

ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO. CA0201

FEDERAL AID PROJECT NO. ACNHPP-0002(32) & STPR-0002(42)

LOUISIANA STATE LINE – HWY. 82 (WIDENING) (S)

STATE HIGHWAY 425 SECTION 1

IN MOREHOUSE PARISH, LA & ASHLEY 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

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 recomacted 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 recomacted 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 estimated 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.

The undercut/improvement depths summarized in Attachment 4 are provided for estimation purposes 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.

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

* * * *

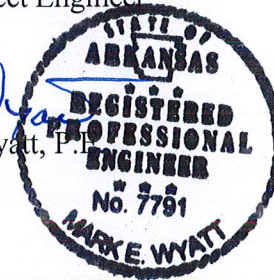
We appreciate the opportunity to be of service to you during this phase of the project. Should you have any questions regarding this report, or if we may be of additional assistance, please call on us.

Sincerely,

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

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

Mark E. Wyatt, P.E.
President



BMO/MEW:jw

Copies Submitted: Crafton Tull & Associates, Inc.
Attn: Mr. Mike Burns, P.E. (1+electronic)

ATTACHMENT 1

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
<i>Roadway borings - Northbound (NB)</i>					
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
<i>Roadway borings - Southbound (SB)</i>					
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

ATTACHMENT 2



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

LOG OF BORING NO. R1

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 17+23, 34 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT		- No. 200 %
						PLASTIC LIMIT	LIQUID LIMIT	
SURF. EL: 153.8								
5			Very stiff light tan and tan clayey silt w/silt pockets and some ferrous stains	30		●	++	90
			Stiff tan silty clay w/some ferrous stains	23		●		
			- with occasional ferrous nodules below 4 ft	18		●	+	92
				18		●		
			Stiff reddish brown and reddish tan silty clay w/some silt pockets and seams and ferrous stains and nodules	18		●	+	98
10								
15								

COMPLETION DEPTH: 10.0 ft
DATE: 10-12-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/12/2015

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Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R2

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 25+11, 26 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 157.8						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+ 10 20 30 40 50 60 70					+ 70		
29			Very stiff gray and tan clayey silt, sandy w/trace organics (fill)			●	++						91
11			- stiff, gray, tan and brown clayey silt with clay pockets below 2 ft					●					
8							●						
15			Stiff reddish tan and tan silty clay w/some ferrous stains and some clay partings				●						
10			Stiff tan and reddish tan clay, slightly silty w/occasional fine sandy silt pockets				+	●			+		95
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015

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Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R3

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 35+15, 28 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT						- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2		1.4
SURF. EL: 152.5													
			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			- stiff below 4 ft	16			●						
				22				●					
10			Very stiff red clay w/occasional silt seams and partings	26				●					
15													

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COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015



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

LOG OF BORING NO. R4

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 45+13, 18 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 153.9														
			Stiff brown clayey silt, sandy w/fine to coarse gravel (fill) - medium dense reddish tan and tan silt below 0.5 ft	19										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														
15														

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COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015



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

LOG OF BORING NO. R5

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 54+92, 31 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %		
						0.2	0.4	0.6	0.8		1.0	1.2
SURF. EL: 148.8						PLASTIC LIMIT		WATER CONTENT		LIQUID 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	22								90
			- with more sand below 4 ft									
5			Stiff red and reddish tan fine sandy clay	16								
			- very stiff below 6 ft	32								42
			Dense reddish tan silty fine sand w/some clay pockets	41								
10												
15												

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R7

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 74+58, 29 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT		- No. 200 %
						PLASTIC LIMIT	LIQUID LIMIT	
SURF. EL: 136.1								
			Very stiff to hard light tan and tan silty clay w/numerous silt pockets and organic inclusions and ferrous stains and nodules	50/10"		●	+ --- +	90
				37		●		
5			Very stiff tan, reddish tan and gray clay, slightly sandy w/ferrous stains and nodules	35		●	+ --- +	95
				32		●		
			Very stiff red and reddish brown clay w/organic stains	36		●		
10								
15								

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R8

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 84+88, 18 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 129.9											
			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														
15														
			COMPLETION DEPTH: 10.0 ft	DEPTH TO WATER			DATE: 9/9/2015							
			DATE: 9-9-15	IN BORING: Dry										

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R9

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 94+75, 38 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 125.5								
			Very stiff light tan and tan silty clay w/silt pockets, ferrous stains and organic inclusions, very dry	36							82
			- stiff to very stiff below 2 ft	24							
5			Very stiff reddish tan and tan silty clay w/trace fine sand and organic stains	35							
			- 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							
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R10

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 104+71, 19 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 132.3						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Stiff gray and tan clayey silt, sandy (fill)	23			●	+	+				84
			Soft reddish tan, gray and tan silty clay w/some ferrous nodules and stains	6			+	●	-	-	+		88
5			- firm, with some silt pockets from 4 - 6 ft	8				●					
			- stiff below 6 ft	13				●					
				13				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-9-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/9/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R11

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 115+00, 33 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 135.2			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
						10	20	30	40	50	60	70		
			Very stiff light tan and tan silty clay w/silt pockets and seams and ferrous stains and nodules	50		●	+	- - - - -	+					83
				50/7"		●								
5			Very stiff tan, reddish tan and gray silty clay w/organic stains and inclusions and ferrous stains and nodules	50		●	+	- - - - -	+					85
			Very stiff tan and reddish tan silty clay, slightly sandy w/silt pockets and organic stains											
			Very stiff red and reddish brown clay w/silt pockets and seams	28		●								
				32					●					
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R12

