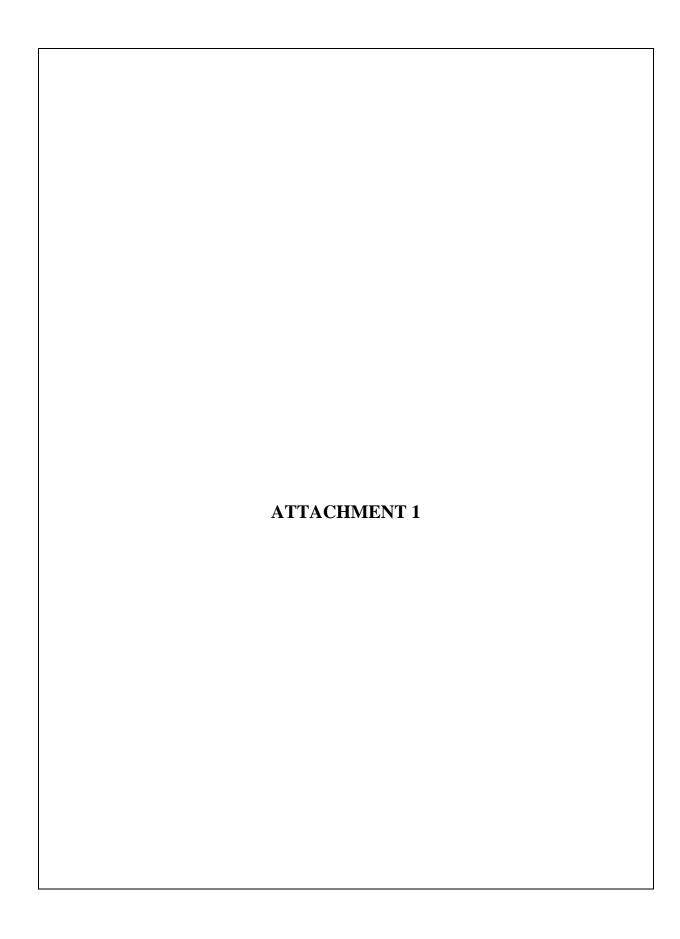
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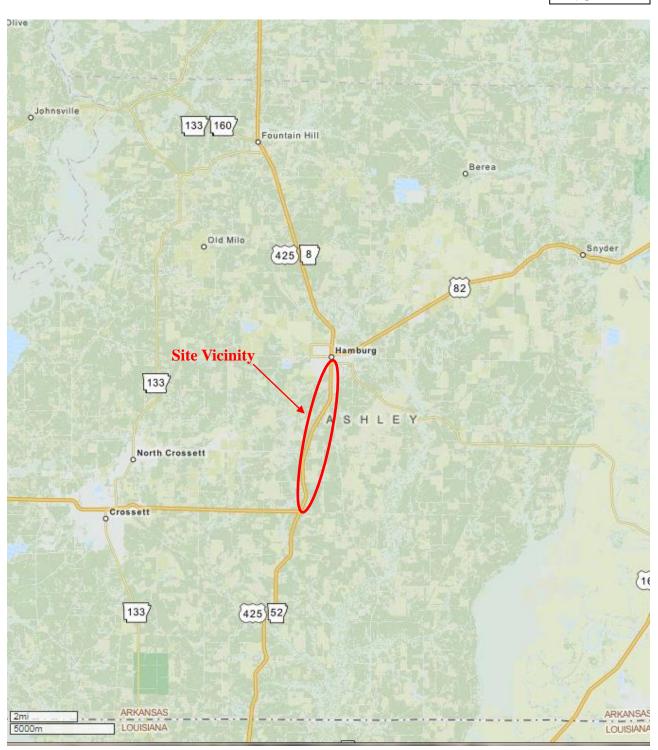
Crafton Tull & Associates, Inc.

Attn: Mr. Mike Burns, P.E.

(3+electronic)





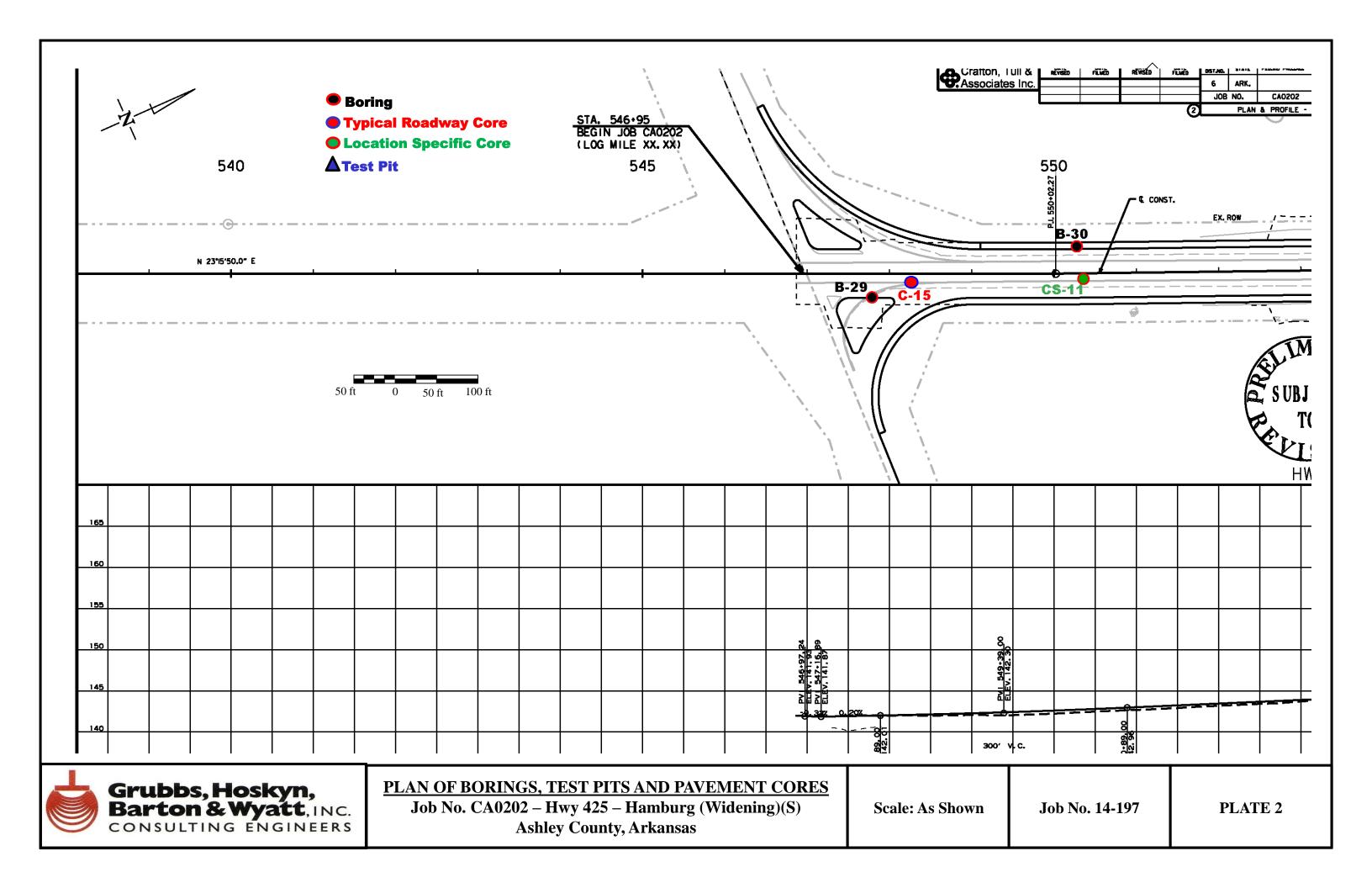


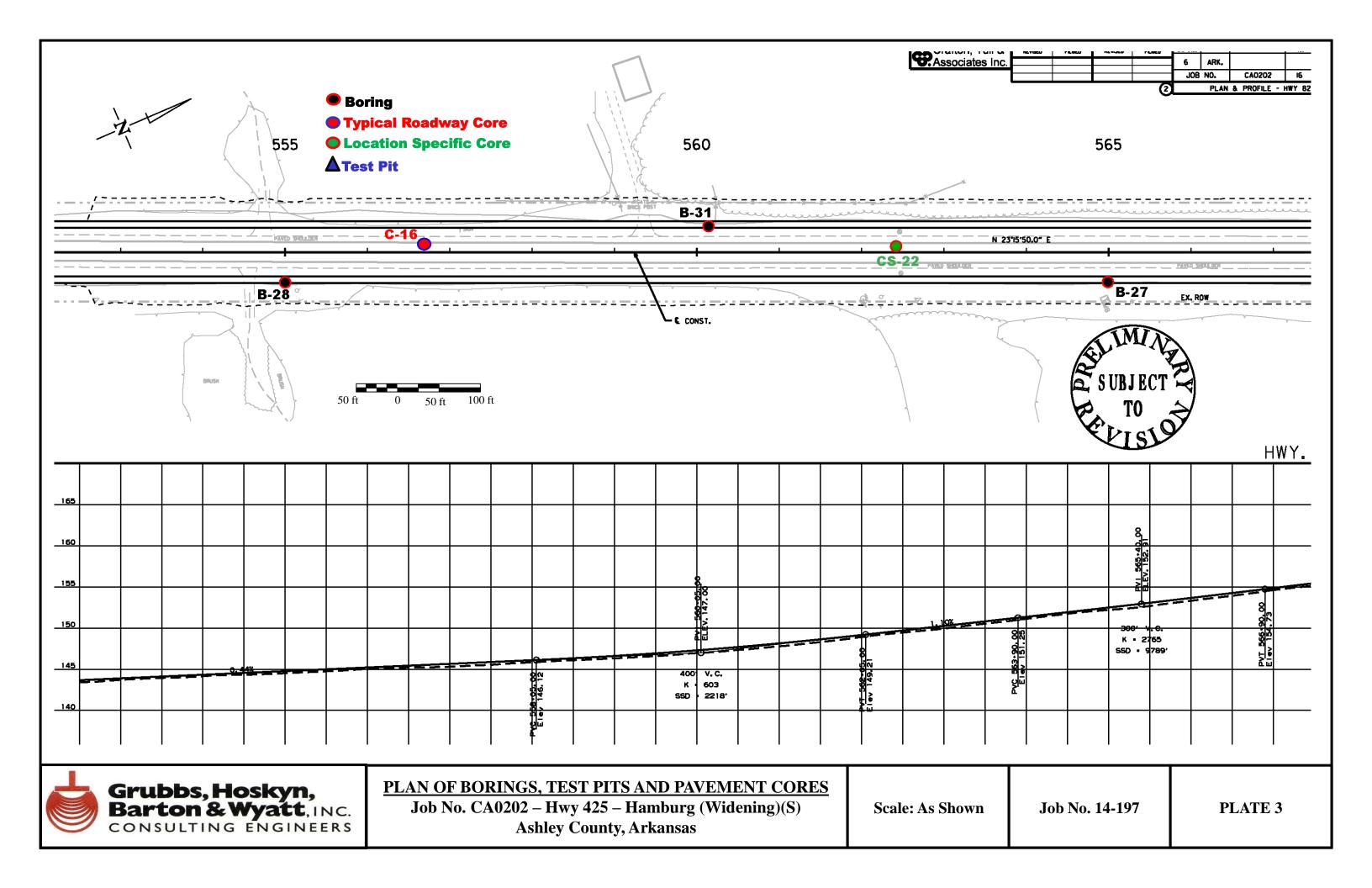


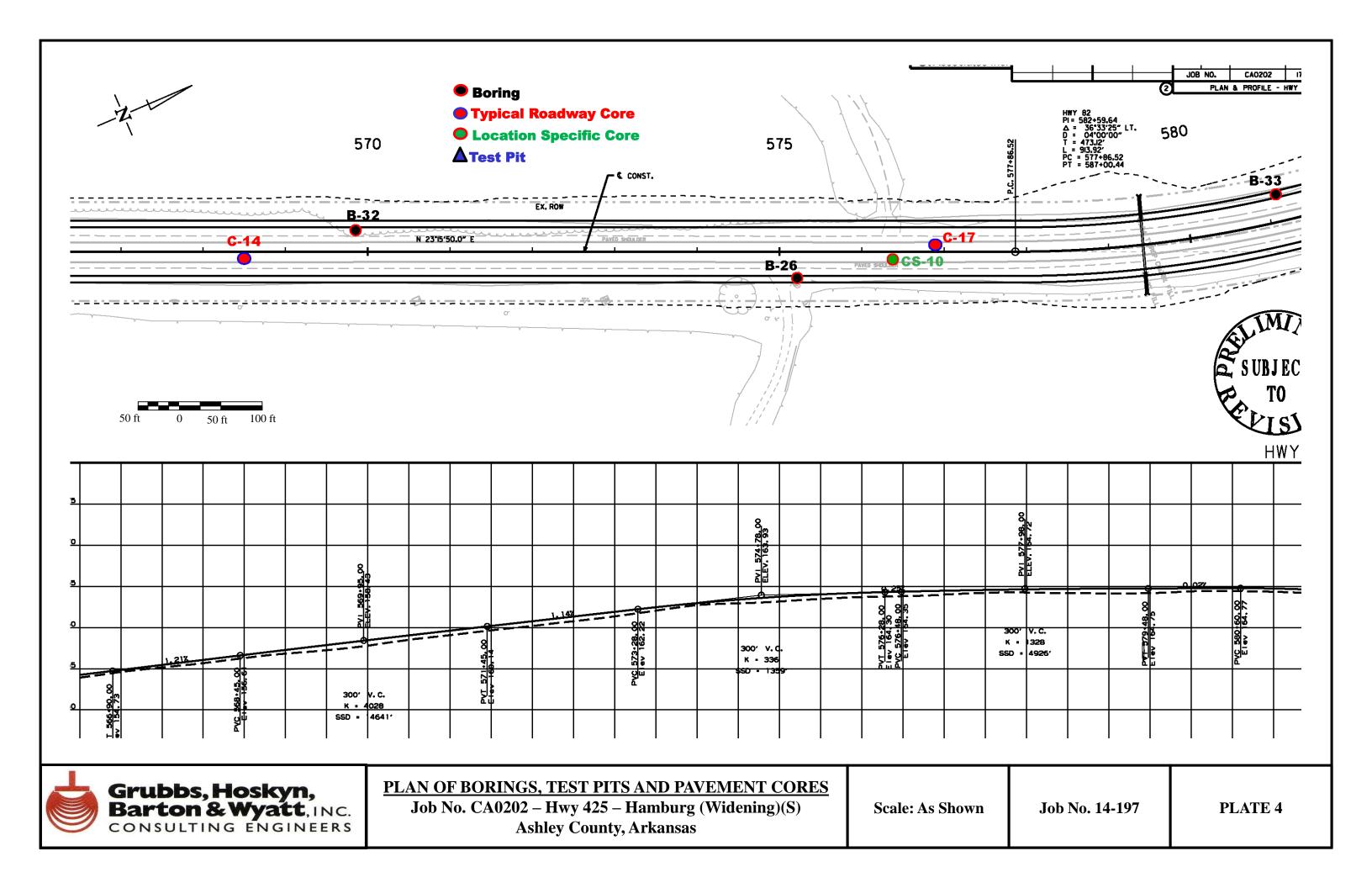
<u>SITE VICINITY MAP</u> CA0202 – Hwy 425 – Hamburg (Widening)(S) **Ashley County, Arkansas**

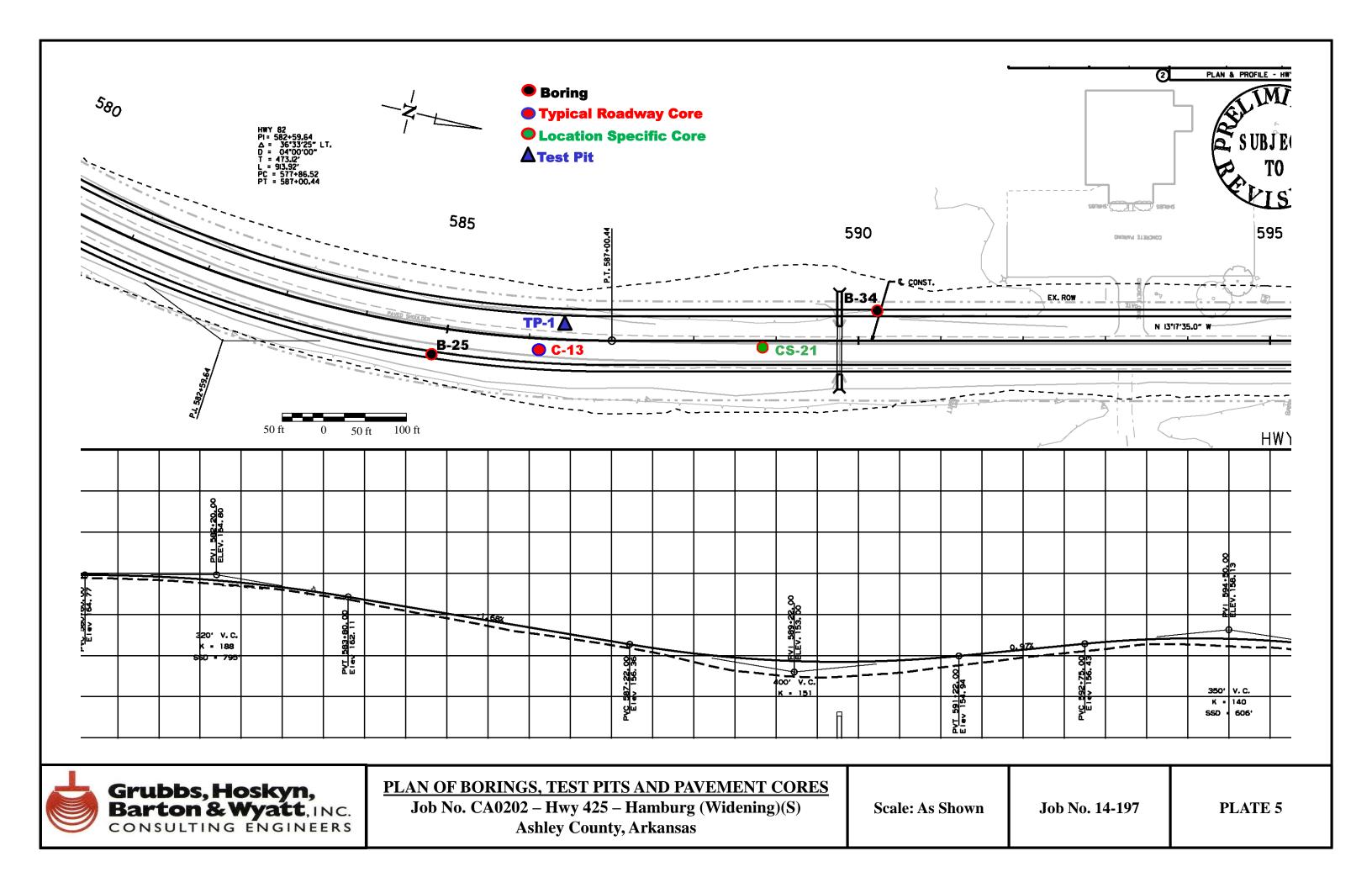
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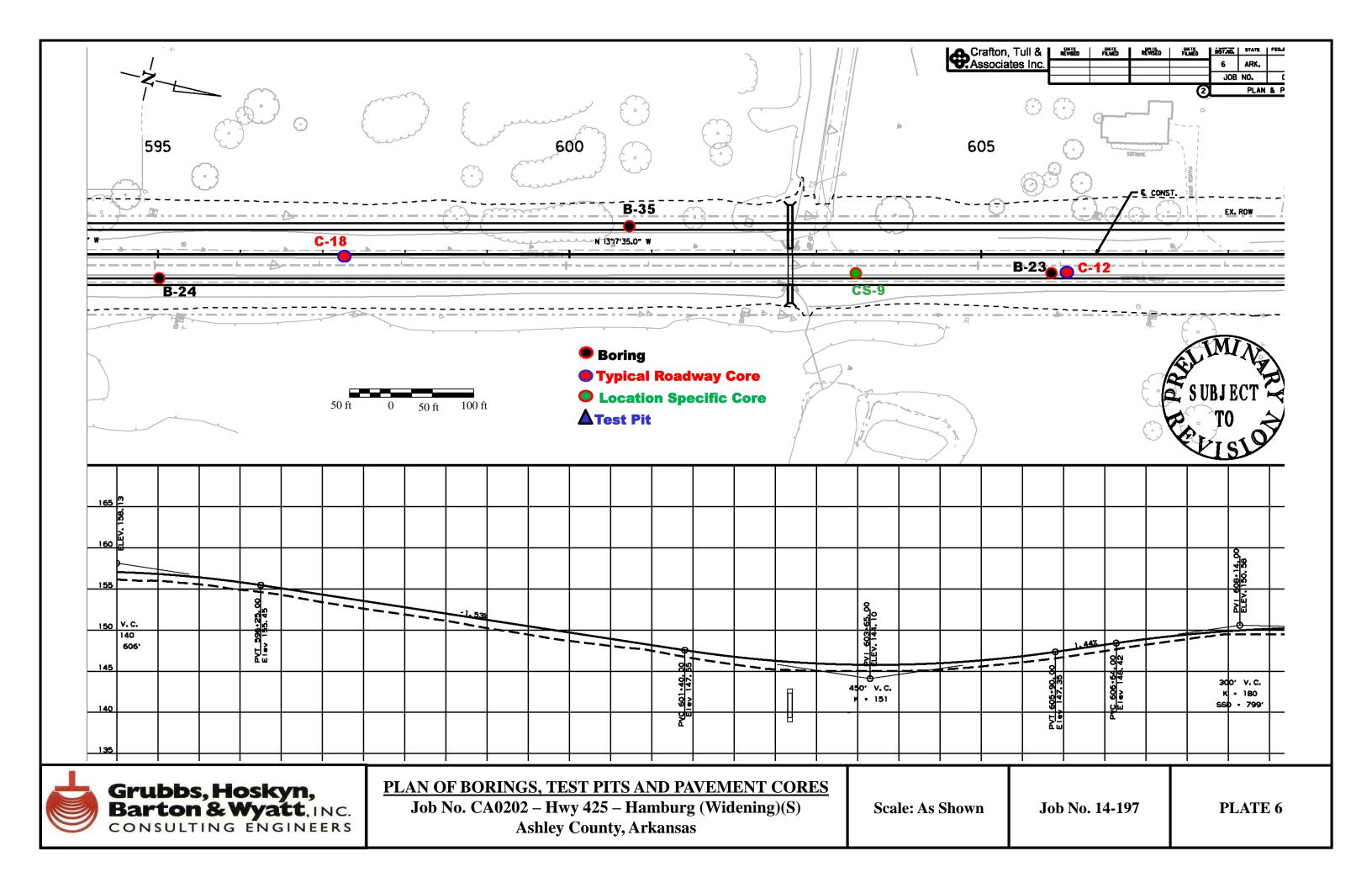
Plate 1

