ARKANSAS DEPARTMENT OF TRANSPORTATION

SUBSURFACE INVESTIGATION

STATE JOB NO. 061509

FEDERAL AID PROJECT NO. CMF-9065(24)

HWY. 367 – HWY. 89 (CABOT) (S)

STATE HIGHWAY 321 **SECTION** 1

IN LONOKE **COUNTY**

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ARKANSAS DEPARTMENT OF TRANSPORTATION
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April 30, 2019

TO: Mr. Rick Ellis, Bridge Engineer

SUBJECT: Job No. 061509
Hwy. 367 – Hwy. 89 (Cabot) (S)
Lonoke County
Route 321, Section 1

Transmitted herewith is a brief summary of the geology and site conditions, D50 analysis test results, summary of percent material passing #200 sieve and Atterberg Limits test results (for liquefaction susceptibility analysis), rock mass rating summary (RMR), unconfined compressive strength test results, and the logs of the borings conducted for the structures and approaches of the above referenced project. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel. The rock cores are available for inspection at the Materials Division.

This project contains three structures on Highway 321, west of Highway 67 in Cabot. The bridges included in this project are: White Oak Branch, Bayou Two Prairie, and Drain Two & UPRR.

White Oak Branch

The proposed plan for the White Oak Branch Bridge is to widen the existing by adding a new bridge section on each side. Based on plans provided by Bridge Design and the depth at which bedrock was encountered it is anticipated that all end bents will be founded on pilings. Preboring may be necessary in order to achieve minimum pile penetration requirements. No borings were obtained at the intermediate bents of the proposed bridges due to steep slopes, high water levels, and access limitations. However, utilizing the data obtained from the end bent borings and correlating the depths at which bedrock was encountered, it is anticipated that competent rock will be slightly deeper than 15 feet below ground level. Based on this information all interior bents could be founded on piling or drilled shafts. Piling should be tipped into competent Shale and preboring may be necessary in order to achieve minimum penetration requirements. Drilled shafts should be founded in competent slightly weathered to unweathered Shale and should be designed based on the values provided in Table 1.

TABLE 1 – Bearing Capacity Recommendations for Drilled Shafts

Nominal Tip Resistance (ksf)	Factored Tip Resistance (ksf)	Nominal Side Resistance (ksf)	Factored Side Resistance (ksf)
196	98	22.9	12.6

Embankment analysis included global stability with seismic design consideration. The proposed embankment geometry provides for a satisfactory Factor of Safety for seismic and static conditions.

Bayou Two Prairie

The proposed Bayou Two Bridge is to be constructed adjacent to the existing, on the south side. Two of the four requested borings were inaccessible due to steep slopes. The two borings that were not obtained were located at: 260+91.50 21.75 Ft. Right of C.L. Construction and 261+16.50 21.75 Ft. Right of C.L. Construction. The two borings that were obtained had to be offset due to conflicts with utilities and steep slopes. The obtained borings are anticipated to represent uniform site conditions and should be adequate to design the proposed pile foundations.

Embankment analysis included global stability with seismic design consideration. The proposed embankment geometry provides for a satisfactory Factor of Safety for seismic and static conditions.

Drain Two & UPRR

The proposed Drain Two & UPRR Bridge is to be constructed adjacent to the existing, on the south side. The obtained borings are anticipated to represent uniform site conditions and should be adequate to design the proposed pile supported footings. Based on plans provided by Bridge Design and the findings from this subsurface investigation, it is anticipated that end bents will be founded on piling and all interior bents will be founded on pile supported footings. The existing east bridge end embankment has settled, exposing the bottom of the pile cap and piles. This area should be repaired during the construction project.

This project is located in a seismic zone with a mild horizontal acceleration of 0.241. Due to the presence of a very soft clay layer in the borings for the east bridge end embankment, reinforcement will be required to satisfy seismic conditions. The soft clay layer is likely responsible for settlement of the existing embankment as discussed above and in the Geology section of this report. The east bridge end embankment shall be strengthened by excavating existing material down to an approximate elevation of 255.5 Ft. A layer of Type 10 separation fabric should be placed followed by a 4 feet thick layer of stone backfill. The remaining embankment material shall be internally reinforced with geogrid. Temporary shoring will be required for this work. Geogrid

placement and specification recommendations are detailed in the attached draft Special Provision: Geosynthetic Internal Reinforced Embankment Construction, along with Figures 1 and 2.

Embankment analysis was based on an embankment height of 25 feet with 3H:1V bridge end slopes. Seismic analysis included a coefficient of horizontal acceleration of 0.241 as provided by Bridge Design. FHWA publication NHI-10-025 Volume II indicates that a value of one-half the horizontal coefficient may be utilized in the design of reinforced embankments. Therefore, a value of 0.1205 was utilized in this design. This configuration provides for a satisfactory Factor of Safety for seismic and static conditions.