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 126+53, 21 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %			
						0.2	0.4	0.6	0.8	1.0	1.2	1.4				
SURF. EL: 142.0																
			Stiff gray and tan silty clay w/fine gravel (fill)	17			●	+	+							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			●									
			Stiff gray, reddish tan and tan fine sandy silt, slightly clayey	13			●									
10																
15																

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R14

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 144+97, 21 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %				
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT					
SURF. EL: 132.7						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
						10	20	30	40	50	60	70	
			Stiff tan silty clay, sandy (fill)	16		●	+	+					80
			Stiff gray, brown and tan clayey silt w/some ferrous nodules and stains	17				●					
5				20				●					
			Medium dense tan clayey fine sand w/ferrous nodules and stains	20				●					
				19				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

Form 108-6(74) Job No. 15-104

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R15

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 154+95, 38 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 127.9			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			Stiff brown silty clay w/numerous silt pockets and ferrous stains and nodules, very dry	23										
			- very stiff, tan below 2.5 ft	34										76
5			Very stiff brown, tan and gray silty clay w/silt pockets	28										
			Very stiff brown, tan and gray silty clay w/fine sand pockets and lignite inclusions	32										48
			- reddish tan with more sand below 8.5 ft	32										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015



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

LOG OF BORING NO. R16

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 167+18, 19 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 122.8											
5			Stiff tan clayey silt, sandy (fill) - with some fine to coarse gravel to 2 ft - very stiff gray and tan clayey silt below 2 ft	28										48
				27										
				22										
			Medium dense gray and tan silt, slightly clayey w/trace organics	11										
			Stiff gray and tan clayey silt	17										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R17

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 174+95, 38 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT		PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT		- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	10	
			SURF. EL: 117.5											
			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										63
				23										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R18

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 185+07, 21 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 122.3											
			Firm brown, gray and tan clayey silt, sandy w/trace organics (fill)	8										74
			Medium dense tan and gray fine sandy silt	18										
5			Stiff gray and tan clayey silt	16										
			- brown and gray from 6 - 8 ft	16										
			Firm to stiff tan and gray silty clay w/fine sandy silt pockets	11										
			- stiff below 9 ft											
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R20

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 205+11, 32 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 126.3						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Stiff gray and tan silty clay, slightly sandy	10			●	+	-	+			81
				13					●				
5				17					●				
			Firm gray, brown, reddish tan and tan silty clay, sandy w/some ferrous nodules and stains	9					●				
			Stiff gray, reddish tan and reddish brown fine sandy clay w/some ferrous nodules and stains	14									
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R21

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 215+06, 29 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 123.2											
			Very stiff reddish brown and reddish tan silty clay, slightly sandy, very dry	50/8"										
			- with fine sand pockets below 2 ft											
				41										76
5			Very stiff reddish brown fine sandy clay w/fine sand pockets and ferrous stains and organics	40										
			- stiff below 6 ft											
				23										55
			- with more sand below 8 ft											
10				21										
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-13-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/13/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

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

LOG OF BORING NO. R22

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 224+86+20 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
SURF. EL: 121.1						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT	
						+ 10 20 30 40 50 60 70		+ 40 50 60 70		+ 70	
			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								
5				10		●					
				9		●					
			Loose brown and gray silt, slightly clayey w/some ferrous stains and trace organics	9		●					
			Stiff tan and gray clayey silt	13		●					
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R23

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 234+97, 19 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
			SURF. EL: 122.2			PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	+	+	+	+	+	
						10	20	30	40	50	60	70	
			6 inches: Brown silty fine sand w/fine to coarse gravel (fill)										
			Medium dense tan silty clay, sandy (fill)	26		●	+	-	+				73
				22		●							
5				15		●							
			Stiff gray and brown clayey silt	11				●					
				13				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

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

LOG OF BORING NO. R24

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 244+99, 38 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 114.9											
			Very stiff light tan and tan silty clay w/silt pockets and seams	39			●	+	-	+				77
			Very stiff to hard gray and brownish gray silty clay w/ferrous stains and nodules	50/6"			●							
			- tan and gray with organic stains below 4 ft	50/11"			●							
5														
				50/5"			●							
			Stiff gray and reddish tan silty clay, slightly sandy	18			●	+	+					67
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R25

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 255+87, 33 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %		
						0.2	0.4	0.6	0.8		1.0	1.2
			SURF. EL: 118.1									
			Very stiff to hard light tan and tan silty clay w/silt pockets, ferrous stains and rootlets	50/10"								76
			Very stiff reddish tan and tan silty clay w/silt pockets and seams	50								
5			Stiff tan, reddish tan and gray fine sandy clay	14								69
10				21								
15												

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015



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

LOG OF BORING NO. R26

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 265+19, 20 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 126.8						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	-			+		
						10	20	30	40	50	60	70	
			Loose brown sandy fine to coarse gravel, slightly clayey (fill)	6		●	++						39
			Stiff gray and tan silty clay w/some ferrous nodules and stains	14		●	+	---	+				78
5			Stiff gray and tan silty clay	12				●					
			- firm with ferrous nodules and stains below 6 ft	8				●					
			- with some clay pockets from 8 - 10 ft										
			- stiff below 9 ft	11				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R27

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 274+99, 32 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT		- No. 200 %
						PLASTIC LIMIT	LIQUID LIMIT	
SURF. EL: 135.5								
			Firm light tan and tan silty clay w/silt pockets and ferrous stains and trace organics	7		●	+ --- +	76
			Stiff tan, reddish tan and gray silty clay, slightly sandy w/silt pockets and seams and ferrous stains and nodules	15		●		
5				20		●		
			Stiff reddish brown and red clay w/fine sandy clay pockets and ferrous stains and organic stains	17		+ --- ● --- +		94
			- with fine sandy clay seams below 8 ft	23		●		
10								
15								