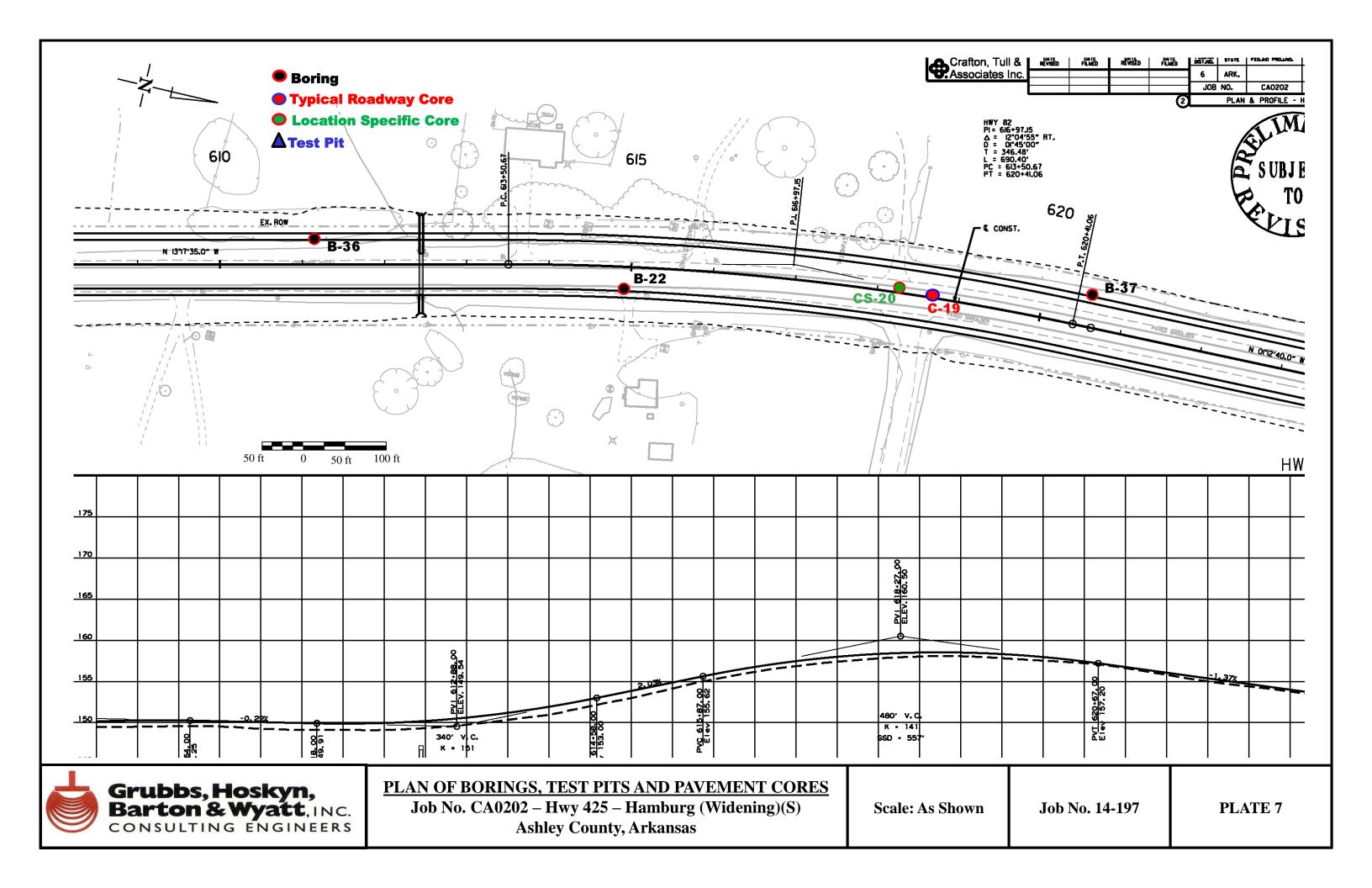


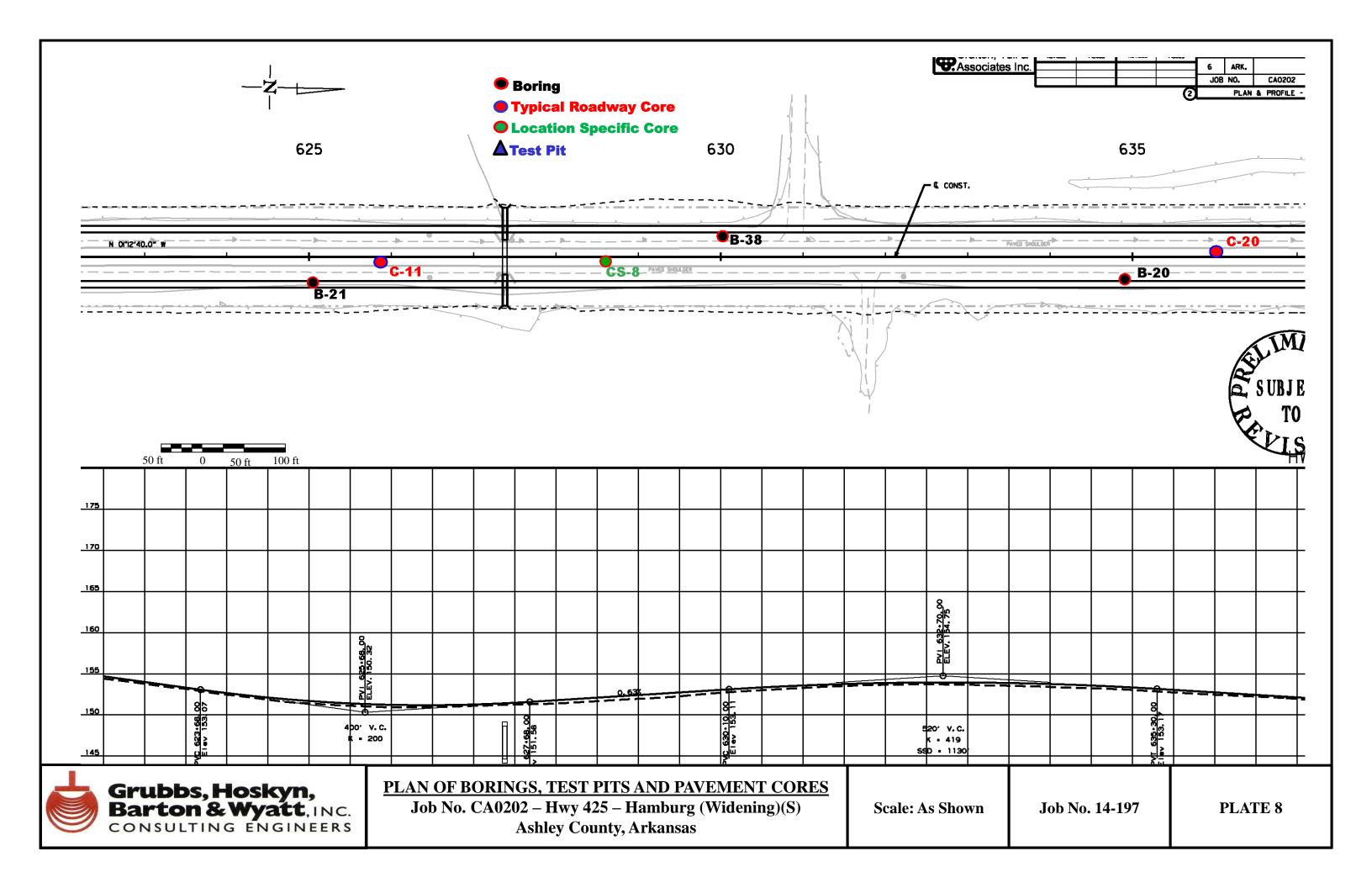


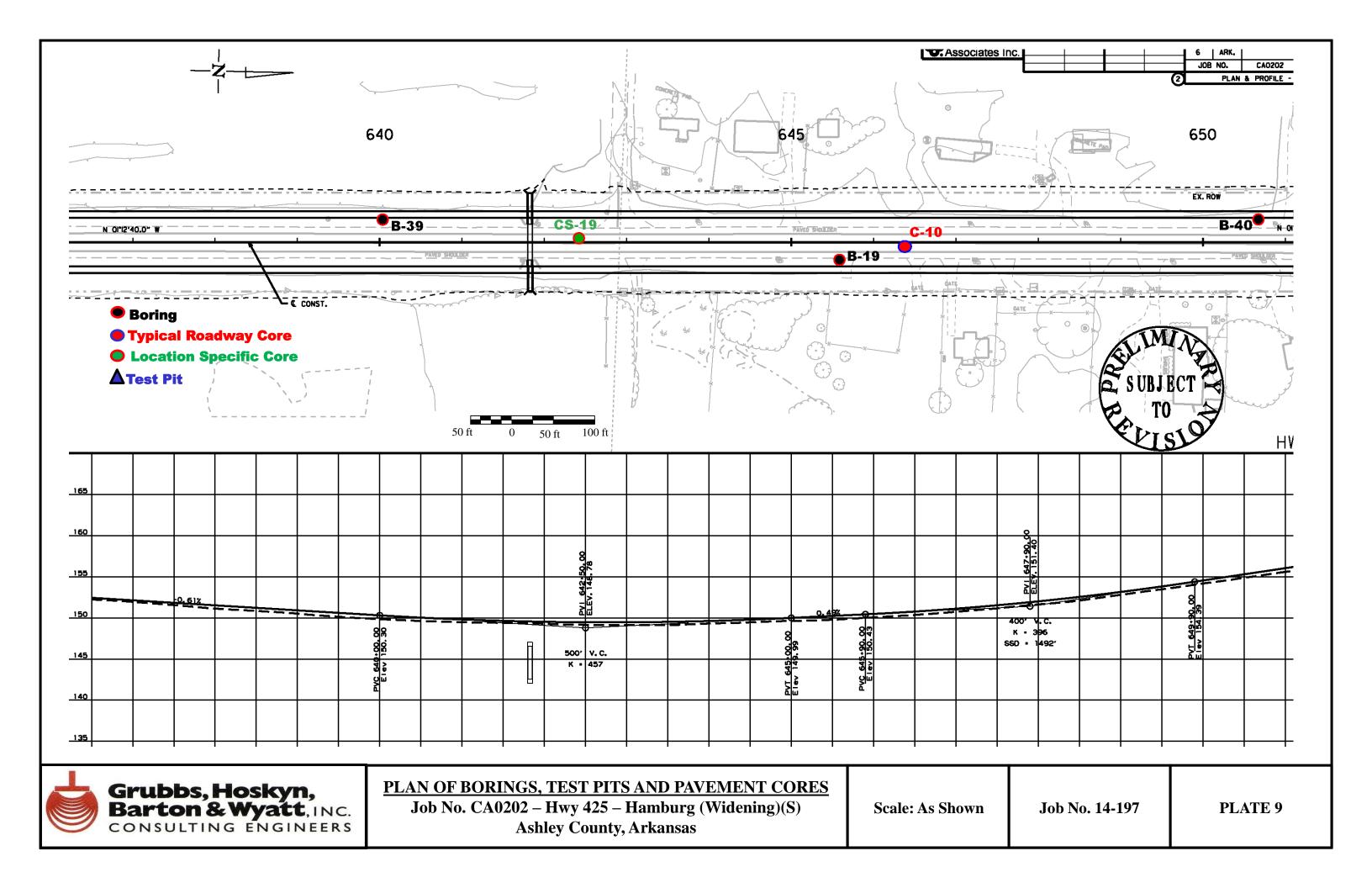


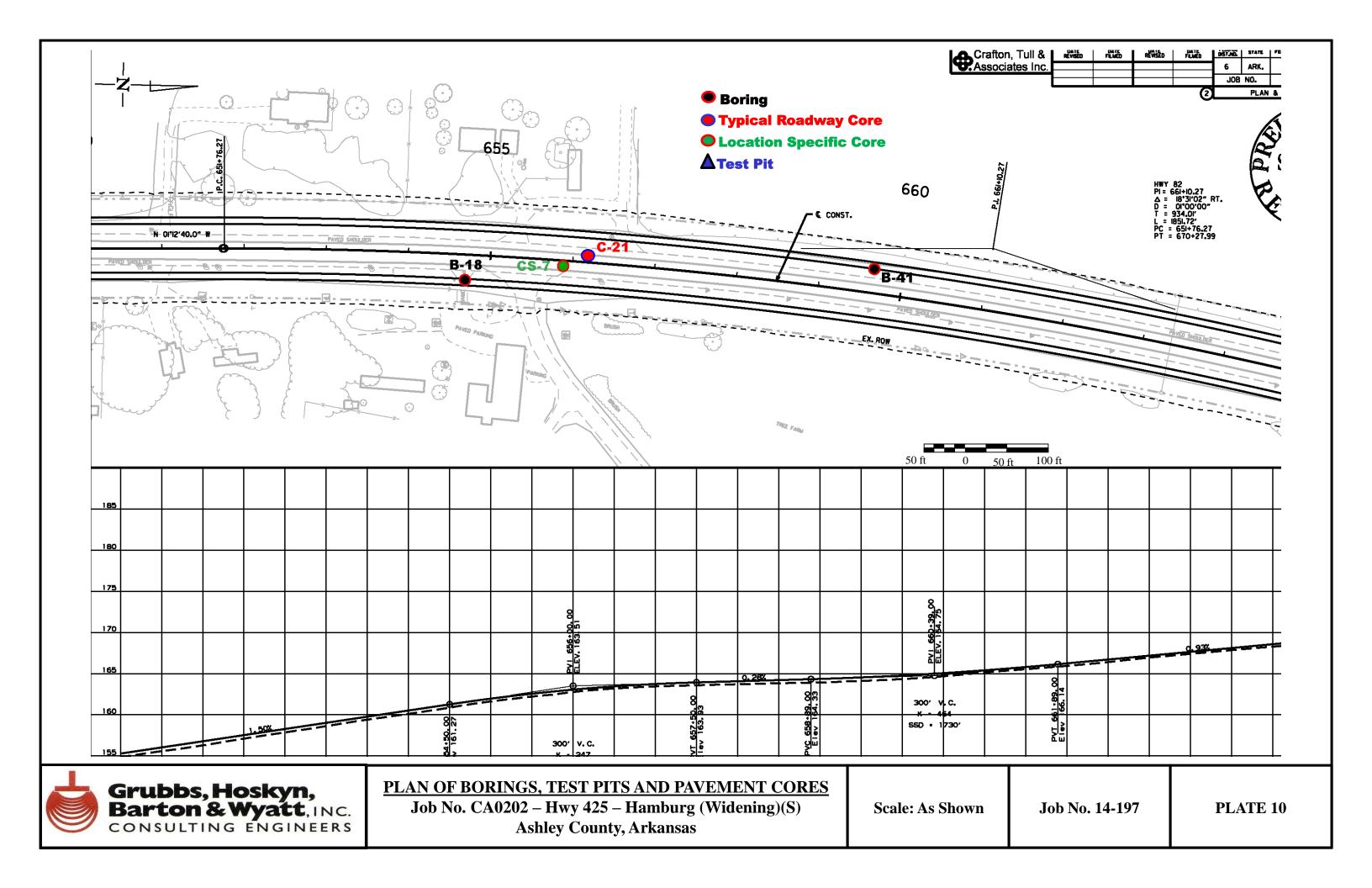


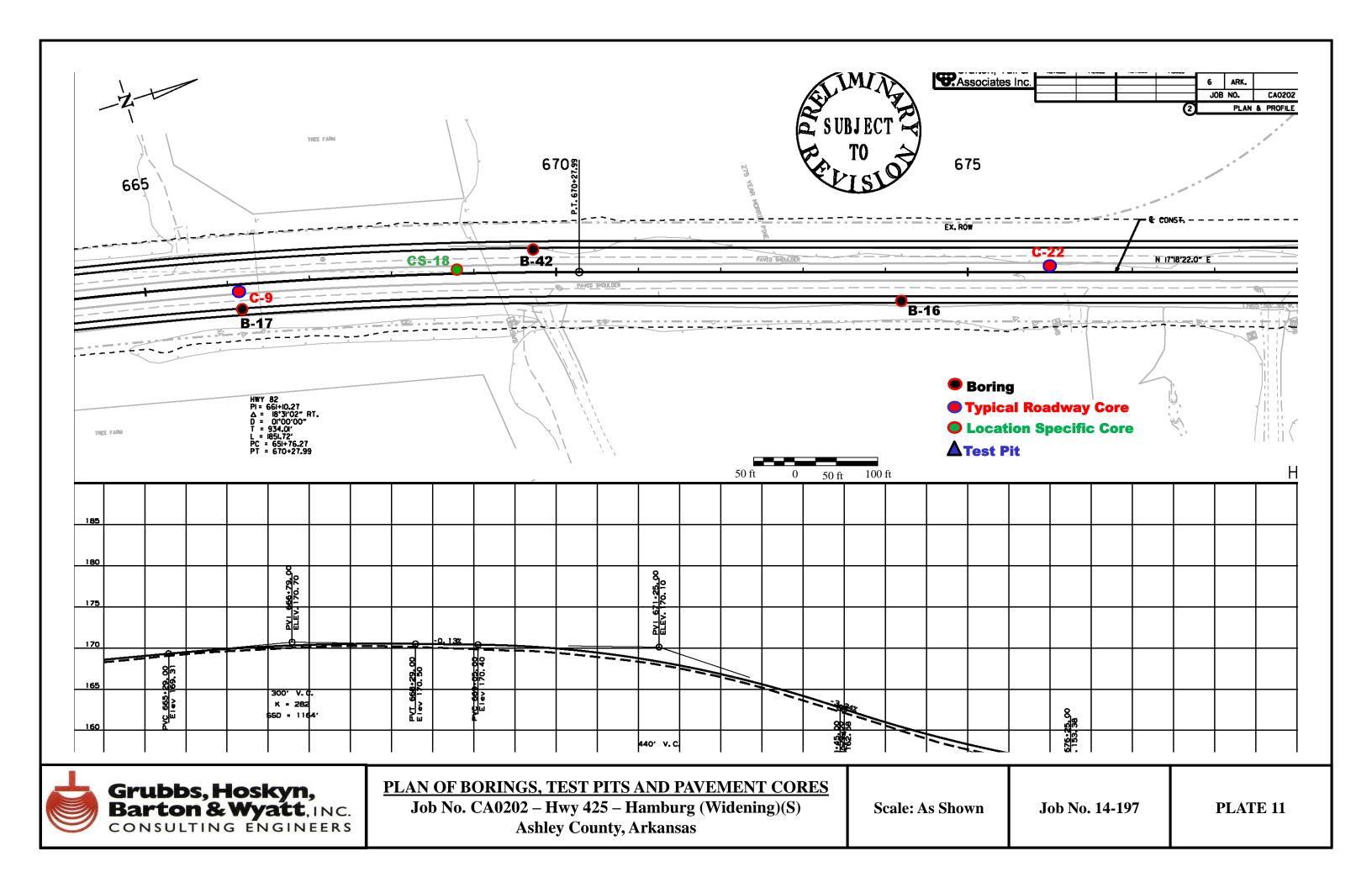


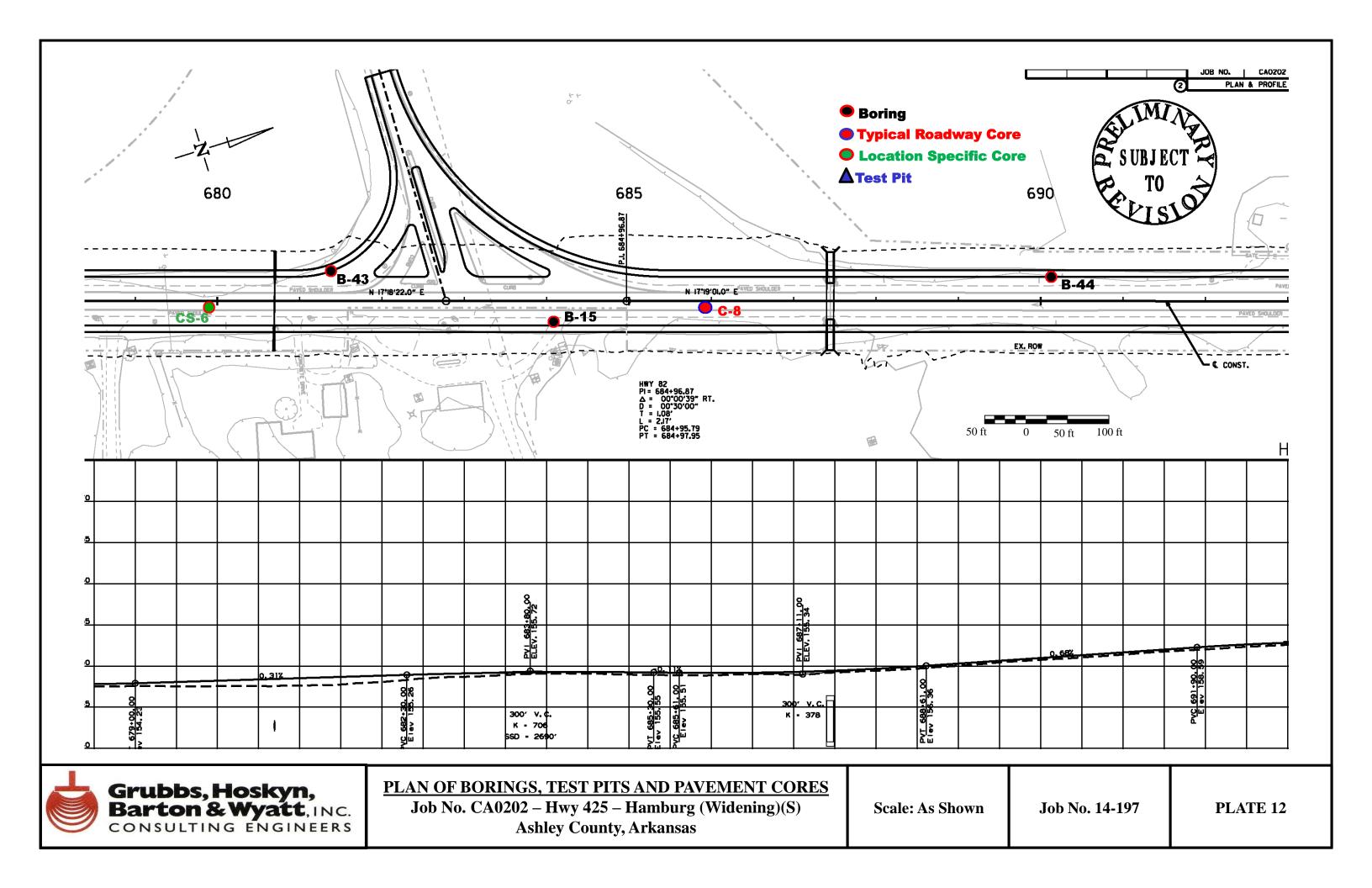


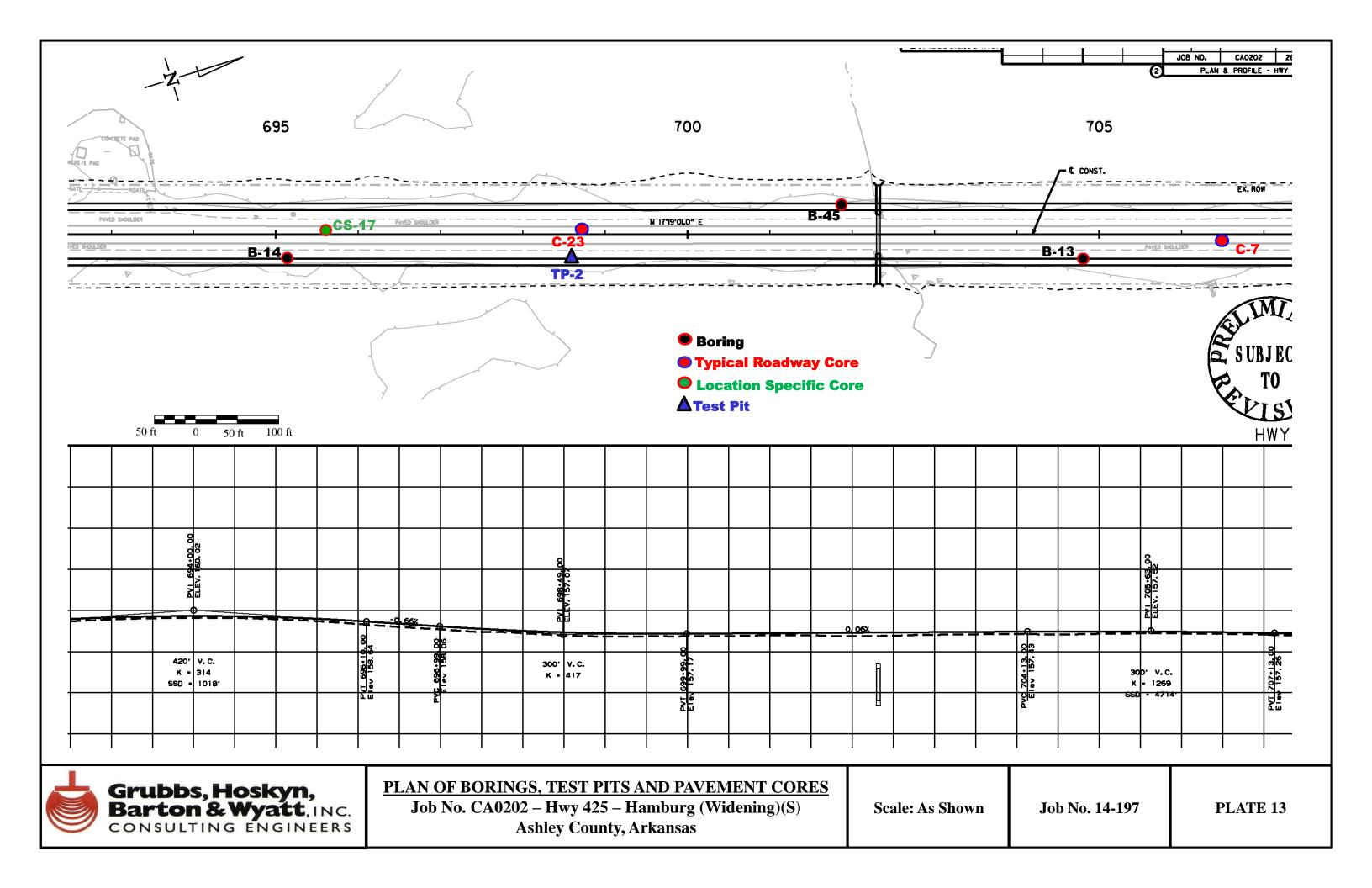


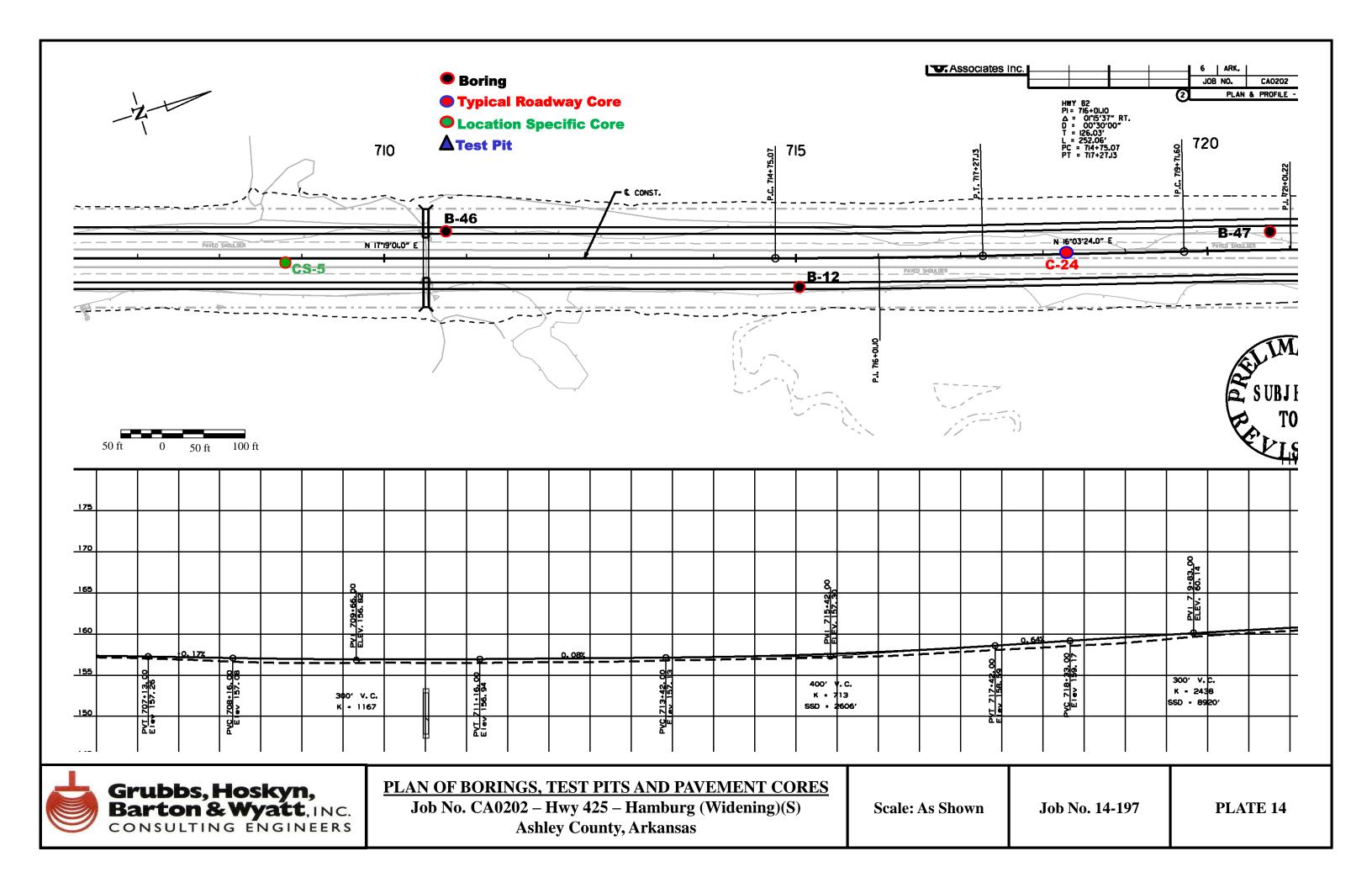


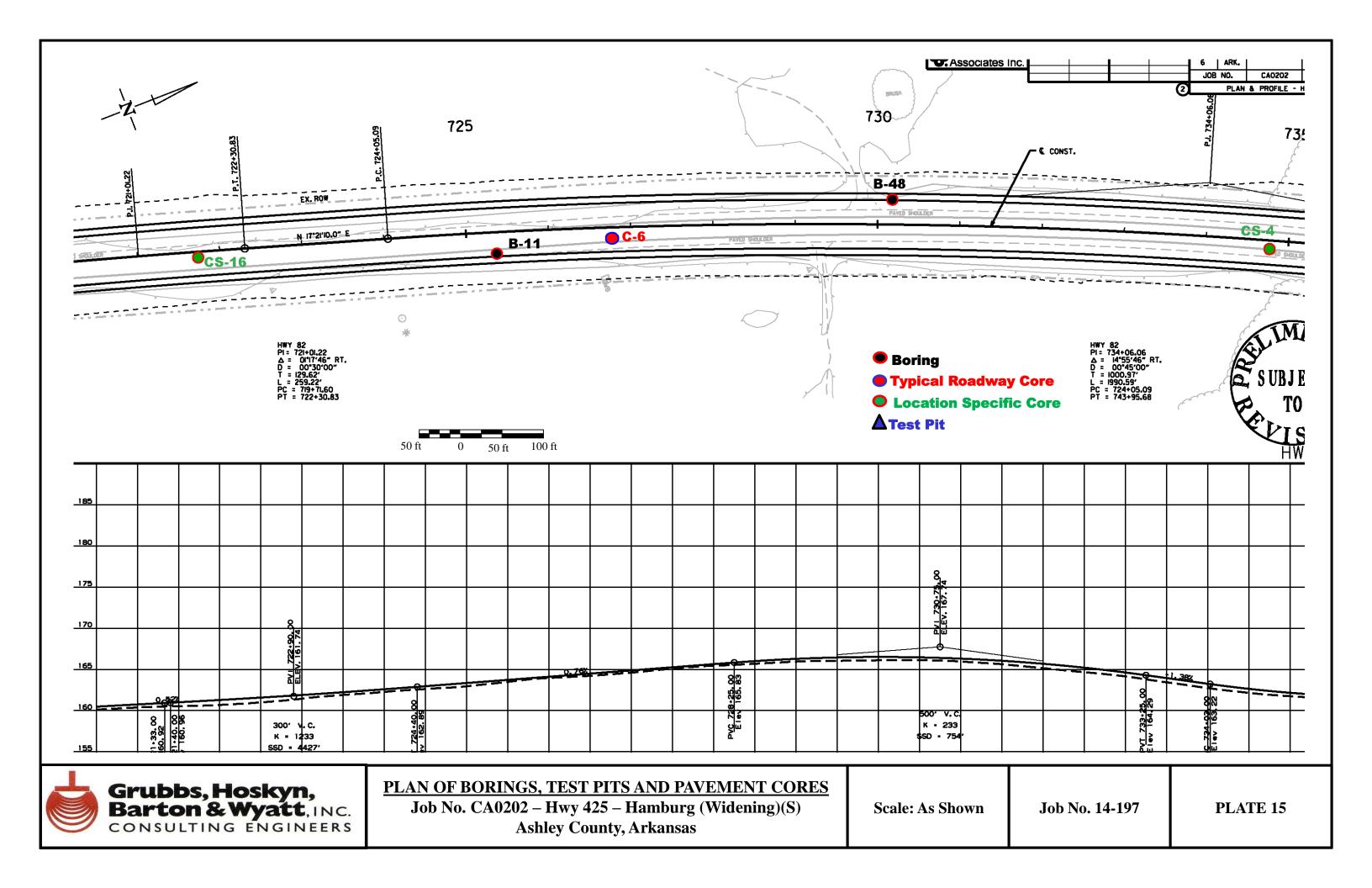


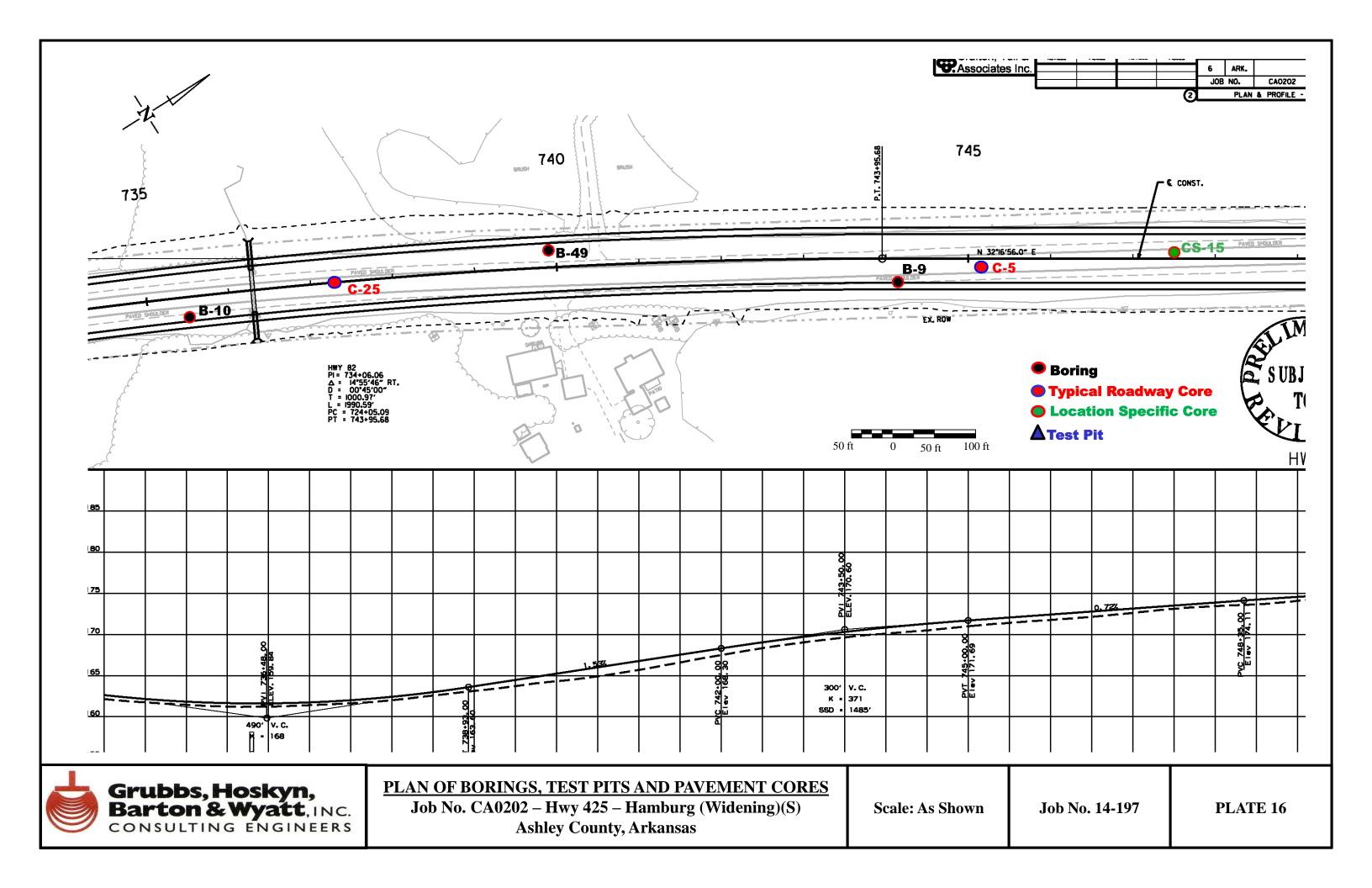


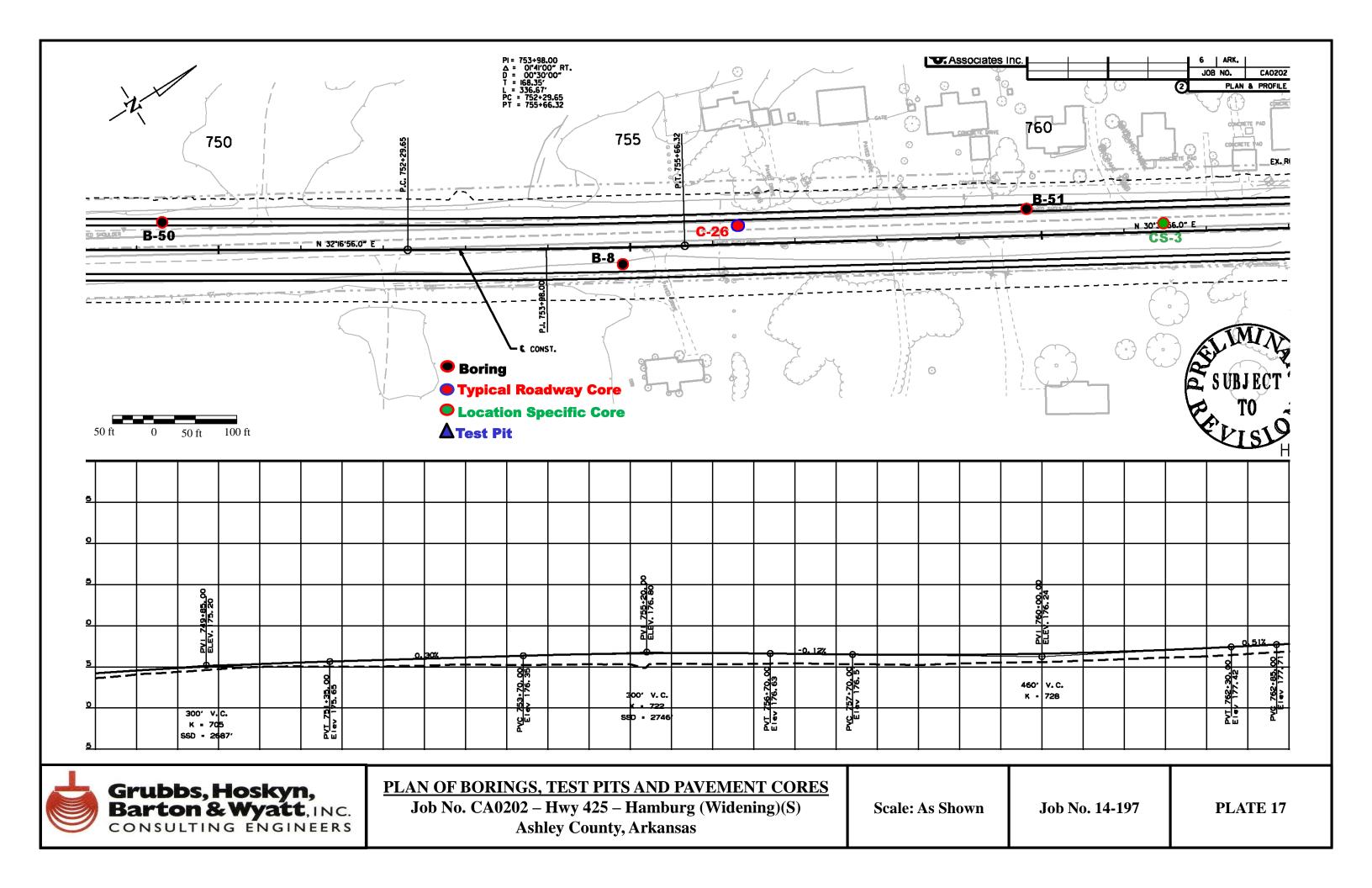


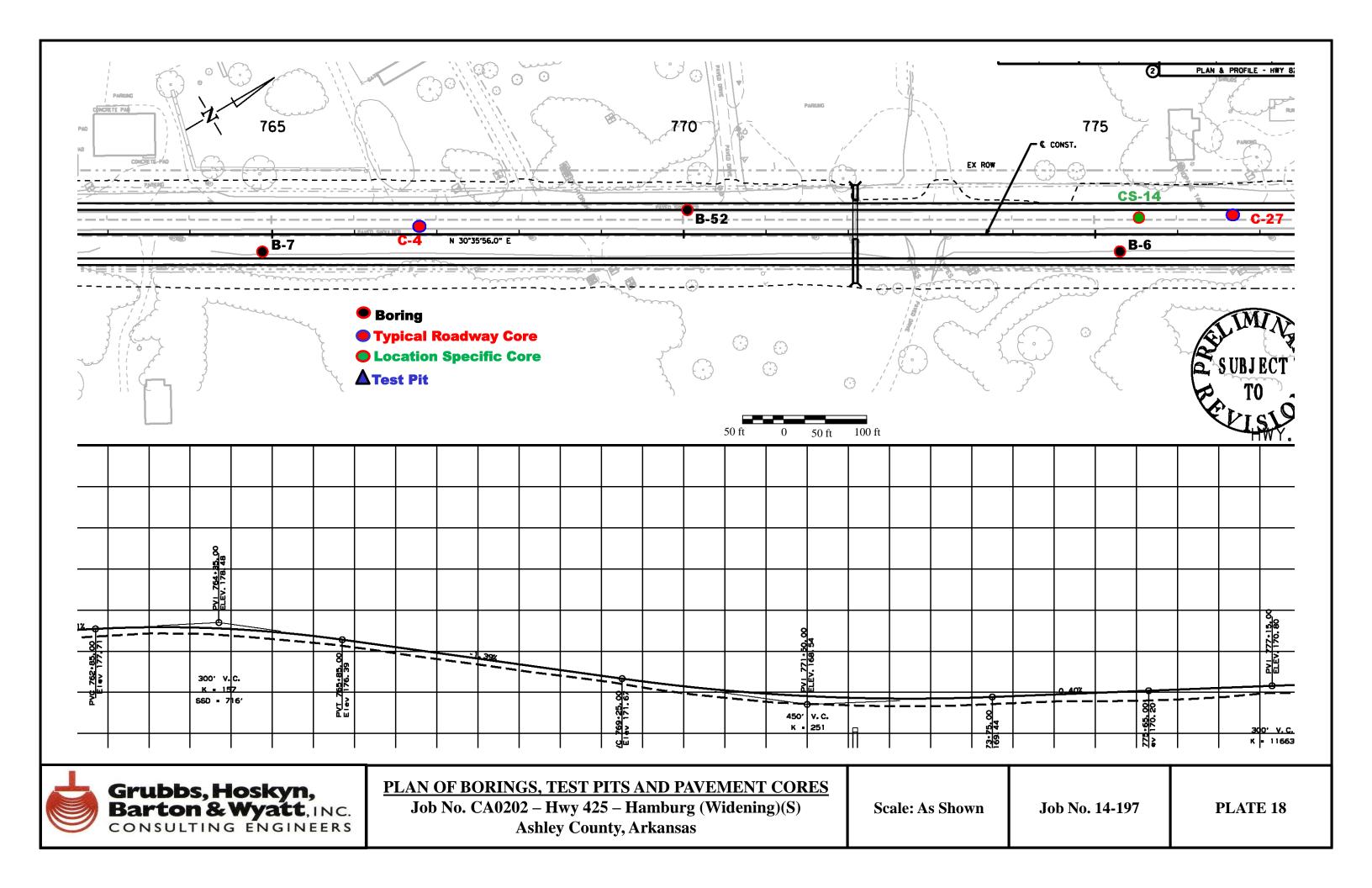


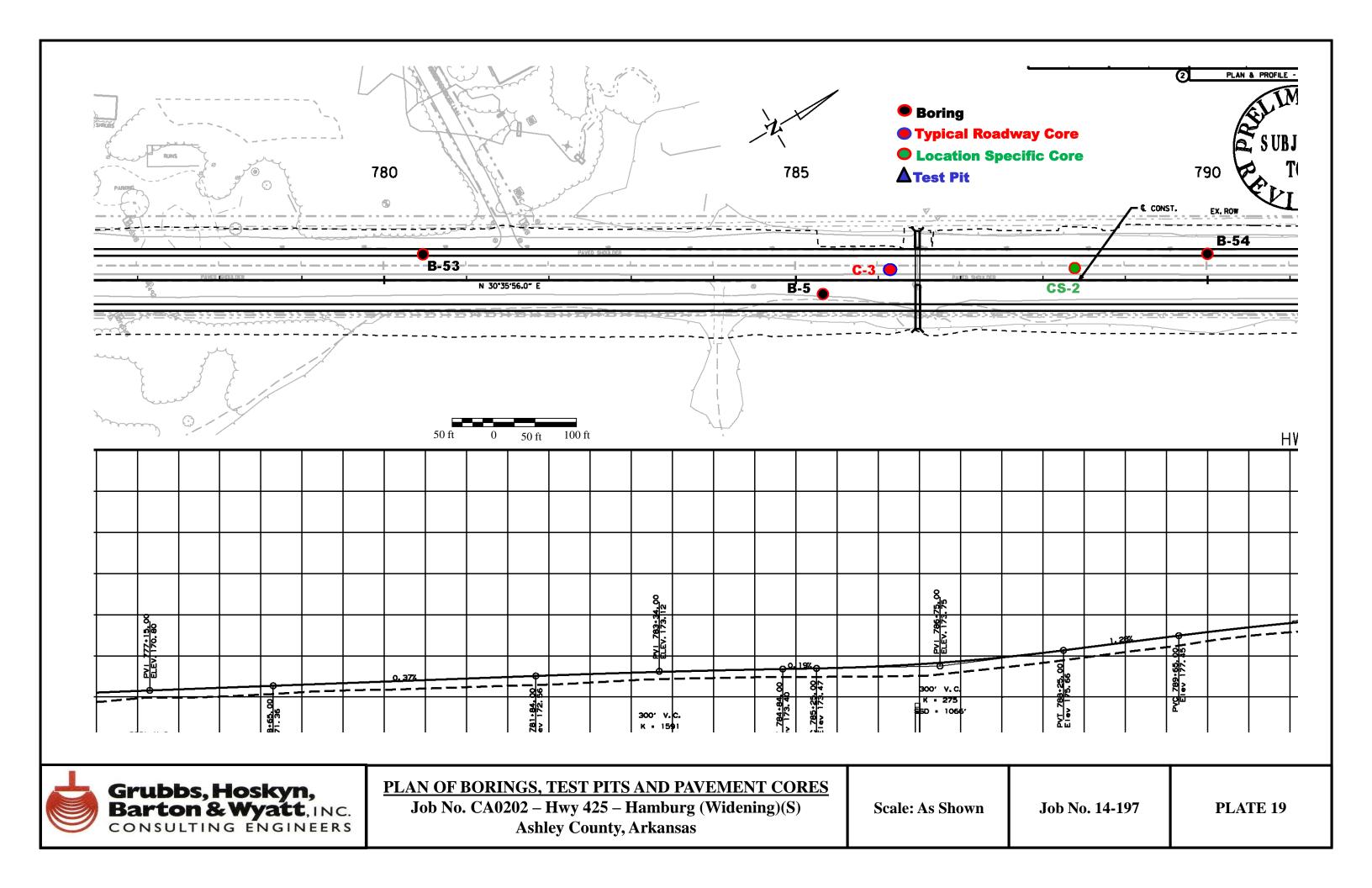


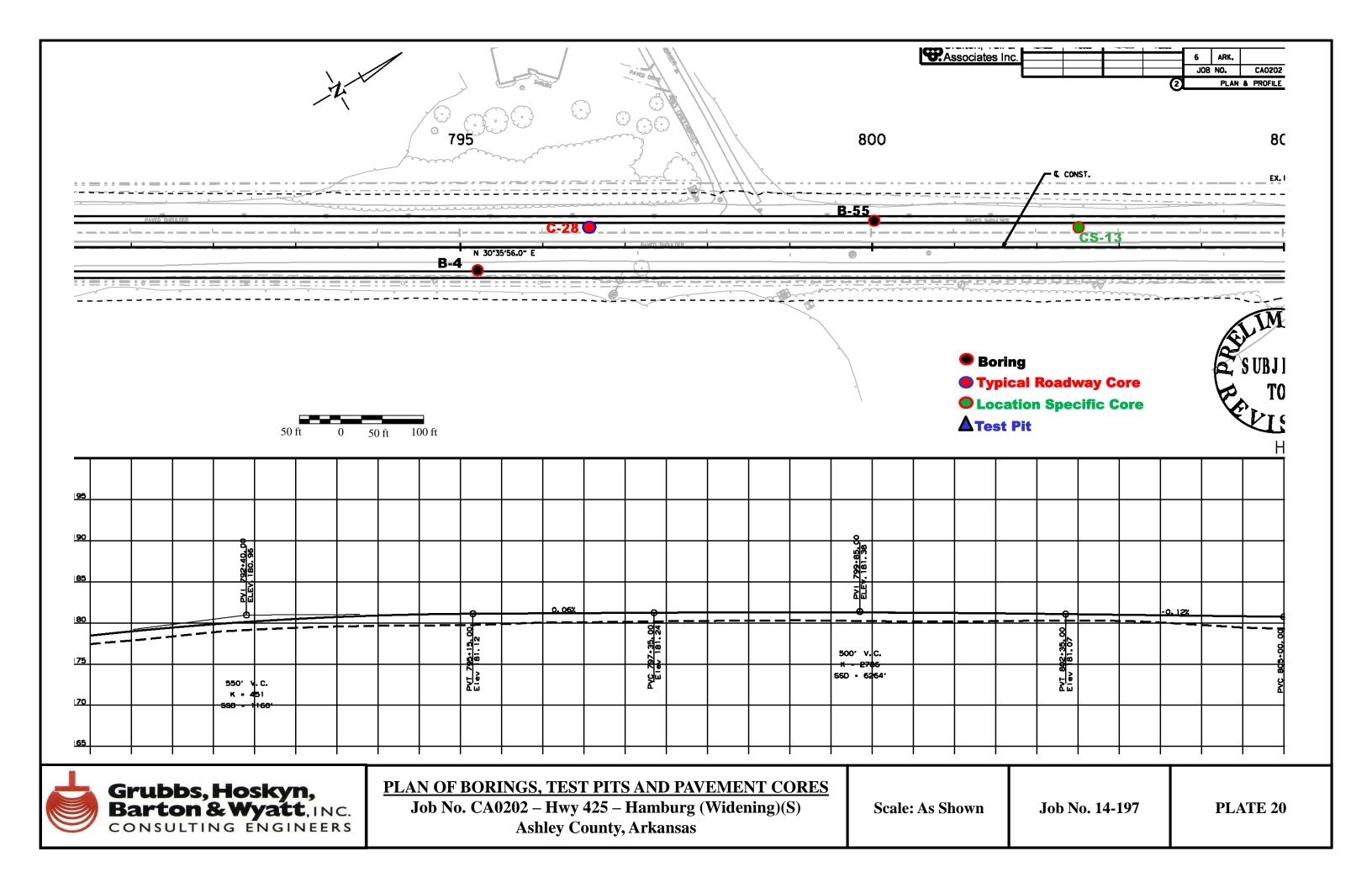


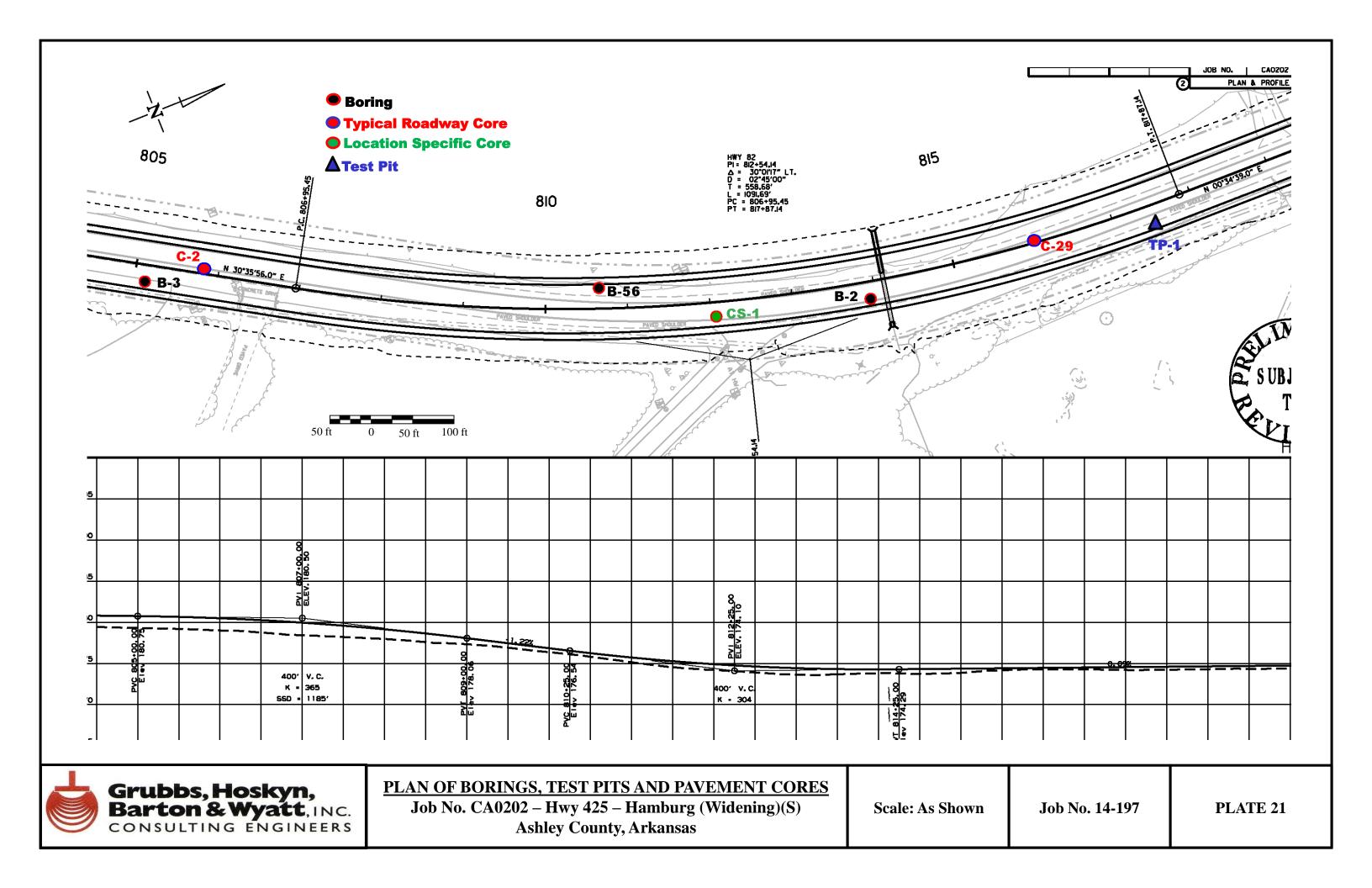


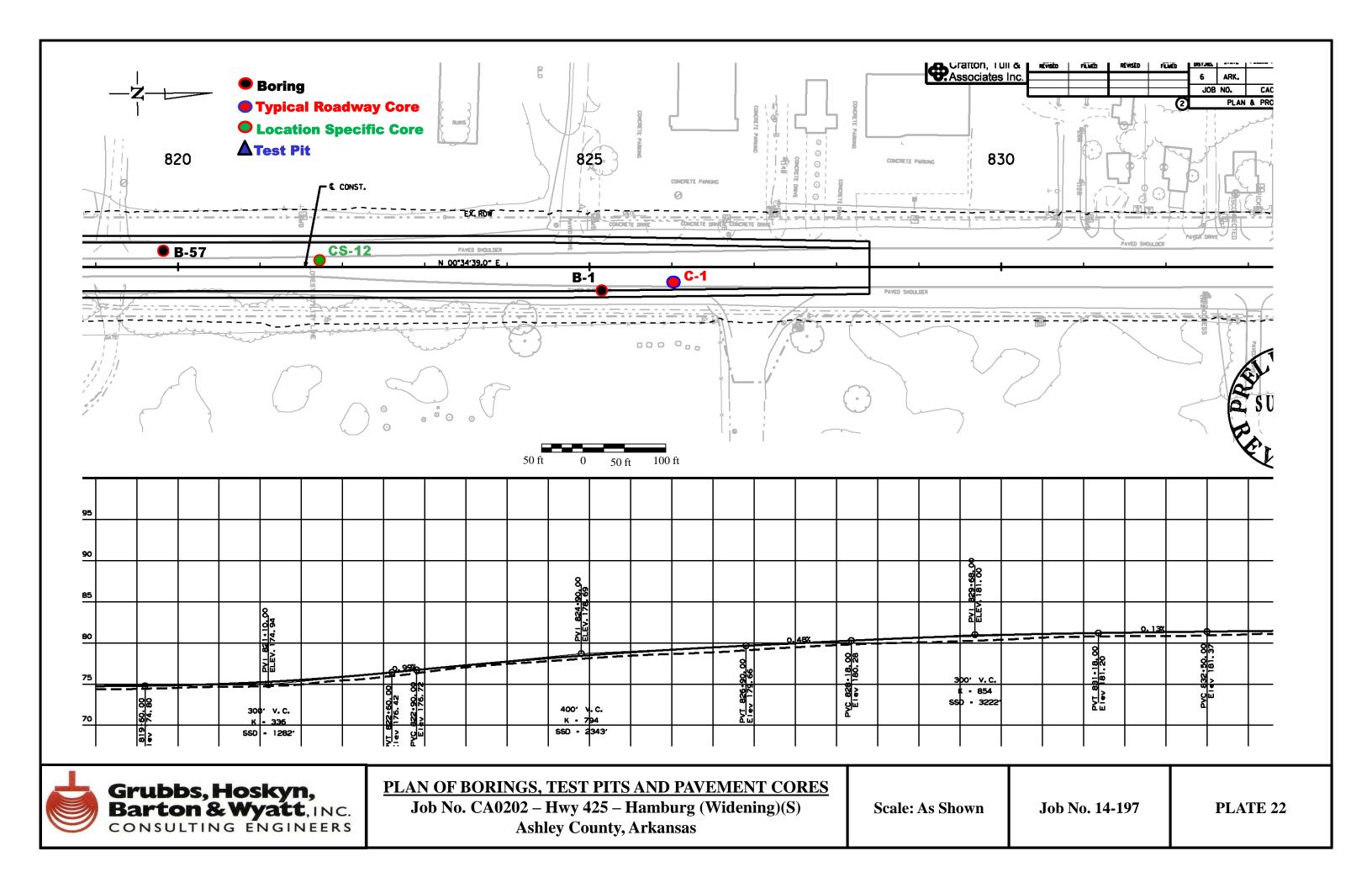


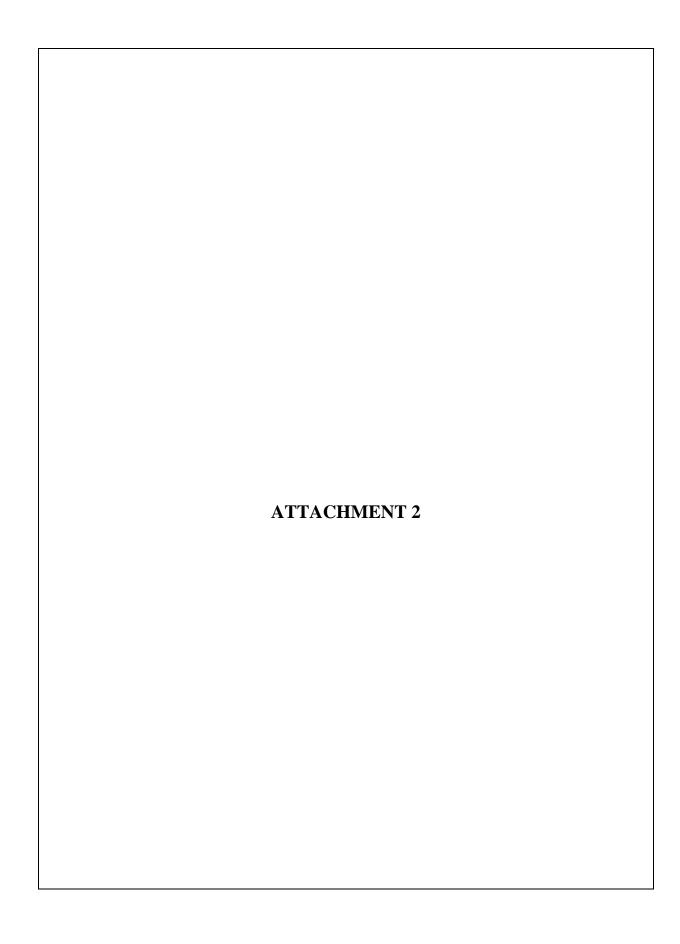








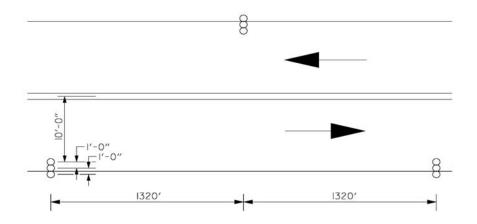




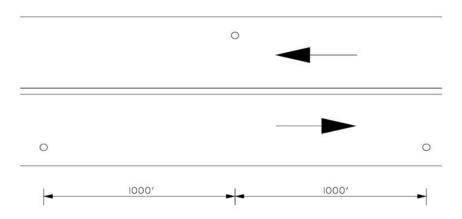
JOB CA0202 - Core Sampling Layout

Location Specific Cores						
Location	1/2 mile intervals alternating between lanes on the outside lane edge					
Depth of Corings	To bottom of Pavement					
Coring Size	6"					
Coring Size tolerance	± 0"					
Core Spacing	See Diagram below					

Begin cores at 10' from centerline and continue in 1' increments to find where full depth pavement ends.



Typical Cores					
Location	1000' Intervals alternating between lanes on				
Location	the outside wheel path				
Depth of Corings	To Bottom of Pavement				
Coring Size	4" or 6"				
Coring Size tolerance	± 0"				
Core Spacing	See Diagram below				



SUMMARY OF SUBSURFACE EXPLORATION

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S)
LOCATION: Little Rock, AR
GHBW JOB No.: 14-197

Boring No.	Station		ction CL	Completion	Approximate	Groundwater
Doring 110.			ett, ft	Depth, ft	Surface EL, ft	Depth, ft
1	825+16	30	RT	10	177.5	6
2	813+92	26	RT	10	175.3	6
3	805+22	26	RT	10	177.3	Dry
4	795+30	29	RT	10	178.0	Dry
5	785+35	19	RT	10	168.1	1
6	775+38	31	RT	10	166.4	Dry
7	764+89	21	RT	10	172.1	Dry
8	754+80	19	RT	10	171.8	Dry
9	744+14	31	RT	10	169.6	Dry
10	735+57	19	RT	10	160.4	6
11	725+37	27	RT	10	162.8	6
12	715+03	40	RT	10	151.7	1
13	704+77	37	RT	10	152.2	1
14	695+14	35	RT	10	154.9	4
15	684+02	22	RT	10	154.7	7
16	674+79	41	RT	10	154.8	3
17	665+19	37	RT	10	165.5	Dry
18	654+78	34	RT	10	160.5	6.2
19	645+68	31	RT	10	149.0	Dry
20	634+87	32	RT	10	150.8	Dry
21	625+03	38	RT	10	148.7	Dry
22	614+96	25	RT	10	152.0	Dry
23	605+89	21	RT	10	146.0	Dry
24	595+02	23	RT	10	155.0	Dry
25	584+82	39	RT	10	156.4	Dry
26	575+37	30	RT	10	162.1	Dry
27	564+98	39	RT	10	148.9	Dry
28	555+01	38	RT	10	140.1	Dry
29	547+90	29	RT	10	140.4	5
30	550+37	37	LT	10	137.2	Dry
31	560+15	33	LT	10	143.0	2
32	569+87	33	LT	10	154.1	Dry
33	581+06	36	LT	10	158.6	Dry
34	590+26	40	LT	10	146.4	1
35	600+80	38	LT	10	143.7	1
36	611+15	35	LT	10	145.7	Dry

SUMMARY OF SUBSURFACE EXPLORATION

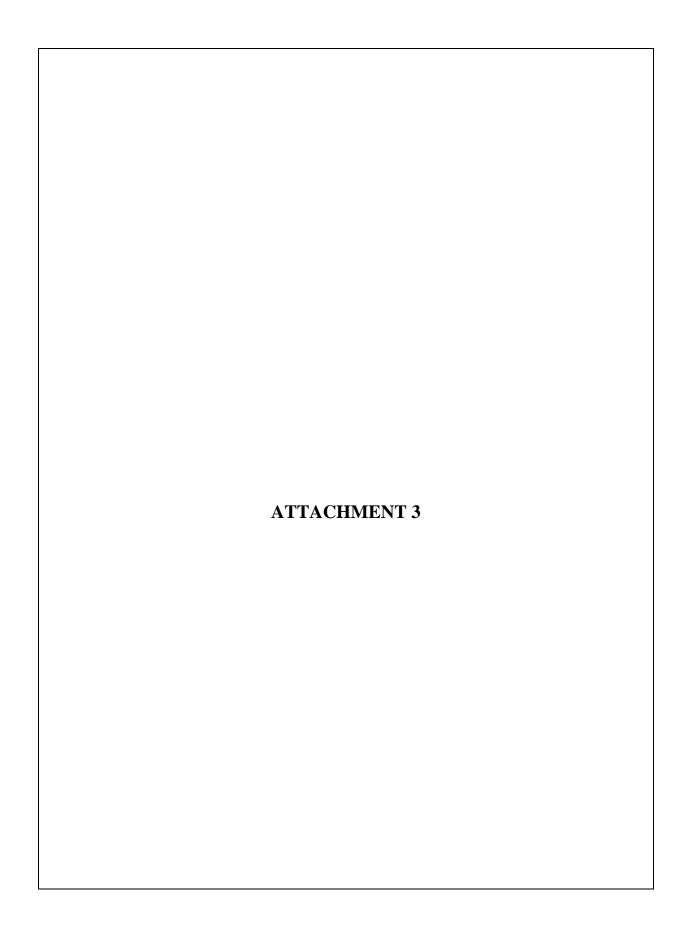
PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S)
LOCATION: Little Rock, AR
GHBW JOB No.: 14-197

Davina Na	Station	Constru	ction CL	Completion	Approximate	Groundwater
Boring No.	Station	Offse	ett, ft	Depth, ft	Surface EL, ft	Depth, ft
37	620+62	42	LT	10	151.6	1
38	630+38	35	LT	10	149.3	2
39	640+06	35	LT	10	146.0	2
40	650+74	31	LT	10	152.5	2
41	659+69	35	LT	10	161.4	2
42	669+67	28	LT	10	167.5	Dry
43	681+43	41	LT	10	149.3	2
44	690+16	38	LT	10	150.9	Dry
45	701+91	40	LT	10	150.7	3
46	710+75	32	LT	10	152	Dry
47	720+73	20	LT	10	157.0	Dry
48	730+19	29	LT	10	164.9	Dry
49	739+86	29	LT	10	158.9	2
50	749+28	42	LT	10	168.4	Dry
51	759+81	37	LT	10	175.3	Dry
52	770+06	37	LT	10	169.5	7.7
53	780+48	39	LT	10	169.5	Dry
54	790+00	40	LT	10	177	Dry
55	800+08	39	LT	10	179.9	Dry
56	810+71	28	LT	10	172.1	2
57	819+80	40	LT	10	172.7	3
C1	825+62	22	RT	6.5	177.5	Dry
C2	805+78	8	LT	6	175.3	Dry
C3	786+44	10	LT	8	177.3	6.5
C4	765+82	9	LT	6	178.0	Dry
C5	745+11	14	RT	6	168.1	Dry
C6	726+87	15	RT	6	166.4	Dry
C7	706+53	8	RT	6	172.1	Dry
C8	684+93	9	RT	8.5	171.8	Dry
C9	665+14	10	RT	6.5	169.6	Dry
C10	646+42	10	RT	6.5	160.4	Dry
C11	625+82	9	RT	6.5	162.8	Dry
C12	606+00	22	RT	6.5	151.7	Dry
C13	586+11	7	RT	6.5	152.2	Dry
C14	568+47	11	RT	6.5	154.9	Dry

SUMMARY OF SUBSURFACE EXPLORATION

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S)
LOCATION: Little Rock, AR
GHBW JOB No.: 14-197

Boring No.	Station	Construction CL Offsett, ft		Completion Depth, ft	Approximate Surface EL, ft	Groundwater Depth, ft
C15	548+30	11	RT	9.5	154.7	7.3
C16	556+74	10	LT	8	154.8	Dry
C17	576+96	9	LT	6.5	165.5	Dry
C18	597+31	7	LT	6.5	160.5	Dry
C19	618+62	11	LT	6.5	149.0	Dry
C20	636+77	9	LT	6.5	150.8	Dry
C21	656+16	7	LT	6	148.7	Dry
C22	676+00	6	LT	6.5	152.0	Dry
C23	698+71	8	LT	6	146.0	Dry
C24	718+20	CL		6	155.0	Dry
C25	737+24	4	LT	6	156.4	Dry
C26	756+33	25	LT	6.5	162.1	Dry
C27	776+75	26	LT	6	148.9	Dry
C28	796+56	26	LT	6.5	140.1	Dry
C29	816+00	2	LT	6.5	140.4	Dry
TP-1	817+49	27	RT	4	171.9	Dry
TP-2	698+58	26	RT	4	154.8	Dry
TP-3	586+50	15	LT	10	151.0	Dry
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PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW	JOB	No.:	14-197
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Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase	Comments
CS1A	812+05	20 RT	10 RT	175.5	Northbound	6.5	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS1B	812+05	21 RT	11 RT	175.5	Northbound	4	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS2A	788+40	8 LT	10 RT	174.8	Northbound	7.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS2B	788+40	7 LT	11 RT	174.8	Northbound	7.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS2C	788+40	6 LT	12 RT	174.8	Northbound	5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 12ft from existing CL
CS3A	761+53	6 LT	10 RT	176.1	Northbound	8	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS3B	761+53	5 LT	11 RT	176.1	Northbound	4.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 11ft from existing CL
CS4A	734+80	10 RT	10 RT	163	Northbound	8.5	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS4B	734+80	11 RT	11 RT	163	Northbound	11.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 13ft from existing CL
CS4C	734+80	12 RT	12 RT	163	Northbound	9.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 13ft from existing CL
CS4D	734+80	13 RT	13 RT	163	Northbound	4.75	Sandy fine to coarse gravel	Full Depth Pavement extends approx 13ft from existing CL
CS5A	708+82	10 RT	10 RT	156.2	Northbound	8.5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 11ft from existing CL
CS5B	708+82	11 RT	11 RT	156.2	Northbound	3.25	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 11ft from existing CL
CS6A	679+91	11 RT	10 RT	153.6	Northbound	9.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS6B	679+91	12 RT	11 RT	153.6	Northbound	9	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS6C	679+91	13 RT	12 RT	153.6	Northbound	2.25	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 12ft from existing CL

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase	Comments
CS7A	655+92	12 RT	10 RT	162.3	Northbound	7	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS7B	655+92	13 RT	11 RT	162.3	Northbound	2	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS8A	628+66	12 RT	10 RT	151.8	Northbound	9	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS8B	628+66	13 RT	11 RT	151.8	Northbound	8.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS8C	628+66	14 RT	12 RT	151.8	Northbound	3.5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 12ft from existing CL
CS9A	603+53	10 RT	10 RT	145±	Northbound	14	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS9B	603+53	11 RT	11 RT	145±	Northbound	6.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS9C	603+53	12 RT	12 RT	145±	Northbound	3	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 12ft from existing CL
CS10A	576+41	12 RT	10 RT	149.2	Northbound	11	Sandy fine to coarse gravel	Full Depth Pavement extends approx 11ft from existing CL
CS10B	576+41	13 RT	11 RT	149.2	Northbound	9	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 11ft from existing CL
CS11A	550+39	9 RT	10 RT	150.9	Northbound	12	Soil cement	Full Depth Pavement extends approx 14ft from existing CL
CS11B	550+39	10 RT	11 RT	150.9	Northbound	10.5	Soil cement	Full Depth Pavement extends approx 14ft from existing CL
CS11C	550+39	11 RT	12 RT	150.9	Northbound	10.75	Soil cement	Full Depth Pavement extends approx 14ft from existing CL
CS11D	550+39	12 RT	13 RT	150.9	Northbound	12	Soil cement	Full Depth Pavement extends approx 14ft from existing CL
CS11E	550+39	13 RT	14 RT	150.9	Northbound	7.5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 14ft from existing CL
CS12A	821+66	11 LT	10 LT	175.1	Southbound	11.5	Soil cement	Full Depth Pavement extends approx 11ft from existing CL

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase	Comments
CS12B	821+66	12 LT	11 LT	175.1	Southbound	5	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS13A	802+50	28 LT	10 LT	175.1	Southbound	11	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS13B	802+50	29 LT	11 LT	175.1	Southbound	11	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS13C	802+50	30 LT	12 LT	175.1	Southbound	5.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 12ft from existing CL
CS14A	775+55	28 LT	10 LT	169.3	Southbound	5.5	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS14B	775+55	29 LT	11 LT	169.3	Southbound	4.5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 11ft from existing CL
CS15A	747+47	10 LT	10 LT	172.8	Southbound	8.5	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS15B	747+47	11 LT	11 LT	172.8	Southbound	5.75	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS15C	747+47	12 LT	12 LT	172.8	Southbound	6.5	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS15D	747+47	13 LT	13 LT	172.8	Southbound	4.75	Sandy fine to coarse gravel	Full Depth Pavement extends approx 13ft from existing CL
CS16A	721+76	1 RT	10 LT	160.6	Southbound	8.5	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS16B	721+76	CL	11 LT	160.6	Southbound	6	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS16C	721+76	1 LT	12 LT	160.6	Southbound	6.5	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS16D	721+76	2 LT	13 LT	160.6	Southbound	5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 13ft from existing CL
CS17A	695+62	12 LT	10 LT	158.5	Southbound	7	Soil cement	Full Depth Pavement extends approx 11ft from existing CL

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase	Comments
CS17B	695+62	13 LT	11 LT	158.5	Southbound	3	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 11ft from existing CL
CS18A	668+82	9 LT	10 LT	170.2	Southbound	6.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS18B	668+82	10 LT	11 LT	170.2	Southbound	7.5	Soil cement	Full Depth Pavement extends approx 12ft from existing CL
CS18C	668+82	11 LT	12 LT	170.2	Southbound	3	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 12ft from existing CL
CS19A	642+43	8 LT	10 LT	149.1	Southbound	7.5	Soil cement	Full Depth Pavement extends approx 11ft from existing CL
CS19B	642+43	9 LT	11 LT	149.1	Southbound	8.75	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS19C	642+43	10 LT	12 LT	149.1	Southbound	9	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS19D	642+43	11 LT	13 LT	149.1	Southbound	5	Clayey fine to coarse sand with some fine gravel	Full Depth Pavement extends approx 13ft from existing CL
CS20A	619+21	10 LT	10 LT	158.2	Southbound	9	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS20B	619+21	11 LT	11 LT	158.2	Southbound	3.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 11ft from existing CL
CS21A	588+86	10 LT	10 LT	152.9	Southbound	8	Sandy fine to coarse gravel	Full Depth Pavement extends approx 11ft from existing CL
CS21B	588+86	11 LT	11 LT	152.9	Southbound	3.5	Sandy fine to coarse gravel	Full Depth Pavement extends approx 11ft from existing CL
CS22A	562+38	9 LT	10 LT	149.1	Southbound	12	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS22B	562+38	10 LT	11 LT	149.1	Southbound	13	Soil cement	Full Depth Pavement extends approx 13ft from existing CL
CS22C	562+38	11 LT	12 LT	149.1	Southbound	13	Soil cement	Full Depth Pavement extends approx 13ft from existing CL

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase	Comments
CS22D	562+38	12 LT	13 LT	149.1	Southbound	6	Sandy fine to coarse gravel	Full Depth Pavement extends approx 13ft from existing CL

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase, in.	Subgrade
C1	825+62	22 RT	19 RT	178.0	Northbound - Outer wheel path	12.5	3 in. soil cement	Loose clayey fine sand with some medium to coarse sand and trace fine gravel
C2	805+78	8 LT	8 RT	179.5	Northbound - Outer wheel path	7.75	6 in. soil cement	Dense clayey fine to coarse sand with a little fine to coarse gravel
C3	786+44	10 LT	8 RT	173.0	Northbound - Outer wheel path	9	NA	Dense clayey fine to coarse sand with a little fine to coarse gravel
C4	765+82	9 LT	8 RT	175.9	Northbound - Outer wheel path	7	NA	Dense clayey fine sand with some fine gravel and asphalt concrete debris
C5	745+11	14 RT	8 RT	171.3	Northbound - Outer wheel path	6	3.5 in. soil cement	Medium dense clayey fine sand with some fine gravel
C6	726+87	15 RT	8 RT	164.4	Northbound - Outer wheel path	9	NA	Dense clayey fine sand with some fine gravel
C7	706+53	8 RT	8 RT	157.0	Northbound - Outer wheel path	7	NA	Dense reddish brown clayey fine gravel
C8	684+93	9 RT	9 RT	155.1	Northbound - Outer wheel path	7.5	8 in. soil cement	Stiff reddish brown fine sandy clay with some fine to coarse gravel
C9	665+14	10 RT	8 RT	168.4	Northbound - Outer wheel path	6	3 in. soil cement	Stiff silty clay
C10	646+42	10 RT	8 RT	150.1	Northbound - Outer wheel path	8.75	4 in. soil cement	Stiff silty clay with some silt seams
C11	625+82	9 RT	8 RT	150.9	Northbound - Outer wheel path	8	3 in. soil cement	Stiff silty clay with some silt pockets and seams
C12	606+00	22 RT	8 RT	147±	Northbound - Outer wheel path	7.25	6 in. soil cement	Stiff silty clay with occasional silt pockets and clay partings and seams
C13	586+11	7 RT	9 RT	158.3	Northbound - Outer wheel path	14	4 in. soil cement	Firm silty clay with some silt pockets and trace clay partings and seams
C14	568+47	11 RT	9 RT	156.0	Northbound - Outer wheel path	13	3 in. clayey fine to coarse gravel	Stiff clayey silt with occasional silty clay pockets

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase, in.	Subgrade
C15	548+30	11 RT	11 RT	141.8	Northbound - Outer wheel path	9	4 in. soil cement	Stiff clayey silt with occasional silt partings and seams
C16	556+74	10 LT	9 LT	145.1	Southbound - Outer wheel path	13	7 in. soil cement	Stiff silty clay with some silt pockets and seams and clay seams
C17	576+96	9 LT	8 LT	163.5	Southbound - Outer wheel path	12	4 in. soil cement	Stiff fine sandy clay with occasional fine sand pockets
C18	597+31	7 LT	8 LT	152.9	Southbound - Outer wheel path	8.5	8 in. soil cement	Firm fine sandy clay with occasional fine sand pockets and trace fine gravel
C19	618+62	11 LT	8 LT	158.2	Southbound - Outer wheel path	9	6 in. soil cement	Firm silty clay with trace fine gravel
C20	636+77	9 LT	9 LT	151.8	Southbound - Outer wheel path	9.5	4 in. soil cement	Stiff silty clay with occasional silt pockets
C21	656+16	7 LT	9 LT	163.1	Southbound - Outer wheel path	8.5	6 in. soil cement	Stiff fine sandy clay with trace fine gravel
C22	676+00	6 LT	8 LT	156±	Southbound - Outer wheel path	9.5	6 in. soil cement	Dense brown clayey fine to coarse sand with trace fine gravel
C23	698+71	8 LT	8 LT	156.9	Southbound - Outer wheel path	5	3 in. soil cement	Medium dense brown clayey fine to coarse sand with some fine to coarse gravel
C24	718+20	CL	8 LT	158.2	Southbound - Outer wheel path	7	3 in. sandy fine to coarse gravel	Medium dense silt, slightly clayey
C25	737+24	4 LT	8 LT	161.6	Southbound - Outer wheel path	8.5	NA	Dense clayey fine to coarse sand with some fine gravel
C26	756+33	25 LT	8 LT	175.9	Southbound - Outer wheel path	9.5	2.5 in. sandy fine to coarse gravel, slightly clayey	Very stiff silty clay with some silt pockets and fine to coarse gravel
C27	776+75	26 LT	8 LT	169.7	Southbound - Outer wheel path	8.5	6 in. soil cement	Dense clayey fine gravel, sandy
C28	796+56	26 LT	8 LT	180.4	Southbound - Outer wheel path	5.5	10.5 in. soil cement	Stiff clayey silt with some wood debris

PROJECT: Job No. CA0202 - Hwy 425-Hamburg (Widening)(S) LOCATION: Highway 82 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Core No.	Approx Sta	Approx Offset From Construction CL, ft	Approx Offset From Existing CL, ft	Approx Surface EL, ft	Directional lane	Total ACHM, in.	Base/Subbase, in.	Subgrade
C29	816+00	2 LT	8 LT	174±	Southbound - Outer wheel path	8		Very stiff clayey silt with some silt pockets and a little fine to coarse gravel

Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	812+05	Construction CL Offset 20 RT	
Directional lane	Northbound - 10 ft from existing CL		
Date cored:	4/1/2015		
Total core length, in.	6.5	Core Diameter, in. 6	
Comments:	2.5 in. surface course, 2 in. surface course, 2 in. ACHM base. Aggregate is fine to coarse, subrour to angular sandstone gravel and crushed syenite some crushed sandstone. Surface course is main fine grained. The upper surface course has an apparent high bitumen content. The ACHM base contains mainly coarse grained, moderately to we distributed, sandstone gravel and is underlain by cement.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	812+05	Construction CL Offset 21 RT	
Directional lane	Northbound - 11 ft from existing CL		
Date cored:	4/1/2015		
Total core length, in.	4	Core Diameter, in. 6	
Comments:	2.5 in. surface course, 1.5 in. binder. Aggregate is fine		
	to coarse, subrounded to angular, well of sandstone gravel and crushed syenite with an apparent high bitument of binder consists of fine to coarse grained is underlain by soil cement.		
Core No. CS-1B	is underlain by s	oil cement.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	788+40	Construction CL Offset 8 LT	
Directional lane	Northbound - 10) ft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	7.5	Core Diameter, in. 6	
Comments:	: 1.5 in. surface course, 3 in. binder, 3 in. ACHM bas Aggregate is fine to coarse, subrounded to angular,		
Core No. CS-2A	well distributed sandstone gravel and crushed syd with some crushed sandstone. Surface course is mainly fine grained with an apparent high bitumer content. The binder is degraded with an apparent bitumen content and consists of fine to coarse graggregate. The ACHM base also has an apparent high bitumen content and consists of mainly coars grained sandstone gravel. The base is underlain soil cement.		





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	788+40	Construction CL Offset 7 LT	
Directional lane	Northbound - 11	ft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	7.5	Core Diameter, in. 6	
Comments:	2 in. surface cou	urse, 1 in. binder, 2 in. surface course	e,
	2.5 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well distributed sandstone gravel and crushed syenite with some crushed sandstone. Surface course is mainly fine grained with an apparent high bitumen content. The binder consis of fine to coarse grained aggregate. The ACHM base also has an apparent high bitumen content and consists of mainly coarse grained, moderate to well-distributed sandstone gravel. The base is underlain basel cement.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	788+40	Construction CL Offset 6 LT	
Directional lane	Northbound - 12	2 ft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	5	Core Diameter, in. 6	
Comments:		urse, 2 in. binder, 1 in. surface course.	
Caro No. CS 2C	Aggregate is fine to coarse, subrounded to angular, well distributed sandstone gravel and crushed syenite with some crushed sandstone. Surface course is mainly fine grained with an apparent high bitumen content. The binder consists of fine to coarse grained aggregate with an apparent high bitumen contenet. The asphalt concrete is underlain by cement treated fine sandy clay with some fine to coarse gravel.		
Core No. CS-2C			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	761+53	Construction CL Offset 6 LT
Directional lane	Northbound - 10) ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	8	Core Diameter, in. 6
	2 in. ACHM bas subrounded to a gravel and crusl sandstone. Surf an apparent hig of fine to coarse has an apparen mainly coarse g	urse, 2 in. binder, 2 in. surface course, e. Aggregate is fine to coarse, angular, well distributed sandstone hed syenite with some crushed face course is mainly fine grained with h bitumen content. The binder consists grained aggregate. The ACHM base thigh bitumen content and consists of rained, well-distributed sandstone e is underlain by soil cement.
Core No. CS-3A		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	761+53	Construction CL Offset 5 LT	
Directional lane	Northbound - 11	ft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	4.5	Core Diameter, in. 6	
Comments:	2.5 in. surface course, 2 in. surface course. Aggregate		
	is mainly fine grained, subrounded and subangular, we distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has an apparent high bitumen content. The asphalt concrete is underlain by sandy fine to coarse gravel.		
Core No. CS-3B			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	734+80	Construction CL Offset 10 RT	
Directional lane	Northbound - 10 ft from existing CL		
Date cored:	3/31/2015		
Total core length, in.	8.5	Core Diameter, in. 6	
Comments:	Aggregate is fin well distributed with some crush mainly fine grain content. The bir aggregate. The bitumen content grained, modera	urse, 3.5 in. binder, 3 in. ACHM base. e to coarse, subrounded to angular, sandstone gravel and crushed syenite ned sandstone. Surface course is ned with an apparent high bitumen nder consists of fine to coarse grained ACHM base has an apparent high t and consists of mainly coarse ate to well-distributed sandstone e is underlain by soil cement.	
Core No. CS-4A			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	734+80	Construction CL Offset 11 RT	
Directional lane	Northbound - 11	ft from existing CL	
Date cored:	3/31/2015		
Total core length, in.	11.5	Core Diameter, in. 6	
Comments:		ırse, 1.5 in. binder, 2 in. surface	
	course, 3 in. bin	der, 3 in. ACHM base. Aggregate is	
	fine to coarse, s	ubrounded to angular, well distributed	
	sandstone gravel and crushed syenite with some		
	crushed sandstone. The surface course is mainly fine		
	grained. The upper surface course has an apparent		
	high bitumen content. The upper binder is degraded		
	_	t high bitumen content. The binder	
		o coarse grained aggregate. The	
	ACHM base has an apparent high bitumen content and consists of mainly coarse grained, moderate to well-		
		stone gravel. The base is underlain by	
	sandy fine to coa	arse gravel.	

Core No. CS-4B





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas GHBW JOB No.: 14-197

Approximate Station	734+80	Construction CL Offset 12 RT
Directional lane	Northbound - 12	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	9.5	Core Diameter, in. 6
Comments:		ırse, 2 in. surface course, 1.5 in. binder
	subrounded to a gravel and crush sandstone. The The upper surfabitumen content apparent high bi fine to coarse gran apparent high mainly coarse grandstone graves	e. Aggregate is fine to coarse, ingular, well distributed sandstone ned syenite with some crushed surface course is mainly fine grained. It is course has an apparent high and the binder is degraded with an an tumen content. The binder consists of ained aggregate. The ACHM base has a bitumen content and consists of rained, moderate to well-distributed els. The base is underlain by sandy fine
Core No. CS-4C	to coarse gravel	•

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	734+80	Construction CL Offset	13 RT
Directional lane	Northbound - 13	Ift from existing CL	
Date cored:	3/31/2015		
Total core length, in.	4.75	Core Diameter, in.	6
Comments:		course, 2 in. binder, 0.5 in.surfa	
Core No. CS-4D	course. Aggregate is fine to coarse, subrounded to angular, well distributed sandstone gravel and crushe syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The binder consists of fine to coarse grained aggregate and has an apparent high bitumen content. The asphalt concrete is underlain by sandy fine to coarse gravel.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

		, , , , , , , , , , , , , , , , , , , ,
Approximate Station	708+82	Construction CL Offset 10 RT
Directional lane	Northbound - 10	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	8.5	Core Diameter, in. 6
Comments:	2 in. surface cou	urse, 1 in. surface course, 2.5 in.
Caro No. CS 5A	subrounded to a gravel and crush sandstone. The and has an appa consists of fine t ACHM base has consists of main distributed sand	HM base. Aggregate is fine to coarse, ingular, well distributed sandstone ned syenite with some crushed surface course is mainly fine grained arent high bitumen content. The binder to coarse grained aggregate. The san apparent high bitumen content and ally coarse grained, moderate to wellstone gravel. The base is underlain by with some fine to coarse gravel.
Core No. CS-5A		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	708+82	Construction CL Offset 11 RT
Directional lane	Northbound - 11	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	3.25	Core Diameter, in. 6
	course. Aggrega angular, well dis syenite with som course is mainly high bitumen co coarse grained a underlain by fine	ourse, 1.25 in. binder, 0.5 in. surface ate is fine to coarse, subrounded to stributed sandstone gravel and crushed ne crushed sandstone. The surface if fine grained and has an apparent ntent. The binder consists of fine to aggregate. The asphalt concrete is a sandy clay with some fine to coarse
Core No. CS-5B	gravel.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	679+91	Construction CL Offset	11 RT
Directional lane	Northbound - 10	ft from existing CL	
Date cored:	3/31/2015		
Total core length, in.	9.5	Core Diameter, in.	6
Comments:	2 in. surface course, 3 in. binder, 3.5 in. surface 1 in. surface course. Aggregate is fine to coarse		
Core No. CS-6A	gravel and crush sandstone. The high bitumen co	ingular, well distributed sandstor ned syenite with some crushed upper surface course has an ap intent. The binder consists of fine aggregate. The asphalt concrete I cement.	parent e to

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	679+91	Construction CL Offset 12 RT
Directional lane	Northbound - 11	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	9	Core Diameter, in. 6
Comments:		ırse, 3 in. binder, 2.5 in. binder, 3.5 in.
Core No. CS-6B	to coarse, subro sandstone grave crushed sandsto apparent high bi	1 in. surface course. Aggregate is fine unded to angular, well distributed all and crushed syenite with some one. The surface course has an tumen content. The binder consists of ained aggregate. The asphalt concrete oil cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	679+91	Construction CL Offset 13	3 RT
Directional lane	Northbound - 12	ft from existing CL	
Date cored:	3/31/2015		
Total core length, in.	2.25	Core Diameter, in.	6
Comments:	grained, subrour sandstone grave crushed sandsto apparent high bi	course. Aggregate is mainly fine nded to subangular, well distributed and crushed syenite with some one. The surface course has an tumen content. The asphalt concre	ete is
Core No. CS-6C	underlain by fine gravel.	sandy clay with some fine to coar	se

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	655+92	Construction CL Offset 12 RT
Directional lane	Northbound - 10) ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	7	Core Diameter, in. 6
Comments:	course, 0.5 in. s coarse, subroun sandstone grave crushed sandsto grained. The up high bitumen co	course, 2.5 in. binder, 2.5 in. surface ourface course. Aggregate is fine to add to angular, well distributed all and crushed syenite with some one. The surface course is mainly fine per surface course has an apparent ontent. The binder consists of fine to aggregate. The asphalt concrete is I cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

	0 00	0 4 4 0 0 0 4	40 DT
Approximate Station	n 655+92	Construction CL Offset	13 R I
Directional lane	Northbound - 11	ft from existing CL	
Date cored	3/31/2015		
Total core length, in	. 2	Core Diameter, in.	6
Comments		irse. Aggregate is mainly fine gra	
0 N 00 TD	gravel and crush sandstone. The	ubangular, well distributed sands ned syenite with some crushed asphalt concrete is underlain by	
Core No. CS-7B	cement.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	628+66	Construction CL Offset 12 RT
Directional lane	Northbound - 10) ft from existing CL
Date cored:	3/27/2015	
Total core length, in.	9	Core Diameter, in. 6
Comments:		ourse, 3.5 in. binder, 3 in. surface
Core No. CS-8A	coarse, subroun sandstone grave crushed sandsto grained. The up high bitumen co high apparent bi	face course. Aggregate is fine to add to angular, well distributed all and crushed syenite with some one. The surface course is mainly fine per surface course has an apparent intent. The binder is degraded with a itumen content and consists of fine to aggregate. The asphalt concrete is I cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	628+66	Construction CL Offset 13 RT
Directional lane	Northbound - 11	ft from existing CL
Date cored:	3/27/2015	
Total core length, in.	8.5	Core Diameter, in. 6
Comments:		urse, 2 in. surface course, 2 in. binder, ourse. Aggregate is fine to coarse,
Cara No. CS. 9P	subrounded to a gravel and crusl sandstone. The The upper surfa bitumen content grained aggrega degraded with a	angular, well distributed sandstone ned syenite with some crushed surface course is mainly fine grained. ce course has an apparent high the binder consists mainly coarse ate. The lower surface coarse is in apparent high bitumen content. The e is underlain by soil cement.
Core No. CS-8B		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	628+66	Construction CL Offset	14 RT
Directional lane	Northbound - 12	ft from existing CL	
Date cored:	3/27/2015		
Total core length, in	3.5	Core Diameter, in.	6
Comments	is mainly fine gradistributed sand crushed sandsto apparent high bi	urse, 1.5 in. surface course. Aggained, subrounded to subangula stone gravel, crushed syenite arone. The surface course has an itumen content. The asphalt content sandy clay with fine to coarse grandy clay with fine to coarse grandy.	r, well- nd crete is
Core No. CS-8C			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station			10 RT
Directional lane	Northbound - 10 ft from existing CL		
Date cored:	3/27/2015		
Total core length, in.			6
Comments:	2 in. surface course, 2.5 in. binder, 1.5 in. surface		
	course, 1 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fin grained and has an apparent high bitumen content. binder aggregate is mainl coarse grained. The asphaconcrete is underlain by ±7 in. of soil cement.		e y fine ent. The
Core No. CS-9A			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Comments: 2 in. surface course, 2.5 in. binder, 2 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crus syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The	Approximate Station	603+53	Construction CL Offset	11 RT
Total core length, in. 6.5 Core Diameter, in. 6.5 Comments: 2 in. surface course, 2.5 in. binder, 2 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crus syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The	Directional lane	Northbound - 11	ft from existing CL	
Comments: 2 in. surface course, 2.5 in. binder, 2 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crus syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The	Date cored:	3/27/2015		
course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crus syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The	Total core length, in.	6.5	Core Diameter, in.	6
angular, well-distributed sandstone gravel and crus syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The				
surface course is degraded with an apparent high bitumen content. The asphalt concrete is underlain soil cement.		angular, well-distributed sandstone gravel and crusyenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The binder aggregate is fine to coarse grained. The low surface course is degraded with an apparent high bitumen content. The asphalt concrete is underlain		crushed face e The lower gh

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	603+53 Construction CL Offset 12 RT		12 RT
Directional lane	Northbound - 12	? ft from existing CL	
Date cored:	3/27/2015		
Total core length, in	·		6
Comments:	s: 3 in. surface course. Aggregate is fine to coarse, subrounded to subangular, well-distributed sandstor gravel and crushed sandstone with some crushed syenite. The surface course is mainly fine grained a has an apparent high bitumen content. The asphalt concrete is underlain by fine sandy clay with some f		stone d d and alt
Core No. CS-9C	to coarse gravel.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	576+41	Construction CL Offset 12 RT
Directional lane	Northbound - 10 ft from existing CL	
Date cored:	3/23/2015	
Total core length, in.	. 11	Core Diameter, in. 6
Comments:	2 in. surface co	urse, 2 in.surface course, 5 in. binder,
	2 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grain The upper surface course has an apparent high bitumen content. The binder is degraded with an apparent high bitumen content and fine to coarse aggregate. The ACHM base is mainly coarse grain sandstone gravel and has an apparent high bitume content. The base is underlain by sandy fine to coarse.	
Core No. CS-10A	gravel.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station		
Directional lane	Northbound - 11 ft from existing CL	
Date Cored:	3/23/2015	
Total core length, in.	9	Core Diameter, in. 6
Comments:	3.5 in. surface course, 1.5 in.binder, 2 in.surface coarse, 2 in. binder. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The binder is fine to coarse aggregrate. The base is underlain by fine sandy clay with some fine to coarse	
Core No. CS-10B	gravel.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

		-
Approximate Station	550+39 Construction CL Offset 9 RT	
Directional lane	Northbound - 10 ft from existing CL	
Date cored:	3/23/2015	
Total core length, in.		
Comments:	1.5 in. surface course, 2 in.surface course, 1.5 in. surface course, 2 in. binder. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The binder is fine to coarse aggregate. The asphalt concrete is underlain by 5 in. of soil cement.	
Core No. CS-11A		





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	550+39	Construction CL Offset 10 R	Τ
Directional lane	Northbound - 11	ft from existing CL	
Date cored:	3/23/2015		
Total core length, in.	10.5	Core Diameter, in. 6	
Comments:	surface course, 2 in.surface course, 1.5 in surface course, 2.5 in. binder, 2 in. surface course in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstor gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grather binder is fine to coarse aggregate. The asphance concrete is underlain by soil cement.		-





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	550+39		
Directional lane	Northbound - 12	? ft from existing CL	
Date cored:	3/23/2015		
Total core length, in	10.75	Core Diameter, in.	6
Comments		ourse, 2 in.surface course, 1.25	
	surface course, 3 in. binder, 2 in. surface course, surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grain. The binder is fine to coarse aggregate. The lower binder and surface course is degraded and has an apparent high bitumen content. The asphalt concre		ained. er an
Core No. CS-11C	is underlain by s	•	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

2.75 in. surface course, 1 in.surface course, 2.75 in binder, 3 in. surface course, 2.5 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syen	Approximate Station		
Total core length, in. 12 Core Diameter, in. Comments: 2.75 in. surface course, 1 in.surface course, 2.75 in binder, 3 in. surface course, 2.5 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syen	Directional lane	Northbound - 13	ft from existing CL
Comments: 2.75 in. surface course, 1 in.surface course, 2.75 in binder, 3 in. surface course, 2.5 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syen	Date cored:	3/23/2015	
binder, 3 in. surface course, 2.5 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syen	Total core length, in.	12	Core Diameter, in. 6
Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syen	Comments:		
mainly fine grained. The binder is fine to coarse aggregate. The lower surface course is degraded a	No. 00 44D	Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syeniwith some crushed sandstone. The surface course is mainly fine grained. The binder is fine to coarse aggregate. The lower surface course is degraded an has an apparent high bitumen content. The asphalt	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	550+39	Construction CL Offset 13 RT
Directional lane	Northbound - 14	ft from existing CL
Date cored:	3/23/2015	
Total core length, in.	7.5	Core Diameter, in. 6
Comments:		course, 1.75 in.surface course, 2 in.
Core No. CS-11E	surface course, 2 in. surface course. Aggregate is to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fi grained. The binder is fine to coarse aggregate. Th lower surface course has an apparent high bitumer content. The asphalt concrete is underlain by fine sandy clay with some fine to coarse gravel.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	821+66 Construction CL Offset 11 LT		1 LT
Directional lane	Southbound - 10	oft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	11.5	Core Diameter, in.	6
Comments:	2.5 in. surface c	ourse, 1.5 in.binder, 2.5 in. surfa	ce
	course, 5 in. ACHW base. Aggregate is fine to co subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine aggregate. The binder is slightly degraded and contains fine to coarse aggregate. The upper surfaceurse and binder have an apparent high bitumer content. The ACHW base consists of mainly fine course sandstone gravel and has an apparent high bitumen content. The base is underlain by soil celegated.		rface en to gh

Core No. CS-12A





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	821+66 Construction CL Offset 10 LT	
Directional lane	Southbound - 11	ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	<u> </u>	
Comments:	2 in. surface course, 3 in. surface course. Aggregate i mainly fine grained, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has an apparent high bitumen content. The asphalt	
Core No. CS-12B	concrete is underlain by soil cement.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	802+50	Construction CL Offset 28 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	11	Core Diameter, in. 6
Comments:		ourse, 6 in. surface course, 2.5 in.
Core No. CS-13A	ACHM base. Aggregate is mainly fine grained, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has an appa high bitumen content. The ACHM base consists of to coarse, well-distributed sandstone gravel and ha an apparent high bitumen content. The base is underlain by soil cement.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	802+50	Construction CL Offset 2	9 LT
Directional lane	Southbound - 11	Ift from existing CL	
Date cored:	4/1/2015		
Total core length, in.	11	Core Diameter, in.	6
	3 in. ACHM base subrounded to a gravel and crush sandstone. Surfathe upper surfathitumen content aggregate. The well-distributed s	urse, 2 in. binder, 5 in. surface cou- e. Aggregate is fine to coarse, ingular, well-distributed sandstone ned syenite with some crushed ace course is mainly fine aggrega ce course has an apparent high . The binder consists of fine to co- ACHM base consists of fine to co- sandstone gravel and has an apparent. The base is underlain by so-	e ite. arse arse, arent

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	802+50	Construction CL Offset 30 LT
Directional lane	Southbound - 12	2 ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	5.5	Core Diameter, in. 6
Comments:	1.5 in. surface course, 3.5 in. binder, 0.5 in. surface	
Core No. CS-13C	angular, well-dis syenite with som is mainly fine ag bitumen content	ate is fine to coarse, subrounded to stributed sandstone gravel and crushed ne crushed sandstone. Surface course gregate and has an apparent high . The binder consists of fine to coarse asphalt concrete is underlain by sandy avel.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

		_
Approximate Station	775+55	Construction CL Offset 28 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	5.5	Core Diameter, in. 6
Comments:	mainly fine grain distributed sands some crushed sa has an apparent	irse, 3 in. surface course. Aggregate is led, subrounded to angular, well-stone gravel and crushed syenite with andstone. The upper surface course high bitumen content. The asphalt
Core No. CS-144	concrete is unde	erlain by soil cement.

Core No. CS-14A





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	775+55	Construction CL Offset 29 LT
Directional lane	Southbound - 11	1 ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	4.5	Core Diameter, in. 6
Comments:	surface course. subrounded to a gravel and crush sandstone. Uppo bitumen content	urse, 1.25 in. surface course, 1.25 in. Aggregate is mainly fine grained, angular, well-distributed sandstone ned syenite with some crushed er surface course has an apparent high a The asphalt concrete is underlain by with some fine to coarse gravel.
Core No. CS-14B		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	747+47	Construction CL Offset 10 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	8.5	Core Diameter, in. 6
Comments:	binder, 2.5 in. su coarse, subroun sandstone grave crushed sandsto aggregate. The s bitumen content	urse, 2.5 in. surface course, 1.5 in. urface course. Aggregate is fine to ded to angular, well-distributed el and crushed syenite with some one. Surface course is mainly fine surface course has an apparent high . The binder consists of fine to coarse asphalt concrete is underlain by soil

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	747+47	Construction CL Offset 1	1 LT
Directional lane	Southbound - 11	Ift from existing CL	
Date cored:	4/1/2015		
Total core length, in.	5.75	Core Diameter, in.	6
Comments:		ırse, 1.25 in. binder, 2.5 in. binder	
Core No. CS-15B	well-distributed s with some crush mainly fine aggre apparent high bi fine to coarse ag	e to coarse, subrounded to angula sandstone gravel and crushed sye ed sandstone. Surface course is egate. The surface course has an tumen content. The binder consist gregate and is degraded with an tumen content. The asphalt concribement.	enite n sts of

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	747+47	Construction CL Offset 12 LT
Directional lane	Southbound - 12	2 ft from existing CL
Date cored:	4/1/2015	
Total core length, in.	6.5	Core Diameter, in. 6
Comments:		course, 3 in. surface course, 1.5 in.
Core No. CS-15C	fine to coarse, s sandstone grave crushed sandsto aggregate and h The binder cons has an apparen	0.5 in. surface course. Aggregate is subrounded to angular, well-distributed el and crushed syenite with some one. Surface course is mainly fine has an apparent high bitumen content. Sists of fine to coarse aggregate and thigh bitumen content. The asphalt erlain by soil cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	747+47	Construction CL Offset	13 LT
Directional lane	Southbound - 13	Southbound - 13 ft from existing CL	
Date cored:	4/1/2015		
Total core length, in.	4.75	Core Diameter, in.	6
Comments: Core No. CS-15D	is mainly fine gra distributed sands some crushed sa	irse, 1.75 in. surface course. Agg ained, subrounded to angular, we stone gravel and crushed syenite andstone. The asphalt concrete is dy fine to course gravel.	ll- with

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	721+76	Construction CL Offset 1 RT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	8.5	Core Diameter, in. 6
Comments:	2 in. surface cou	urse, 2 in. binder, 1.5 in. surface
	subrounded to a gravel and crush sandstone. Surf and has an appa is degraded with and consists of	HM base. Aggregate is fine to coarse, angular, well-distributed sandstone ned syenite with some crushed ace course is mainly fine aggregate arent high bitumen content. The binder in an apparent high bitumen content fine to coarse aggregate. The ACHM of fine to coarse, moderately to well-

distributed sandstone gravel and has an apparent high bitumen content. The base is underlain by soil cement.