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R28

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 283+99, 32 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 144.5														
0-3			3 inches: Silty fine sand w/fine to coarse gravel (fill)											
3-21			Medium dense gray and tan silt (fill)	21		●	++							86
21-30			Firm gray and tan silty clay, sandy	9			●	--+						87
30-35			- stiff below 4 ft	16		●								
35-51				16		●								
51-61			Stiff gray, reddish tan and tan silty clay w/some ferrous stains and some clay partings	15		●								
61-15														

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 9-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/16/2015



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

LOG OF BORING NO. R29

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 294+86, 55 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
SURF. EL: 141.7									
5			Very stiff light tan and tan silty clay w/silt pockets, ferrous stains and trace organics and rootlets	43					87
			- stiff below 2 ft						
			Stiff reddish brown and reddish tan silty clay w/ferrous stains and organic stains	14					
			Stiff reddish tan and brown clay, slightly slickensided w/organic stains	15					98
			- red below 8 ft						
10				19					
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R30

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 304+89, 23 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 134.4						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Stiff brown and tan clayey silt, sandy (fill)	11		●	++						59
			Stiff gray and tan clayey silt	16				●					
5				10				●					
			Firm to stiff gray, brown and tan silty clay w/ferrous nodules and stains	10				●					
			Stiff reddish tan clay w/silt pockets	15				+	●	---	+		84
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-10-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/10/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R31

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 314+92, 38 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 129.3											
			Very stiff to hard light tan and tan silty clay w/silt pockets and ferrous stains, very dry to 2 ft	50/9"										86
			- very stiff below 2 ft											
				34										
			Very stiff tan and reddish tan silty clay											
5				37										90
			Very stiff gray fine sandy clay w/ferrous stains											
				26										
			- olive gray and reddish tan with numerous lignitic inclusions and stains below 8.5 ft											
				24										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R32

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 324+69, 18 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 139.4						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Firm gray, brown and tan clayey silt, slightly sandy (fill)	8			●	+	+				86
			Firm gray and tan clayey silt w/some ferrous nodules and stains	7				●					
5			Firm gray, brown and tan silty clay w/some ferrous nodules and stains	8				●					
			- stiff below 6 ft	14				●					
			- with silt pockets below 8 ft	13				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-11-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/11/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R33

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 334+66, 34 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 147.8								
			Very stiff light tan and tan silty clay w/numerous silt pockets and occasional ferrous stains, very dry	47							
			- stiff, tan and brownish yellow below 2 ft	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	21							
10			Stiff red and reddish brown clay w/silt pockets and seams	24							
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R34

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 344+95, 33 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 151.5			PLASTIC LIMIT: 10 WATER CONTENT: 40 LIQUID LIMIT: 70								
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	29										90
			Stiff reddish tan and tan silty clay w/silt pockets and seams	11										93
5			- tan and gray below 4 ft	13										
			Stiff to very stiff tan, gray and red silty clay, mottled	24										
			Stiff red and reddish brown clay, slightly slickensided	21										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R35

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 354+93, 30 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 138.0						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+		-----			+		
						10	20	30	40	50	60	70	
			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
5			Stiff red and reddish tan clay, slightly silty w/occasional organic stains	12				●					
				13					●				
			Stiff red and reddish tan silt w/numerous organic stains	22				●	-NON-PLASTIC-				93
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R36

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 364+94, 23 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 137.0						PLASTIC LIMIT WATER CONTENT LIQUID LIMIT +-----+-----+-----+-----+-----+-----+-----+							
						10	20	30	40	50	60	70	
			Stiff gray, tan and reddish tan silty clay, sandy	16			●	+	+				85
			Stiff gray and tan silty clay	12				●	+				90
5			- with clay partings below 4 ft	12				●					
			Stiff reddish brown clay w/ferrous stains	15					●				
			Medium dense reddish tan fine sandy silt	19					●				
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-11-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/11/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R37

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 375+19, 32 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 129.4			PLASTIC LIMIT: 10 20 30 40 50 60 70 WATER CONTENT: 40 LIQUID LIMIT: 70					
			Very stiff to hard light tan and tan silty clay w/ferrous stains and nodules and trace organics and organic stains	50/10"							
			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
			- stiff to very stiff with more sand below 6 ft	24							
			Very stiff tan and gray fine sandy clay w/ferrous stains and organic stains	50/8"							
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R38

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 385+29, 39 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 122.6			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			Hard light tan and tan silty clay w/silt pockets and ferrous stains and organic inclusions	50/6"										
				50/8"										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										56
10			Medium dense tan and reddish tan silty fine sand	17										
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/14/2015

Form 108-6(74) Job No. 15-104

LGBNEW 15-104_R LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R40

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 404+63, 18 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 128.8													
0			6 inches: Sandy fine to coarse gravel (fill)										
0			Very stiff tan silty clay, sandy (fill)	35									91
2			- firm, tan and brown clayey silt below 2 ft										
2			- sandy from 2 - 4 ft										
5				8									
5				9									
5				7									
10			Very stiff tan and gray clayey silt, sandy	37									
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R41

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 415+04, 36 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 125.1			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
						10	20	30	40	50	60	70		
41			Very stiff light tan and tan silty clay w/silt pockets, ferrous stains and rootlets	41		●	+	-	+					87
41			- hard, brownish gray below 4 ft			●								
50/9"			- brown and tan below 6 ft	50/9"		●								
50/4"				50/4"		●								
10			Stiff light brown and gray fine sandy clay w/ferrous stains	20		+	●	-	+					69
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

Form 108-6(74) Job No. 15-104

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

LOG OF BORING NO. R42

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 424+79, 18 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			SURF. EL: 129.6										
			5 inches: Brown sand w/fine to coarse gravel (fill)										
			Very stiff tan clayey silt, sandy (fill)	41		●	+	+					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													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R43