Core No. CS-16A

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	721+76	Construction CL Offset CL	
Directional lane	Southbound - 1	1 ft from existing CL	
Date cored:	3/31/2015		
Total core length, in.	6	Core Diameter, in.	3
Comments:		urse, 2 in. surface course, 0.5 in.	
Core No. CS-16B	coarse, subroun sandstone grave crushed sandsto aggregate. The high bitumen co coarse aggregar	1.5 in. binder. Aggregate is fine to ded to angular, well-distributed all and crushed syenite with some one. Surface course is mainly fine upper surface course has an apparentent. The binder consists of fine to the and is slightly degraded with an autumen content. The asphalt concretion comment.	1





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	n 721+76	Construction CL Offset 1 LT
Directional lar	e Southbound - 1	2 ft from existing CL
Date core	d: 3/31/2015	
Total core length, i	n. 6	Core Diameter, in. 6
Comment		urse, 2 in. binder, 2 in. ACHM base.
Care No. 05 460	well-distributed with some crus mainly fine agg an apparent hig of fine to coarse with an apparer	ne to coarse, subrounded to angular, sandstone gravel and crushed syenite hed sandstone. Surface course is regate. The upper surface course has h bitumen content. The binder consists a aggregate and is slightly degraded in high bitumen content. The asphalt erlain by soil cement.
Core No. CS-16C		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	721+76	Construction CL Offset 2 LT
Directional lane	Southbound - 13	3 ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	5	Core Diameter, in. 6
Comments:		urse, 2 in. surface course, 1 in. surface
Oara No. 00 40D	to angular, well-crushed syenite upper surface cocontent. The low with an apparen	ate is mainly fine grained, subrounded distributed sandstone gravel and with some crushed sandstone. The purse has an apparent high bitumen wer surface course is slightly degraded thigh bitumen content. The asphalt erlain by fine sandy clay with some fine
Core No. CS-16D	to coarse graver	•

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	695+62	Construction CL Offset 12 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	7	Core Diameter, in. 6
Comments:	ACHM base. Ag to angular, well-crushed syenite course is mainly has an apparent surface course is course, moderat and is degrated	gregate is fine to coarse, 2.5 in. gregate is fine to coarse, subrounded distributed sandstone gravel and with some crushed sandstone. Surface fine aggregate. The surface course thigh bitumen content. The upper s degraded. The AMHC base is fine to tely to well-distributed sandstone gravel with an apparent highbitumen content. erlain by soil cement.
Core No. CS-17A	2230 10 0110	5. S.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	695+62	Construction CL Offset 13 LT
Directional lane	Southbound - 11	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	3	Core Diameter, in. 6
	: 3 in. surface course. Aggregate is mainly fine grained subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The asphalt concrete is underlain by sand fine to coarse gravel.	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	668+82	Construction CL Offset 9 LT
Directional lane	Southbound - 10	0 ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	6.5	Core Diameter, in. 6
Comments:	1.25 in. surface	course, 1 in. surface course, 2 in.
	Aggregate is fin well-distributed with some crush course has an a binder is fine to degraded with a	surface course, 1 in. surface course. e to coarse, subrounded to angular, sandstone gravel and crushed syenite ned sandstone. The upper surface apparent high bitumen content. The coarse grained and is slightly an apparent high bitumen content. The e is underlain by soil cement.
Core No. CS-18A		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	668+82	Construction CL Offset 10 LT
Directional lane	Southbound - 11	ft from existing CL
Date cored:	3/31/2015	
Total core length, in.	7.5	Core Diameter, in. 6
Comments:		ourse, 1 in. surface course, 2.5 in.
	Aggregate is fine well-distributed s with some crush course has an a binder contains	rface course, 1 in. surface course. e to coarse, subrounded to angular, sandstone gravel and crushed syenite ed sandstone. The upper surface pparent high bitumen content. The fine to coarse aggregate. The asphalt erlain by soil cement.
Core No. CS-18B		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



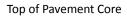
Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	668+82	Construction CL Offset	11 LT
Directional lane	Southbound - 12	ft from existing CL	
Date cored:	3/31/2015		
Total core length, in.	3	Core Diameter, in.	6
		rse. Aggregate is mainly fine gra	
	subrounded to a	ngular, well-distributed sandstor	ıe
	gravel and crush	ed syenite with some crushed	
	sandstone. The	surface course has an apparent	high
		and is underlain by fine sandy c	

some fine to coarse gravel.

Core No. CS-18C





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	642+43	Construction CL Offset	8 LT
Directional lane	Southbound - 10) ft from existing CL	
Date cored:	3/27/2015		
Total core length, in.	7.5	Core Diameter, in.	6
Comments:	1.5 in. surface c	ourse, 2 in. binder, 3.5 in. surfa	ce
	coarse, subroun sandstone grave crushed sandsto apparent high bifine to coarse accourse are degrated.	urface course. Aggregate is fine ded to angular, well-distributed and crushed syenite with some one. The upper surface course hitumen content. The binder contegregate. The binder and lower aded with an apparent high bituphalt concrete is underlain by some	ie nas an ains surface men





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

		0 1 1 0 01 1	
Approximate Station	642+43	Construction CL Offset 9) L I
Directional lane	Southbound - 11	Ift from existing CL	
Date cored:	3/27/2015		
Total core length, in.	8.75	Core Diameter, in.	6
Comments:		ourse, 2 in. binder, 3.5 in. surface	
Core No. CS-19B	course, 1.75 in surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has a apparent high bitumen content. The binder contains fine to coarse aggregate. The asphalt concrete is underlain by soil cement.		as an ins





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	642+43	Construction CL Offset 10 LT
Directional lane	Southbound - 12	2 ft from existing CL
Date cored:	3/27/2015	
Total core length, in.	9	Core Diameter, in. 6
Comments:	course, 1.5 in su coarse, subroun sandstone grave crushed sandsto apparent high bi	course, 2.75 in. binder, 3 in. surface urface course. Aggregate is fine to uded to angular, well-distributed el and crushed syenite with some one. The upper surface course has an itumen content. The binder is slightly
Core No. CS-19C	contains fine to	n apparent high bitumen content and coarse aggregate. The asphalt erlain by soil cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	642+43	Construction CL Offset 11 LT	•
Directional lane	Southbound - 13	3 ft from existing CL	
Date cored:	3/27/2015		
Total core length, in.	5	Core Diameter, in. 6	
Comments:		urse, 2 in. ACHM base. Aggregate is	
Core No. CS-19D	sandstone grave crushed sandsto grained and has The ACHM base well-distributed high bitumen co	ubrounded to angular, well-distributed and crushed syenite with some one. The surface course is mainly fines an apparent high bitumen content. The contains fine to coarse, moderately sandstone gravel and has an apparentent. The base is underlain by fine some fine to coarse gravel.	e to

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	619+21	Construction CL Offset 10 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	3/27/2015	
Total core length, in.	9	Core Diameter, in. 6
Comments:		ourse, 2 in. surface course, 1 in.
	in.surface cours subrounded to a gravel and crush sandstone. Surfa The binder is fin	2.5 in. binder, 2 in. surface course, 1 e. Aggregate is fine to coarse, angular, well-distributed sandstone ned syenite with some crushed ace course is mainly fine aggregate. e to course aggregate. The asphalt sylving by soil aggregate.
Core No. CS-20A	concrete is unde	erlain by soil cement.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	619+21	Construction CL Offset	11 LT
Directional lane	Southbound - 11	ft from existing CL	
Date cored:	3/27/2015		
Total core length, in.	3.5	Core Diameter, in.	6
	is mainly fine gra distributed sand some crushed sa apparent high bi	ourse, 3 in. surface course. Aggained, subrounded to subangula stone gravel and crushed syenit andstone. The surface course h tumen content. The asphalt condy fine to coarse gravel.	e with as an

Core No. CS-20B

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	588+86	Construction CL Offset 10 LT
Directional lane	Southbound - 10) ft from existing CL
Date cored:	3/27/2015	
Total core length, in.	8	Core Diameter, in. 6
	surface course, Aggregate is find well-distributed s with some crush mainly fine aggregate. The moderately to we sightly degraded	ourse, 2 in. surface course, 0.5 in. 2 in. binder, 2 in. ACHM base. et to coarse, subrounded to subangular, sandstone gravel and crushed syenite led sandstone. The surface course is egate. The binder is fine to coarse ACHM base contains fine to coarse, ell-distributed sandstone gravel and is it with an apparent high bitumen se is underlain by sandy fine to coarse





Notes: 1) Top of pavement to the left.

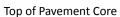


Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	588+86	Construction CL Offset 11 LT	
Directional lane	Southbound - 11	Ift from existing CL	
Date cored:	3/27/2015		
Total core length, in.	3.5	Core Diameter, in. 6	
	1.5 in. surface course, 2 in. surface course. Aggregate is mainly fine grained, subrounded to subangular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The lower surface course has an apparent high bitumen content. The asphalt concrete is underlain by sandy fine to coarse gravel.		

Core No. CS-21B





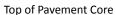
Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

62+38 Construction CL Offset 9 LT abound - 10 ft from existing CL	
2015	
Core Diameter, in. 6	
4 in. surface course, 2.5 in. surface course, 2.5 in. binder, 3 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course has mainly fine aggregrate. The binder is degraded and has an high apparent bitumen content. The asphalt concrete is	





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

At. Otation	500.00	Construction CL Offset 10 LT	
Approximate Station	562+38	Construction CL Offset 10 LT	
Directional lane	Southbound - 11	ft from existing CL	
Date cored:	3/26/2015		
Total core length, in.	13	Core Diameter, in. 6	
Comments:		ırse, 2.5 in. surface course, 3.5 in.	
O No 00 00D	binder, 3 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course has mainly fine aggregrate. The binder contains fine to coarse aggregate and has an high apparent bitumen content. The asphalt concrete is underlain by soil cement.		
Core No. CS-22B			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	562+38	Construction CL Offset 11 L	Т	
Directional lane	Southbound - 12	Southbound - 12 ft from existing CL		
Date cored:	3/26/2015			
Total core length, in.	13	Core Diameter, in. 6		
Comments:		course, 2 in. surface course, 1.75 in.		
Core No. CS-22C	surface course, 2.5 in. binder, 3 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course has mainly fine aggregrate. The binder contains fine to coarse aggregate and has an high apparent bitumen content. The asphalt concrete is underlain by soil cement.			

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	562+38	Construction CL Offset 12 LT
Directional lane	Southbound - 13	3 ft from existing CL
Date cored:	3/26/2015	
Total core length, in.	6	Core Diameter, in. 6
	mainly fine grair distributed sand some crushed s has an high app	urse, 2 in. surface course. Aggregate is ned, subrounded to angular, well-stone gravel and crushed syenite with andstone. The lower surface course arent bitumen content. The asphalt erlain by sandy fine to coarse gravel.
Core No. CS-22D		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	825+62	Construction CL Offset 22 RT	
Directional lane	Northbound - Ou	uter Wheel Path	
Date cored:	3/25/2015		
Total core length, in.	12.5	Core Diameter, in. 4	
Comments:	1.5 in. surface course, 8 in. binder, 3 in surface course.		
	Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has an high apparent bitumen content. The asphalt concrete is underlain by soil cement.		
Core No. 1			

Top of Pavement Core



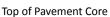
Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	805+78	Construction CL Offset	8 LT
Directional lane	Northbound - Outer Wheel Path		
Date cored:	3/24/2015		
Total core length, in.	7.75	Core Diameter, in.	4
	2.25 in. surface course, 1.5 in. binder, 2 in surface course, 2 in. ACHM base. Aggregate is fine to coars subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course and binder ha an high apparent bitumen content. The binder appe to be slighly degraded. The ACHM base is mainly coarse grained, well-distributed sandstone gravel w an apparent high bitumen content. The base is underlain by soil cement.		ne er have ppears ly





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	786+44	Construction CL Offset 10 LT
Directional lane	Northbound - O	uter Wheel Path
Date cored:	3/24/2015	
Total core length, in.	9	Core Diameter, in. 4
Comments:	2 in. surface course, 3 in. binder, 4 in surface course, 2 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The upper surface course has an high apparent bitumen content. The binder is fine to coarse grained and appears to be degraded with an apparent	
Core No. 3	coarse grained, an apparent hig underlain by fine	ntent. The ACHM base is mainly well-distributed sandstone gravel with h bitumen content. The base is a sandy clay with some medium to d fine to coarse gravel.

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

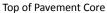
GHBW JOB No.: 14-197

Approximate Station	765+82	Construction CL Offset 9 LT	
Directional lane	Northbound - Or	uter Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	7	Core Diameter, in. 4	
		urse, 3 in. binder, 2 in. ACHM base.	
	Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The binder is fine to coarse grained and is degraded with an apparent high bitumen content. The ACHM base is mainly coarse grained, well-distributed sandstone gravel with an apparent high bitumen		

fine to coarse gravel.

content. The base is underlain by clayey fie sand with

Core No. 4





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	745+11	Construction CL Offset 14 RT	
Directional lane	Northbound - O	Northbound - Outer Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	6	Core Diameter, in. 4	
Comments:	Aggregate is fine well-distributed a with some crush mainly fine grain content. The bindegraded with a ACHM base is n sandstone grave content. The base content. The base is not sandstone grave content.	urse, 2 in. binder, 2 in. ACHM base. e to coarse, subrounded to angular, sandstone gravel and crushed syenite ned sandstone. The surface course is ned and has an apparent high bitumen ider is fine to coarse grained and is an apparent high bitumen content. The mainly coarse grained, well-distributed lel with an apparent high bitumen se is underlain by clayey fine sand with to coarse sand and fine to coarse	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	726+87	Construction CL Offset	8 RT
Directional lane	Northbound - Ou	uter Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	9	Core Diameter, in.	4
Comments:	2 in. surface cou	ırse, 1.5 in. binder, 2 in. surface	
	2 in. surface course, 1.5 in. binder, 2 in. surface course, 3.5 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The binder is fine to coarse grained and is degraded with an apparent high bitume content. The ACHM base is mainly coarse grained, we distributed sandstone gravel with an apparent high bitumen content. The base is underlain by fine sandy clay with fine to coarse sand and fine to coarse gravel		y fine ent e itumen ed, well- gh andy

Top of Pavement Core

Core No. 6



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	706+53	Construction CL Offset 8 RT	
Directional lane	Northbound - Ou	uter Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	7	Core Diameter, in. 4	
Comments:	1 in. surface cou	ırse, 1.25 in. binder, 1.25 in. surface	
	course, 3.5 in. A	CHM base. Aggregate is fine to	
	coarse, subrounded to angular, well-distributed		
	sandstone gravel and crushed syenite with some		
	crushed sandstone. The surface course is mainly fine		
	grained. The surface course has an apparent high		
	bitumen content. The lower surface course is slightly		
	degraded. The binder is fine to coarse grained with an		
		tumen content. The ACHM base is	
	mainly coarse grained, well-distributed sandstone		
	gravel with an apparent high bitumen content. The		
	base is underlain by fine sandy clay with some medium		
	to coarse sand and fine to coarse gravel.		

Top of Pavement Core

Core No. 7



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	686+00	Construction CL Offset	8 RT
Directional lane	Northbound - O	uter Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	7.5	Core Diameter, in.	4
Comments:		ourse, 2 in. binder, 2.5 in. surfa	
Core No. 8	subrounded to a gravel and crush sandstone. The The upper surfa apparent high bi coarse grained.	inder. Aggregate is fine to coarsingular, well-distributed sandstoned syenite with some crushed surface course is mainly fine gree course and binder have an itumen content. The binder is mathe asphalt concrete is underlawith some medium to coarse satavel.	ained. ainly ain by





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

	Construction CL Offset 10 RT
Northbound - Outer Wheel Path	
3/24/2015	
6	Core Diameter, in. 4
	ırse, 2 in. binder, 3 in. ACHM base.
well-distributed s with some crush mainly fine grain content. The bind degraded with a ACHM base con and is moderate high bitumen con	sandstone gravel and crushed syenite led sandstone. The surface course is led and has an apparent high bitumen der is fine to coarse grained and is in apparent high bitumen content. The latains mainly coarse sandstone gravel to well-distributed with an apparent intent. The base is underlain by soil
	3/24/2015 6 1 in. surface councy Aggregate is find well-distributed swith some crush mainly fine grain content. The bind degraded with a ACHM base contant is moderate

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	646+42	Construction CL Offset	10 RT
Directional lane	Northbound - Ou	uter Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	8.75	Core Diameter, in.	4
Comments:		ourse, 2.5 in. binder, 2 in. surfac surface course, 2 in. ACHM bas	
Core No. 10	Aggregate is fine well-distributed swith some crush mainly fine grain content. The bind ACHM base corand is moderate	e to coarse, subrounded to angus sandstone gravel and crushed syed sandstone. The surface coursed and has an apparent high bit der is fine to coarse grained. The stains mainly coarse sandstone of to well-distributed with an apparent. The base is underlain by sandstone.	ilar, yenite rse is tumen e gravel rent

Top of Pavement Core



Notes: 1) Top of pa



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	625+82	Construction CL Offset 9 RT	
Directional lane	Northbound - Ou	Northbound - Outer Wheel Path	
Date cored:	3/24/2015		
Total core length, in.	8	Core Diameter, in. 4	
Comments:	course, 2 in. sur Aggregate is find well-distributed s with some crush mainly fine grain apparent high bi	arse, 2.5 in. binder, 1.25 in. surface face course, 0.75 in.surface course. The to coarse, subrounded to angular, sandstone gravel and crushed syenite and sandstone. The surface course is used. The upper surface course has an tumen content. The binder is fine to the asphalt concrete is underlain by	
Core No. 11	soil cement.	,	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Stati	i on 606+00	Construction CL Offset 22 RT	
Directional la	ne Northbound - O	Northbound - Outer Wheel Path	
Date core	ed: 3/24/2015		
Total core length,	in. 7.25	Core Diameter, in. 4	
Commen		course, 2 in. binder, 2 in. surface	
	coarse, subroun sandstone grave crushed sandsto grained. The up high bitumen co	urface course. Aggregate is fine to add to angular, well-distributed el and crushed syenite with some one. The surface course is mainly fine per surface course has an apparent ntent. The binder is fine to coarse phalt concrete is underlain by soil	
Core No. 12	cement.		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	586+11	Construction CL Offset	7 RT
Directional lane	Northbound - Outer Wheel Path		
Date cored:	3/24/2015		
Total core length, in.	14	Core Diameter, in.	4
Comments:	1.5 in. surface c	ourse, 1 in. binder, 1.5 in. surfa	се
	course, 5 in. bin surface course. subrounded to a gravel and crusl sandstone. The and has an appais fine to coarse and has an appart of the sand san sand sand sand sand sand sand	surface course, 1.75 in. surface der, 1 in. surface course, 1.5 in. Aggregate is fine to coarse, angular, well-distributed sandstoned syenite with some crushed surface course is mainly fine grarent high bitumen content. The grained. The lower binder is dearent high bitumen content. The is underlain by soil cement.	ene rained binder egraded

Top of Pavement Core

Core No. 13



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	568+11	Construction CL Offset 7 RT
Directional lane	Northbound - Ou	uter Wheel Path
Date cored:	3/23/2015	
Total core length, in.	13	Core Diameter, in. 4
Comments:		
Core No. 14	2 in. surface course, 1.5 in. binder, 1.5 in. surface course, 2 in. surface course, 1 in. surface course, 2 surface course, 2 in. binder, 2 in. surface course. Aggregate is fine to coarse, subrounded to angular well-distributed sandstone gravel and crushed syer with some crushed sandstone. The surface course mainly fine grained and has an apparent high bitun content. The binder is fine to coarse grained. The lobinder is slightly degraded and has an apparent high bitumen content. The asphalt concrete is underlain	

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	548+30	Construction CL Offset 11 RT
Directional lane	Northbound - Ou	uter Wheel Path
Date cored:	3/23/2015	
Total core length, in.	9	Core Diameter, in. 4
Comments:		ırse, 1.75 in. surface course, 1.25 in.
	surface course, 1.73 III. surface course, 1.23 III. surface course, 2 in. binder, 3 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The binder is fine to coarse grained and is degraded with an apparent high bitumen content. The asphalt concrete is underlain by soil cement.	
Core No. 15		

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	556+74	Construction CL Offset 10 LT
Directional lane	Southbound - Outer Wheel Path	
Date cored:	3/25/2015	
Total core length, in.	. 13	Core Diameter, in. 4
Comments:		ourse, 1.5 in. surface course, 1 in.
	in. surface cours subrounded to a gravel and crush sandstone. The and has an appais fine to coarse bitumen content	3 in. binder, 2.5 in. surface course, 1.5 se. Aggregate is fine to coarse, ngular, well-distributed sandstone ned syenite with some crushed surface course is mainly fine grained arent high bitumen content. The binder grained and has an apparent high. The asphalt concrete is underlain by
Core No. 16	soil cement.	





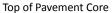
Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	576+96	Construction CL Offset	9 LT
Directional lane	Southbound - O	uter Wheel Path	
Date cored:	3/25/2015		
Total core length, in.	12	Core Diameter, in.	4
Comments:	3.5 in. surface c	ourse, 2 in. surface course, 2.5	in.
	Aggregate is find well-distributed swith some crush mainly fine grain content. The bind an apparent high mainly coarse g	race course, 2 in. ACHM base. e to coarse, subrounded to angus and stone gravel and crushed standstone. The surface counted and has an apparent high but der is fine to coarse grained and high but but but but but but but but but but	syenite rse is itumen d has base is





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	597+31	Construction CL Offset 7 LT
Directional lane	Southbound - O	uter Wheel Path
Date cored	3/25/2015	
Total core length, in	8.5	Core Diameter, in. 4
Comments		
	4 in. surface course, 2.5 in. surface course, 2 in. binder. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crusyenite with some crushed sandstone. The surfact course is mainly fine grained and is degraded with apparent high bitumen content. The binder is fine coarse grained and is slightly degraded with an apparent high bitumen content. The asphalt concrete.	
Core No. 18	underlain by soil	cement.





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

		i .						
Approximate Station	618+62	Construction CL Offset 11 LT						
Directional lane	Southbound - Outer Wheel Path							
Date cored:	3/25/2015							
Total core length, in.	9	Core Diameter, in. 4						
Comments:	1 in. surface cou	urse, 1.5 in. surface course, 2 in binder,						
Core No. 19	4.5 in. ACHM base. Aggregate is fine to coarse subrounded to angular, well-distributed sandsto gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine g and has an apparent high bitumen content. The is fine to coarse grained and is degraded with apparent high bitumen content. The ACHM base contains mainly coarse sandstone gravel and is moderate to well-distributed and degraded with apparent high bitumen content. The base is unby soil cement.							

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	636+77	Construction CL Offset 9 L	Т					
Directional lane	Southbound - O	uter Wheel Path						
Date cored:	3/25/2015							
Total core length, in. 9.5 Core Diameter, in. 4								
	1.5 in. surface course, 2 in. binder, 2 in surface							
	course, 1 in.surface course, 3 in. binder. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The lower surface course appears to be slightly degraded. The binder is fine to coarse grained. The lower binder is degraded with an apparent high bitumen content. The asphalt concrete is underlain by							

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	656+16 Construction CL Offset 7 LT							
Directional lane	Southbound - Outer Wheel Path							
Date cored:	3/25/2015							
Total core length, in.	. 8.5 Core Diameter, in. 4							
Comments:	1.5 in. surface course, 4 in. binder, 3 in surface							
Core No. 24	course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crush syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The lower surface course appears to be slightly degraded. The binder is fine to coarse grained. The lower binder is degraded with all apparent high bitumen content. The asphalt concrete is underlain by soil cement.							
Core No. 21	is underially by s	oui cement.						

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Annuarin eta Otatia	070.00	Construction OL Offset CLT						
Approximate Station	n 676+00	Construction CL Offset 6 LT						
Directional land	Southbound - Outer Wheel Path							
Date cored	3/25/2015	3/25/2015						
Total core length, in	e length, in. 9.5 Core Diameter, in.							
Comments	: 1.5 in. surface c	1.5 in. surface course, 2 in. surface course, 2 in binder,						
	4 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The lower surface course is degraded. The binder is fine to coarse grained with an apparent high bitumen content. The asphalt concrete is underlain by soil cement.							
Core No. 22								





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	698+71	Construction CL Offset 8 LT						
Directional lane	Southbound - O	Southbound - Outer Wheel Path						
Date cored:	3/25/2015							
Total core length, in.	5 Core Diameter, in. 4							
Comments:	1.5 in. surface course, 3.5 in binder. Aggregate is fine							
Caro No. 22	to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitumen content. The binder is fine to coarse grained and is degraded with an apparent high bitumen content. The asphalt concrete is underlain by soil cement.							
Core No. 23								

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Statio	Approximate Station 718+20 Construction CL Offset								
Directional lan	e Southbound - C	Southbound - Outer Wheel Path							
Date cored	i: 3/25/2015								
Total core length, in	n, in. 7 Core Diameter, in.								
Comments	Aggregate is fin well-distributed with some crush mainly fine grain content. The bir degraded with a ACHM base cor	2 in. surface course, 3 in binder, 2 in ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenit with some crushed sandstone. The surface course is mainly fine grained and has an apparent high bitume content. The binder is fine to coarse grained and is degraded with an apparent high bitumen content. The ACHM base contains mainly coarse sandstone grave and has an apparent high bitumen content. The base							
Core No. 24	is underlain by	sandy fine to coarse gravel.							

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

737+24	Construction CL Offset 4 LT				
Southbound - Outer Wheel Path					
3/25/2015					
8.5	Core Diameter, in. 4				
2.25 in. surface	course, 1.25 in binder, 2 in. surface				
course, 3 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The upper surface course has an apparent high bitumen content. The binder is fine to coarse grained. The ACHM base contains mainly coarse sandstone gravel and has an apparent high bitumen content. The base is underlain by slightly clayey, sandy fine to					
	Southbound - O 3/25/2015 8.5 2.25 in. surface course, 3 in. AC subrounded to a gravel and crush sandstone. The The upper surfa bitumen content The ACHM base gravel and has a				

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	756+33 Construction CL Offset 25 LT								
Directional lane	Southbound - O	Southbound - Outer Wheel Path							
Date cored:	3/25/2015								
Total core length, in.	. 9.5 Core Diameter, in. 4								
Comments:	3 in. surface course, 2 in. surface course, 1.5 in.								
Core No. 26	surface course, 3 in. ACHM base. Aggregate is fin coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly grained. The middle surface course has an apparehigh bitumen content. The ACHM base contains moreoarse sandstone gravel and has an apparent high bitumen content. The base is underlain by slightly clayey, sandy fine to coarse gravel.								

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Statio	n 776+75	Construction CL Offset 26 LT						
Directional lan	e Southbound - O	Southbound - Outer Wheel Path						
Date cored	l: 3/24/2015							
Total core length, in	n. 8.5 Core Diameter, in. 4							
Comments	1.5 in. surface course, 2 in. binder, 2 in. surface course,							
	subrounded to a gravel and crush sandstone. The The middle surfa bitumen content coarse sandstor	3 in. ACHM base. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The middle surface course has an apparent high bitumen content. The ACHM base contains mainly coarse sandstone gravel and has an apparent high bitumen content. The base is underlain by soil cement.						
Core No. 27								





Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

Approximate Station	796+56	Construction CL Offset 26 LT					
Directional lane	Southbound - Outer Wheel Path						
Date cored:	3/24/2015						
Total core length, in.	. 5.5 Core Diameter, in. 4						
	1.5 in. surface course, 2 in. binder, 2 in. surface course. Aggregate is fine to coarse, subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine grained. The lower surface course has an apparent high bitumen content. The asphalt concrete is underlain by soil cement.						

Top of Pavement Core



Notes: 1) Top of pavement to the left.



Job No. CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Hwy 425 - Ashley County, Arkansas

GHBW JOB No.: 14-197

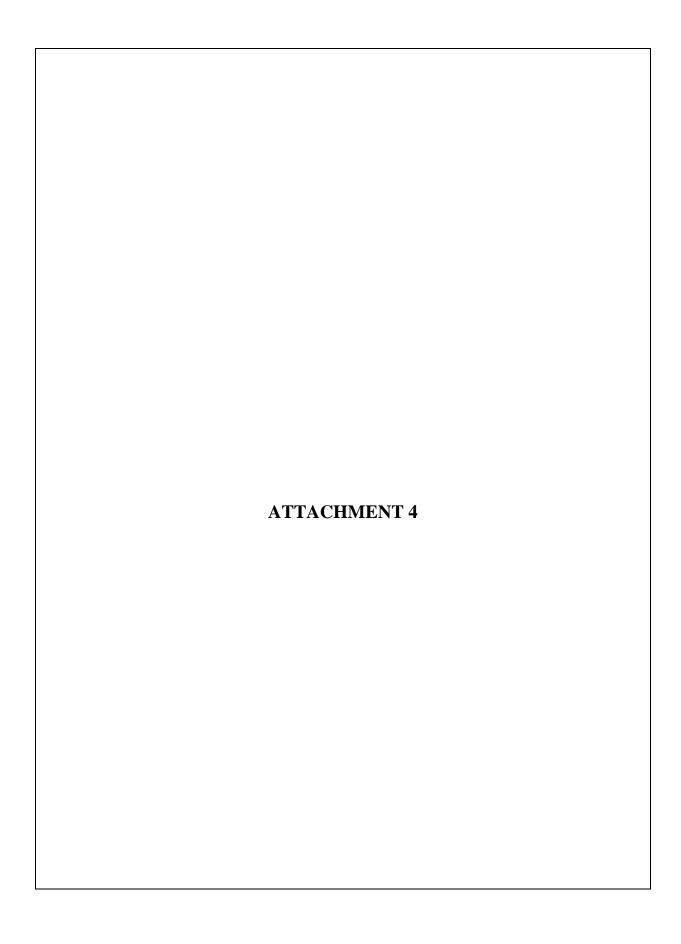
Approximate Station	816+00	Construction CL Offset	2 LT					
Directional lane	Southbound - O	uter Wheel Path						
Date cored:	3/24/2015							
Total core length, in.	Total core length, in. 8 Core Diameter, in.							
Comments:	Comments: 2 in. surface course, 1.5 in. binder, 1.5 in. surface							
Core No. 29	course, 3 in. ACHM base. Aggregate is fine to coars subrounded to angular, well-distributed sandstone gravel and crushed syenite with some crushed sandstone. The surface course is mainly fine graine The upper surface course has an apparent high bitumen content. The binder contains fine to coarse aggregrate. The ACHM base contains mainly coarse sandstone gravel and has an apparent high bitumer content. The base is underlain by soil cement.							
Core No. 29								

Top of Pavement Core



Notes: 1) Top of pavement to the left.



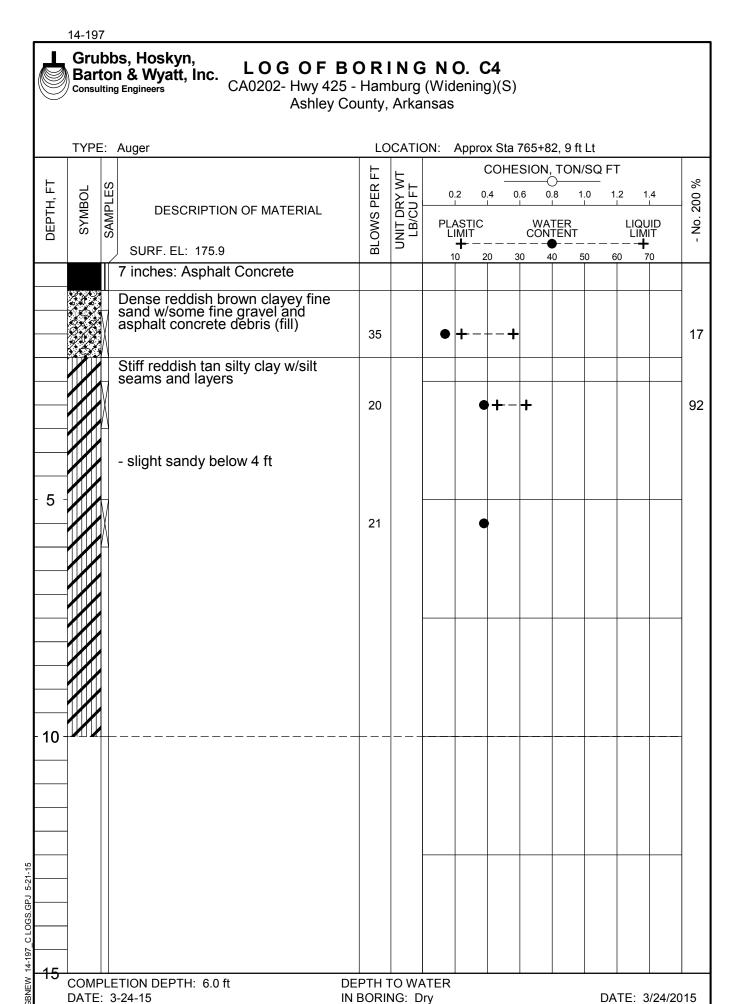


	Cons	ulting	CA0202- Hwy 4: Ashley	25 - Har County				g)(S)						
	TYP	E:	Auger	L	OCATIO	ON: A	Appro	x Sta	825+6	52, 22 ·	ft Rt			
١.				世	_		(COHE	SION	, TON	/SQ F	Γ		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W	0.	2 0	0.4 0	.6 (0.8 1	.0 1	.2 1	.4 L	200 %
DEPTH,	SYM	SAMI		BLOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT		CON	ATER ITENT		LIQU LIM	IID IT	- No. 3
			SURF. EL: 178.0 12.5 inches: Asphalt Concrete	<u> </u>	-	1	-	20 3	80 4	40 5	50 6	0 7	0	
			12.5 mones. Asphalt Concrete											
	•/• /•		3 inches: Soil Cement											
			Loose reddish brown clayey fine sand w/some medium to coarse sand and trace fine gravel	4			+•	+						35
- 5				6			•							
			Stiff gray and tan silty clay w/som silt pockets and seams and some ferrous stains	ne e 15				•						
10	_													
.GPJ 5-21-15														
LGBNEW 14-19/_C LOGS.GPJ 5-21-15														
15 15	COM		TION DEPTH: 6.5 ft -25-15	DEPTH IN BOR							DA	TE: 3	/25/20	15

	Bar Consu	tor	n & Wyatt, Inc. CA0202- Hwy 42 Ashley	25 - Ha	am	burg	(Wid	enir		3)						
	TYPE	Ξ:	Auger		LO	CATIO	ON:	Appr	ox St	a 805	5+78,	8 ft L	_t			
1_					-	ΤV			COF	HESIC	ON, T	ON/S	SQ F1	Γ		vo.
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	THE CHAIN OF THE		UNIT DRY WT LB/CU FT			0.4	0.6	0.8	1.0) 1.		.4	. 200 %
DEF	S	SA	0.1.05	{		UNIT	PLA LI	ASTIC IMIT + -	, 	C	WATE ONTE	R NT — — -		LIQU LIMI	T	- No.
			SURF. EL: 179.5	<u> </u>			1	0	20	30	40	50	6	0 7	0	
			7.75 inches: Asphalt Concrete													
			6 inches: Soil Cement													
		/ \	Dense reddish brown clayey fine to coarse sand w/a little fine gravel (fill)		6		•	+-		+						15
		Å	Firm tan and gray clayey silt w/some ferrous stains and nodule and occasional organic inclusions	3	3				+•	-						90
- 5 -			Stiff tan and gray silty clay w/som silt pockets and seams, ferrous stains and nodules	e 1	3				•							
10 -																
1-15																
PJ 5-2																
9.68.G																
37_CL(
۳ <u>-</u> ۴۲ ا 15																
<u></u>			TION DEPTH: 6.0 ft -24-15	DEPTI IN BO									DA	TE: 3	/24/20	15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg (Widening)(S)

	TYPI	≣:	Auger	LC	CATIO	ON: A	Approx	Sta 7	86+44	, 10 ft	Lt			ı
╽ _┖				F	5		С	OHES	SION,	TON/S	Q FT			\o
H, FT	SYMBOL	J'ES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.	2 0.4	4 0.6	0.8	1.0	1.2	2 1.	4	200 %
DEPTH,	SYM	SAMPLES		SLOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT		WAT	ER ENT		LIQU LIMI	ID T	- No.
			SURF. EL: 173.0	岡		10	0 20	30	40	50	60) 7	0	
			9 inches: Asphalt Concrete											
			Dense reddish brown clayey fine to coarse sand w/a little fine to coarse gravel (fill)	33		•	•							
			Stiff reddish tan, gray and tan silty clay, slightly sandy w/trace fine gravel (fill)	22			•							
- 5 -			Very soft tan and gray silty clay w/occasional silt pockets and ferrous stains and nodules, moist	3			+							77
			- water at 6.5 ft Stiff tan and gray clay, slightly silty w/some ferrous stains and nodules and trace organics	21			•							
- 10 -			NOTE: Water at 5.8 ft after 10 minutes.											
15				EPTH BORI	TO WA						DA	ΓE: 3	/24/20	

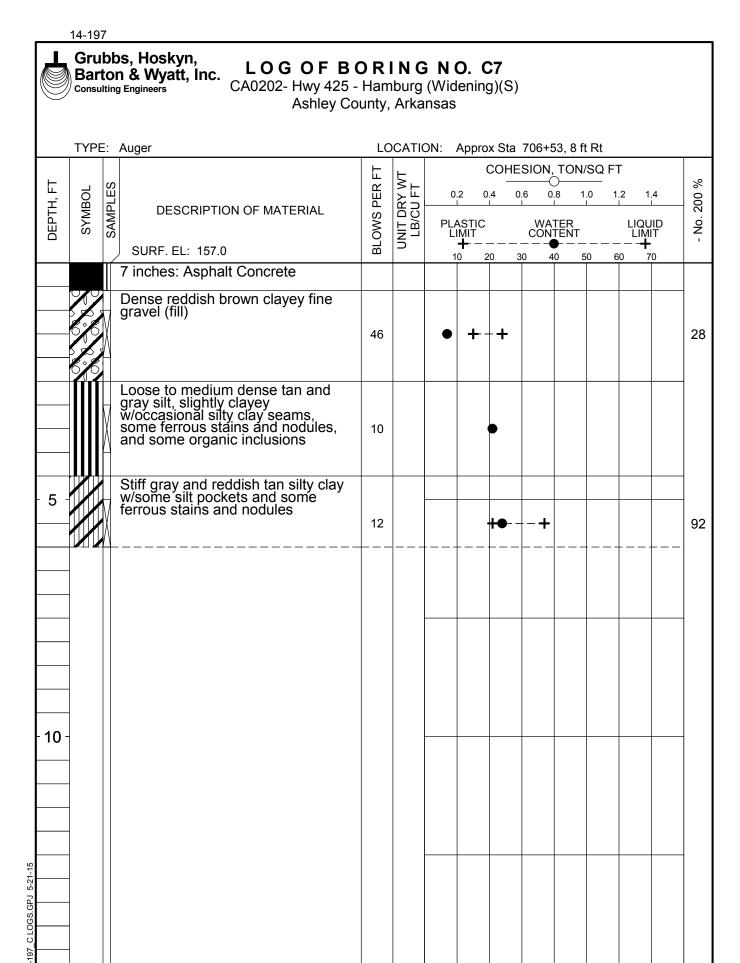


Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg (Widening)(S)

				y County										
	ГҮРЕ	<u>:</u>	Auger	L	OCATI	ON:	Appr							1
_		(0		FT	N L			COI	HESIC	N, TO	N/SQ F	Т		%
H, H	BOL	٦Ę	DESCRIPTION OF MATERIAL	H	RY F	().2	0.4	0.6	8.0	1.0	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES		3LOWS PER	UNIT DRY WT LB/CU FT	PL L	ASTIC	C 		VATER ONTEN	T	LIQL LIM	JID IT	2
			SURF. EL: 171.3	B			10	20	30	40	50	50 7	70	
		Ш	6 inches: Asphalt Concrete											
<u> </u>		<u> </u>	3.5 inches: Soil Cement				-	-		_				-
		\mathbb{N}	Medium dense brown clayey fine sand w/some fine gravel (fill)	25		•	+		+					2
		V .	Firm tan silty clay w/some ferrou stains and nodules and organic stains, moist	S 7					•					
5		V	Firm to stiff gray and reddish tan clay, slightly silty w/some silt pockets and some ferrous stains and nodules	10										
		/_												
0 -														
			TION DEPTH: 6.0 ft -24-15	DEPTH IN BOR								\ \TE: 3	124/20	145

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Hyar 425 Hamburg (Widening)(S)

	Consu	lting	Engineers CA0202- Hwy Ashle						g)(S	S)						
	TYPE	<u>:</u> ,	Auger		LO	CATIO	ON:	Appro	x St	a 726	+87,	15 ft F	₹t			
					FT	⊢			COF	IESIC	N, TO	ON/S	Q FT	-		_
4, FT	30L	LES			ЭER	ΥΥ FT	0	.2 ().4	0.6	0.8	1.0	- 1.	2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		C	VATE	R NT		LIQU LIM	ID T	- No. 2
			SURF. EL: 164.4		BL	⊃	1	+ -	— — - 20	30	40	 50	60	0 7	0	ľ
			9 inches: Asphalt Concrete													
			Dense reddish brown clayey fine sand w/some fine gravel (fill)	9	39			+	+							36
			Firm tan and reddish tan silty cla w/some silt pockets	ау	8				+•		+					94
5 -			Stiff gray and reddish tan silty cl w/some silt seams and layers ar ferrous stains and nodules	ay nd	12				•							
10 -																
			TION DEPTH: 6.0 ft -24-15			O WA		•	•			l	DA	TE: 3	/24/20	15



DEPTH TO WATER

IN BORING: Dry

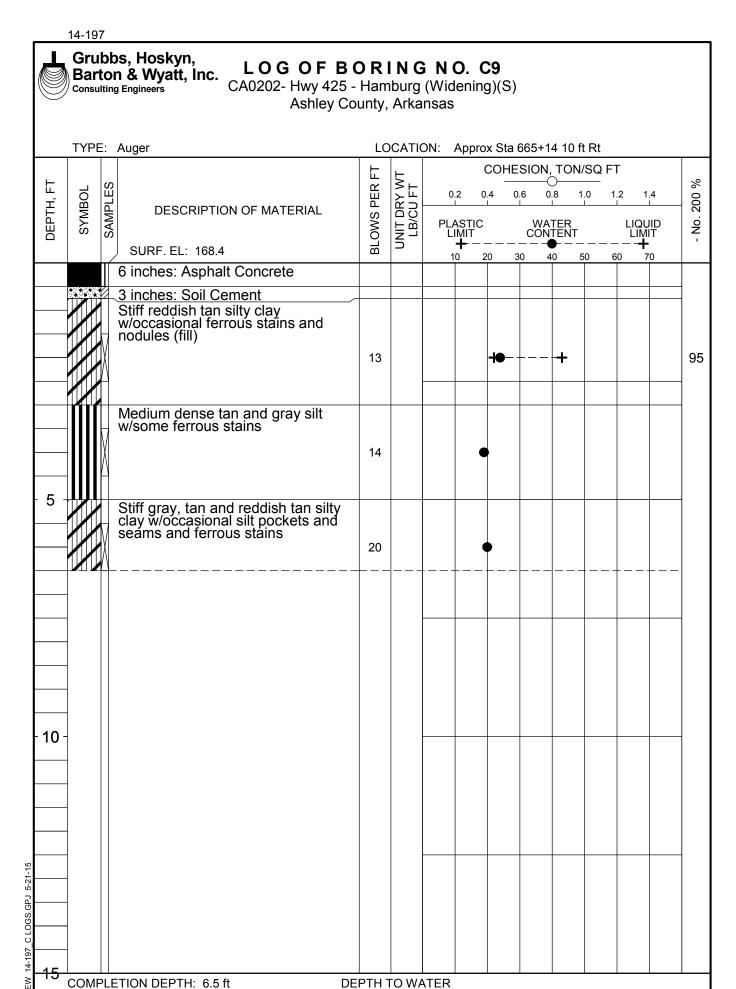
COMPLETION DEPTH: 6.0 ft

DATE: 3-24-15

DATE: 3/24/2015

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg (Widening)(S)

	/ Consu	ılting	GEngineers CA0202- Hwy 42 Ashley					g)(S)					
	TYPI	<u>E:</u>	Auger	LC	CATIO	ON:	Appro	x Sta 6	84+93,	9 ft Rt			
		_		ᇤ	۲.		(COHES	SION, T	ON/SC	Ç FT		,
H, FT	SYMBOL	J/ES	DESCRIPTION OF MATERIAL	PER	RY V U FT	-	0.2	0.4 0.6	6 0.8	1.0	1.2	1.4	200 %
DEPTH,	SYM	SAMPLES		3LOWS PER	UNIT DRY WT LB/CU FT	PL I	ASTIC		WATE	R NT	ا 	LIQUIE LIMIT) <u>o</u>
			SURF. EL: 155.1	<u> </u>			10 2	20 30	40	50	60	70	
			7.5 inches: Asphalt Concrete										
			8 inches: Soil Cement										
	//		Stiff reddish brown fine sandy clay w/some fine to coarse gravel (fill)	/ 22									
			Soft top and grow ailty alay was me				+	● - +					60
			Soft tan and gray silty clay w/some ferrous stains and nodules and sil seams and layers	t 5			4						90
- 5 -			- very soft, wet	3									
			Stiff tan reddish tan and gray silty										
			Stiff tan, reddish tan and gray silty clay w/some silt pockets and seams and numerous ferrous stains and nodules	22				•					
	-												
10 -													
	-												
	-												
15			ETION DEPTH: 8.5 ft -24-15	DEPTH IN BORI							DATE	E: 3/2	24/2015



IN BORING: Dry

DATE: 3-24-15

DATE: 3/24/2015

	TYPE	≣: <i>i</i>	Auger		CATIO	ON: A								1
_		m		FT	\ V L		(SION	I, TON ⊖—	I/SQ F	Т		%
H, FT	BOL	J/E	DESCRIPTION OF MATERIAL	PEF	RY/ UF/	0.	2 0	.4 0).6 	0.8	1.0 1	l.2 1	.4	200
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC MIT		CON	ATER NTENT		LIQU LIM	JID IT	- No.
			SURF. EL: 150.1	B		1	0 2	0 3	30	40	50	60 7	70	
			8.75 inches: Asphalt Concrete											
			4 inches: Soil Cement											1
			Stiff tan and reddish tan silty clay w/some silt seams and occasional ferrous stains and occasional organic inclusions	22			•	+	•					91
		\mathbb{N}	- firm, moist below 3 ft	9				•						
5 -		1	with more silt pockets and seams and occasional clay pockets below 4 ft											
		M	- stiff below 5 ft											
		1		22		- — — -		• 				<u></u>		
10 -														
														_

	Consu	lting	A & Wyatt, Inc. CA0202- Hwy 42 Ashley					g)(S))					
	TYPE	Ξ: ,	Auger	L	OCAT	ION:	Appro	ox Sta	625+8	82, 9 ft	t Rt			
1				ᇤ	Ş			COH	ESION	I, TON	/SQ F	Т		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V).2 (0.4	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT	PL L	ASTIC IMIT		CON	ATER NTENT		LIQL LIM	JID IT	S
			SURF. EL: 150.9	B			10 :	20	30	40	50 6	60 7	0	
	-		8 inches: Asphalt Concrete											
			3 inches: Soil Cement											
		V M	Stiff brownish gray and reddish brown silty clay w/some silt pocke and seams and ferrous stains and nodules and occasional organic stains and inclusions	ets d 13			4	-+						90
			Firm to stiff reddish tan and gray silty clay w/some clayey silt seam and layers and occasional ferrous stains and nodules	s 3 10				•						
- 5			- stiff below 5 ft with occasional clay pockets and seams	21				•						
- 10														
61-12-6 U46	-													
LGBNEW 14-19/ C LOGS.GPJ 5-21-15	_													
15 15 15			TION DEPTH: 6.5 ft -24-15	DEPTH IN BOR			•				DA	TE: 3	3/24/20	15

	TYPE	Auger	LC	CATIO	ON: Approx S	Sta 606+00, 2	2 ft Rt		
DEPTH, FT	SYMBOL	DESCRIPTION OF MATERIAL SURF. EL: 147±	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 0.4 PLASTIC LIMIT	WATER CONTEN	1.0 1.2 1.10 1.2 1.10 1.2	2 1.4 LIQUID LIMIT — +	- No. 200 %
		7.25 inches: Asphalt Concrete			10 20	30 40	50 60	70	
		6 inches: Soil Cement							
		Stiff gray, reddish tan and tan silty clay w/occasional silt pockets and clay partings and seams and ferrous stains and nodules and organic stains and inclusions	16		+•		+		92
		Stiff reddish brown clay, slightly blocky and slickensided w/some ferrous stains and organic stains	17		4	-			1 100
- 5 -		- blocky below 5 ft	13			•			_
- 10 -									
15									

	TYPE	: /	Auger		CATIO	ON:								
_				E	► .			COH	ESIO	1 , TOI →	V/SQ	FT		%
<u>+</u>	SYMBOL	SAMPLES		BLOWS PER	UNIT DRY WT LB/CU FT	0	.2 0).4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	Æ	MP	DESCRIPTION OF MATERIAL	/S F	F 5	DI	ASTIC		١٨/	ATED			IID	5. 2
	တ်	SA		þ		Ľ	ASTIC IMIT		co	ATER NTENT	Γ	LIQI LIN	IIT	- No.
			SURF. EL: 158.3	18 BI	ر	1	+ - ·	20	30	40	50	60	70	
			14 inches: Asphalt											
		\parallel	4: 1 0 110											
		4	4 inches: Soil Cement							+		+		
		VΙ.	clay w/some silt pockets and	8			+	_						92
		Λ:	Firm gray, tan and reddish tan silty clay w/some silt pockets and ferrous stains and nodules and trace clay partings and seams				•		'					-
		1	hace clay partings and scallis											
			- stiff with occasional silt pockets and seams below 3 ft											
\dashv		7	and seams below 3 ft											
		XI		12			•							
		Δ												
5														
5	//		Stiff gray, tan and reddish tan clay, slightly silty, w/some silty clay seams and occasional ferrous											
	//	V	seams and occasional ferrous											
	//	XI :	stains	14				•						
		4		 			 	<u> </u>	-	-	+	-+	<u> </u>	
10 -														
וטו														
											\perp			
15														
			TION DEPTH: 6.5 ft DI	EPTH :										

	Consu	lting	CA0202- Hwy 425 Ashley C	- Han	nburg	(Wic	lenin)					
	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta	568+4	1 7, 11	ft Rt			
Ι.				F	L		(COHE	ESION	, TON	I/SQ F	Т		
H H	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0	.2 0).4	0.6	0.8	1.0 1	1.2 1	.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CON	TER ITENT		LIQL LIM	JID IT	- No.
			SURF. EL: 156.0	<u>B</u>		1	10 2	20	30	40	50 (60 7	0	
			13 inches: Asphalt Concrete											
			3 inches: Brown clayey fine to coarse gravel, sandy											
			Stiff tan and gray clayey silt w/ferrous nodules and occasional silty clay pockets	13				+						89
			Firm tan and reddish tan silty clay w/occasional silt pockets and ferrous stains and nodules	8				•						
- 5 -			Stiff gray, tan and reddish tan clay, slightly silty w/occasional silty clay pockets	23				•						
10 -														
01-12-0														
1-12-c Cross.cry 3-7-13														
ੂੰ - - 15														
Genev				DEPTH N BORI							DA	ATE: 3	/23/20	15

	TYPI	<u> </u>	Auger			ON: A				11 ft R ON/SQ			
ᇤ		က		RFT	×⊢				- Ó-				%
Ŧ.	SYMBOL	F	DESCRIPTION OF MATERIAL	PEI	F H	0.2	0.4	0.6	8.0	1.0	1.2	1.4	200
DEPTH,	SYN	SAMPLES		3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	IIT	C	WATEI ONTEI	R NT — — — -	LI L	QUID IMIT +	N O N
			SURF. EL: 141.8 9 inches: Asphalt Concrete	— ш		10	20	30	40	50	60	70	
			9 Inches. Asphalt Concrete										
			4 inches: Soil Cement										
			Stiff tan and gray clayey silt w/occasional silty clay partings and seams and ferrous stains	15			•+	+					88
			Soft tan and gray silty clay w/occasional silt partings and seams and trace organic inclusions	5			•	+					88
5 -													
			Very soft reddish tan and gray silty clay w/clayey silt pockets and ferrous stains and nodules and occasional organic inclusions, moist	3			•	•					
			- water at 7.3 ft										
		V	- soft, with occasional clay partings and seams below 8 ft	5				,					
		1\					-				-		-
10 -													
									_		-		-

	Bar Consu	tor	CA0202- Hwy 425 - Ashley Co	- Han	nburg	(Wic	lenin							
	TYPI	Ξ: ,	Auger	LC	CATIO	ON:	Appro	x Sta	556+7	' 4, 10	ft Lt			
Ι.				ᇤ	F		•	COHE	SION	, TON	I/SQ F	Т		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER.	NY W SU FT	0	.2 0).4 0	.6 0).8	1.0 1	1.2 1	.4 I	200 %
DEPTH,	SYI	SAIV		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT + -		WA CON	TER TENT		LIQL LIM 	JID IT	No.
			SURF. EL: 145.1	<u> </u>	ļ	1	10 2	20 3	80 4	10	50	60 7	' 0	
			13 inches: Asphalt Concrete											
			7 inches: Soil Cement											
		X	Stiff gray silty clay w/some silt pockets and seams, some clay seams and occasional organic inclusions - soft with less silt seams below 2 ft	22			•	♣-						
			- SOIT WITH IESS SIIT SEATHS DEIOW 2 IT	4			4	•	+					90
- 5 -			- stiff below 5 ft	15				•						
			Stiff reddish tan and gray clay w/some silt pockets and ferrous stains and nodules and organic stains and inclusions					•						
			stains and inclusions	16										
10 -														
2														
15	-													
15	_													
					TO WA						DA	ATE: 3	3/26/20	15

14-197 Grubbs, Hoskyn, LOG OF BORING NO. C17 Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg (Widening)(S) Consulting Engineers Ashley County, Arkansas TYPE: Auger LOCATION: Approx Sta 576+96, 9 ft Lt H COHESION, TON/SQ FT UNIT DRY WT LB/CU FT ᇤ SAMPLES **BLOWS PER** SYMBOL 0.2 0.6 DEPTH, **DESCRIPTION OF MATERIAL** PLASTIC LIMIT + -SURF. EL: 163.5 10 12 inches: Asphalt Concrete 4 inches: Soil Cement Stiff reddish tan fine sandy clay w/some ferrous stains and nodules and occasional fine sand pockets (fill) 11 Stiff gray and reddish tan silty clay w/some silt pockets and seams 11 - tan and reddish tan below 5 ft 14

10

COMPLETION DEPTH: 6.5 ft

DATE: 3-26-15

8.0

1.0

1.2

	Consu	lting	Engineers CA0202- Hwy 4 Ashley						g)(S)						
	TYPE	Ξ: ,	Auger		LO	CATIO	ON:	Appro	x Sta	597+3	31, 7 ft	:Rt			
					ᇤ	E		•	COHE	SION	, TON	/SQ F	Т		
۱, FT	H, FT BOL	LES			ZER	Υ×	0.	.2 0).4 (0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ Li	ASTIC IMIT	•	WA	ATER NTENT		LIQU LIM	JID IT	- No. 2
			SURF. EL: 152.9	i	<u> </u>		1	+ - · 0 2	20	30	40	50 6	50 7	70	
			8.5 inches: Asphalt Concrete												
			8 inches: Soil Cement												
			Firm reddish brown fine sandy cl w/occasional fine sand pockets and trace fine gravel (fill)	ay	7			-10							75
			Stiff gray and reddish tan clay, slightly silty w/some ferrous stain and nodules	is .	11			-	+• -			H			94
5 -			- gray tan and reddish tan, less silty w/occasional organic inclusions below 5 ft		14				•						
10 -															
15															
			TION DEPTH: 6.5 ft -26-15			O WA		•				DA	TE: 3	3/26/20	15

	TYPE	<u>:</u> ,	Auger	LC	CATIO	ON:								
_				ᇤ	١.		(COH	ESION	I, TON	I/SQ F	Т		\o
	EPTH, FT	LES		PER	Y V FI	0	.2 0).4 I	0.6	0.8	1.0	1.2 1	.4	00
DEPTH,	SYM	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		WA CON	ATER NTENT		LIQU LIM	JID IT	- No. 200 %
			SURF. EL: 158.2	<u> </u>		1	0 2	20	30	40	50	60 7	'0 	
			9 inches: Asphalt Concrete											
			6 inches: Soil Cement											-
			Firm reddish brown silty clay w/trace fine gravel (fill)	8			+	•	-+					88
			Stiff tan and gray silty clay w/some silt pockets and clay partings and seams and some ferrous stains and nodules	10			-	 -	+					92
5 -			Stiff reddish tan and tan clay slightly silty w/ferrous stains and nodules and some silt pockets and seams	15				•						
10 -														

	Consu	IOI Iting	CA0202- Hwy 42 Ashley		nburg	(Wid	lenin)					
	TYPE	Ξ: /	Auger	LC	CATIO	ON:	Appro	x Sta	a 636+	77, 9 f	t Lt			
1. 1				世	L			СОН	ESIO	N, TON	I/SQ F	Т		
H	ОГ	ES		3LOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 0).4	0.6	0.8	1.0 1	I <u>.</u> 2 1	.4	200 %
ОЕРТН,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S P	P. O.	DI	A O.T.I.O.		10/	ATED				. 20
	S	SA		§	IF B	L	ASTIC IMIT		cŏ	ATER NTENT		LIQL LIM	IT IT	- No.
			SURF. EL: 151.8	18	_ر	1	0 2	20	30	40	50 (60 7	0	
			9.5 inches: Asphalt Concrete											
			4 inches: Soil Cement											
			Stiff brownish gray and tan silty clay w/occasional silt pockets and organic inclusions											
		M	organic inclusions	, ,,,			_							00
		M	-	22					┑					93
														-
			Soft tan and gray silty clay											
		₩,	Soft tan and gray silty clay w/occasional silt pockets and clay partings and ferrous stains and nodules, moist	/										
		IXI	nodules, moist	5			-	+ ●	_	+				91
		Δ												
- 5 -														
	//		Stiff gray, tan and reddish tan cla slightly silty w/occasional silt pockets and ferrous stains and nodules	у,										
	//	M	pockets and ferrous stains and											
		M	nodules	15										
		+					 				 	 		
10-														
	-													
-10														
2-6														
20														
3														
) 														
½ 15	0014		TION DEDTIL C.F.#	DEDTU		\								
			TION DEPTH: 6.5 ft -25-15	DEPTH IN BORI							DA	ATE: 3	3/25/20)15

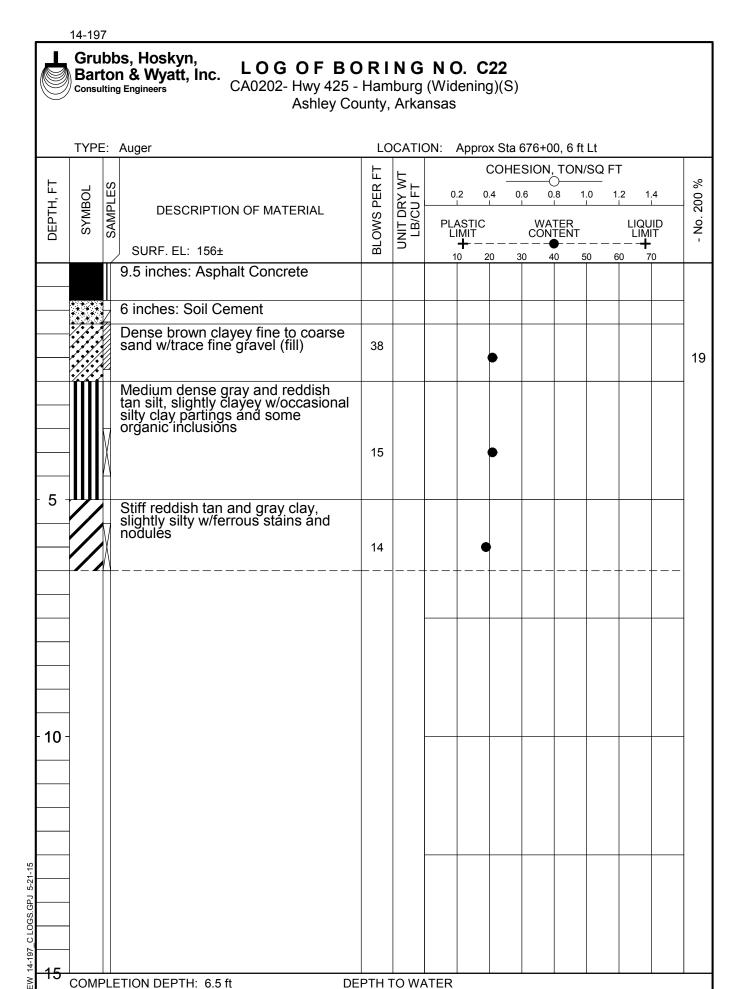
14-197 Grubbs, Hoskyn, LOG OF BORING NO. C21 Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg (Widening)(S) Consulting Engineers Ashley County, Arkansas TYPE: Auger LOCATION: Approx Sta 656+16 H COHESION, TON/SQ FT UNIT DRY WT LB/CU FT 200 % ᇤ SAMPLES **BLOWS PER** SYMBOL 0.2 0.6 8.0 1.0 1.2 DEPTH, **DESCRIPTION OF MATERIAL** Š PLASTIC LIMIT LIQUID LIMIT WATER CONTENT SURF. EL: 163.1 30 40 8.5 inches: Asphalt Concrete 6 inches: Soil Cement Stiff reddish brown fine sandy clay w/trace fine gravel (fill) 24 Firm to stiff tan and reddish tan clayey silt w/some silty clay seams and ferrous stains and nodules 88 10 Stiff tan and reddish tan silty clay w/silt seams and layers and some ferrous stains and nodules 20 10

DEPTH TO WATER

IN BORING: Dry

COMPLETION DEPTH: 6.0 ft

DATE: 3-25-15

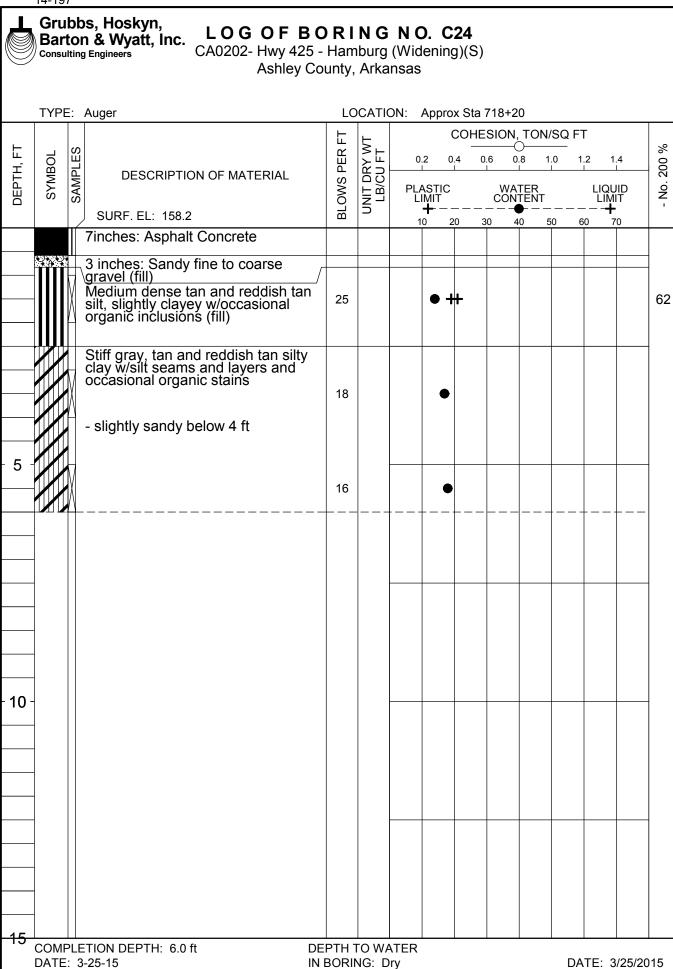


IN BORING: Dry

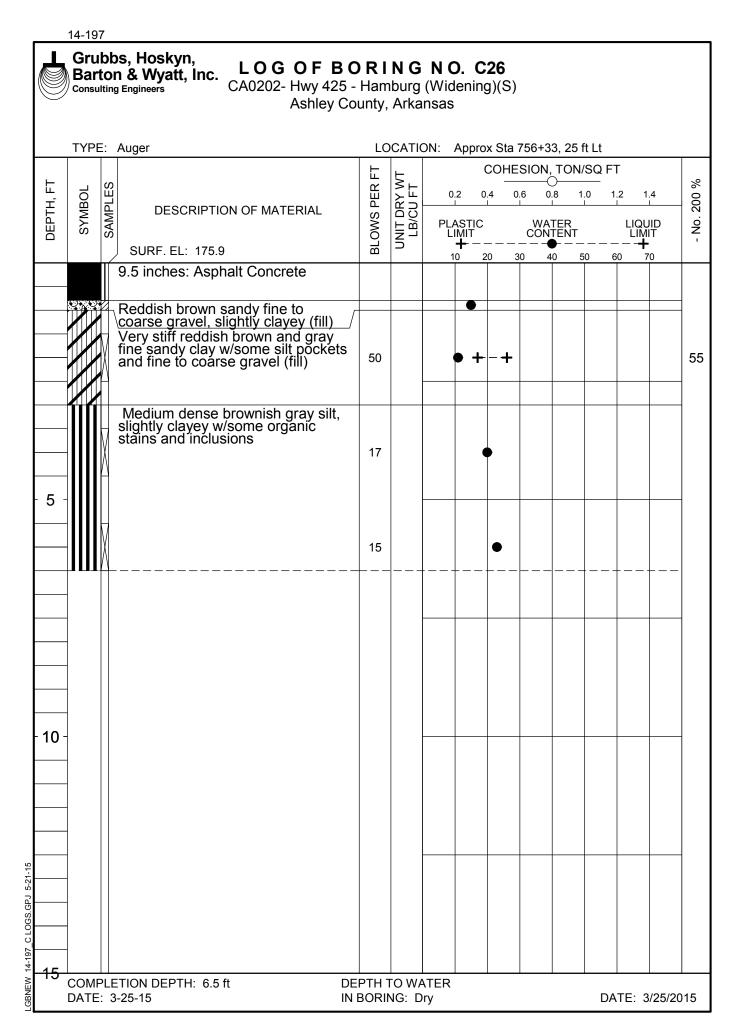
DATE: 3-26-15

DATE: 3/26/2015

	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Appro	x Sta	a 698+	·71, 8 1	ft Lt			
									ESION			FT		
SYMBOL		က္သ		BLOWS PER FT	UNIT DRY WT LB/CU FT			_		- O				%
	닖	DESCRIPTION OF MATERIAL	PE	주 고 고	0	.2 0).4	0.6	0.8	1.0	1.2	1.4	200	
ОЕРТН,	YN	SAMPLES	DESCRIPTION OF WATERIAL	MS	IT D	PĻĄ	ASTIC IMIT		W	ATER NTENT	_	ĻļĢ	OUID MIT	No. 200 %
□	0,	တ	SURF. EL: 156.9	3.0	S	L	IMI I + - − -			MIENI ———		LI	MI I +	_
				+ =		1	0 2	20	30	40	50	60	70	
			5 inches: Asphalt Concrete 3 inches: Soil Cement											
	289	\Vdash	Medium dense brown clavey fine to	1										
		\bigvee	Medium dense brown clayey fine to coarse sand w/some fine to coarse											
		IXI	gravel (fill)	27		•								17
		Н												
			Otiff top and business stress stress stress	1										
			Stiff tan and brown gray clayey silt workers workers would be seen and seams											
	M	M	and seams	1,1										0.7
		N		11				T						87
		Н												
			Firm reddish tan and gray silty clay											
5		Н	Firm reddish tan and gray silty clay w/occasional silt seams and layers and some organic stains and inclusions											
		M	and some organic stains and inclusions	8										
		\mathbb{N}	in old sign of											
				†			† 					- † – -	-	
10 -														
_														
					1	1	1	1	1	1	- 1	1	1	İ

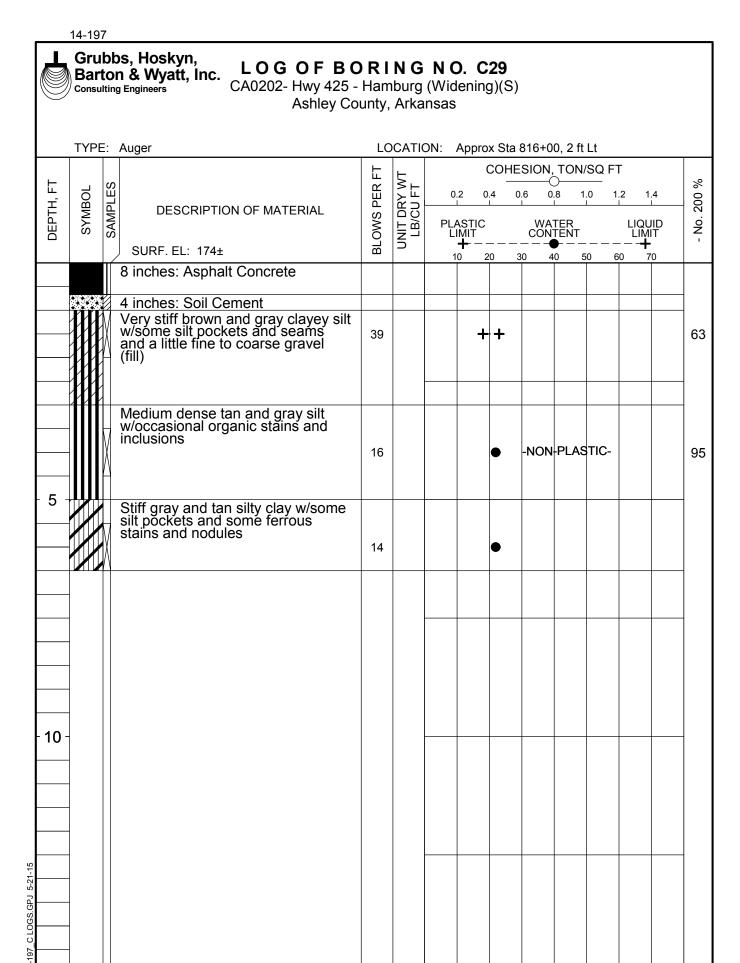


DESCRIPTION OF MATERIAL SUFF. EL: 161.6 8.5 inches: Asphalt Concrete Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill) Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions Stiff tan and reddish tan silt, slightly clayey w/cocasional fine sand pockets and organic inclusions 12 15 16 17 18 18 19 19 10 20 10 20 10 20 10 20 10 10		Consu	ılting	CA0202- Hwy 425 Ashley C					g)(S)					
DESCRIPTION OF MATERIAL DESCRIPTION OF MATERI		TYPI	Ξ:	Auger	LC	CATIO	ON:	Appro	ox Sta	a 737+	24, 4 f	t Lt			
Description of Material Surf. Et: 161.6 8.5 inches: Asphalt Concrete Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill) Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions Stiff tan and reddish tan silt, slightly clayey w/occasional fine sand pockets and organic inclusions 12 8.5 inches: Asphalt Concrete Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill) Stiff tan and reddish tan silt, slightly clayey w/occasional fine sand pockets and organic inclusions 14 Stiff tan and reddish tan silt, slightly clayey w/occasional fine sand pockets and organic inclusions 15 10 10 10 11 11 11 12 13 14 15 16 17 18 18 18 19 19 10 10 10 10 10 10 10 10					ᇤ	F			СОН	ESIO	N, TON	I/SQ F	Т		_
8.5 inches: Asphalt Concrete Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill) Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions Stiff tan and reddish tan silt, slightly clayey w/socasional fine sand pockets and organic inclusions 12 8.5 inches: Asphalt Concrete Locar Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions 14 Stiff tan and reddish tan silt, slightly clayey w/socasional fine sand pockets and organic inclusions 12		BOL	S=1	DECORIDATION OF MATERIAL	PER	RY W	0	.2 0	0.4	0.6	0.8	1.0	1.2 1	.4	200 %
8.5 inches: Asphalt Concrete Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill) Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions Stiff tan and reddish tan silt, slightly clayey w/socasional fine sand pockets and organic inclusions 12 8.5 inches: Asphalt Concrete Locar Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions 14 Stiff tan and reddish tan silt, slightly clayey w/socasional fine sand pockets and organic inclusions 12	DEPT	SYM	SAM		SMOTI	UNIT D LB/C	PL/ Li	ASTIC IMIT		CO	ATER NTENT		LIQU LIM	JID IT	- No. 3
Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions Stiff tan and reddish tan silt, slightly clayey w/occasional fine sand pockets and organic inclusions 12 • • • • • • • • • • • • • • • • • • •					Ш		1	0 2	20	30	40	50	60 7	0	
Stiff tan and reddish tan silt, slightly clayey w/occasional fine sand pockets and organic inclusions 12 •H 8				Dense reddish brown clayey fine to coarse sand w/some fine gravel (fill)	41		•								15
112				Stiff gray and tan and brown silty clay w/some silt pockets and seams, some ferrous stains and nodules and trace organic inclusions	14			•							
	- 5 -			Stiff tan and reddish tan silt, slightl clayey w/occasional fine sand pockets and organic inclusions	y 12			•)++- 						80
	- 10 -														
COMPLETION DEPTH: 6.0 ft DEPTH TO WATER	15	COM		TION DEPTH: 6.0 ft	DEPTH	TO WA	ATER								



	TYPE	Ē: <i>i</i>	Auger		CATIO	ON:								
Ħ		S		Z FI	T M T			_		10T ,V				%
	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	0	.2 (0.4	0.6	8.0	1.0	1.2 1	.4	No. 200 %
DEPTH,	SYI	SAIV		OWS	LB/(PL/ L	ASTIC IMIT		CO CO	ATER NTENT	-	LIQI LIM	JID IT	Š
_			SURF. EL: 169.7	B.	5		+-	 20	30	● − 1	 50		- 70	'
			8.5 inches: Asphalt Concrete											
		4	6 inches: Soil Cement											
			Dense tan and brown clayey fine gravel, sandy	30		•	+	+						13
			Soft tan and gray clayey silt w/some silty clay pockets and occasional organic stains	6				+•-	+					85
5			Stiff tan and reddish tan silty clay w/some seams and layers and some ferrous stains and nodules	12										
10														
	_													
	-													

-	TYPI	Ξ:	Auger	LC	CATIO	ON:								
.				F	5			COH	ESIO	N, TOI	N/SQ I	=T		
, F	3OL	LES)ER	Y √ FT	0	.2 (0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CO	ATER NTENT	-	LIQI LIM	JID IIT	- No. 2
			SURF. EL: 180.4	B	ر	1	+ –	 20	30	40	50	60	70	
			5.5 inches: Asphalt Concrete											
			10.5: Soil Cement											
			Stiff tan and gray clayey silt w/occasional organic inclusions and some wood debris (fill)	17				+	-					91
			Firm tan and gray silty clay w/some silt pockets and seams and occasional ferrous stains and nodules	8				•						_
5 -			- stiff below 5 ft	13				•						_
	ען מעני											+		
10 -														



DEPTH TO WATER

IN BORING: Dry

COMPLETION DEPTH: 6.5 ft

DATE: 3-25-15

DATE: 3/25/2015



SYMBOLS AND TERMS USED ON BORING LOGS

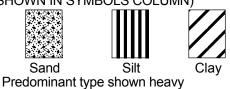
SOIL TYPES

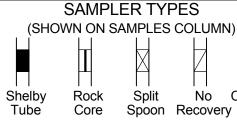
(SHOWN IN SYMBOLS COLUMN)

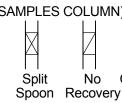














TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on No. 200 sieve): Includes (I) Clean gravels and sands, and (2) silty or clayey gravels and sands. Condition is rated according to relative density, as determined by laboratory tests.

DESCRIPTIVE TERM	N-VALUE	RELATIVE DENSITY
VERY LOOSE	0-4	0-15%
LOOSE	4-10	15-35%
MEDIUM DENSE	10-30	35-65%
DENSE	30-50	65-85%
VERY DENSE	50 and above	85-100%

FINE GRAINED SOILS (major portion passing No. 200 sieve): Includes (1) Inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings or by unconfined compression tests.

DESCRIPTIVE TERM

VERY SOFT

SOFT

FIRM

STIFF VERY STIFF

HARD

UNCONFINED COMPRESSIVE STRENGTH

> TON/SQ. FT. Less than 0.25

0.25-0.50 0.50-1.00 1.00-2.00 2.00-4.00 4.00 and higher

NOTE: Slickensided and fissured clays may have lower unconfined compressive strengths than shown above, because of planes of weakness or cracks in the soil. The consistency ratings of such soils are based on penetrometer readings.

TERMS CHARACTERIZING SOIL STRUCTURE

SLICKENSIDED - having inclined planes of weakness that are slick and glossy in appearance. FISSURED - containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.

LAMINATED - composed of thin layers of varying color and texture.

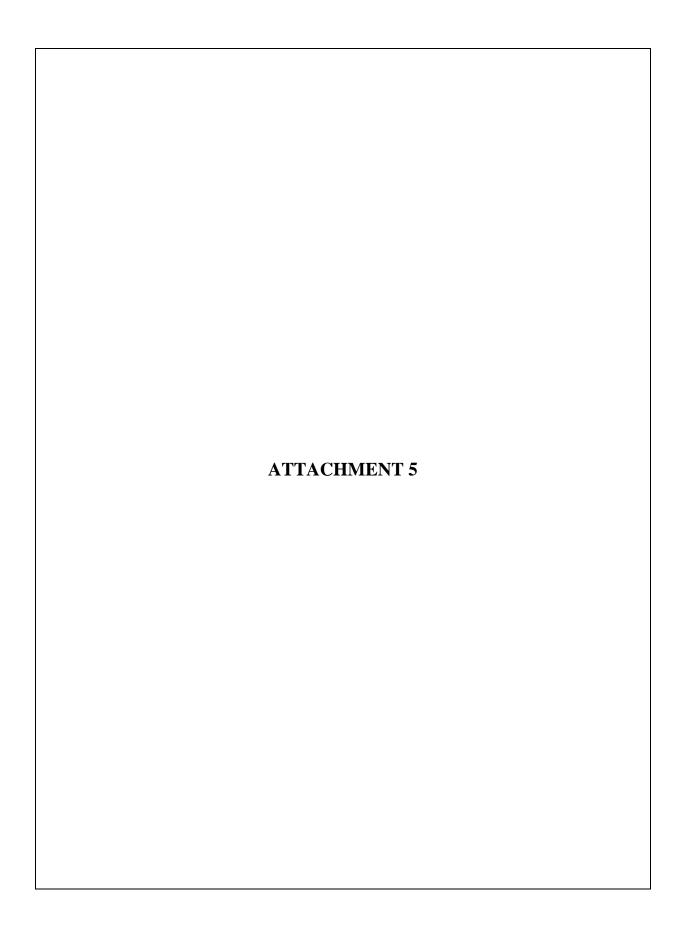
INTERBEDDED - composed of alternate layers of different soil types.

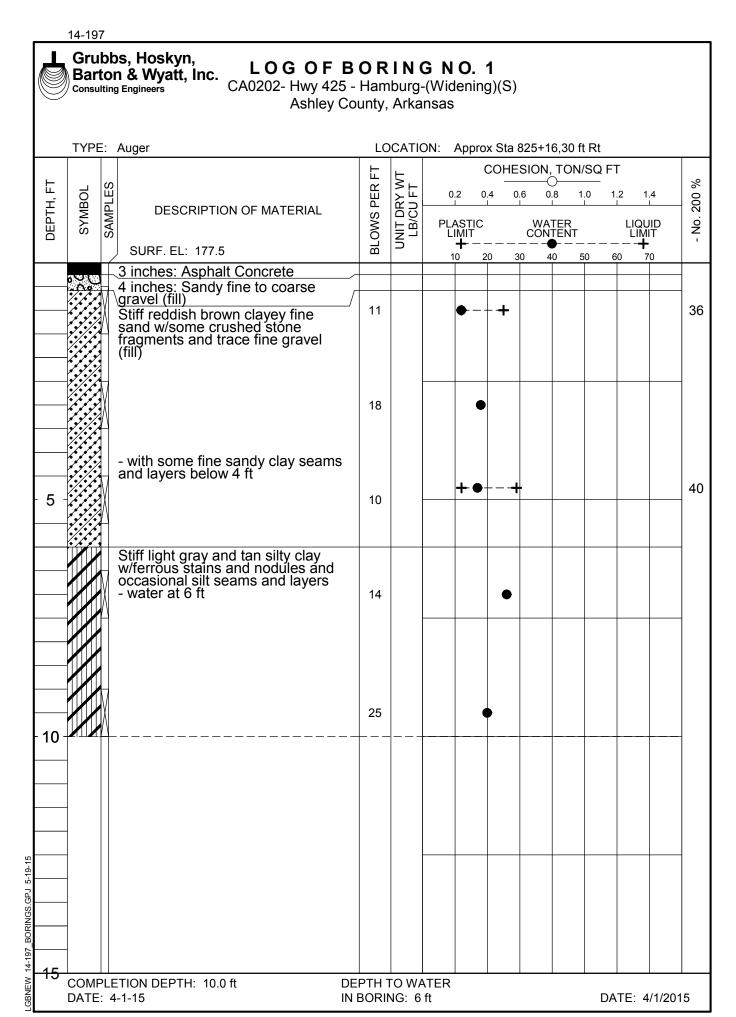
CALCAREOUS - containing appreciable quantities of calcium carbonate.

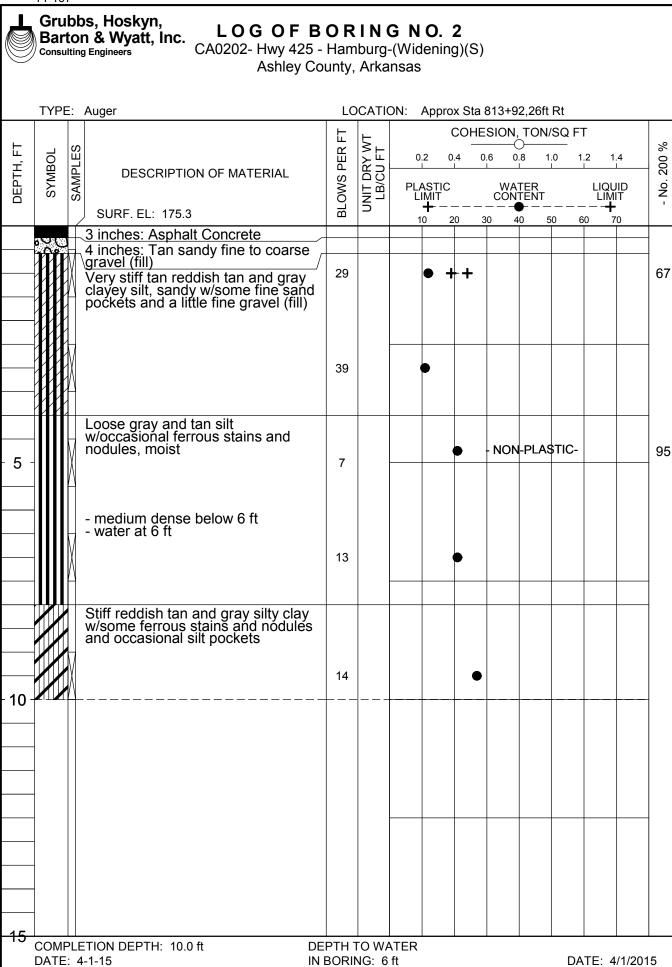
WELL GRADED - having a wide range in grain sizes and substantial amounts of all intermediate particle sizes.