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 435+00, 31 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 127.0						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Very stiff to hard tan and light tan silty clay w/silt pockets and ferrous stains, very dry	50/9"		●	+	+					75
			- very stiff, tan below 2 ft	45		●							
			- hard below 4 ft	50/9"		●							
5													
			Very stiff reddish tan and tan fine sandy clay	28		+	●	+					80
				40		●							
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R44

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 444+83, 17 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 131.0											
			Stiff tan and gray clayey silt, sandy (fill)	17			●	+	+					81
			Firm tan and gray clayey silt w/some ferrous stains and nodules	9				●	-	+				86
5				7				●						
			- very stiff from 6 - 8 ft	30				●						
			- stiff from 8 - 10 ft	17				●						
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-11-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/11/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R45

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 455+00, 34 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 130.2											
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	38										91
			- tan, reddish tan and brown below 2 ft											
5			- hard below 4.5 ft	50/10"										
			- stiff below 6 ft											
			Very stiff reddish tan and gray silty clay w/fine sand pockets and ferrous stains	23										
10				35										84
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015



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

LOG OF BORING NO. R46

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 464+91, 19 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 132.2											
			Brown sand w/fine to coarse gravel (fill)											
			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				●						
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R47

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 474+89, 30 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
SURF. EL: 131.4									
			Very stiff tan and light tan silty clay w/silt pockets and ferrous stains, very dry	42		●	+ --- +		91
				31		●			
5			Stiff tan, reddish tan and gray silty clay w/silt pockets and occasional organic stains - with fine sand pockets and lignite inclusions below 6 ft	23		●			
				20		●			
10			Stiff reddish tan and gray fine sandy clay w/lignite inclusions	22		+ ● --- +			41
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R48

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 484+93, 19 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 136.5											
			4 inches: Brown silt w/fine to coarse gravel											
			Medium dense tan and brown clayey silt, sandy (fill)	22		●	+	+						84
			Firm tan and gray clayey silt	8		●								
5			- stiff with silty clay pockets below 4 ft	19		●								
				20		●								
			Stiff gray, reddish tan and tan silty clay w/some silt pockets and ferrous stains	15		●								
10														
15														

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COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R49

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 495+08, 31 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 136.7														
			Very stiff light brown silty clay, slightly sandy	50										85
			- hard, tan with occasional ferrous nodules and stains below 2 ft	50/7"										
5			Very stiff tan and reddish tan silty clay w/silt pockets and seams	33										90
			- with ferrous stains nodules below 6 ft	41										
10			- gray, tan and reddish tan below 9 ft	50										
15														

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015



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

LOG OF BORING NO. R50

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 504+50, 20 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 141.3											
			Medium dense brown sandy fine to coarse gravel, slightly clayey (fill)	18										15
			Firm tan and gray clayey silt (fill)	8										
5				8										
			Stiff brown and gray clayey silt	20										
			Stiff gray silty clay w/occasional ferrous nodules and stains	19										
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R51

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 20+55, 31 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 155.0											
			Stiff gray, tan and reddish tan silty clay w/silt pockets and seams and ferrous and organic stains and organic inclusions	12										87
				19										
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														

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R52

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 30+11, 30 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 154.2			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
						10	20	30	40	50	60	70		
			Very stiff light tan and tan silty clay w/silt pockets and seams and occasional ferrous stains and organic inclusions, very dry	50/11"			●	+	+					84
			- light tan, tan and brown with ferrous nodules below 2 ft	28			●							
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					●					
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R53

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 39+91, 18 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 155.0						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Dense gray and tan fine sandy silt, slightly clayey (fill) - with fine to coarse gravel to 2 ft	50/10"		●	++						69
				32		●							
5			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													

COMPLETION DEPTH: 10.0 ft
DATE: 9-9-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/9/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R54

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 49+27, 33 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %				
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT					
			SURF. EL: 150.7			0.2	0.4	0.6	0.8	1.0	1.2	1.4	
			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		10	20	30	40	50	60	70	
			- hard below 4 ft	50/7"									93
5			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									
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015



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

LOG OF BORING NO. R55

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 60+23, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 147.0														
			Brown silt w/fine to coarse gravel (fill)			●								
			Very stiff gray, reddish tan and tan clayey silt, sandy (fill)	25		●	++							74
			Soft tan and brown clayey silt w/occasional ferrous nodules and stains	6			●							
5			- firm to stiff below 4.5 ft	10			●							
			Firm to stiff tan and brown silty clay w/occasional ferrous nodules and stains	10			●							
			- stiff with fine sandy silt pockets below 8 ft	15			●							
10														
15														

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015



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

LOG OF BORING NO. R56

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 70+15, 38 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 139.1						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	-			+		
						10	20	30	40	50	60	70	
			Stiff tan, reddish tan and gray silty clay w/some silt pockets and ferrous and organic stains	23		●	+	+					89
				13		●							
5			Firm tan, reddish tan and gray silty clay w/trace fine sand and organic inclusions and stains	9			+	●	- - - -	+			94
			Firm red and reddish brown clay w/some silt pockets and trace fine sand, slightly slickensided with organic inclusions and stains	11					●				
			- stiff below 8 ft	18					●				
10													
15													

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R57

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 80+35, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 132.0						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Stiff gray and tan clayey silt, sandy (fill)	21		●	+	+					71
			- firm to stiff, gray and tan clayey silt with trace fine gravel below 2 ft	10				●					
5			- soft below 4 ft	4					●				
			Stiff tan, gray and brown silty clay w/ferrous stains and nodules and some clay partings	11					●				
			Stiff gray, tan and reddish tan fine sandy clay w/some ferrous nodules and stains	19					●				
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-9-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/9/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R58