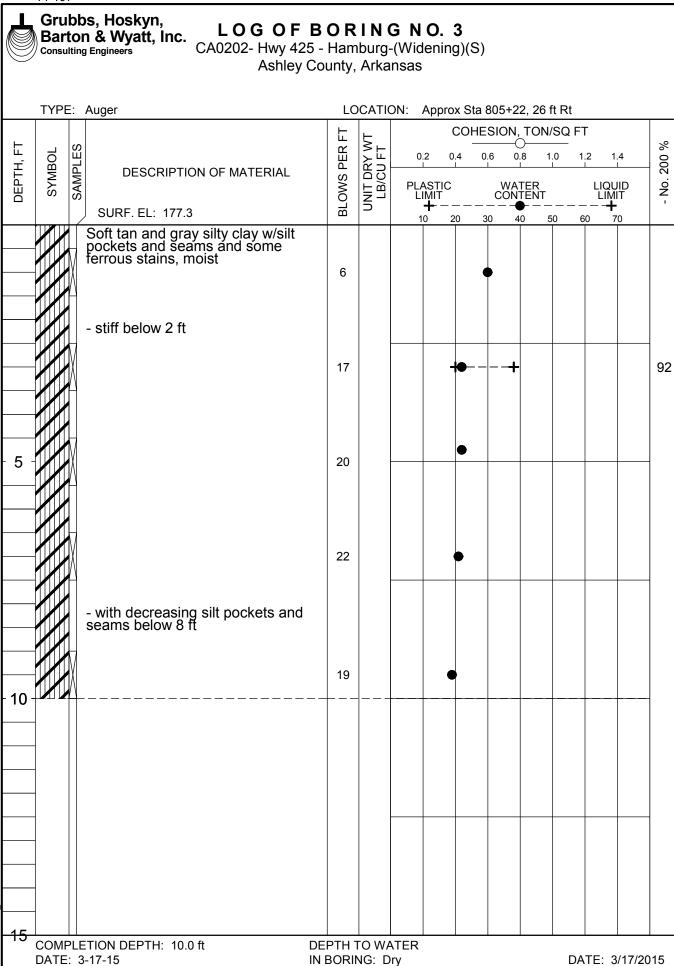
POORLY GRADED - predominantly of one grain size, or having a range of sizes with some intermediate sizes missing.

Terms used on this report for describing soils according to their texture or grain size distribution are in accordance with the UNIFIED SOIL CLASSIFICATION SYSTEM, as described in Technical Memorandum No.3-357, Waterways Experiment Station, March 1953







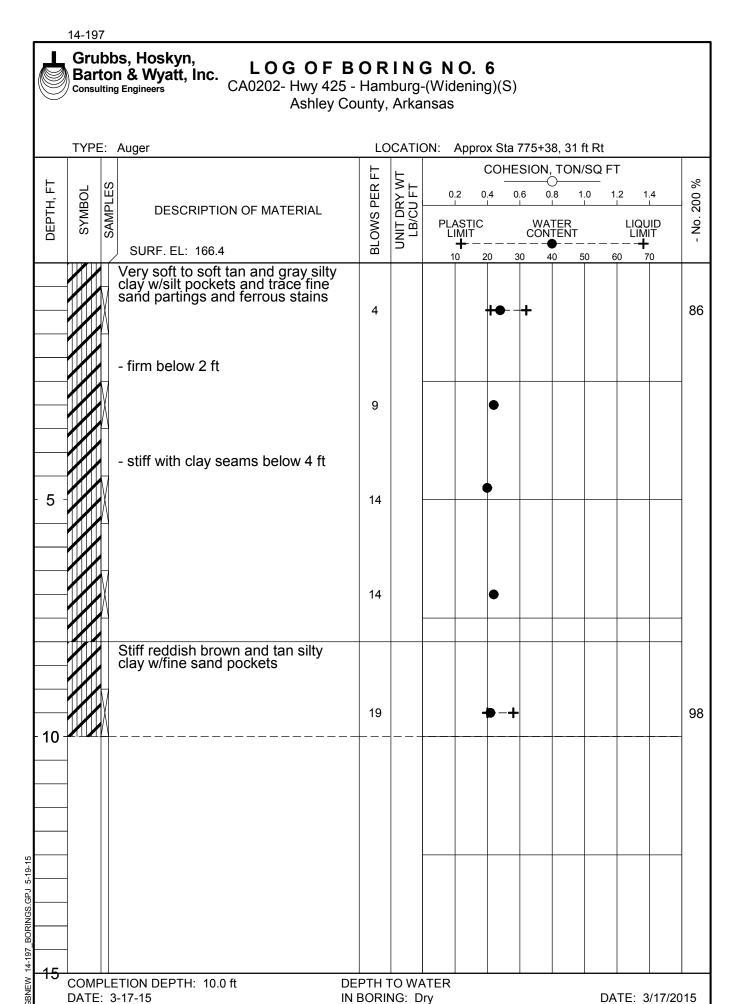


Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPF	:. ,	Auger	10	CATIO	ON:	Annro	x Sta	795+3	RO 29	ft Rt			
	• • • •		tugo.			J. (1. /			SION			FT		
ᄩ	ОГ	ES		3LOWS PER FT	UNIT DRY WT LB/CU FT	0.			(O	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	VS P	S C C	DI /	L I		۱۸/۵	TED		110		20
8	Ś	SA	01105 51 470 0	lov		֖֖֖֖֖֡֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	ASTIC MIT +		CON	TER ITENT		LI 	QUID MIT +	S S
			Surf. EL: 178.0	Ш		1	0 2	0 3	30 4	40	50	60	70	
		, !	Soft tan and gray silty clay w/silt pockets and seams and some ferrous stains											
—[X	icirous stairis	6				+●+	+					8
_														
			- firm, more silt below 2 ft											
		X		9				•						
_														
			- stiff below 4 ft											
		V		40				•						
5		\wedge		18										
			- moist below 6 ft											
		M		23										
		Δ												
_			Stiff reddish tan, gray and tan silty clay w/occasional silt pockets and clay partings and seams											
		∀ '	ciay partings and seams											
		X		21										
0		4		+						-	-	-		
\neg														
5														

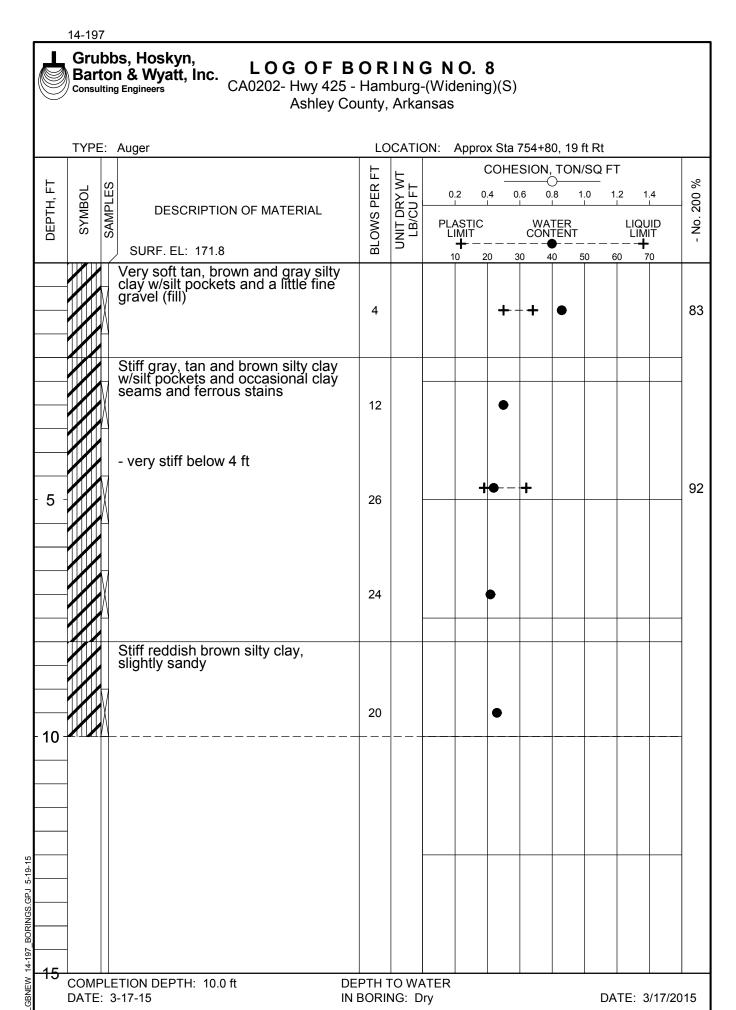
Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Have 425 Hamburg (Widening)(S)

	Consu	lting	g Engineers CA0202- Hwy 42 Ashley	25 - Hai / County					g)(S)							
	TYPE	<u>:</u> :	Auger	L	OCA	TIC	DN:	Approx	k Sta	785+3	35, 1	9 ft R	t			
١.					F			C	OHE	SION	I, TO	N/SQ	FT			
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY	U FT	0.	.2 0.	4 0	.6	0.8	1.0	1.2	1.	4	200 %
DEPTH,	SYM	SAM	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT	LB/C	PLA LI	ASTIC IMIT		WA CON	ATER	T	l	_IQU LIMI +	ID T	- No.
		_	SURF. EL: 168.1	-	<u>_</u>		1	0 2	0 3	80	40	50	60	7()	
		9 7 1	Firm gray, tan and brown silty cla slightly sandy w/silt pockets and trace fine gravel (fill)	ay, 7					-•-	+						80
			- water at 1 ft													
		M	Stiff gray, tan and reddish brown clay, slightly silty w/some silty cla pockets and silt partings and ferrous stains and nodules	14				+	•-			+				94
- 5			Stiff tan and reddish brown silty clay, slightly sandy w/occasional fine sand pockets	21					•							
			- very stiff from 6 to 8 ft	26	;				•							
- 10 -		<u> </u>			· 				•				_			
15	-															
15																
			TION DEPTH: 10.0 ft -17-15	DEPTH IN BOR									DATE	Ξ: 3/	/17/20	15



Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	Consu	ilting	Engineers CA0202- Hwy 4: Ashley	25 - Ham / County				g)(S)						
	TYPI	Ξ: ,	Auger	LC	CATIO	ON:	Appro	x Sta	764+8	9, 21 ·	ft Rt			
				F	П		(COHE	SION,	TON	/SQ F	Γ		
'	30L	LES		PER	Y Y=Z	0	.2 0	.4 0	.6 0	.8 1	.0 1	.2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		WA ¹	TER TENT		LIQU LIMI	ID T	- No. 2
			SURF. EL: 172.1			1	0 2	20 3	30 4	0 5	50 6	0 7	0	
			Very soft to soft gray, tan and brown silty clay w/silt pockets and ferrous stains	d 4			+	 -	+					90
			- stiff at 2 to 4 ft	11			+	• -	-+					93
- 5		V V	- very stiff below 4 ft	38			•							
		V	Stiff reddish brown clay, slightly silty w/occasional silt pockets	15			+	•		+				97
			Stiff reddish brown silty clay w/sil pockets	lt 20										
- 10														
	-													
15			TION DEPTH: 10.0 ft -17-15	DEPTH IN BORI							D.4	TE: 3	/17/20)15



Grubbs, Hoskyn, LOGOF BORING NO. 9 Barton & Wyatt, Inc. CA0202 Hyar 425 Hamburg (Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 425 - Ashley Co					g)(S	5)						
	TYPE	Ξ: ,	Auger	LC	CATIO	ON:	Appro	x Sta	a 744	+14, 3	31 ft R	t			
١.				ᇤ	L		•	СОН	IESIC	ON, TO	ON/SC	FT			
H, FT	SYMBOL	S=7	DESCRIPTION OF MATERIAL	PER	RY W	0	.2 0).4 I	0.6	0.8	1.0	1.2	1.	4	200 %
DEPTH,	SYM	SAMPLES		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		C	WATER	R NT 		LIQU LIMI	ID T	- No
	100000000000000000000000000000000000000		SURF. EL: 169.6	B		1	0 2	20	30	40	50	60	70	0	
		\[\lambda	Medium dense brown clayey fine to coarse gravel, sandy (fill)	14		•	+	+							14
		M	Firm reddish tan and tan silty clay, slightly sandy w/occasional silt pockets and occasional ferrous stains and nodules	9				+•		+					93
- 5 -		Mark the second	- soft at 4 to 6 ft	6					•						
		M	Stiff tan, gray and reddish tan silty clay w/occasional silt pockets	21											
- 10 -				17				•							
-15															
15					TO W <i>A</i> NG: D							DATI	Ξ: 3/	/27/20)15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Hung 425 Hamburg (Widening)(S)

	TYPE	:	Auger	LC	CATIO	ON: A	pprox S	Sta 73	5+57, <i>*</i>	19 ft R	t		
_				ᄩ	١.		CO	HESI	ON, TO	ON/SC	FT		%
T T	BOL	٦ES	DECORPTION OF MATERIAL	PER	Y F	0.2	0.4	0.6	0.8	1.0	1.2	1.4	_ 000
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC IIT	C	WATER	R NT	L I	IQUID LIMIT	2
			SURF. EL: 160.4	BL		10	20	30	40	50	60	70	
	٠٠()	+	3 inches: Asphalt Concrete										
			12 inches: Sandy fine to coarse gravel (fill)										
		$\backslash\!\!\!\backslash$	Stiff tan and gray silty clay w/some fine to coarse gravel (fill)	23		•	•						
			- less gravel below 2 ft										
		\mathbb{I}	Stiff arove roddish top and top silty	26			•+		-				⊣ 9
		/\	Stiff gray, reddish tan and tan silty clay w/some ferrous stains and nodules										
_							•						
5 -		Å		14									
			Soft tan and gray clayey silt w/occasional organic inclusions - water at 6 ft										
		\bigvee	- water at 6 ft	6			+-						
			- stiff with some ferrous stains and nodules below 8 ft										
		V	Hoddies below o it										
0 -		\bigwedge		26			•						
5	CONT		TION DEPTH: 10.0 ft D	EPTH									

	Bar Consu	tor	CA0202- Hwy 425 - Ashley Co	- Ham	nburg-	-(Wider		S)					
	TYPE	Ξ:	Auger	LC	CATIO	ON: Ap	prox St	ta 725+:	37, 27 f	t Rt			
ОЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 162.8	BLOWS PER FT	UNIT DRY WT LB/CU FT	0.2 PLAS LIMI	0.4 TIC IT	0.6 W/ CON	1, TON/5 0.8 1. ATER NTENT	0 1	2 1. LIQU LIMI	ID T	- No. 200 %
-		H		$+\overline{-}$		10	20	30	40 50	0 6	0 7	0	
			4 inches: Asphalt Concrete 8 inches: Sandy fine to coarse gravel (fill)										
-		\bigvee	Medium dense reddish brown clayey fine sand w/some fine gravel (fill)	23		• -	 - -	-+					28
		M	Loose tan and gray clayey silt w/some ferrous stains and nodules and trace organic inclusions	6			•						
- 5				11			+	+					90
		1XI	Stiff reddish tan, gray and tan silty clay w/some ferrous stains and nodules and some silt pockets and seams - water at 6 ft	20			•						
- 10				21			•						
	-												
21-21-0 CTD	-												
1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	COM	PI F	TION DEPTH: 10.0 ft DE	ртн :	TO WA	ATER							
DINGS.	DATE				NG: 6					DA	TE: 4	/1/201	5

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	<u>:</u> :	Auger			ON: A	Approx						
F	7	ES		ER FT	Y WT FT	0.2		υπΕΟΙ 	ON, TO 	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PĻĄ	STIC		WATER	<u> </u>	LIÇ	UID MIT	No. 20
		/	SURF. EL: 151.7	-	N J	LII - 10	MIT	30	 	N I 50	- — LI - — - 60	MI I + 70	_
		1 Y I	Soft gray and tan fine sand w/some ferrous stains and trace organics, very moist (fill) - water at 1 ft	4			+	●+					61
			0.000										
			Stiff tan and gray silty clay w/some silt pockets and ferrous stains and nodules	20			•	•					
5 -		M	Stiff to very stiff reddish brown clay, slightly silty w/occasional silt pockets and seams	30				•					
				20				•					_
			Medium dense reddish brown silty fine sand										
10 -		\bigvee	ille sallu	28									
10-													

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	/ Consu	iting	Engineers CA0202- Hwy 425 Ashley C				5111116))(O)				
	TYPE	≣:	Auger	LC	CATIO	ON: A	Approx	Sta 704+	77, 37 1	ft Rt		
F		S		FF	► _		C	OHESION	I, TON	/SQ FT		2
	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL) PEF	SU F	0.2	2 0.	4 0.6	0.8 1	.0 1.2	2 1.4	4 8
DEPTH,	SYI	SAN		3LOWS PER	UNIT DRY WT LB/CU FT	LIN	STIC MIT	WA CON	ATER ITENT		LIQUI LIMI	D
		_	SURF. EL: 152.2)	10) 20	30	40 5	50 60	70)
			Very soft tan and gray silty clay w/some ferrous stains and nodules and some silt pockets and seams and trace organics - water at 1 ft	4				•				
			Stiff gray and tan silty clay w/some silt pockets and seams and ferrous stains and nodules	18			+•) — — +				9
5 -		M M	- reddish brown, gray and tan with some clay pockets and seams below 4 ft	19				•				
			Stiff reddish brown clay w/some ferrous stains and nodules and occasional silt pockets	23				•				
				22				•				
10 -		1										
	COMF DATE			EPTH '					1	DA	ΓE: 3/	1/2015

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 425 Ashley Co					g)(S)					
	TYPE	Ξ: .	Auger	LC	CATI	ON:	Appro	ox Sta	ı 695+	14, 35	ft Rt			
				F	П			СОН	ESION	I, TOI	N/SQ F	Т		
H, FT	BOL	LES		PER	RY V J FT	C	.2 (0.4	0.6	0.8	1.0	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PL L	ASTIC IMIT		W/ COI	ATER NTENT	- 	LIQU LIM	JID IT	- No. 2
			SURF. EL: 154.9	<u> </u>			10 2	20	30	40	50	50 7	0	
			Very soft gray and tan silty clay w/some ferrous stains and nodules and some silt pockets and seams	4			+			F				92
		V M	- stiff below 2 ft	18				•						
		 	- water at 4 ft Tan and gray clayey silt w/occasional ferrous stains and	/		- — —	 -					 		0.7
- 5 -			Tan and gray clayey silt w/occasional ferrous stains and nodules and organic inclusions, moist	8				4						87
				12				•						
			- with some clay pockets below 8 ft											
- 10 -				16				•						
	_													
	_													
	_													_
	-													
-15 -	-													
				EPTH I BORI							DA	ATE: 3	/30/20)15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	// Consu	lting	Engineers CA0202- Hwy 42 Ashley				ning)(S)				
	TYPI	≣:	Auger	LC	CATIO	ON: Ap	prox S	ta 684+02	2, 22 ft F	₹t		
				F	١.		COI	HESION,	TON/SO	Q FT		9
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY V	0.2	0.4	0.6 0.	8 1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PLAST LIMI	TIC T	WAT CONT	ER ENT	LIC LI	QUID MIT	- No.
	•/• /•	_	SURF. EL: 154.7	B	_ر	10	20	30 40	50	60	7 0	
			Medium dense clayey fine sand w/some medium to coarse sand and some fine to coarse gravel (fil	17		-	10 					26
			Stiff gray clayey silt w/occasional organic inclusions	15			+					87
- 5		V	Stiff tan and gray silty clay w/some silt seams and trace organic inclusions	e 11			•					-
		\bigvee	- with some ferrous stains and nodules below 6ft - water at 7 ft	10				•				_
- 10 -				14			•					
	-											
14-18 DOKUMGS, US-19-19-19-19-19-19-19-19-19-19-19-19-19-												
15			TION DEPTH: 10.0 ft -30-15	DEPTH IN BORI						DATE:	3/30/20	015

TYF	PE: /	Auger			ON: Approx S				
⊢	W		FT	× _		DHESION, T	UN/SQ	FI	%
SYMBOL	PLES	DESCRIPTION OF MATERIAL	PH H	RY.	0.2 0.4	0.6 0.8	1.0	1.2 1	.4 00
DEPTH,	SAMPLES		3LOWS PER	UNIT DRY WT LB/CU FT	PLASTIC LIMIT	WATE CONTE	ER ENT	LIQU LIM	
	$\perp \perp$	SURF. EL: 154.8			10 20	30 40	50	60 7	0
		Firm brown and light gray silty clay	'						
		- trace organics to 1.5 ft	7		+	+			93
		- very stiff below 2 ft							
		- water at 3 ft	28		•				
5		Stiff gray and reddish tan silty clay w/some silt seams and layers and occasional organic stains	22		# -	-			99
			24			•			
		Stiff reddish brown clay, slightly silty w/occasional organic stains and inclusions	13			•			
10									

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	TYPE	Ξ: .	Auger	LC	CATIO	ON: A	Appro	x Sta	665+ ²	19, 37	ft Rt			_
				ᇤ	7		(COHE	SION	I, TON	N/SQ F	Т		
Ĕ L	BOL	J'ES	DECODIDION OF MATERIAL	PER	RY W	0.:	2 0	.4 0).6	0.8	1.0	1.2 1	.4) 0 0
DEPIH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT LB/CU FT	PLA LI	STIC MIT		CON	ATER ITENT		LIQU LIM	JID IT	:
			SURF. EL: 165.5	BL	5	10	+	0 3		● - — · 40		- 	• 70	
		Å	Sift tan and gray silty clay w/silt pockets and seams, moist - with trace organics to 1.5	5				⊹ -●	+					ç
			- stiff below 2 ft	19				•						_
5 -			- with some organic stains below 6	21				•						
		1 \	ft Stiff gray, tan, and reddish tan silty clay w/occasional silt pockets and clay partings and seams	31										
			Stiff reddish brown clay, slightly silty w/occasional silty clay pockets and organic stains	23				•						
0 -														

	Consu	lting	Engineers CA0202- Hwy 425 - Ashley Co				
	TYPE	Ξ: ,	Auger	LC	CATIO	ION: Approx Sta 654+78, 34 ft Rt	
_				ᄩ	١.	COHESION, TON/SQ FT	%
-, FT	30L	LES		PER	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0.2 0.4 0.6 0.8 1.0 1.2 1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC WATER LIQUID LIMIT CONTENT LIMIT	- No. 2
	ATTENSO ATTANT		SURF. EL: 160.5	B		10 20 30 40 50 60 70	
	Ŋ		Stiff brown, tan and reddish tan fine sandy clay, slightly silty w/some silt pockets and occasional clay seams and trace organics (fill)	14		●+ +	94
	/		- soft below 2 ft	6			
5 -			Firm gray, tan and reddish tan silty clay, slightly sandy w/some silt pockets and seams and some ferrous stains and nodules - stiff below 4 ft	8		♣+	89
			- water at 6.2 ft	12		•	
10 -			Stiff gray, reddish tan and red clay, w/some silty clay seams and occasional ferrous stains	18		•	
					TO WA	ATER 5.2 ft DATE: 3/27/20	15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

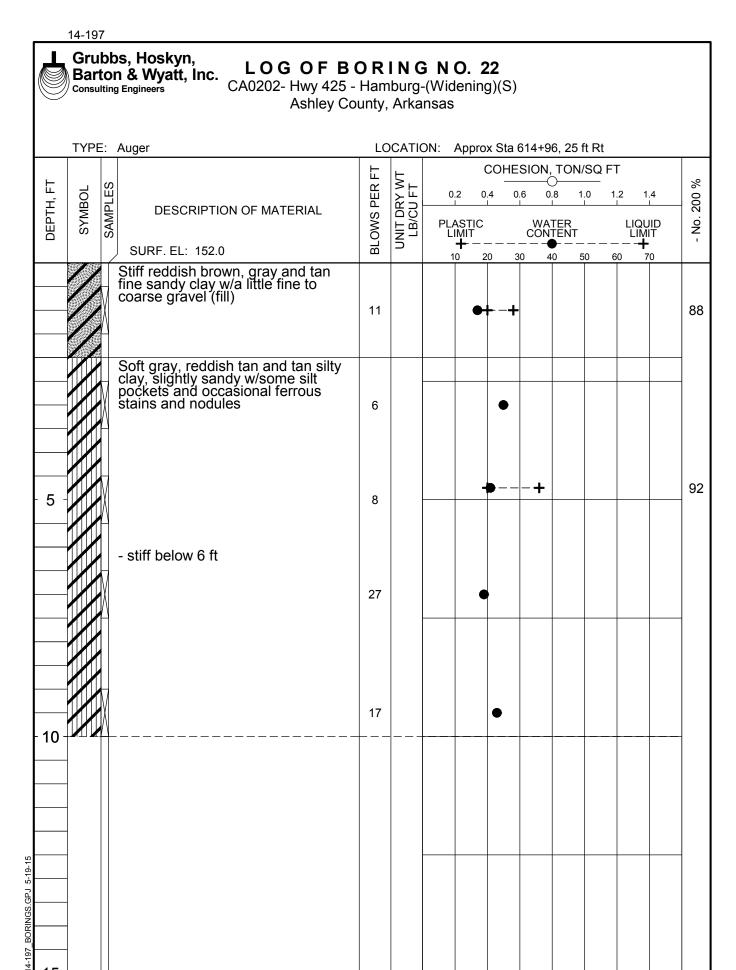
	TYPE	Ē: <i>i</i>	Auger		CATIO	ON: /	Approx S						
Ħ	٦	ES		ER FT	WT FT	0.		0.6	ON, TC 	0N/SQ 1.0	F I 1.2	1.4	% (
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT		1						- No. 200 %
	S	/S	SURF. EL: 149.0	BLOV	N S		ASTIC MIT +		WATER ONTEN			OUID MIT +	Z
			Medium dense reddish brown clayey fine to coarse sand w/a little fine gravel	18		10	11	30	40	50	60	70	20
		M	Medium dense gray and tan silty clay w/some silt seams and layers	10				-+					82
5			Stiff gray and tan clayey silt - very stiff from 6 to 8 ft	14			•						-
10 ·				16			•						_
	-												

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	: .	Auger			ON: A	Approx						Т
Ħ		ES		ER FT	WT FT	0	.2 0.4		ON, TO 0.8	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	UNIT DRY WT LB/CU FT		ASTIC						5. 200
DE	လ်	SA	SURF. EL: 150.8	3LOV	UNI	Li	MIT +	(WATER CONTEN	√T 		QUID IMIT +	- No.
			Soft tan and brown silty clay w/some silt seams and ferrous stains and nodules and organics	6		1	0 20	30	40	50	60	70	
			- stiff and less silty below 2 ft	10			-	-•-		+			94
5 -			- gray and reddish tan below 4 ft	22			•						
			Stiff tan and reddish tan silty clay w/occasional silt partings and clay seams and layers	24				•					
10 -			Stiff tan and reddish brown clay, slightly silty and slightly blocky w/occasional organic stains	22				•					
													_

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Hung 425 Hamburg (Widening)(S)

Co	onsultin	G Engineers CA0202- Hwy 425 Ashley C				:iiiig)(3)					
T	YPE:	Auger	LC	CATIO	ON: A	pprox S	ta 625	5+03, 3	88 ft R1	İ		
			ᇤ	<u> </u>		СО	HESI	ON, TO	N/SQ	FT		
H, FT	BOL N ES	DESCRIPTION OF MATERIAL	PER	RY V	0.2	0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL SAMPI ES		3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC MIT	C	WATER ONTEN	₹ NT - — — -	LIC LII	QUID MIT •	- No. 2
		SURF. EL: 148.7	<u> </u>	_	10	20	30	40	50	60	70	
		Very soft tan and reddish tan silty clay w/occasional silt pockets and organics, moist	4			+-	+					92
		Stiff gray and reddish tan silty clay w/some silt pockets and ferrous stains	21			+•			+			94
5 -			25			•						
		Stiff gray, tan and reddish brown clay, slightly silty w/ occasional silty clay pockets, slightly blocky	24			•	•					
		- slightly slickensided with less silt below 8 ft	24									
10												
15 cc) OMPLI	ETION DEPTH: 10.0 ft D	EPTH '	TO WA	ATER							



DEPTH TO WATER

IN BORING: Dry

COMPLETION DEPTH: 10.0 ft

DATE: 3-27-15

DATE: 3/27/2015

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	<u>:</u> ,	Auger	LC	CATIO	ON: A	Approx	Sta 60	5+89, 2	21 ft Rt			
ե		S		FT	N _		CC	HESI	ON, TO	ON/SQ	FT		%
Ŧ,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PEF	JRY V	0	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYI	SAM		SLOWS PER	UNIT DRY WT LB/CU FT	PLA LI	ASTIC MIT	C	WATER	R NT	LIC L	QUID MIT	- S
			SURF. EL: 146.0	뮵)	10	0 20	30	40	50	60	1 70	
		\bigvee	Very soft to soft reddish brown silty clay w/trace fine gravel and occasional organic inclusions (fill)	4			+						96
		V .	Soft gray silty clay, slightly sandy	6			-10			+			88
5 -		V .	Soft gray, reddish tan and red clay, slightly silty w/occasional ferrous stains and silty clay seams	7				•					_
		V .	Stiff reddish brown clay w/some ferrous stains, slightly blocky	12					•				
10 -				15					•				

	Consu	IO Iting	CA0202- Hwy 42 Ashley		burg	-(Wide							
	TYPE	Ξ: /	Auger	LC	CATIO	ON: Ap	oprox S	Sta 595+0)2, 23 f	t Rt			
١.				ᇤ	L		CC	HESION	, TON/	SQ F	Γ		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY √ U FT	0.2	0.4	0.6).8 1.	0 1	.2 1.	4	No. 200 %
DEPTH,	SYN	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PLAS LIM	STIC IIT	WA CON	TER TENT		LIQU LIMI	ID T	- No.
	(0),(0)		SURF. EL: 155.0			10	20	30 4	10 5	0 6	0 7	0	
			Very soft reddish brown fine sand clay w/fine to coarse gravel and trace organics (fill)	3		•)+ ∤+	-					23
			Stiff gray, reddish tan and tan silty clay w/some ferrous stains and nodules	11		•	+		+				93
- 5 -				13									
			Stiff red clay w/some ferrous stains, blocky	15			-	-				 	100
- 10 -				13				•					
15													
'			TION DEPTH: 10.0 ft -27-15	DEPTH IN BORI						DA	TE: 3	/27/20	15

	Consu	lting	Engineers CA0202- Hwy 425 - Ashley Co				ening	J)(S)						
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx	Sta 5	584+8	2, 39	ft Rt			
				ㅂ	Ŀ		C	OHE	SION,	TON	/SQ F	Γ		_
F, H	Ω	LES		ER	\ Y F1	0.2	2 0.4	4 0.	6 0	.8 1	.0 1	.2 1.	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLA LII	STIC MIT		WA	TER TENT		LIQU LIMI	IID T	- No. 2
			SURF. EL: 156.4	B		10) 20) 3	0 4	0 5	50 6	60 7	0	
			Firm reddish tan clayey silt, slightly silty w/occasional orgainc stains	8			-10	-+	•					86
			Stiff gray, tan and reddish brown silty clay w/occasional silt pockets and some clay partings and seams	20			-10) — — -	-					97
5 -				20				•						
			- more clay seams below 6 ft	20				•						
			Stiff gray and reddish brown clay, slightly silty and slightly blocky w/some ferrous stains and nodules and organic stains	22				•						
10														
45														
				EPTH BORI						•	DA	TE: 3	/31/20	15

	Consu	tor	n & Wyatt, Inc. CA0202- Hwy 42 Ashley		nburg-	-(Wid	lening)						
	TYPI	<u>:</u>	Auger	LC	CATIO	ON:	Approx	Sta 57	5+37, 3	80 ft R	t		
Ι.				ᇤ			C	OHESI	ON, TO	N/SQ	FT		
+	30L	LES)ER	Y Y V	0	.2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ Li	ASTIC IMIT	C	WATER	₹ T - — — -	LIC LI	QUID MIT	- No. 2
		_	SURF. EL: 162.1			1	0 20	30	40	50	60	70	
		X	Soft reddish brown clayey fine sand w/some fine to coarse grave (fill)	6			•						
		M	Stiff gray, reddish tan and tan silty clay, slightly sandy w/some silt pockets and seams and some ferrous stains	y 13			-10 -	+					93
- 5 -		M		20			•						_
			Stiff reddish tan and red clay, slightly silty w/some ferrous stains and occasional silt pockets	21				•					_
- 10 -				13				•					
61-81-6 -81-81-61													-
14-197 BOKINGS, GP. 0-19-197 BOKINGS, GP. 0-													
GBNEV			TION DEPTH: 10.0 ft -26-15	DEPTH IN BORI							DATE:	3/26/20	015

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Have 425 Hamburg (Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 425 Ashley 6					ı)(S)							
	TYPE	<u>:</u> ,	Auger	LC	CATIO	ON:	Approx	Sta 5	64+98,	39 ft I	₹t			1	
1_				ᇤ	L	COHESION, TON/SQ FT									
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	C	.2 0.4	4 0.6	6 0.8	1.0	1.2	2 1.	4	200 %	
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PL. L	ASTIC IMIT +		WATE	R NT		LIQU LIMI	ID T	- No.	
		7	SURF. EL: 148.9	-	_	1	0 20	30	40	50	60	7	0		
			Soft gray, tan and reddish tan silty clay w/some silt partings and seams and occasional clay partings	5				•							
			- stiff with some silt seams and ferrous stains and nodules below 2 ft	2 11			+	•	-+					90	
- 5			Stiff gray and tan silty clay w/some silt seams and ferrous stains and nodules	26				•						_	
			- with some clay partings and organic stains and inclusions belov 6 ft	N 22				•							
40			Very stiff gray and reddish brown clay, slightly blocky w/organic stains and inclusions	26				•						-	
- 10	-														
0 - 2 - 2 - 2 - 2 - 2														_	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1															
15 15	COMF DATE			DEPTH IN BORI							DAT	E: 3	/31/20)15	

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 425 Ashley C		_	•		g)(S))					
	TYPE	Ξ:	Auger	LC	CATIO	ON:	Appro	ox Sta	555+	01, 38	ft Rt			
				F	L			COHE	ESION	I, TON	I/SQ F7	Γ		
H, FT	BOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	UNIT DRY WT LB/CU FT	C).2 (0.4	0.6 0.8 1.0 WATER CONTENT		1.0 1	LIQUID		200 %
DEPTH,	SYMBOL	SAMI		3LOWS PER		PL. L	ASTIC IMIT +							- No. 2
			SURF. EL: 140.1	<u>m</u>	_	,	10 :	20	30	40	50 6	0 7	0	
			Soft gray, tan and reddish tan silty clay w/occasional silt partings and clay seams w/ferrous stains and nodules, moist	5			+			+				90
		V M	- stiff with some silt pockets below 2 ft	20				•						
5 -			Stiff gray, tan and reddish tan clay, slightly silty w/silty clay pockets and seams and ferrous stains and nodules	25				•						
		$ \cdot $	Stiff gray and reddish brown clay, slightly blocky w/occasional silt partings and organic stains and inclusions	21			+					•		99
			- very stiff below 8 ft	26				•	,					
10 -														
				EPTH BORI							DA	TE: 3	/31/20)15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	/ Consu	lting	CA0202- Hwy 425 Ashley C)(5)					
	TYPI	Ξ:	Auger	LC	CATIO	ON:	Approx	Sta 54	7+90,	29 ft Rt			1
				ᇤ	Ь.		C	OHESI	ON, T	ON/SQ	FT		%
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NAY V	0	.2 0.4	4 0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		BLOWS PER	JNIT I	COHESION, TON/ 0.2 0.4 0.6 0.8 1 0.2 0.4 0.6 CONTENT LIMIT CONTENT +			R NT — — — —	LIC LI	QUID MIT +	No.	
			SURF. EL: 140.4	-	ļ	1	0 20	30	40	50	60	70	
			Soft reddish tan and tan silty clay, slightly sandy w/some silt pockets trace fine gravel and ferrous stains and nodules (fill)	5			●1-	 					89
			- with organic inclusions below 2 ft	6				•					
- 5 -			Soft tan and gray silty clay w/some silt pockets, some ferrous stains and nodules and some organics - water at 5 ft	5			•	· •					89
		X	Medium dense gray silt w/ ferrous stains and nodules and occasional silty clay pockets	25			•						
- 10 -		M.	- very dense, slightly clayey with some silty clay seams below 8.5	49			•						
			NOTE 1: Water at 5.4 ft after 10 minutes. NOTE 2: Water at 4.3 ft after 2 hours.										
15			TIOUTO.										
15				DEPTH N BORI							DATE:	3/26/20	015

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	: /	Auger			ON: A	Appox S						
FT	٦	S		R. F.	UNIT DRY WT LB/CU FT	0.2		0.6	ON, TO 	0N/SQ 1.0	FT 1.2	1.4	%
ОЕРТН,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	3LOWS PER	DRY CU F		STIC						200 %
DE	S	SA	SURF. EL: 137.2	3LOW	UNIT	LII	MIT +	C	WATER ONTEN)T 	LI LI	QUID MIT +	No.
			Soft gray, tan and reddish tan silty clay w/occasional silt pockets and seams and clay partings and ferrous stains and nodules	4		10	20	30	40	50	60	70	88
			Firm tan and reddish tan silty clay w/some silty clay seams and layers and ferrous stains and nodules, moist	9			+	•+					84
5 -			- stiff below 4 ft	20			•						_
			Very dense reddish tan silt w/occasional organic inclusions	50/6"		•							-
10 -			Very stiff tan and reddish tan silty clay w/some silt seams and layers and occasional organic stains and inclusions	50/5"			•						
													-

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 4 Ashley	25 - Ham y County,				g)(S)						
	TYPI	Ξ:	Auger	LC	CATIO	ON:	Appro	x Sta 5	60+15	, 33 f	t Lt			
		(0		F	► .		(COHES	SION,	ΓΟΝ/	SQ F	Γ		%
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PEF	NAY CU FI	C	0.2 0	.4 0.6	8.0	1.	0 1	.2 1.	.4 I	200
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PL. L	ASTIC IMIT +		WATI CONTI	ER ENT		LIQU LIMI	IID IT	S
			SURF. EL: 143.0 Soft tan, brown and gray silty cla				10 2	20 30	40	50	0 6	0 7	0	
			Soft tan, brown and gray silty cla w/some clayey silt seams and layers and trace organics	6			_	├●	-					93
			Stiff gray and reddish tan silty cla w/some ferrous stains and nodul - water at 2 ft	es 17				•						
- 5			- very stiff, more silty below 4 ft	32			•							
			Very stiff gray, tan and reddish brown clay, slightly silty w/ some silty clay pockets and ferrous stains and nodules and organic stains and inclusions	52			+•			- +				94
				50/8'			•							
- 10 -														
- 15														
15	COMF DATE		TION DEPTH: 10.0 ft -1-15	DEPTH IN BORI							DA	TE: 4	./1/201	5

Consult	cA0202- Hwy 425 - Ashley Co				S)			
TYPE	Auger	LC	CATIO	ON: Approx S	ta 569+87,	33 ft Lt		ı
		ᇤ	L	CO	HESION, T	ON/SQ F	Γ	
SYMBOL	DESCRIPTION OF MATERIAL	PER	NY W	0.2 0.4	0.6 0.8	1.0 1	.2 1.4	200 %
DEPTH,		BLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC LIMIT +	WATE CONTE	R NT — — — — —	LIQUID LIMIT	o S
	SURF. EL: 154.1	<u>B</u>	_	10 20	30 40	50 6	0 70	
	Soft tan and gray silty clay w/some ferrous stains and nodules and trace organics	7		+•	• 			90
	- stiff with some silt and layers below 2 ft	14		•				
5 -	Stiff gray and reddish tan silty clay w/some silt pockets and seams and ferrous stains and nodules	18		+•-	+			93
	- with occasional clay partings and seams below 6 ft	23		•				
	- very stiff, slightly sandy below 8 ft							
10		25			•			
COMP DATE:			TO WANG: D			DA	TE: 4/2/	2015

	Consu	lting	Engineers CA0202- Hwy 42: Ashley				ening)	(S)					
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	opprox (Sta 581+	06, 36 1	ft Lt			
L				ᇤ	5		CC	HESION	I, TON	/SQ F	Γ		٠,0
H, H	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.2	2 0.4	0.6	0.8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PLAS LIN	STIC MIT -	W. COI	ATER NTENT		LIQU LIMI	IID IT	- No.
			SURF. EL: 158.6			10	-	30	40 5	50 6	0 7	0	
			Firm reddish brown, tan and reddish tan silty clay w/occasional silt seams and fine to medium san pockets (fill)	nd 9			+						78
			Very stiff gray, reddish tan and reddish brown silty clay w/occasional silt pockets and seams	27			•						
- 5 -		V A		37			•						
				32			•						92
- 10 -				34			•						
-15													
15	COMP DATE			DEPTH TIN BORII						DA	TE: 4	/2/201	5

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx	Sta 590)+26, 4	IO ft Lt			
					Ŀ		CC	HESI	ON, TO	N/SQ	FT		
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY W	0	2 0.4	0.6	0.8	1.0	1.2	1.4	200 %
DEPTH,	SYN	SAM		3LOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	STIC MIT	C	WATER	R NT	LI L	QUID TIMIT	S.
			SURF. EL: 146.4	<u> </u>		10	20	30	40	50	60	7 0	\perp
		M .	Firm tan and reddish tan silty clay w/some organic inclusions										
		Ž.	- water at 1 ft	8			(
			- moist with occasional silt pockets and clay partings below 2 ft										
		M	and only parange below I is	13			+						8
			0.00										
	//	<u> </u> M	Stiff reddish brown clay woccasional organic inclusions					•					
5 -	//	Ĭ.		16									
	//		- less silty and slightly blocky belov 6 ft	v									
	//	M	.	19			+			_	_	-+	9
	//												
	//												
	//	M		20				•	,				
10 -		1		-									-
													-
15													

	TYPE	<u>:</u> :	Auger		CATIO	ON:									
_	بِ	ပ္သ		RFT	M.F.	0		COHE		\bigcirc			4	4	%
DEPIH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PE	DRY CU F			1	1	8.0	1.0	1.2	1.	4	200
ך ה	SYI	SAN		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		COI	ATER VTEN	Γ	L	IQU LIMI	ID T	2
		_	SURF. EL: 143.7			1	10 :	20	30	40	50	60	7()	
		Y I	Soft brown silty clay w/occasional silt pockets and ferrous stains and nodules	5				-	+						8
			- water at 1 ft												
		M	Stiff gray, tan and reddish tan silty clay w/some silt seams and layers and ferrous stains and nodules	14				•							
			Very stiff reddish brown clay w/occasional organic stains and											90	
5 -		\bigvee	inclusions	38				+	-•-					90	9
			- stiff below 6 ft												
		M		22					•						
			- slightly blocky and slickensided below 8 ft												
		M		25											
0 -															

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 Have 425 Hamburg (Widening)(S)