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 90+30, 39 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
SURF. EL: 125.1									
			Hard light tan and tan silty clay w/silt pockets and seams and some ferrous stains and organic inclusions, very dry	50/6"		●	+ -- +		87
				50		●			
5			Very stiff tan, reddish tan and gray silty clay, slightly sandy w/silt pockets and ferrous stains	42			●		
			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		●	-- +		28
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW 15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R59

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 99+12, 18 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 129.9											
			Very stiff gray and tan silty clay, sandy (fill)	30										84
			Soft brown and tan clayey silt w/some ferrous noduled and stains	6										
5				6										
			Stiff tan and gray silty clay	15										
			- brown and tan with numerous ferrous nodules and stains below 8 ft	16										
10														
15														
			COMPLETION DEPTH: 10.0 ft	DEPTH TO WATER IN BORING: Dry			DATE: 9/9/2015							

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R60

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 110+01, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			SURF. EL: 135.2										
			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				●					
			- stiff below 4.5 ft										
5				20				●					
			Firm gray silty clay w/occasional ferrous nodules and stains	9				●					
			- stiff, reddish tan and gray below 8 ft										
				18				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R61

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 120+08, 36 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 141.9						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			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
				31		●							
5			Very stiff tan and reddish tan silty clay, sandy w/ferrous and organic stains	30			●	+					76
			Stiff tan and reddish tan fine sandy clay w/ferrous and organic stains	19			●						
10			Medium dense reddish tan silty fine sand w/ferrous stains	18			●						
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R62

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 130+09, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 137.1											
			Stiff tan clayey silt, slightly sandy (fill)	16			●	++						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														

COMPLETION DEPTH: 10.0 ft
DATE: 9-4-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/4/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R63

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 139+96, 39 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 128.8						PLASTIC LIMIT WATER CONTENT LIQUID LIMIT +-----+-----+ 10 20 30 40 50 60 70								
			Stiff to very stiff light tan, tan and reddish tan silty clay w/silt pockets and seams and ferrous stains and organic inclusions	25										
			- 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														

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R64

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 149+38, 22 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %			
						0.2	0.4	0.6	0.8		1.0	1.2	1.4
			SURF. EL: 131.1			PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT			
						+	+	+	+	+	+		
						10	20	30	40	50	60	70	
20			Stiff tan and gray silty clay w/silt pockets (fill)				●	+	+				83
23							●						
18							●						
30			- very stiff below 6 ft				●						
25			Medium dense reddish tan silty fine sand (fill)				●						
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015



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

LOG OF BORING NO. R65

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 160+27, 31 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
			SURF. EL: 123.6						
			Hard light tan, tan and reddish tan silty clay w/some fine sand pockets, ferrous stains and organic inclusions, very dry	50/6"		●	+	+	64
				50/6"		●			
5			Dense reddish brown and tan clayey fine sand w/ferrous and organic stains	40		●			
			- reddish brown and reddish tan below 6 ft	32		●	+	+	36
				33		●			
10									
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

Form 108-6(74) Job No. 15-104

LGBNEW 15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R66

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 170+00, 17 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 122.3								
			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							87
			Soft tan and gray silty clay, slightly sandy w/ferrous nodules and concretions	6							89
			- stiff below 8 ft	13							
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R67

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 179+97, 22 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 123.9											
			Very stiff to hard tan fine sandy clay (fill)	50										68
			Stiff gray clayey silt w/occasional ferrous nodules and stains	12										
5			- firm below 4 ft	9										
			Very stiff gray and tan silty clay	36										
10				50										
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R68

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 189+89, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
SURF. EL: 122.8						PLASTIC LIMIT: 10 WATER CONTENT: 40 LIQUID LIMIT: 70					
			Medium dense gray and tan fine sandy silt (fill)	19							
			Soft gray and tan silty clay	4							88
5			Firm gray and tan silty clay w/some silt pockets	7							92
			- stiff with occasional ferrous nodules and stains below 6 ft	17							
				15							
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R69

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 199+54, 31 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 120.9								
			Hard light tan and tan silty clay w/silt pockets, ferrous stains and organic inclusions, very dry to 2 ft	50/6"		●	++				78
			Very stiff gray, reddish tan and tan silty clay, slightly sandy w/silt seams	28		●					
5			- very stiff to hard below 4 ft	50/11"		●	---	+			86
			Very stiff reddish tan and tan fine sandy clay w/ferrous stains and nodules and organic stains	28		●					
			- stiff below 8 ft	16		●					
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-20-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/20/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R70

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 210+31, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 126.9											
			Very stiff gray and brown fine sandy clay	31			●	+	+					67
			Soft to firm gray and tan clayey silt	7			●							
5			Soft gray and tan silty clay w/some silt pockets and some ferrous nodules and stains	6			●							
			- very stiff below 6 ft	29			●							
10			Medium dense tan and reddish tan clayey fine sand w/some ferrous nodules and stains	27			●							
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R71

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 220+17, 40 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
SURF. EL: 117.8									
			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			Stiff gray, tan and reddish tan silty clay, slightly sandy w/ferrous stains and nodules and organic stains	23		●			
			- 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		●			
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-19-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/19/2015

Form 108-6(74) Job No. 15-104

LGBNEW 15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R72

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 230+08, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 122.3											
			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										
15				31										
			- very stiff below 14 ft											

COMPLETION DEPTH: 15.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R73

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 240+56, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %		
						0.2	0.4	0.6	0.8		1.0	1.2
						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT		
						+	+	+	+	+	+	
						10	20	30	40	50	60	70
			SURF. EL: 121.3									
			Clayey fine sand w/fine to coarse gravel (fill)			●						
			Stiff gray and brown silty clay, sandy	14			●	+	-	+		75
			- firm below 2 ft									
				7			●					
			- soft reddish tan, gray and brown silty clay w/some silt pockets and some ferrous stains below 4 ft	4					●			
5												
			Soft tan and gray silty clay w/decayed organics	6					●			
			Firm tan and gray clay w/silt pockets	8					●			
10												
15												