TYPE											
	E: Auger	LC	CATIO	ON: A	pprox S	ta 611	+15, 3	5 ft Lt			
_		늍	١.		CO	HESIC	ON, TO	N/SQ	FT		%
SYMBOL	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.2	0.4	0.6	0.8	1.0	1.2	1.4	000
SYMBC	SAN	3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM	STIC IIT 	C	WATER	₹ IT - — — -	LIC LII	UID MIT L	2
	SURF. EL: 145.7	_		10	20	30	40	50	60	70	_
	Very soft brown silty clay w/sor organics	ne 3				•					
	Soft reddish tan and reddish br clay w/trace wood debris, mois	rown t			+-	•				+	9
	Very stiff reddish brown clay, slightly blocky and slickensided w/trace organics	29			+	•				84	<u> </u>
	- with occasional organic stains and inclusions below 6 ft	27				•					
	- stiff below 8 ft										
0	<u></u>	24				•					_
											_
5	PLETION DEPTH: 10.0 ft	DEPTH									

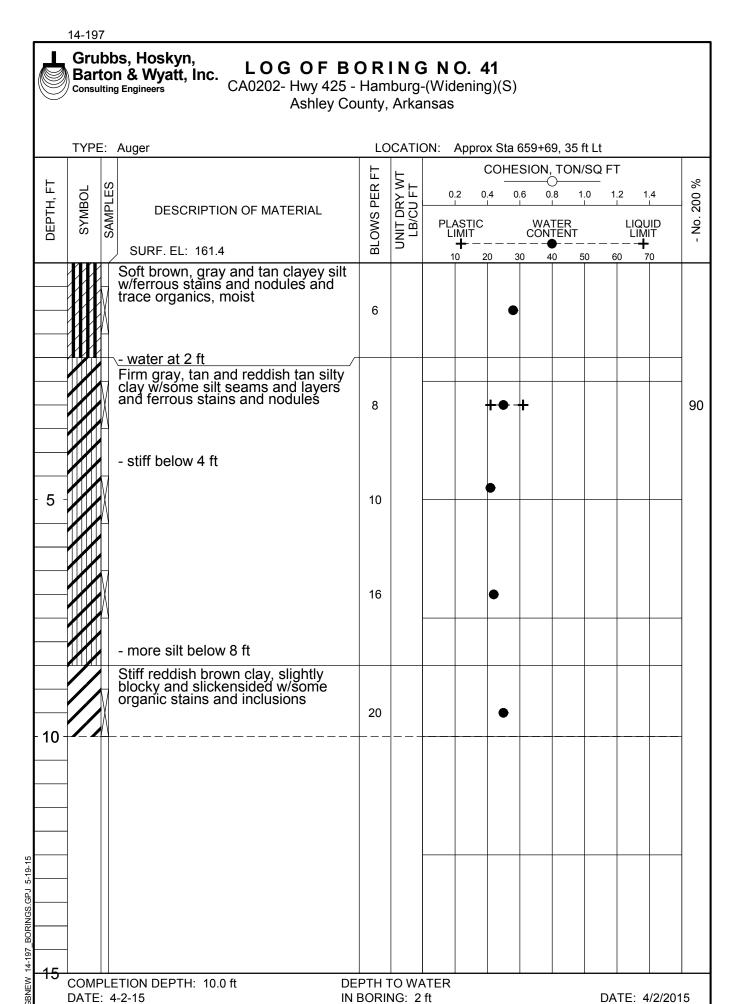
SYMBOL	.							620+					
0	တ္ပ		RFT	× ⊢			_	ESION	\bigcirc				%
₩	SAMPLES	DESCRIPTION OF MATERIAL	S PE	SU.F	0	.2 0).4	0.6	8.0	1.0	1.2	1.4	200
S	SAI		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		COI	ATER NTEN	Т	LI L	QUID .IMIT	Š.
		SURF. EL: 151.6	B	<u> </u>	1	0 2	20	30	40	50	60	7 0	
	XI I	noist	2			-	•		+				93
		Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains	19			+					+		95
	V		37				•						
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Very stiff reddish brown clay, slightly blocky and slickensided woccasional organic stains and nclusions											
			40				•						
			44				•						
			Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions	Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains 19 - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay wisilt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty woccasional ferrous stains and nodules and organic stains - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided woccasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay wisilt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains 19 - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40	Very soft tan, light gray and reddish tan silty clay w/silt pockets and ferrous stains and nodules, moist - water at 1 ft Stiff gray, tan and reddish tan clay, slightly silty w/occasional ferrous stains and nodules and organic stains 19 - very stiff with occasional silt partings below 4 ft Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains and inclusions 40

	TYPE	<u>:</u> 	Auger			ON:	Approx	Sta 6						Т
_		က္သ		RFT	M ⊢	_			$\overline{}$)—				6
	SYMBOL	Ш	DESCRIPTION OF MATERIAL	PE	Z Z	0	.2 0.4	4 0.	6 0.	8	1.0	1.2	1.4	-
	SYN	SAMPLES		BLOWS PER	UNIT DRY WT LB/CU FT	PL/ Li	ASTIC IMIT +		WA ² CON	TER TENT		LIQ LIN	UID IIT -	:
		H	SURF. EL: 149.3			1	0 20	30) 4	0	50	60	70	╁
		M	Very soft tan and brown silty clay w/occasional silt pockets and trace organics and ferrous stains and nodules	4			•							
			Stiff gray, tan and reddish tan silty clay w/occasional silt pockets and clay partings - water at 2 ft	14			-10		- +					
5 -			- very stiff, more silty below 4 ft	38			•							
				26										
			Very stiff reddish brown clay w/occasional organics											-
			- slighlty blocky and slickensided below 8 ft											
0 -		\bigvee		30				•						

	Bar Consu	Or Iting	CA0202- Hwy 425 - Ashley Co	Ham	nburg-	-(Wid	lening							
	TYPE	: /	Auger	LC	CATIO	ON:	Appro	x Sta	640+0	6, 35	ft Lt			
1.				ᇤ	Ŀ		(COHE	SION	TON	/SQ F	Т		_
<u> </u>	7	ES		BLOWS PER	UNIT DRY WT LB/CU FT	0	.2 0	.4 0	.6 0	.8 1	.0 1	.2 1.	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	\S F	F 5	DI A	N S T I C		١٨/٨	TED		ПОП	IID	No. 20
	Ś	SA		0		' Ľ	ASTIC IMIT +		CON	TER TENT		LIQU LIMI	ΪΤ	Ž
		2	SURF. EL: 146.0	В		1	0 2	0 3	0 4	10 5	50 6	0 7	0	
			Very soft reddish tan, gray and brown silty clay w/clayey silt seams and layers and some ferrous stains and nodules and organics	4			+	•	-					86
		1 1 3	Stiff tan and gray silty clay w/occasional silt pockets and clay seams - water at 2 ft											
		X		15				•						
- 5 -		<u> </u>	- very stiff with more silt below 4 ft	29			•	•						
				40			+•		+					89
			Very stiff gray and reddish brown clay, slightly silty w/occasional silt pockets											
- 10 -				37			•							
0	-													
15	-													
15	-													
ולפויריי בי	COMF DATE				TO WA						DA	TE: 4	/2/201	5

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	// Consu	lting	Engineers CA0202- Hwy 42 Ashley				ening)(S)				
	TYPI	≣:	Auger	LC	OCATIO	ON: A	pprox	Sta 650	+74, 31	ft Lt		
				E.	L .		С	OHESIO	N, TON	/SQ FT		9
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.2	2 0.4	0.6	0.8	1.0 1.2	1.4	200 %
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	LIN	STIC MIT -	CC	ATER NTENT		LIQUID LIMIT	
		_	SURF. EL: 152.5	-	_ر	10	-	30	40	50 60	70	
			Soft gray and brown silty clay w/some organics and silt pockets, moist	5			+					92
			 water at 2 ft Soft reddish tan and gray silty clay w/occasional silt pockets and seams and ferrous stains and nodules 	y 7				•				
- 5		M	- stiff below 4 ft	20				•				
			Very stiff reddish brown clay, slightly blocky and slickensided w/some organic stains and inclusions	27			,	+ •		-	-	98
			- slightly silty below 8 ft	28				•				
- 10 -												
	-											
15												
	COMP DATE		TION DEPTH: 10.0 ft -2-15	DEPTH IN BORI						DAT	E: 4/2	/2015



	Consu	lting	Engineers CA0202- Hwy 42 Ashley	25 - Har County				g)(S)						
	TYPE	Ξ: /	Auger	L	OCATI	ON:	Appro	x Sta	669+6	67, 28 ·	ft Lt			
				ե			(COHE	SION	, TON	/SQ F	Т		
'H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0	0.2 0	.4 0).6 ().8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYIV	SAM	SURF. EL: 167.5	3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT +		WA CON	TER ITENT		LIQL LIM	JID IT	No.
			Firm brown, gray and tan clayey w/some ferrous stains and trace organics			1	10 2	0 3	30 4	40 5	50 6	50 7	0	87
			Stiff gray and reddish tan silty cla w/occasional silt seams and laye	ay rs 9				•						
- 5 -		V V	- with ferrous stains and nodules below 4 ft	14				•						
			- very stiff with occasional clay partings below 6 ft	26			+•	-		+				94
- 10 -			Very stiff reddish brown clay, slightly blocky and slickensided w/occasional organic stains	50/7	"			•						
	COMP DATE		TION DEPTH: 10.0 ft 2-15	DEPTH IN BOR							DA	ATE: 4	/2/201	5

	TYPI	≣: <i>/</i> 	Auger		CATIO	ON:					ft Lt N/SQ	FT		Т
_	٦	ပ္သ		IR FT	 	,		_	0.6	0.8	1.0	1.2	1.4	6
DEPIH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PE	CUF		1	ı	1					
ᆸ	SΥ	SAI		3LOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		CO	ATER NTEN	Г — — —	LIC LII	QUID MIT L	2
]/,	SURF. EL: 149.3			1	0 2	20	30	40	50	60	70	\perp
			Very soft gray and reddish tan clay slightly silty w/occasional silt pockets and seams and trace organics	4				•						
			- water at 2 ft - stiff, less silt below 2 ft	14			+							_
		<u> </u>	Vory etiff roddish top and gray eithy				•							
5 -			Very stiff reddish tan and gray silty clay	26			+•			-+				9
			- with occasional silt pockets below 6 ft	50										
			Stiff reddish brown clay, slightly blocky and slickensided											
		 	olocky and slickensided w/occasional organic stains	20										
0		1												_
													_	_

	Consu	lting	Engineers CA0202- Hwy 425 Ashley C			
	TYPE	Ξ: /	Auger	LC	CATIO	ION: Approx Sta 690+16, 38 ft Lt
╽ᇈ				ᇤ	5	COHESION, TON/SQ FT
H, FT	BOL	J'ES	DECODIDATION OF MATERIAL	PER	RY V U FT	0.2 0.4 0.6 0.8 1.0 1.2 1.4 0.0 0.2
ОЕРТН,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC WATER LIQUID 9 LIMIT CONTENT LIMIT '
			SURF. EL: 150.9	ш		10 20 30 40 50 60 70
			Stiff reddish tan and tan silty clay w/some silt pockets and ferrous stains and nodules	11		+ • + 92
			very stiff w/some silt seams and layers below 2 ft	39		
		1		50/7"		→+ 94
- 5 -				30/1		
			Very stiff reddish brown clay, slightly silty w/occasional silt partings	50/10		•
			- less silt with some organic stains below 8 ft			
- 10 -				34		+ - - 98
	COMF DATE			EPTH T N BORII		

	Consu	ton	Engineers CA0202- Hwy 425 - Ashley Co	Ham	nburg-	-(Wid							
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Approx	Sta 70	1+91, 4	0 ft Lt			
Ι.				F			C	OHESI	ON, TO	N/SQ F	Т		. 0
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY W U FT	0.2	2 0.4	0.6	0.8	1.0	1.2 1	.4 I	200 %
DEPTH,	SYN	SAM		BLOWS PER	UNIT DRY WT LB/CU FT	PLA LII	STIC MIT ╋	C	WATER ONTEN	₹ IT - — — —	LIQL LIM ————	JID IT	- No.
			SURF. EL: 150.7 Stiff tan, gray and reddish tan silty clay w/some silt seams and ferrous stains and nodules	21		10	20	30	40	50	60 7	70	
			- water at 3 ft	18			+		+				85
- 5 -			Very stiff reddish tan and gray silty clay w/occasional clay partings and seams and ferrous stains and nodules	31			+•		+				84
		V	- stiff below 6 ft	18			•						
		Į.	Stiff reddish brown clay, slightly silty w/occasional silty clay seams	22									
10 -													
15													
15	COMF DATE				TO WANG: 3					D.	ATE: 4	/1/201	5

	Consu	lting	Engineers CA0202- Hwy 4 Ashley	25 - Har y County				g)(S))					
	TYPI	Ξ:	Auger	L	OCATI	ON:	Appro	x Sta	710+	75, 32	ft Lt			
				ᇤ	F		•	COHE	ESION	I, TON	I/SQ F	Т		
H, FT	BOL	LES	DECODIDATION OF MATERIAL	PER	RY V	0	.2 0).4 I	0.6	0.8	1.0 1	.2 1	.4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 152±	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT + -		CON	ATER NTENT		LIQU LIM	JID IT	- No.
			Soft brown, gray and reddish tan clayey silt w/some ferrous stains and nodules	_		1	10 2	20 +	30	40	50 6	60 7	0	82
			Stiff tan and gray silty clay w/occasional silt pockets and ferrous stains and nodules	24			•							
- 5 -			Stiff tan and reddish brown clay, slightly sandy w/occasional silty clay pockets and seams - less silt with occasional organic inclusions below 6 ft				+-	• -						91
				19			-	+ - •			+			
			- slightly blocky with occasional silty clay pockets below 8 ft	20				•						
- 10 -														
	COMI DATE		TION DEPTH: 10.0 ft -1-15	DEPTH IN BOR							DA	TE: 4	/1/201	5

Con	ai U	ing	CA0202- Hwy 425 Ashley Co					g)(S))					
TY	PE:	P	uger	LC	CATIO	ON: A	Appro	x Sta	720+	73, 20	ft Lt			
				F	<u></u>		(COHE	ESION	I, TON	I/SQ F	Т		.0
SYMBOL		SAIMPLES	DESCRIPTION OF MATERIAL	PER	RY V U FT	0.	2 0	.4	0.6	0.8	1.0 1	.2 1	.4 I	200 %
DEPTH,		NAM NAM	SURF. EL: 157.0	BLOWS PER	UNIT DRY WT LB/CU FT	PL <i>A</i> LI	ASTIC MIT +		CON	ATER NTENT		LIQU LIM	JID IT	- No.
		t a a	/ery soft brown, gray and reddish an fine sandy clay w/ferrous stains and nodules and some organics and trace fine gravel (fill)	3		1	0 <u>2</u>	• •	30	40	50 6	60 7	70	69
		\ !	ery stiff gray, reddish tan and tan silty clay w/some silt seams and ayers	28			•							
5 -		\	ery dense gray and tan silt	50/6"			•		-NOI	N-PLA	STIC-			94
		\	/ery stiff tan and gray silty clay v/some clay partings and seams	36			•							
10		k r	Very stiff gray, tan and reddish prown clay woccasional silt partings and some organic stains	50/7"			•							
15	MPI	F	TION DEPTH: 10.0 ft DI	EPTH 7	[O W/	TED								
DAT				BORII							DA	TE: 4	/2/201	5

	Consu	lting	Engineers CA0202- Hwy 425 Ashley C				ening)	(S)					
	TYPE	Ξ: ,	Auger	LC	CATIO	ON: A	Approx S	Sta 730+	·19, 29	ft Lt			
				ե	L		CC	HESIO	N, TON	/SQ F	Γ		_
4, FT	3OL	LES)ER	 	0.2	2 0.4	0.6	0.8 1	.0 1	.2 1.	.4	200 %
ОЕРТН,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT		STIC MIT	W CO	ATER NTENT		LIQU LIMI	IID T	- No. 2
	\$ 37 \$ \$ \$ \$ \$ \$		SURF. EL: 164.9	<u>a</u>		10	-	30	40 5	50 6	0 7	0	
			Medium dense brown and reddish brown clayey fine to coarse sand w/some fine gravel and asphalt concrete debris (fill)	20		•	# -	- +					14
		17	Stiff reddish brown silty clay										
				19									93
5 -			Very stiff gray and tan silty clay w/some silt seams and layers and ferrous stains and nodules	26			•						
			- with some clay partings and seams below 6 ft										
				32			•						
			- less silt below 8 ft										
10 -				30			•						
45													
	COMI DATE			EPTH T					l	DA	TE: 4	/1/2015	5

14-197 Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	// Consu	lting	Engineers CA0202- Hwy 42 Ashley					g)(S)					
	TYPE	Ξ: .	Auger	LO	CATIO	ON:	Appro	x Sta 73	9+86, 29	ft Lt			
DЕРТН, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	PLA LI	2 0. ASTIC	4 0.6	ON, TON	1.0 1	LIQU	ID	- No. 200 %
			SURF. EL: 158.9	-			+ 0 2	0 30	40	50 6	0 7	0	
		/\	Soft tan and reddish tan silty clay, slightly sandy w/occasional silt partings and trace fine gravel and some organic inclusions	5				+ •+					76
			 water at 2 ft Very stiff gray, tan and reddish tar silty clay w/some silt pockets and ferrous stains and nodules 	26			•						
- 5		M	- stiff below 4 ft	23			+	·	-				90
		<u></u>	Very stiff gray and reddish brown clay, slightly blocky and slickensided w/trace silt pockets and occasional organic stains	28			•						
- 10				27				•					
	_												
15													
15	COMF DATE			DEPTH IN BORI						DA	TE: 4	/1/201	5

	Consu	lting	Engineers CA0202- Hwy 425 - Ashley Co			
	TYPE	<u> </u>	Auger	LC	CATIO	ION: Approx Sta 749+29,42 ft Lt
╽				ᇤ	5	COHESION, TON/SQ FT
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	ORY V	0.2 0.4 0.6 0.8 1.0 1.2 1.4
DEPTH,	SYI	SAN		BLOWS PER	UNIT DRY WT LB/CU FT	PLASTIC WATER LIQUID SELIMIT CONTENT LIMIT
		/	SURF. EL: 168.4	<u> </u>		10 20 30 40 50 60 70
		1	Soft gray and reddish tan silty clay w/some silt pockets and occasional clay partings and ferrous stains and nodules	5		+ • +
			- firm to stiff below 2 ft	10		
- 5 -			Very stiff gray, tan and reddish brown silty clay w/occasional clay pockets and ferrous stains and nodules	36		
				28		94
- 10 -				41		
	-					
15	_					
15	COMF DATE				TO WA NG: D	ATER Dry DATE: 4/1/2015

	Consu	lting	Engineers CA0202- Hwy 425 Ashley C				ning)	(S)					
	TYPE	Ξ: .	Auger	LC	CATIO	ON: A	pprox	Sta 759)+81, 37	ft Lt			
1.				ᇤ	L		C	OHESIC	ON, TON	I/SQ F	Γ		. 0
H H	BOL	ار ال	DECODIDION OF MATERIAL	PER	RY W	0.2	0.4	0.6	0.8	1.0 1	.2 1.	4	200 %
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURF. EL: 175.3	3LOWS PER	UNIT DRY WT LB/CU FT	PLAS LIM			WATER ONTENT	— — — —	LIQU LIMI		- No. 2
			Medium dense reddish brown and brown silty fine sand w/fine to coarse gravel and some organic inclusions (fill)	11		10	20	-NO	ON-PLA		60 7	0	15
- 5			Stiff tan and gray silty clay w/some silt seams and layers and ferrous stains - very soft below 4 ft	14			•	•+					93
		/\ 	Medium dense gray tan and										
	-	M	Medium dense gray, tan and reddish tan silt, slightly clayey w/some silty clay pockets and seams and occasional ferrous stains and nodules	29			•						
			Stiff gray, reddish tan and tan silty clay w/some silt pockets and seams and occasional ferrous stains	12			•						
10		<u> </u>		+									
9													
LGBNEW 14-197 BOKINGS.GFJ 5-19-15	_												
15 15 15 15 15 15 15 15 15 15 15 15 15 1	COMF DATE			DEPTH TO BORII						DA	TE: 3	/27/20	15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwv 425 - Hamburg-(Widening)(S)

	TYPE	<u> </u>	Auger		CATIO	ON: A						СТ	
_	၂	ES		ER FT	/ WT FT	0.:).6	N, 1 UI -⊖ 0.8	N/SQ 1.0	1.2	1.4
DEPIH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER	UNIT DRY WT LB/CU FT		STIC	i .	1				QUID
김	်	S	SURF. EL: 169.5	BLOV	N N	LI.	MIT 			ATER NTENT		L	IMIT ↑
			Loose to medium dense reddish brown clayey fine sand w/fine to coarse gravel (fill)			10) 2	0	30	40	50	60	70
		M	Firm gray and tan silty clay, slightly sandy, w/some ferrous stains (fill)	10									
		M	- very soft below 2 ft	_									
			-very soft below 4 ft	5			4						
5 -			-very soft below 4 ft	2				•					
			Stiff gray, reddish tan and tan silty										
			Stiff gray, reddish tan and tan silty clay, slightly sandy w/some silt pockets and seams and some ferrous stains and nodules	17				•					
			- water at 7.7 ft - more clayey below 8 ft										
				13				•					
0 -													
			NOTE: Water at 5.3 ft after 10 minutes.										

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202- Hwy 425 - Hamburg-(Widening)(S)

	Consu	lting	Engineers CA0202- Hwy 425 Ashley 0					g)(S)						
	TYPI	Ξ:	Auger	LC	CATIO	ON:	Approx	x Sta 7	790+00), 40 f	ft Lt			
		(0		F	۲,		(COHE	SION,	TON	SQ F	Γ		8
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PE	NY/	0.	2 0.	4 0.	6 0.	8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYN	SAM		3LOWS PER	UNIT DRY WT LB/CU FT	PL <i>E</i> LI	ASTIC MIT +		WAT CONT	TER TENT	. — — —	LIQU LIM	Τ	- No.
	/·/·	1	SURF. EL: 177± Loose brown clavey fine to coarse			1	0 2	0 3	0 40	0 5	60 6	0 7	0	
			Loose brown clayey fine to coarse sand w/a little fine gravel (fill)	9		•								17
			Soft gray and tan silty clay, slightly sandy w/some silt pockets, some ferrous stains and nodules and trace organic inclusions	5				+•	+					90
- 5 -				5				•						
			- firm to stiff with some silt seams and layers below 6 ft	10				•						
			- stiff below 8 ft											
10 -				15				•						-
- 15														
 15				DEPTH IN BORI							DA	TE: 3	/27/20)15

	Consu	tor	Engineers CA0202- Hwy 4. Ashley	25 - Hai / County				g)(S)					
	TYPI	Ξ: ,	Auger	<u>L</u>	OCATI	ON:	Appro	x Sta	a 800+	-08, 39	9 ft Rt			1
1_					Ļ		(COH	ESIO	N, TO	N/SQ	FT		
DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	NY V	0	0.2 0).4	0.6	0.8	1.0	1.2 1	1.4	200 %
DEPT	SYN	SAM	SURF. EL: 179.9	BLOWS PER	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT +		CO CO	ATER NTEN	Г	LIQU LIM	-	No.
	-		Loose brown and dark gray fine to coarse sand, slightly clayey w/a little fine gravel and trace of asphalt concrete debris (fill)			1	10 2	20	30	40	50	60 7	70	16
			Soft gray and tan silty clay w/son ferrous stains and occasional organic inclusions	ne 6				+•	+					91
- 5			- firm, more silty below 4 ft	9				+	- ++					93
		W M	- stiff below 6 ft	19				•						_
- 10				18				•						
ZINGO.GP.0 21-20-1-20-1-20-1-20-1-20-1-20-1-20-1-	-													
10 Paris 10 Paris			TION DEPTH: 10.0 ft -27-15	DEPTH IN BOR								DATE: 3	3/27/20)15

	Consu	tor Iting	CA0202- Hwy 425 Ashley C	- Ham	burg	-(Wid	ening)						
	TYPE	Ξ: /	Auger	LC	CATIO	ON: A	Approx	Sta 810+	71, 28 1	ft Lt			
_				ᇤ	١.		CC	HESION	N, TON	/SQ F	Γ		%
±	SYMBOL	SAMPLES		BLOWS PER	UNIT DRY WT LB/CU FT	0.	2 0.4	0.6	0.8 1	.0 1	.2 1.	4	200 %
DEPTH,	λ	AMF	DESCRIPTION OF MATERIAL	WS	IT DI	PĻĄ	ASTIC MIT	W	ATER NTENT		LIQU LIMI	ĪD	No. 2
	0,	S	SURF. EL: 172.1	BLO	2		+		●		+		-
		<u> </u>	Very soft brown, gray and tan silty clay w/some silt pockets and seams and ferrous stains and nodules, moist - water at 2 ft - stiff, less silt below 2 ft	4		1	10	30	40 5	50 6	60 7	0	88
			- with some clay pockets below 4 ft	18									95
- 5 -			- with occasional silt pockets below 6 ft	15					<u> </u>				93
		/\ 	Very stiff gray and reddish brown clay w/occasional organic stains and inclusions										
- 10 -			and inclusions	30			•	•					
1-81-6 C-19: CONUMARY 15-1 MANAGED													
15	COMF DATE			DEPTH T N BORII						DA	TE: 4	/1/201	5

	Consu	lting	CA0202- Hwy 425 - Ashley Co				ening	j)(S)						
	TYPE	<u> </u>	Auger	LC	CATIO	ON: /								
_					 		C	OHES	SION,	TON/S	SQ F1	Γ		%
H, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY V	0.	2 0.	4 0.0	6 0.	8 1.0) 1	.2 1.	4	200 %
DEPTH,	SYIV	SAM	SURF. EL: 172.7	BLOWS PER	UNIT DRY WT LB/CU FT		ASTIC MIT +	_ — — –	WAT CONT	ER ENT		LIQU LIMI	ID T	- No.
			Soft brown, tan and reddish brown silty clay, slightly sandy w/some silt pockets and ferrous stains and nodules	6		10	0 20) 30 	-	0 50	0 6	0 7	0	85
		4 V I	Stiff gray, reddish tan and tan silty clay w/some silt pockets and seams - water at 3 ft	12				•						
- 5 -				23			•	- +						94
		V M	- with some clay seams and layers below 6 ft	17			,	•						
			Very stiff gray and tan clay, slightly silty w/ferrous stains and nodules	31			•							
- 10 -														
	COMF DATE			EPTH '							DA	TE: 4	/1/201	5

Grubbs, Hoskyn, Barton & Wyatt, Inc. Consulting Engineers LOG OF TEST PIT NO. 1 CA0202 - Hwy 425 Hamburg (Widening)(S)

	Consu	lting	Engineers CA0202 - Hwy 4 Hamburg, A												
	TYPI	Ξ:	Trackhoe		LO	CATIO	ON:	Appro	x Sta	817+4	9, 27	ft Rt			
				ŀ	_	Л		(COHE	SION	, TON	/SQ F1	Г		,
 	30L	LES		L L	7 F.R.	₹ JFT	0.	.2 0	.4 0	.6 0).8 1 	.0 1.	.2 1.	4	% 00
DEPTH,	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL		BLOWS PER FI	UNIT DRY WT LB/CU FT	PL/	ASTIC IMIT		WA	TER TENT		LIQU LIM	<u>I</u> D	- No. 200 %
			SURF. EL: 171.9		BLC	N J		+) – –	- — — — 50 6	+		_
			Stiff gray, tan and reddish tan silt	y				0 2						J	
			Stiff gray, tan and reddish tan silt clay w/occasional silt pockets and seams (fill) - organics to 1 ft	٠ 											
			- organics to Tit												
<u> </u>															
								+	•	+		8			93
- 2															
												8			
- 3															
4		4													
- 5															
\vdash															
- 6															
- 7															
	-														
8															
5-18-1															
S.GPJ 8	1														
ST PIT	1														
97 TE															
LIPNEW 14-197 TEST PITS,GPJ 5-18-15 6	COMP DATE		TION DEPTH: 4.0 ft -19-15	DEPT IN TE								DA	TE: 2	/19/20	15

Grubbs, Hoskyn, Barton & Wyatt, Inc. CA0202 - Hwv 425 Hamburg (Widening)(S)

	Consu	lting	CA0202 - Hwy 425 Hamburg, Ashle											
	TYPE	<u>:</u>	Trackhoe	LC	CATIO	ON:	Appro	x Sta	698+5	58,26 f	t Rt			
١.				F	L		(COHE	SION	, TON	/SQ F	Γ		
H, FI	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	PER	RY √ U FT	0	.2 0	0.4 (0.6	D.8 1	.0 1	.2 1	.4	200 %
DEPTH,	SYIV	SAM		BLOWS PER FT	UNIT DRY WT LB/CU FT	PL/ L	ASTIC IMIT		WA CON	TER ITENT		LIQL LIM	JID IT	No.
			SURF. EL: 154.8	B		1	0 2	20 3	30 4	40 5	50 6	50 7	0	
			Stiff gray, tan and reddish tan silty clay (fill) - with organics to 0.5 ft - with trace fine to coarse gravel to 1 ft						8					
1							+			-				90
- 2														
- 3								•						
- 4														
- 5														
6														
- 7														
- 8														
1S.GPJ 5-18-16														
LIPNEW 14-197 TEST PITS,GPJ 5-18-15														
TPNEW					TO WA		•		•	•	DA	TE: 2	2/19/20)15

Grubbs, Hoskyn, Barton & Wyatt, Inc. Consulting Engineers LOG OF TEST PIT NO. 3 CA0202 - Hwy 425 Hamburg (Widening)(S)

	// Consu	lting	Engineers CA0202 - Hwy 425 Hamburg, Ashl										
	TYPE	≣:	Trackhoe	LC	CATIO	ON: A	Approx	sta 587+2	23,33 ft	Lt			
L.		ဟ		2 FT	L _M		C	OHESION	Э	SQ FT			— %
DEPTH, F	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	S PEF	DRY CU F	0.2			0.8 1.0	0 1.2			. 200 %
	SY	SAI	SURF. EL: 151.0	BLOWS PER FT	UNIT DRY WT LB/CU FT	-	STIC MIT 		TER TENT 		LIQUII LIMIT -)	- No.
			Stiff tan and reddish tan silty clay (fill)			10) 20	30 4	40 50	0 60	70		
			- with organics to 0.7 ft										
							+	▶ - 8					90
							•	8					
			- with trace fine to coarse gravel										
			- with trace fine to coarse gravel below 3 ft										
			Stiff red clay w/ferrous partings - seepage at 4 ft				-				+		97
5													
								•	8				
			0.00										
			- very stiff, slightly blocky below 8 ft					•				⊗ →	
10				<u> </u>									
5-18-15													
TS.GPJ													
LEST PI													
LIPNEW 14-197 TEST PITS.GPJ 5-18-15													
LTPNEW					TO WA					DAT	E: 2/1	19/20	15



SYMBOLS AND TERMS USED ON BORING LOGS

SOIL TYPES

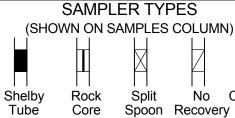
(SHOWN IN SYMBOLS COLUMN)

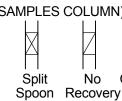














TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on No. 200 sieve): Includes (I) Clean gravels and sands, and (2) silty or clayey gravels and sands. Condition is rated according to relative density, as determined by laboratory tests.

DESCRIPTIVE TERM	N-VALUE	RELATIVE DENSIT
VERY LOOSE	0-4	0-15%
LOOSE	4-10	15-35%
MEDIUM DENSE	10-30	35-65%
DENSE	30-50	65-85%
VERY DENSE	50 and above	85-100%

FINE GRAINED SOILS (major portion passing No. 200 sieve): Includes (1) Inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as indicated by penetrometer readings or by unconfined compression tests.

DESCRIPTIVE TERM

UNCONFINED COMPRESSIVE STRENGTH

TON/SQ. FT.

VERY SOFT Less than 0.25 SOFT 0.25-0.50 0.50-1.00 FIRM 1.00-2.00 **STIFF VERY STIFF** 2.00-4.00 4.00 and higher **HARD**

NOTE: Slickensided and fissured clays may have lower unconfined compressive strengths than shown above, because of planes of weakness or cracks in the soil. The consistency ratings of such soils are based on penetrometer readings.

TERMS CHARACTERIZING SOIL STRUCTURE

SLICKENSIDED - having inclined planes of weakness that are slick and glossy in appearance. FISSURED - containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.

LAMINATED - composed of thin layers of varying color and texture.

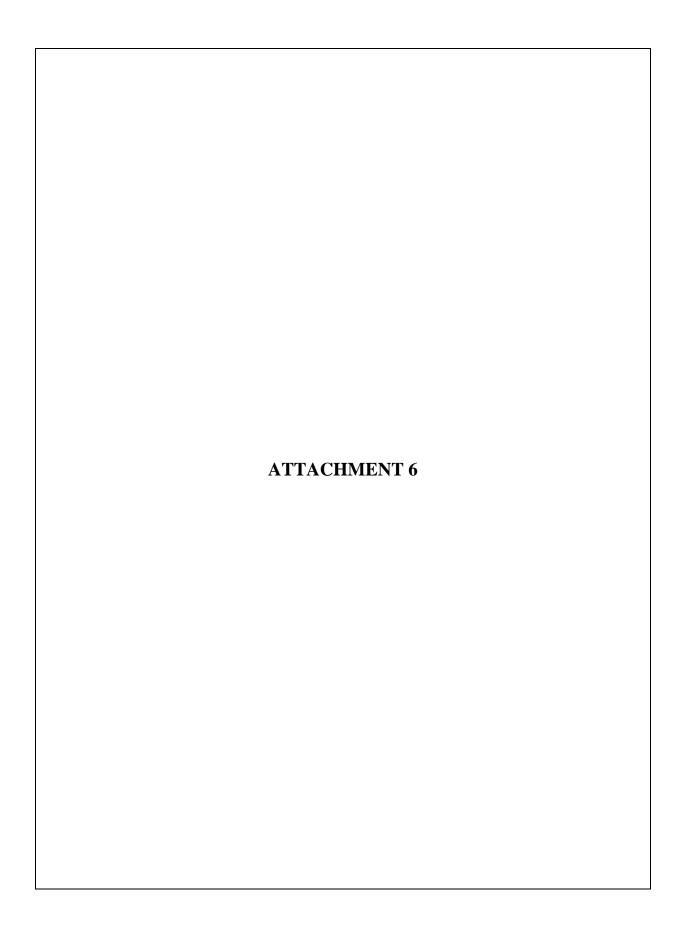
INTERBEDDED - composed of alternate layers of different soil types.

CALCAREOUS - containing appreciable quantities of calcium carbonate.

WELL GRADED - having a wide range in grain sizes and substantial amounts of all intermediate particle sizes.

POORLY GRADED - predominantly of one grain size, or having a range of sizes with some intermediate sizes missing.

Terms used on this report for describing soils according to their texture or grain size distribution are in accordance with the UNIFIED SOIL CLASSIFICATION SYSTEM, as described in Technical Memorandum No.3-357, Waterways Experiment Station, March 1953



BORING	SAMPLE	WATER		TERBERG				SIEVI	E ANAI	LYSIS			UNIFIED	AASHTO
NO.	DEPTH		-		PLASTICITY			PERCE			CLASS.	CLASS.		
1101	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CEIIOD.	CL/100.
1	0.5-1.5	12	25	12	13							36	GC	A-6
1	4.5-5.5	17	29	12	17							40	GC	A-6
2	0.5-1.5	12	24	19	5	100	100	94	86	83	76	67	CL-ML	A-4
2	4.5-5.5	21		Non Pla	_							95	ML	A-4
3	2.5-3.5	22	38	20	18							92	CL	A-6
			•									0=	G2 3.55	
4	0.5-1.5	24	29	22	7							87	CL-ML	A-4
5	0.5-1.5	24	31	20	11	100	100	100	99	97	93	80	CL	A-6
5	2.5-3.5	23	28	20	8							94	CL	A-6
6	0.5-1.5	23	32	21	11							65	CL	A-6
6	9-10	21	28	20	8							98	CL	A-6
7	0.5-1.5	22	31	20	11							90	CL	A-6
7	2.5-3.5	22	36	16	20							93	CL	A-6
7	6.5-7.5	22	42	16	26							97	CL	A-7-6
8	0.5-1.5	43	34	25	9							83	ML	A-4

DODDI G	SAMPLE	WATER		TERBERG				SIEVI	E ANA	LYSIS			LINHELED	AAGUTO
BORING NO.	DEPTH	CONTENT	-		PLASTICITY			PERCE		UNIFIED CLASS.	AASHTO CLASS.			
1101	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	02.12551	02.100
8	4.5-5.5	22	32	19	13							92	CL	A-6
9	0.5-1.5	7	23	17	6							14	GC-GM	A-1-b
9	2.5-3.5	25	36	22	14							93	CL	A-6
10	2.5-3.5	16	33	20	13	İ			-			92	CL	A-6
10	6.5-7.5	25	24	21	3	İ			-			96	ML	A-4
11	1-2	9	30	14	16							28	GC	A-2-6
11	4.5-5.5	23	28	21	7	İ			-			90	CL-ML	A-4
12	0.5-1.2	27	24	18	6							61	CL-ML	A-4
13	2.5-3.5	20	33	16	17	-			-			91	CL	A-6
14	0.5-1.5	24	38	17	21							92	CL	A-6
14	4.5-5.5	23	24	18	6							87	CL-ML	A-4
15	0.5-1.5	17	21	15	6							26	GC-GM	A-2-4
15	2.5-3.5	19	24	18	6							87	CL-ML	A-4
16	0.5-1.5	22	39	16	23							93	CL	A-6

BORING	SAMPLE DEPTH	WATER CONTENT		TERBERG PLASTIC	LIMITS PLASTICITY			SIEVI	E ANAI				UNIFIED	AASHTO
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.		#4	#10	#40	#200	CLASS.	CLASS.
16	4.5-5.5	27	40	19	21							99	CL	A-6
17	0.5-1.5	28	31	21	10							93	CL	A-6
10	0.5.1.5	12	25	16	10							0.4	CI	A (
18	0.5-1.5	13	35	16	19							94	CL	A-6
18	4.5-5.5	20	32	19	13							89	CL	A-6
19	0.5-1.5	7	18	15	3	100	100	92	78	65	45	20	SM	A-1-b
19	2.5-3.5	21	30	20	10							82	CL	A-6
20	2.5-3.5	26	45	18	27							94	CL	A-7-6
20	2.3-3.3	20	43	10	21							94	CL	A-7-0
21	0.5-1.5	24	31	18	13							92	CL	A-6
21	2.5-3.5	22	48	18	30							93	CL	A-7-6
					_									
22	1-1.5	17	28	20	8							88	CL	A-4
22	4.5-5.5	21	36	20	16							92	CL	A-6
23	0.5-1.5	22	43	16	27							96	CL	A-7-6
23	2.5-3.5	21	47	19	28							88	CL	A-7-6

BORING	SAMPLE DEPTH	WATER		TERBERG	LIMITS PLASTICITY			SIEVI PERCE	E ANAI				UNIFIED	AASHTO
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
24	0.5-1.5	12	23	16	7							23	SC-SM	A-2-4
24	2.5-3.5	19	41	15	26							93	CL	A-7-6
24	6.5-7.5	36	86	24	62							100	СН	A-7-6
25	0.5.1.5	10	20	17	12							0.6	- CI	A 6
25	0.5-1.5	19	29	17	12							86	CL	A-6
25	2.5-3.5	20	39	18	21							97	CL	A-6
26	2.5-3.5	19	30	18	12							93	CL	A-6
27	2.5-3.5	25	36	19	17							90	CL	A-6
28	0.5-1.5	24	44	17	27							90	CL	A-7-6
28	6.5-7.5	24	59	17	42							99	СН	A-7-6
29	0.5-1.5	18	32	16	16							89	CL	A-6
-														
29	4.5-5.5	20	32	20	12							89	CL	A-6
30	0.5-1.5	24	27	20	7							85	CL-ML	A-4
30	2.5-3.5	25	30	17	13							84	CL	A-6
31	0.5-1.5	28	31	20	11							93	CL	A-6

BORING	SAMPLE	WATER		TERBERG				SIEV	E ANAI	LYSIS			UNIFIED	AASHTO
NO.	DEPTH		-		PLASTICITY		1	PERCI			1	1	CLASS.	CLASS.
	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
31	6.5-7.5	19	49	15	34							94	CL	A-7-6
32	0.5-1.5	24	37	19	18							90	CL	A-6
32	4.5-5.5	20	41	15	26							93	CL	A-7-6
33	0.5-1.5	19	31	17	14	100	100	100	100	98	90	78	CL	A-6
33	6.5-7.5	12	36	16	20							92	CL	A-6
34	2.5-3.5	31	40	19	21	-				-		88	CL	A-6
34	6.5-7.5	32	77	20	52							96	СН	A-7-6
35	0.5-1.5	28	35	19	16							81	CL	A-6
35	4.5-5.5	34	90	26	64							99	СН	A-7-6
36	2.5-3.5	29	67	20	47	1				1		95	СН	A-7-6
36	4.5-5.5	26	84	23	61							98	СН	A-7-6
37	0.5-1.5	26	39	20	19							93	CL	A-6
37	2.5-3.5	23	56	17	39							95	СН	A-7-6
38	2.5-3.5	19	37	17	20							92	CL	A-6

BORING	SAMPLE	WATER		TERBERG				SIEVI	E ANAI	LYSIS			LINHELED	A A CITITIO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCE	ENT PA	SSING			UNIFIED CLASS.	AASHTO CLASS.
110.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CL/100.	CL/100.
39	0.5-1.5	22	30	19	11							86	CL	A-6
39	6.5-7.5	18	38	15	23							89	CL	A-6
40	0.5-1.5	30	33	21	12							92	CL	A-6
40	6.5-7.5	29	61	23	38							98	СН	A-7-6
41	2.5-3.5	24	31	21	10							90	CL	A-6
42	0.5-1.5	22	28	21	7							87	CL-ML	A-4
42	6.5-7.5	20	46	16	30							94	CL	A-7-6
43	2.5-3.5	23	53	16	37							92	CH	A-7-6
43	4.5-5.5	18	44	15	29							91	CL	A-7-6
44	0.5-1.5	22	36	17	19							92	CL	A-6
44	4.5-5.5	17	32	16	16							94	CL	A-6
44	9-10	22	50	18	32							98	СН	A-7-6
45	2.5-3.5	20	37	17	20							85	CL	A-6
45	4.5-5.5	19	37	15	22							84	CL	A-6

BORING	SAMPLE DEPTH	WATER CONTENT		TERBERG	LIMITS PLASTICITY			SIEVI PERCE	E ANAI				UNIFIED	AASHTO
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.		#4	#10	#40	#200	CLASS.	CLASS.
46	0.5-1.5	20	24	20	4							82	CL-ML	A-4
46	4.5-5.5	22	36	15	21							91	CL	A-6
46	6.5-7.5	29	56	20	36								СН	A-7-6
47	0.5-1.5	23	30	19	11							69	CL	A-6
47	4.5-5.5	10		Non Pla	stic							94	ML	A-4
48	0.5-1.5	6	28	19	9	100	100	86	62	46	27	14	SC	A-2-4
48	2.5-3.5	18	35	20	15							93	CL	A-6
49	0.5-1.5	27	30	21	9							76	CL	A-4
49	4.5-5.5	19	33	18	15							90	CL	A-6
50	0.5-1.5	21	43	16	27							86	CL	A-7-6
50	6.5-7.5	18	43	16	27							94	CL	A-7-6
51	0.5-1.5	9		Non Pla	stic							15	SM	A-1-b
51	4.5-5.5	26	30	21	9							93	CL	A-6
52	2.5-3.5	23	27	20	7							84	CL-ML	A-4

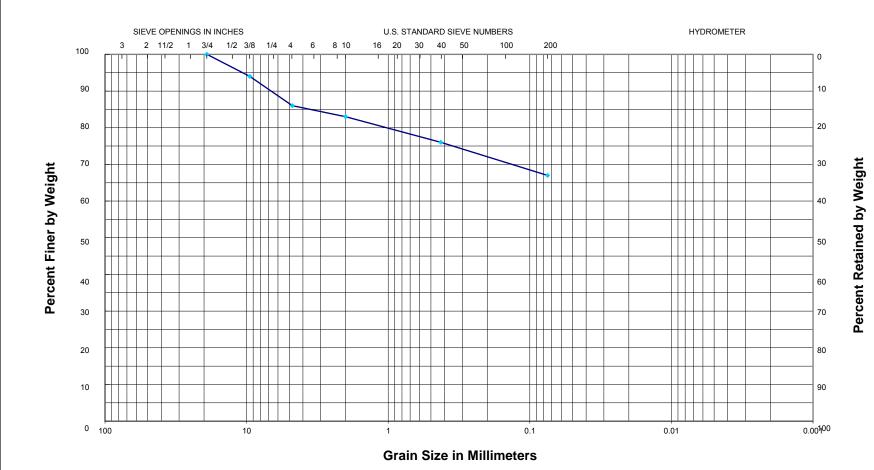
BORING NO.	SAMPLE DEPTH	WATER CONTENT		TERBERG	LIMITS PLASTICITY			SIEVI PERCE	E ANAI				UNIFIED CLASS.	AASHTO CLASS.
NO.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
54	0.5-1.5	6				100	100	90	74	61	35	17	SC	A-2-4
54	2.5-3.5	26	32	22	10							90	CL	A-4
55	0.5-1.5	8				100	100	88	68	56	40	16	SC	A-2-4
55	2.5-3.5	25	30	21	9							91	CL	A-4
55	4.5-5.5	19	33	22	11							93	CL	A-6
56	0.5-1.5	21	34	18	16							88	CL	A-6
56	4.5-5.5	21	40	18	22							95	CL	A-6
57	0.5-1.5	25	30	21	9							85	CL	A-4
57	4.5-5.5	20	29	20	9							94	CL	A-4
C1	1.5-2.5	16	28	12	16							36	GC	A-6
C2	1.2-2.2	9	28	12	16	100	100	88	74	57	32	15	SC	A-2-6
C2	3-4	24	25	20	5							90	ML	A-4
C3	5-6	27	26	19	7							77	CL-ML	A-4
C4	1.1-2.1	7	28	12	16							58	CL	A-6

BORING	SAMPLE	WATER		TERBERG					E ANAI				UNIFIED	AASHTO
NO.	DEPTH		-		PLASTICITY		I	PERCI			1		CLASS.	CLASS.
	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
C4	3-4	19	32	23	9							92	CL	A-4
C5	1.2-2.2	8	26	14	12							25	GC	A-2-6
C6	1.2-2.2	10	23	16	7							36	GC-GM	A-4
C6	3-4	26	37	23	14							93	CL	A-6
					_									
C7	1.1-2.1	2	24	15	9	100	100	66	55	49	38	28	GC	A-2-4
C7	5-6	24	37	21	16							92	CL	A-6
C8	1.4-2.4	21	29	17	12							60	CL	A-6
C8	3.5-4.5	20	29	19	10							90	CL	A-4
C9	1.3-2.3	24	43	22	21							95	CL	A-7-6
C10	1.2-2.2	18	28	19	9							91	CL	A-4
C11	1.4-2.4	19	26	18	8							90	CL	A-4
G1.5		4.0	4		20								~-	
C12	1.6-2.6	19	46	16	30							92	CL	A-7-6
C12	3.5-4.5	33	79	24	55							100	СН	A-7-6
C13	1.6-2.6	21	36	17	19							92	CL	A-6
C14	1.5-2.5	19	25	20	5							89	CL-ML	A-4
	1.0 2.0											0,	22 1.12	
C15	1.5-2.5	16	26	19	7							88	CL-ML	A-4

BORING	SAMPLE	WATER		TERBERG				SIEVI	E ANAI	LYSIS			UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCE	ENT PA	SSING			CLASS.	CLASS.
110.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
C15	3.5-4.5	24	27	19	8							88	CL	A-4
C16	1.7-2.1	17	29	20	9						-		CL	A-4
C16	3-4	25	35	19	16							90	CL	A-6
C18	1.8-2.8	16	27	17	10							75	CL	A-4
C18	3.5-4.5	24	49	20	29							94	CL	A-7-6
C19	1.5-2.5	23	33	19	14	100	100	98	98	96	93	88	CL	A-6
C19	3.5-4.5	22	35	20	15							92	CL	A-6
C20	1.4-2.4	19	29	20	9							93	CL	A-4
C20	3.5-4.5	26	44	20	24							91	CL	A-7-6
C21	3-4	18	31	22	9							88	CL	A-6
C22	1.8-2.3	21				100	100	94	81	64	39	19	SC	A-2-4
C23	1.2-2.2	9				100	94	82	65	53	32	17	SC	A-2-4
C23	3-4	21	24	21	3							87	ML	A-4
C24	1.1-2.1	14	21	19	2							62	ML	A-4
C25	1.1-2.1	8				100	100	89	73	58	33	15	SC	A-2-4
C25	5-6	18	22	20	2							80	ML	A-4
C-26	1.5-2.5	11	26	17	9							55	CL	A-4

BORING	SAMPLE	WATER	AT	TERBERG	LIMITS			SIEVI	E ANAI	LYSIS			UNIFIED	AASHTO
NO.	DEPTH	CONTENT	LIQUID	PLASTIC	PLASTICITY			PERCE	ENT PA	SSING			CLASS.	CLASS.
110.	(ft)	(%)	LIMIT	LIMIT	INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200	CLASS.	CLASS.
C27	1.2-2.2	8	23	14	9	100	100	69	47	38	24	13	GC	A-2-4
C27	3-4	23	28	20	8							85	CL	A-4
C28	1.5-2.5	21	27	21	6							91	CL-ML	A-4
C29	1.3-2.3	14	23	18	5							63	CL-ML	A-4
C29	3.5-4.5	22		Non Plastic								95	ML	A-4





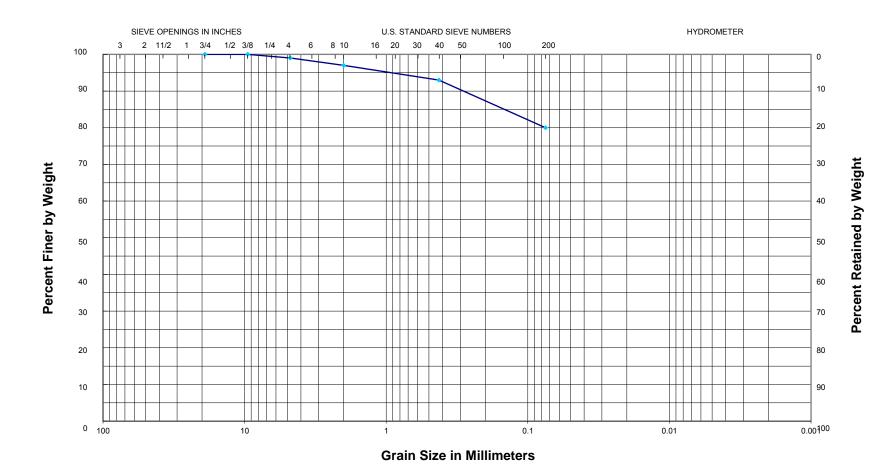
	GRA	AVEL		SAND		SILT	OR	CLAY	
COAR	SE.	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-2, 0.5-1.5 ft; LL = 24, PL = 19, PI = 5;

Description: Tan, reddish tan and gray clayey silt with some fine sand pockets and a little fine gravel (fill)

USCS = CL-ML AASHTO = A-4



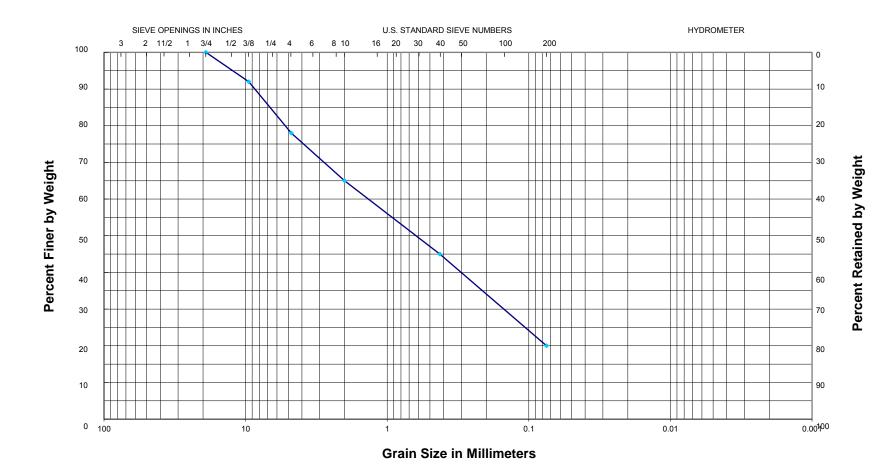


	GRA	AVEL		SAND		SILT	OR	CLAY	
COAR	SE.	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-5, 0.5-1.5 ft; LL = 31, PL = 20, PI = 11

Description: Gray, tan and brown silty clay, slightly sandy w/ silt pockets and trace fine gravel (fill)





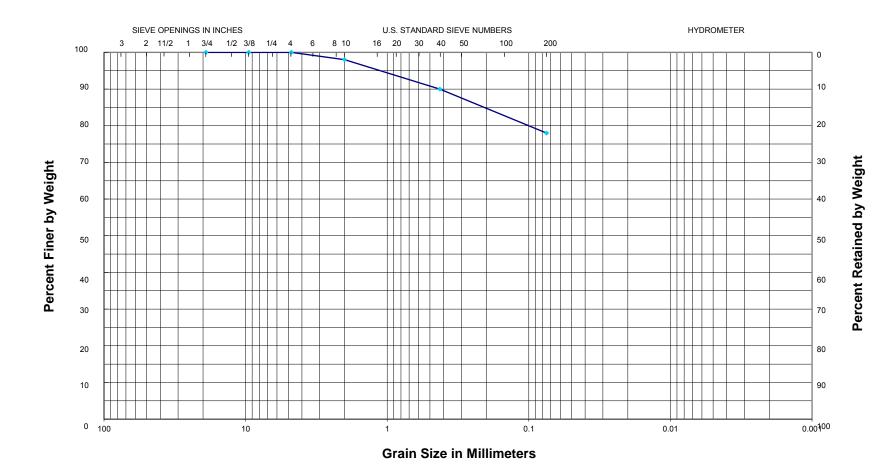
GRAVEL SAND COARSE FINE COARSE MEDIUM FINE SILT OR CLAY

Sample: B-19, 0.5-1.5 ft; LL = 18, PL = 15, PI = 3

Description: Redddish brown clayey fine to coarse sand with a little fine gravel (fill)

USCS = SM AASHTO = A-1-b





GRAVEL	SAND		SILT	OR	CLAV	
COARSE FINE	COARSE MEDIUM	FINE	SILI		CLAT	

Sample: B-33, 0.5-1.5 ft; LL = 31, PL = 17, PI = 14 Description: Reddish brown, tan and reddish tan silty clay w/ occasional silt seams and fine to medium sand pockets



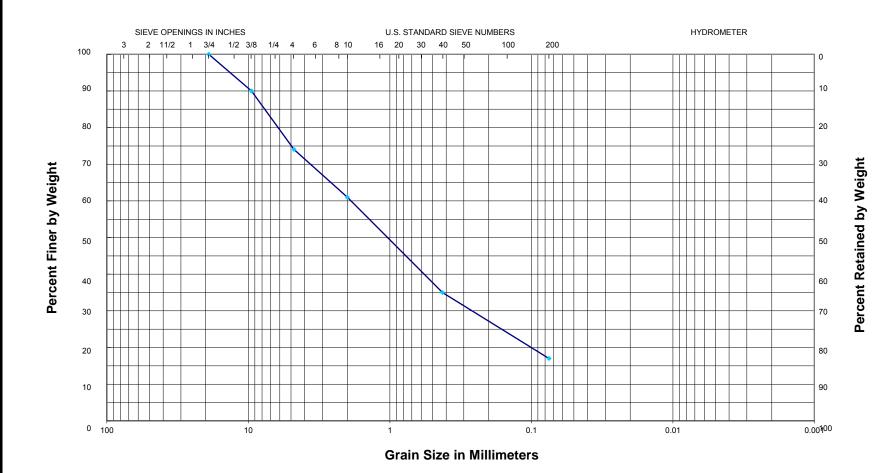


GRA	VEL		SAND		SILT	OR	CLAV	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-48, 0.5-1.5 ft; LL =28, PL =19, PI =9;

Description: Brown and reddish brown clayey fine to coarse sand w/ some fine gravel and AC debris



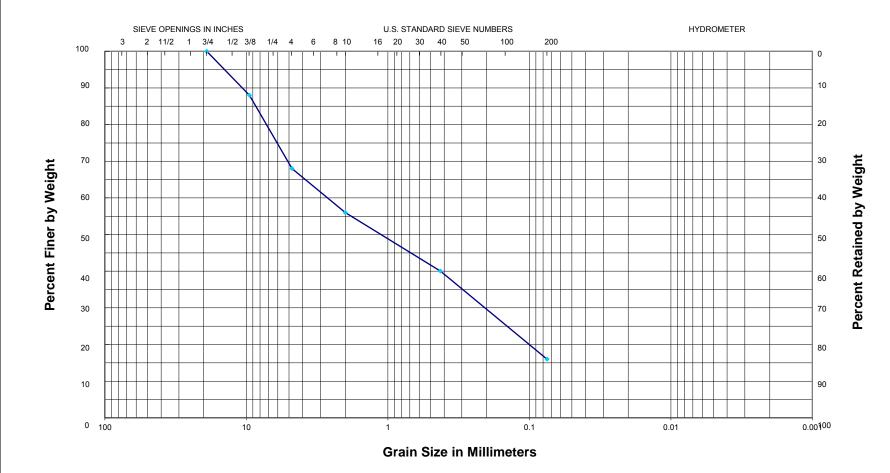


GRA	VEL		SAND		SILT	OΒ	CLAV
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OR	CLAT

Sample: B-54, 0.5-1.5 ft

Description: Brown clayey fine to coarse sand with a little fine gravel



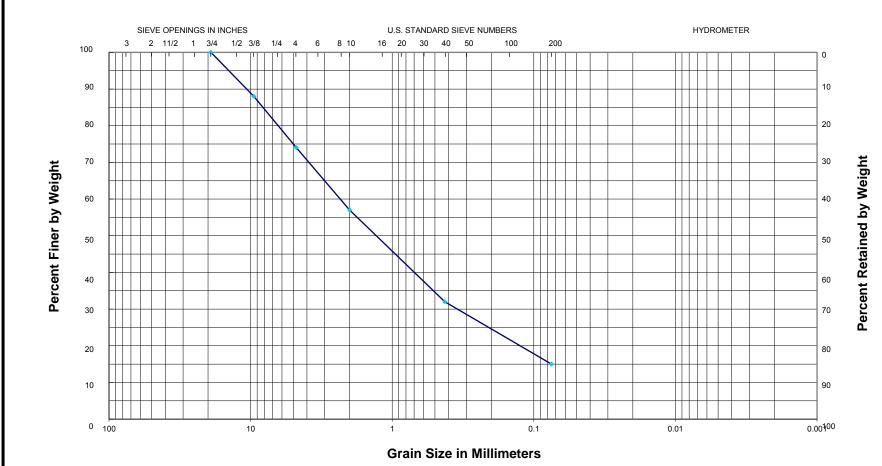


GRA	VEL		SAND		SILT	OR	CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-55, 0.5-1.5 ft;

Description: Brown and dark gray fine to coarse sand, slightly clayey with a little fine gravel and trace AC debris





GRA	VEL		SAND		SILT	OR	CLAV	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-C2, 1.2-2.2 ft; LL = 28, PL = 12, PI = 16

Description: Reddish brown clayey fine to coarse sand with a little fine gravel

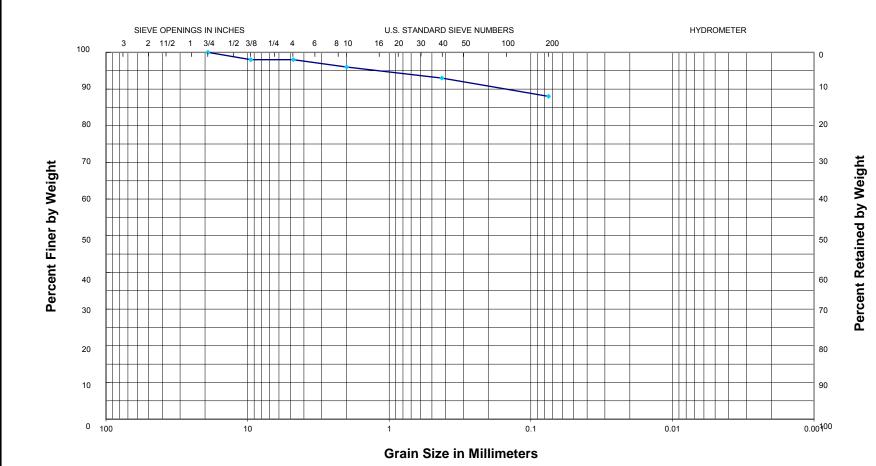




GRA	VEL		SAND		SILT	OR	CLAV	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-C7, 1.1-2.1 ft; LL = 24, PL = 15, PI = 9 Description: Reddish brown clayey fine gravel **USCS = GC AASHTO = A-2-4**

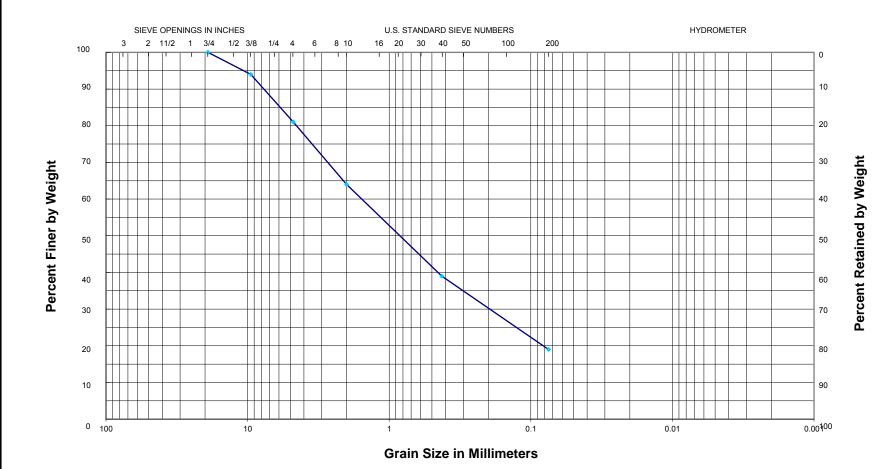




GRAVE	EL		SAND		SILT	OR	CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	OK	CLAT	

Sample: B-C19, 1.5-2.5 ft; LL = 33, PL = 19, PI = 14 Description: Reddish brown silty clay w/ trace fine gravel



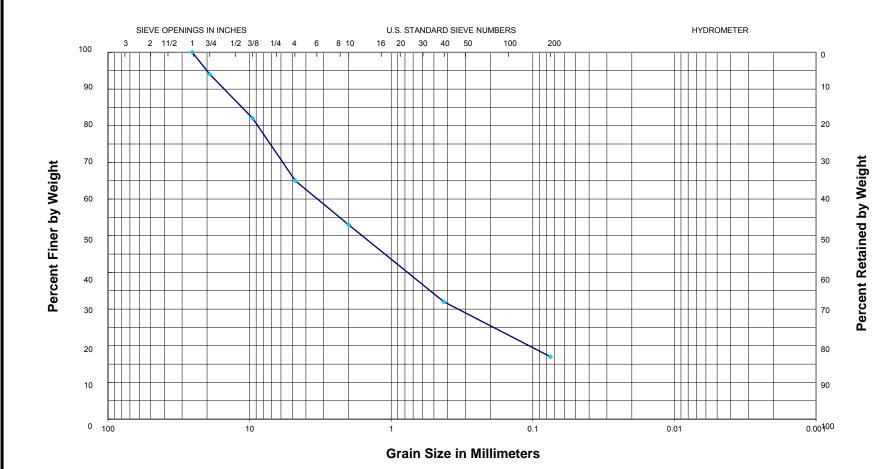


GRA	VEL		SAND		SILT	OR	CLAY	
COARSE FINE		COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-C22, 1.8-2.3 ft;

Description: Brown clayey fine to coarse sand with trace fine gravel



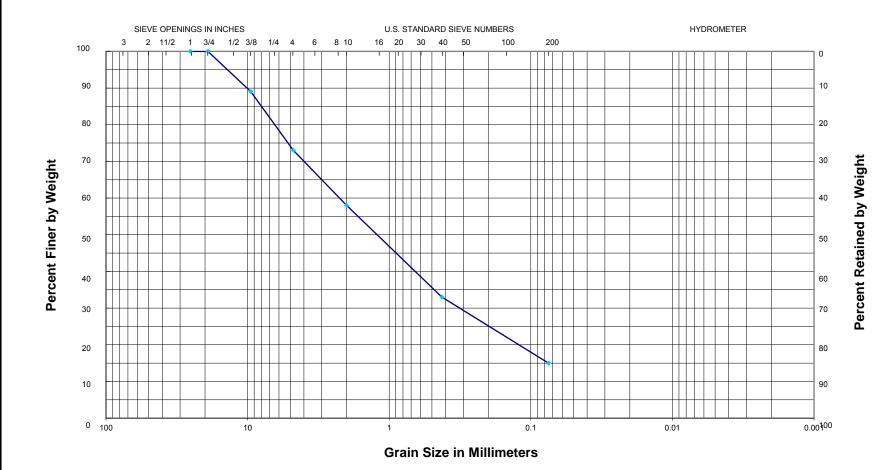


GRA	VEL		SAND		SILT	OR	CLAV	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-C23, 1.2-2.2 ft;

Description: Brown clayey fine to coarse sand with some fine to coarse gravel





GRA	VEL		SAND		SILT	OR	CLAV	
COARSE	FINE	COARSE	MEDIUM	FINE	SILI	OK	CLAT	

Sample: B-C25, 1.1-2.1 ft;

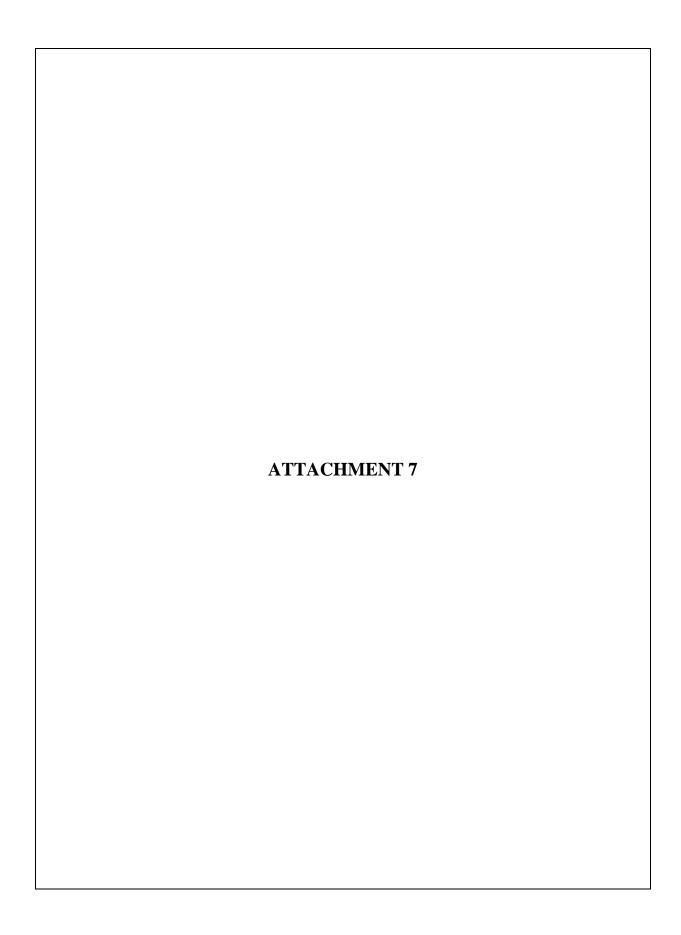
Description: Reddish brown clayey fine to coarse sand with some fine gravel





GRAVEL	SAND		SILT	OR	CLAV	
COARSE FINE	COARSE MEDIUM	FINE	SILI		CLAT	

Sample: B-C27, 1.2-2.2 ft; LL = 23, PL = 14, PI = 9; Description: Reddish brown clayey fine gravel, sandy



SUMMARY of SUBGRADE SUPPORT TEST RESULTS

PROJECT: CA0202 - Hwy 425 - Hamburg (Widening)(S) LOCATION: Ashley County, Arkansas GHBW Job Number: 14-197

													PROCTO RESU		C	BR TEST I (AASHTO		S
TEST PIT	DEPTH,	WATER CONT,		RBERG I			VE ANALY PERCENT		Soil Description	UNIFIED	AASHTO	AASHTO COMPACTION	MAX DRY	OPTIMUM MOISTURE,	MOLDED DRY UNIT	MOLDED WATER	CBR V	ALUE
NO.	FT	%	LIMIT	LIMIT	PI	+ #4	#4 - #200	- #200	Son Description	CLASS.	CLASS.	CRITERIA	UNIT WT, pcf	%	WT, pcf	CONTENT,	ТОР	вот
									Gray, tan and reddish tan silty clay with occasional silt									
1	1-3	16	35	19	16	0	7	93	pockets and seams	CL	A-6	T-99	108.0	16.7	102.7	16.6	4.6	8.8
2	1-3	18	38	17	21	1	9	90	Gray, tan and reddish tan silty clay	CL	A-6	T-99	106.1	18.4	101.1	18.4	3.0	5.2
3	1-3	17	34	17	17	1	9	90	Tan and reddish tan silty clay	CL	A-6	T-99	1088.1	17.8	102.8	17.9	4.4	7.1
3	1-3	1 /	34	1 /	1 /	1	9	90		CL	A-0	1-99	1000.1	17.0	102.8	17.9	4.4	/.1



REPORT OF STANDARD PROCTOR TEST (AASHTO T-99)

Project: AHTD CA0202 - HWY 425 - Hamburg (Widening)(S) Job No:	14-197
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Material Description: Gray, tan and reddish tan silty clay w/ occasional silt pockets and seams (fill)

Location Sampled/Source: Test Pit 1
Sample Depth, ft: 1-3

 Date Sampled:
 2/19/2015

 Date Tested:
 3/4/2015

 Tested By:
 RSL

 Report Date:
 4/9/2015

LAB COMPACTION PROCE	DURE:
AASHTO T-99 Method: A	Д
Maximum Unit Dry Wt. (pcf):	108.0
Optimum Water Content (%):	16.7

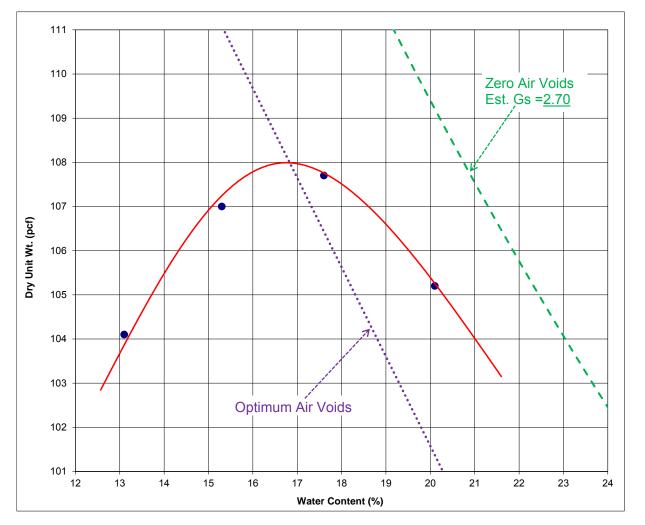
As Processed Water Content: 20.7 %

ATTERBERG LIMITS
AASHTO T-89 & T-90
Liquid Limit: 35
Plastic Limit: 19
Plasticity Index: 16

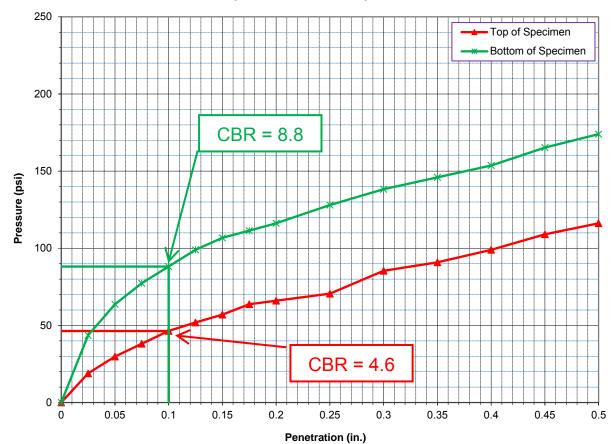
AASHTO Classification:
A-6

USCS Classification:	
CI	

0	ATION TO T-88
Sieve	Percent
Number	Passing
3 in.	100
2 in.	100
3/4 in.	100
3/8 in.	100
#4	100
#10	98
#40	96
#200	93



Laboratory CBR Test Report (AASHTO T-193)



Test Pit/Depth, ft	Clas	sification	Natural Moisture	Assumed Specific	Liquid Plastic Limit, % Limit, %	% Passing	% Passing	
	USCS	AASHTO	Content, %	Gravity	LIIIIII, 70	LIIIIII, 70	No.4	No.200
TP-1/1-3	CL	A-6	16	2.70	35	19	100	93
PROCTOR TE	MATERIAL DESCRIPTION							
Optimum Moisture Content = 16.7%				Gray, tan and reddish tan silty clay w/ occasional sil				asional silt
Maximum Dry Density = 108.0 pcf					pockets	s and sear	ns (fill)	

Remarks:

As molded: Dry Unit Weight, γ_d = 102.7 pcf; Moisture Content, w = 16.6%



Project: CA0202 - Hwy 425 - Hamburg (Widening)

GHBW Project No.: 14-197

Location: Ashley County, Arkansas

Sample Date: 2/19/2015

Test Date: 3/12/2015



REPORT OF STANDARD PROCTOR TEST (AASHTO T-99)

Project: AHTD CA0202 - HWY 425 - Hamburg (Widening)(S) Job No: 14-197

Material Description: Gray, tan and reddish tan silty clay (fill)

Location Sampled/Source: Test Pit 2
Sample Depth, ft: 1-3

 Date Sampled:
 2/19/2015

 Date Tested:
 3/4/2015

 Tested By:
 RSL

 Report Date:
 4/10/2015

LAB COMPACTION PROCEI	DURE:
AASHTO T-99 Method: A	A
Maximum Unit Dry Wt. (pcf):	106.1
Optimum Water Content (%):	18.4

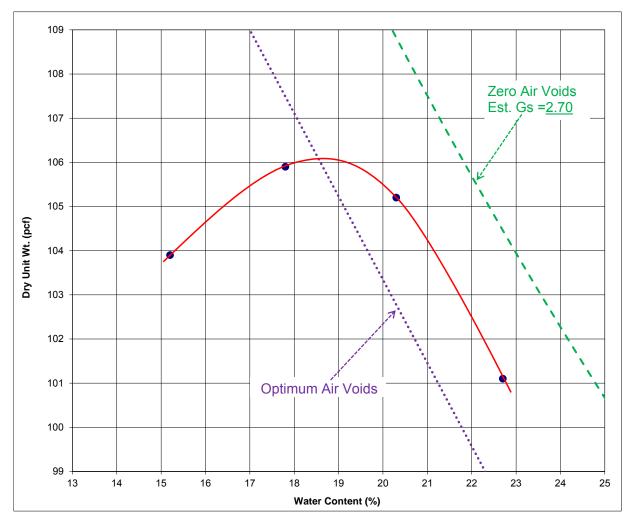
As Processed Water Content: 22.0 %

ATTERBERG LIMITS
AASHTO T-89 & T-90
Liquid Limit: 38
Plastic Limit: 17
Plasticity Index: 21

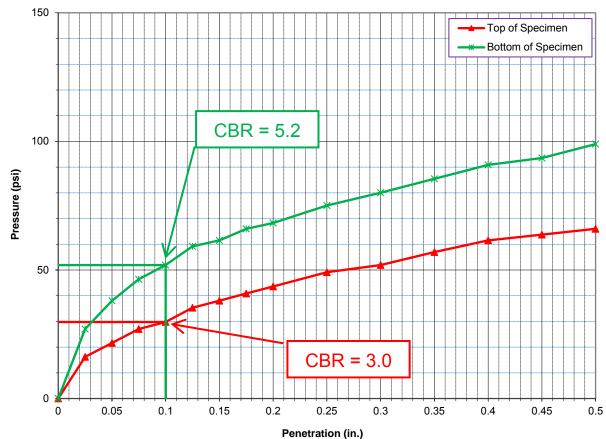
AASHTO Classification:
A-6

USCS Classification:	
CI	

0.1	ATION TO T-88
Sieve	Percent
Number	Passing
3 in.	100
2 in.	100
3/4 in.	100
3/8 in.	100
#4	99
#10	96
#40	93
#200	90



Laboratory CBR Test Report (AASHTO T-193)



Test Pit/Depth, ft	Clas	sification	Natural Moisture	Assumed Specific	Liquid Plastic		% Retained	% Passing
	USCS	AASHTO	Content, %	Gravity	LIIIIII, /0	LIIIIII, 70	No.4	No.200
TP-2/1-3	CL	A-6	18	2.70	38	17	1	90
PROCTOR TE	MATERIAL DESCRIPTION							
Optimum	Gray, tan and reddish tan silty clay (fill)				(fill)			
Maximum Dry Density = 106.1 pcf					('''')			

Remarks:

As molded: Dry Unit Weight, γ_d = 101.1 pcf; Moisture Content, w = 18.4%



Project: CA0202 - Hwy 425 - Hamburg (Widening)

GHBW Project No.: 14-197

Location: Ashley County, Arkansas

Sample Date: 2/19/2015

Test Date: 3/12/2015



REPORT OF STANDARD PROCTOR TEST (AASHTO T-99)

Project: AHTD CA0202 - HWY 425 - Hamburg (Widening)(S) Job No: 14-197

Material Description: Tan and reddish tan silty clay

Location Sampled/Source: Test Pit 3
Sample Depth, ft: 1-3

 Date Sampled:
 2/19/2015

 Date Tested:
 3/4/2015

 Tested By:
 RSL

 Report Date:
 4/10/2015

LAB COMPACTION PROCE	DURE:
AASHTO T-99 Method: A	A
Maximum Unit Dry Wt. (pcf):	108.1
Optimum Water Content (%):	17.8

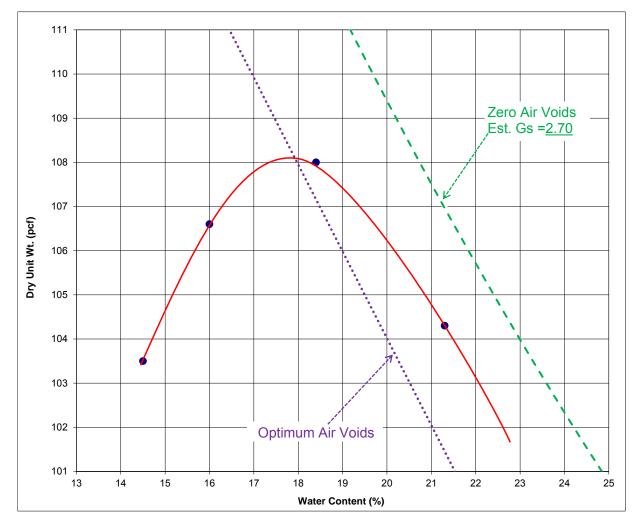
As Received Water Content: 22.1 %

ATTERBERG LIMITS
AASHTO T-89 & T-90
Liquid Limit: 34
Plastic Limit: 17
Plasticity Index: 17

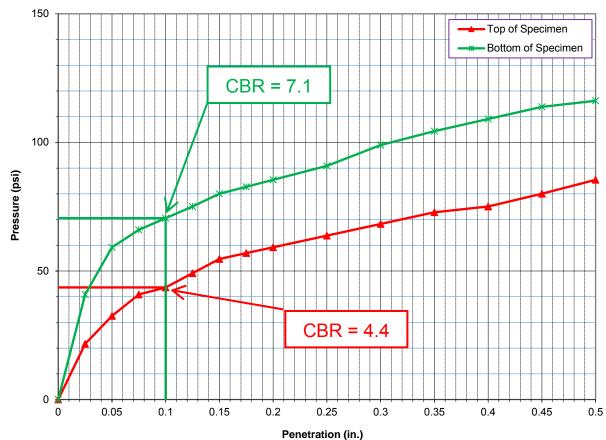
AASHTO Classification:
A-6

USCS Classification:	
CI	

GRADATION AASHTO T-88						
Sieve	Percent					
Number	Passing					
3 in.	100					
2 in.	100					
3/4 in.	100					
3/8 in.	100					
#4	99					
#10	99					
#40	97					
#200	90					



Laboratory CBR Test Report (AASHTO T-193)



Test Pit/Depth, ft	Classification		Natural Moisture	Assumed Specific	Liquid Limit, %	Plastic Limit, %	% Retained	% Passing	
	USCS	AASHTO	Content, %	Gravity	LIIIIII, 70	LIIIIII, 70	No.4	No.200	
TP-3/1-3	CL	A-6	17	2.70	34	17	1	90	
PROCTOR TEST RESULTS (AASHTO T-99)				MATERIAL DESCRIPTION					
Optimum Moisture Content = 17.8%				Tan and reddish tan silty clay					
Maximum Dry Density = 108.1 pcf				ran and reduish tan silty day					

Remarks:

As molded: Dry Unit Weight, γ_d = 102.8 pcf; Moisture Content, w = 17.9%



Project: CA0202 - Hwy 425 - Hamburg (Widening)

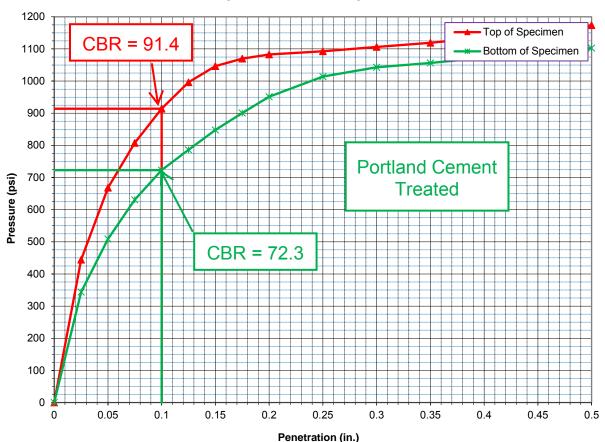
GHBW Project No.: 14-197

Location: Ashley County, Arkansas

Sample Date: 2/19/2015

Test Date: 3/12/2015

Laboratory CBR Test Report (AASHTO T-193)



Test Pit/Depth, ft	Classification		Natural Moisture	Assumed Specific	Liquid Limit, %	Plastic Limit, %	% Retained	% Passing
	USCS	AASHTO	Content, %	Gravity	LIIIIII, 70	LIIIIII, 70	No.4	No.200
TP-2/1-3	CL	A-6	17	2.70	39	22	NA	NA
PROCTOR TEST RESULTS (AASHTO T-99)			MATERIAL DESCRIPTION					

Optimum Moisture Content = 18.4%

Maximum Dry Density = 106.1 pcf

Gray, tan and reddish tan silty clay with trace fine gravel mixed with 4% Portland cement by dry weight

Remarks:

- 1) Proctor Values on un-treated soil
- 2) As molded: Dry Unit Weight, γ_d = 101.3 pcf; Moisture Content, w = 18.2%



Project: CA0202 - Hwy 425 - Hamburg (Widening)

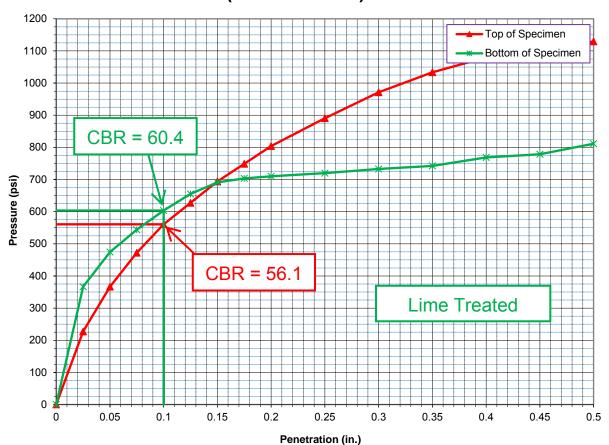
GHBW Project No.: 14-197

Location: Ashley County, Arkansas

Sample Date: 2/19/2015

Test Date: 5/12/2015

Laboratory CBR Test Report (AASHTO T-193)



Test Pit/Depth, ft	Classification		Natural	Assumed	Liquid Limit, %	Liquid	Plastic	%	%
			Moisture	Specific		Limit, %	Retained	Passing	
	USCS	AASHTO	Content, %	Gravity	LIIIIII, % LII	LIIIIII, 70	No.4	No.200	
TP-2/1-3	CL	A-6	17	2.70	39	26	NA	NA	
PROCTOR TEST RESULTS (AASHTO T-99)				MATERIAL DESCRIPTION					
Optimum Moisture Content = 18.4%				Gray, tan and reddish tan silty clay with trace fine					

Maximum Dry Density = 106.1 pcf

gravel mixed with 4% quicklime by dry weight

Remarks:

- 1) Proctor Values on un-treated soil
- 2) As molded: Dry Unit Weight, γ_d = 102.1 pcf; Moisture Content, w = 16.9%



Project: CA0202 - Hwy 425 - Hamburg (Widening)

GHBW Project No.: 14-197

Location: Ashley County, Arkansas

Sample Date: 2/19/2015

Test Date: 5/12/2015