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R74

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 250+51, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			SURF. EL: 123.0										
			3 inches: Brown silt w/fine to coarse gravel										
			Very stiff gray and tan silty clay, sandy (fill)	24		●	+	+					88
			- loose, slightly clayey from 2 - 4 ft	7		●							
5			- soft, tan and brown clayey silt below 4 ft	5			●						
				5				●					
			Very stiff tan and gray clayey silt w/some ferrous nodules and stains	40				●					
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R75

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 260+49, 34 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 121.7								
			Very stiff light tan, tan and reddish tan silty clay w/some silt pockets and seams and ferrous nodules, very dry	50/10"		●	+	-	+		69
				50/9"		●					
5			Dense reddish brown clayey fine sand w/organic stains	45		●					
			- reddish tan and reddish brown with ferrous organic stains below 6 ft	34		●	-	-	+		49
			- tan and reddish tan below 8 ft	50		●					
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 10-19-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/19/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R76

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 270+54, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %		
						0.2	0.4	0.6	0.8	1.0	1.2	1.4			
SURF. EL: 132.4															
			Very stiff gray and tan clayey silt, sandy - with trace fine to coarse gravel to 1.5 ft	31		●	++								79
			- stiff dense below 3 ft												
5				15		●									
				14		●									
				19		●									
				19		●									
10			- gray and tan fine sandy clay below 9 ft												
15															

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R77

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 279+97, 21 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
			SURF. EL: 138.8						
5			Hard stiff light tan and tan silty clay w/some silt pockets and seams and ferrous stains and organic inclusions - with some ferrous nodules below 2 ft - light tan, tan and gray below 4 ft	50/6 48 50/8"		●	+ - +		72
			Very stiff tan, reddish tan and gray silty clay, slightly sandy w/ferrous stains and nodules	50/7"		●	- - - - +		89
10			Very stiff reddish brown and red clay, slickensided with organic stains	32				●	
15									

COMPLETION DEPTH: 10.0 ft
DATE: 10-19-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/19/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R78

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 289+95, 7 ft Rt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %		
						0.2	0.4	0.6	0.8	1.0	1.2	1.4			
			SURF. EL: 140.9												
			9 inches: Brown silt w/fine to coarse gravel (fill)												
			Stiff reddish tan and tan silty clay, sandy (fill)	13											91
			Firm brown and gray silty clay w/occasional ferrous nodules and stains	9											82
5			- soft from 4 - 6 ft - with silt pockets below 4 ft - stiff below 4 ft	6											
				15											
				21											
10															
15															

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R79

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 299+94, 9 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %	
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT		
SURF. EL: 137.8										
			Stiff light tan, tan and reddish tan silty clay w/silt pockets and seams and trace organics - very dry to 2 ft	21		10	20	30	40	89
			- organic stains below 2 ft							
			- very stiff below 2.5 ft	29						
5			Stiff tan and reddish tan clay w/ferrous stains and nodules and organic stains	14		10	20	30	40	94
			Stiff red clay w/organic stains	12						
10			Medium dense reddish tan silty fine sand	28						35
15										

COMPLETION DEPTH: 10.0 ft
DATE: 10-19-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/19/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R80

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 309+64, 19 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %			
						0.2	0.4	0.6	0.8	1.0	1.2	1.4				
			SURF. EL: 133.9													
			Stiff gray and tan silty clay, slightly sandy (fill)	21			●	+	-	+						81
			Firm gray and tan clayey silty w/some ferrous stains and nodules	7					●							
5			Firm gray and tan silty clay w/some ferrous nodules and stains and silt pockets	7					●							
			- stiff below 6 ft	19					●							
				11					●							
10																
15																

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



**Grubbs, Hoskyn,
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Consulting Engineers

LOG OF BORING NO. R81

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 319+97, 28 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 131.5			PLASTIC LIMIT WATER CONTENT LIQUID LIMIT +-----+-----+ 10 20 30 40 50 60 70								
			Stiff light tan and tan clayey silt w/ferrous stains and organic inclusions	18			●	++						82
			Stiff tan, reddish tan and gray silty clay, slightly sandy w/silt pockets and ferrous stains and nodules	11			●							
5				16			+	●	+					91
				17				●						
			- with lignite inclusions below 8 ft	22				●						
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/16/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16

Form 108-6(74) Job No. 15-104



**Grubbs, Hoskyn,
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Consulting Engineers

LOG OF BORING NO. R82

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 329+74, 18 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %		
						0.2	0.4	0.6	0.8	1.0	1.2	1.4			
			SURF. EL: 144.8												
			Reddish brown fine sandy w/fine to coarse gravel (fill)												
			Stiff gray and tan silty clay w/ferrous stains (fill)	12											80
			Soft gray and tan silty clay w/silt pockets and seams and ferrous nodules and stains	5											
5				5											
			- firm to stiff below 6 ft	11											
				12											
10															
15															

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015



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

LOG OF BORING NO. R83

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 339+50, 29 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 151.0											
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	32			●	+	-	+				88
			Stiff tan and reddish tan silty clay w/some organic and ferrous stains	13			●							
5				12			+	●	-	+				90
			Stiff red and gray clay, mottled	17				●						
			- red and gray, less mottled below 8 ft	18						●				
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/16/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R84

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 349+65, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT		- No. 200 %
						PLASTIC LIMIT	LIQUID LIMIT	
			SURF. EL: 149.6			0.2 0.4 0.6 0.8 1.0 1.2 1.4		
			Brown and reddish tan silty fine sand w/fine to coarse gravel (fill)					
			Stiff brown and tan silty clay w/trace fine sand (fill)	18		● + --- +		92
			Firm reddish tan and tan clayey silt	8		●		
5				9		●		
			Firm tan, gray and red clay	9		+ ● --- +		
			- stiff, blocky below 8 ft	14		●		
10								
15								

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

Form 108-6(74) Job No. 15-104

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R85

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 360+36, 18 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 138.4								
			Medium dense brown silt w/fine to coarse gravel (fill)								
			- very stiff brown and tan silty clay, sandy below 1 ft	32							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							
				13							
10											
15											

COMPLETION DEPTH: 10.0 ft
DATE: 9-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R86

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 369+53, 18 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
						PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT		
						+	+	+	+	+	+	+	+	
						10	20	30	40	50	60	70		
			SURF. EL: 134.9											
			Reddish tan fine sand w/fine to coarse gravel (fill)											
			Stiff gray and tan silty clay (fill)	13			●	+	+				80	
			Soft gray and tan silty clay w/some silt pockets and ferrous stains	5			+	●	+				86	
5				6			●							
			- stiff below 6 ft	16			●							
			Stiff gray and reddish brown clay w/some ferrous stains, occasional fine sand pockets and trace organic inclusions	12			●							
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-3-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/3/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R87

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 379+74, 41 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT				- No. 200 %	
						0.2	0.4	0.6	0.8		1.0
			SURF. EL: 126.2			PLASTIC LIMIT: 10 WATER CONTENT: 40 LIQUID LIMIT: 70					
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains and organic inclusions and rootlets	50							
			Very stiff brown, reddish tan and gray silty clay w/ferrous nodules and stains	50/9"							67
5				32							
			Medium dense reddish tan and gray fine clayey fine sand w/ferrous stains and lignitic inclusions	24							37
			Medium dense tan and reddish tan fine sand	26							
10											
15											

LGBNEW_15-104_R.LOGS.GPJ_8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 10-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/16/2015



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

LOG OF BORING NO. R89

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 399+92, 20 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
			SURF. EL: 127.3						
5			Loose to medium dense brown silt w/fine to coarse gravel (fill) Stiff gray and brown silty clay, sandy (fill)	22		●	+	+	90
				12		●			
				14		●			
			- firm below 6 ft	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			●		
20									
25									

COMPLETION DEPTH: 15.0 ft
DATE: 9-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/14/2015

LGBNEW 15-104_R LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R90

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 410+19, 21 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 126.7											
0			4 inches: Brown silt w/fine to coarse gravel (fill)											
17			Stiff reddish tan and tan clayey silt, sandy (fill)			●	++							67
20								●						
31			- very stiff below 4.5 ft					●						
20			Stiff reddish tan, gray, brown and tan clayey silt w/some ferrous nodules and stains						●					
42			Dense gray and tan fine sandy silt, slightly clayey							●				
10														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R91

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 419+84, 39 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT	
			SURF. EL: 124.7						
5			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	50/11"					91
			- hard below 2 ft	50/5"					
				50/6"					
10			Hard tan and gray silty clay, slightly sandy w/numerous silt pockets and seams	50/6"					89
				50/6"					
15									

COMPLETION DEPTH: 9.5 ft
DATE: 10-16-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/16/2015

Form 108-6(74) Job No. 15-104

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R92

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 429+79, 21 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
			SURF. EL: 130.0											
			3 inches: Loose tan silt w/fine to coarse gravel (fill) Very stiff tan fine sandy clay (fill)	28										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														
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R93

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 439+83, 34 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 127.1						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Very stiff tan and reddish tan silty clay w/ferrous stains and organic inclusions	26		●	+	-	+				88
			- stiff below 2 ft										
			- very stiff with some ferrous nodules below 4 ft	19		●							
5			- slightly sandy below 6 ft	35		●							
			- slightly sandy below 6 ft	35		●							
			Very stiff tan fine sandy silt	50/7"		●						-NON-PLASTIC-	76
10													
15													

COMPLETION DEPTH: 9.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R94

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 449+94, 22 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 132.4						PLASTIC LIMIT: 10 WATER CONTENT: 40 LIQUID LIMIT: 70								
			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		●	++							85
			Soft tan, reddish tan and gray clayey silt w/some ferrous nodules and stains	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														
15														

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

COMPLETION DEPTH: 10.0 ft
DATE: 9-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/14/2015



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

LOG OF BORING NO. R95

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 459+88, 31 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT						- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2		1.4
SURF. EL: 129.2						PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT			
						+			●			+	
						10	20	30	40	50	60	70	
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	48		●	+	-	+				80
			Stiff reddish tan, tan and gray silty clay w/trace fine sand and numerous ferrous stains and concretions	13				●					
5				24				●					
			- very stiff with more sand below 6 ft	26		●	-	-	+				70
			Stiff reddish tan and gray fine sandy clay	22									
10													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW 15-104_R LOGS.GPJ 8-11-16



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

LOG OF BORING NO. R96

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 469+88, 24 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 133.1						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Very stiff brown and tan fine sandy 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													
15													

COMPLETION DEPTH: 10.0 ft
DATE: 9-14-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/14/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R97

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 479+71, 35 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %					
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT						
			SURF. EL: 133.2			0.2	0.4	0.6	0.8	1.0	1.2	1.4		
						10	20	30	40	50	60	70		
5			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"		●								
				50/8"		●								
			- tan with ferrous stains below 6 ft	50/10"		●								
10			Very stiff reddish tan and tan fine sandy clay w/fine sand pockets and seams and ferrous stains	47		●	+	-	+					36
15														

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW_15-104_R.LOGS.GPJ_8-11-16



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

LOG OF BORING NO. R98

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 490+10, 38 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %
						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
SURF. EL: 134.8						PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT		
						+	+	●			+		
						10	20	30	40	50	60	70	
			Very stiff light tan and tan silty clay w/silt pockets and ferrous stains	46		●							
			- hard below 2 ft	50/9"		●	+	+					88
5				50/8"		●							
			Hard reddish tan, tan and gray silty clay, slightly sandy w/organic stains	50/11"		●	+	+					84
			- tan and gray below 6.5 ft										
			Hard reddish brown and reddish tan fine sandy clay w/ferrous stains and organic stains	50/7"		●							
10													
15													

COMPLETION DEPTH: 9.6 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015



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

LOG OF BORING NO. R99

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 499+16, 35 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT			- No. 200 %				
						PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT					
SURF. EL: 135.2						0.2	0.4	0.6	0.8	1.0	1.2	1.4	
						10	20	30	40	50	60	70	
			Hard light tan and tan silty clay w/silt pockets and ferrous stains, very dry	50/10"		●	+	-----	+				90
			- tan and reddish tan below 2 ft	50/6"		●							
5			- tan and gray below 4 ft	50/11"		●							
			Very stiff tan and gray silty clay, mottled w/fine sand pockets	44		●	+	-----	+				82
10			Very stiff tan and reddish tan fine sandy clay w/ferrous stains and nodules	40		●							
15													

COMPLETION DEPTH: 10.0 ft
DATE: 10-15-15

DEPTH TO WATER
IN BORING: Dry

DATE: 10/15/2015

LGBNEW 15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



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

LOG OF BORING NO. R100

CA0201 Hwy 425 Widening
Ashley County, Arkansas

TYPE: Auger

LOCATION: Approx Sta 505+54, 92 ft Lt

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WT LB/CU FT	COHESION, TON/SQ FT							- No. 200 %	
						0.2	0.4	0.6	0.8	1.0	1.2	1.4		
SURF. EL: 139.9						PLASTIC LIMIT: 10 WATER CONTENT: 40 LIQUID LIMIT: 70								
17			Medium dense brown clayey fine sand (fill)	17		●	++							41
4			- loose reddish tan, tan and gray silty clay below 2 ft	4			+ ● - +							96
12			- stiff gray clayey silt below 4 ft	12			●							
18				18			●							
41			Very stiff gray and tan silty clay w/occasional silt pockets	41			●							
15														

COMPLETION DEPTH: 10.0 ft
DATE: 9-17-15

DEPTH TO WATER
IN BORING: Dry

DATE: 9/17/2015

LGBNEW_15-104_R.LOGS.GPJ 8-11-16

Form 108-6(74) Job No. 15-104



SYMBOLS AND TERMS USED ON BORING LOGS

SOIL TYPES

(SHOWN IN SYMBOLS COLUMN)



Gravel



Sand



Silt



Clay

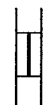
Predominant type shown heavy

SAMPLER TYPES

(SHOWN ON SAMPLES COLUMN)



Shelby
Tube



Rock
Core



Split
Spoon



No
Recovery



Cutting

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on No. 200 sieve): Includes (1) 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	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

ATTACHMENT 3

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
						----	----	----	----	----	----	----		
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	CH	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
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-6
R7	0.5-1.5	8	34	20	14	----	----	----	----	----	----	90	CL	A-6
R7	4.5-5.5	16	61	18	43	----	----	----	----	----	----	95	CH	A-7-6
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
R12	0.5-1.5	11	26	18	8	----	----	----	----	----	----	78	CL	A-4
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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
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
R18	0.5-1.5	14	21	18	3	----	----	----	----	----	----	75	ML	A-4
R19	0.5-1.5	7	25	18	7	----	----	----	----	----	----	86	CL	A-4
R19	6.5-7.5	17	31	12	19	----	----	----	----	----	----	68	CL	A-6
R20	0.5-1.5	14	28	18	10	---	---	---	---	---	---	81	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
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
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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
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	CH	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
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	CH	A-7-6
R35	9-10	22	Non-Plastic			---	---	---	---	---	---	93	CL	A-6
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
R37	2.5-3.5	13	54	16	38	---	---	---	---	---	---	87	CH	A-7-6
R37	4.5-5.5	16	42	14	28	---	---	---	---	---	---	83	CL	A-6
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
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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
R41	0.5-1.5	8	30	20	10	---	---	---	---	---	---	87	CL	A-4
R41	9-10	16	25	11	14	---	---	---	---	---	---	69	CL	A-6
R42	0.5-1.5	6	26	19	7	---	---	---	---	---	---	69	CL-ML	A-4
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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
R54	6.5-7.5	20	67	19	48	----	----	----	----	----	----	99	CH	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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
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
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
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
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
R76	0.5-1.5	9	25	20	5	---	---	---	---	---	---	79	CL-ML	A-4
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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
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
R84	0.5-1.5	15	41	21	20	---	---	---	---	---	---	92	CL	A-7-6
R84	6.5-7.5	30	56	17	39	---	---	---	---	---	---	---	CH	A-7-6
R85	1-1.5	12	36	18	18	---	---	---	---	---	---	89	CL	A-6
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
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
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
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 Plastic---			---	---	---	---	---	---	76	ML	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

SUMMARY of CLASSIFICATION TEST RESULTS

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 NO.	SAMPLE DEPTH (ft)	WATER CONTENT (%)	ATTERBERG LIMITS			SIEVE ANALYSIS PERCENT PASSING							UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	1 in.	3/4 in.	3/8 in.	#4	#10	#40	#200		
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

ATTACHMENT 4

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
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

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.