The proposed embankment geometry for the west bridge end embankment provides for a satisfactory Factor of Safety for seismic and static conditions.

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

Michael C. Benson
Materials Engineer

MCB:rpt:mlg

cc: State Construction Engineer - Master File Copy
District 6 Engineer
G.C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO. 061509

GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION

DESCRIPTION: This item shall consist of furnishing and installing a geosynthetic internal reinforcement for embankment construction in accordance with the plans and specifications. The geosynthetic internal reinforcement shall be placed as described herein, from the Drain Two & UPRR East Bridge End Slope to Station 275+54.

MATERIALS: Geogrid shall be manufactured as a single layer regular network of integrally connected longitudinal and transverse polymer tensile elements with a geometry that permits significant mechanical interlock with the backfill material. The geogrid structure shall remain dimensionally stable under construction stresses and have high resistance to damage during construction, to ultraviolet degradation, and to all forms of chemical and biological degradation encountered in the soil being reinforced. Geogrid must be evaluated by NTPEP with test results included in the Datamine database.

The geogrid shall also conform in all respects to the following physical requirements:

Provide a geogrid with a minimum tensile strength, T_{allow} as specified in the plans and this Special Provision.

Where: $T_{allow}=T_{ult}/RF$

And $RF = FS_{ID} \times FS_{CR} \times FS_{D}$

Determine T_{ult} (Ultimate Tensile Strength) according to ASTM D 6637 Method B (note, that the same test shall be used for definition of the geogrid creep reduction factor) and ASTM D 4759.

Determine FS_{ID}, FS_{CR}, and FS_{D} according to the following:

FS_{ID} Determine the Partial Factor of Safety for Installation Damage from the results of full-scale construction damage tests conducted according to ASTM D 5818. If possible, conduct tests using project-specific backfill and construction placement techniques. Use a default value of 3.0 if no installation damage testing has been conducted. The minimum value for FS_{ID} is 1.1.

FS_{CR} Determine the Partial Factor of Safety for Creep Deformation according to ASTM D 5262. Collect test data for a minimum duration of 10,000 hours for both standard and elevated temperatures. Extrapolate the test results to a 75-year design life as provided in Appendix B of FHWA Publication No. FHWA-NHI-10-025, "Design and Construction of Mechanically Stabilized Walls and Reinforced

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GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION

Soil Slopes – Volume II". If testing has not been conducted, default values for FS_{CR} are:

Polymer Type	FS_{CR}
Polyester	3.00
Polypropylene	5.00
Polyethylene	5.00

FS_D The Durability Reduction Factor is dependent on the susceptibility of the geogrid to attack from chemicals, thermal oxidation, hydrolysis, stress cracking, and microorganisms. The minimum reduction factor for the combined effects of chemical and biological degradations is:

Polymer Type	FS_D
Polyester	1.20
Polypropylene	1.25
Polyethylene	1.10

Identify, store and handle geogrids according to ASTM D 4873. Limit geogrid exposure to ultraviolet radiation to less than 10 days.

The Contractor shall furnish to the Engineer a production certification that the geogrid supplied meets the respective criteria set forth in these specifications. The certification shall state the name of the manufacturer, product name, style number, chemical composition of the filaments, ribs, or yarns and other information to fully describe the geogrid. The Contractor shall supply test data from and independent laboratory to support certified values submitted.

The embankment material placed within the limits of this Special Provision shall not have greater than 35% passing the #200 sieve **AND** a Liquid Limit greater than 40. The Contractor shall perform quality control and acceptance sampling and testing of the compacted embankment material for density and moisture content in accordance with Subsection 210.02 and 210.10, at the frequencies established in Section 210. The Contractor shall perform quality control and acceptance sampling and testing of the compacted embankment material for gradation and liquid limit in accordance with Section 306, except that the size of the standard lots will be 3000 cubic yards. There will be no direct payment made for fulfilling these material requirements but compensation shall be considered included in the price bid for Compacted Embankment (Special).

CONSTRUCTION METHODS: The geogrid reinforcement shall be placed to the lines and dimensions shown in the plans or as directed by the Engineer. During clearing and grubbing in

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GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION

the embankment area, all organic and deleterious materials, and soft or loose compressible soils shall be excavated and removed from the fill area. Prior to fill placement, the exposed foundation soils shall be proof-rolled to detect any unstable locations, which shall subsequently be compacted or excavated and replaced with compacted fill as directed by the Engineer.

Correct orientation (roll direction) of the geogrids shall be verified by the Engineer. All geogrids shall be placed/unrolled per the manufacturer's recommendations. The Contractor shall provide the engineer detailed installation recommendations from the manufacturer. All geogrid shall be placed to lay flat, pulled tight and pinned or weighted down to hold its position until the subsequent soil layer can be placed.

The first layer of seismic reinforcement geogrid shall be placed directly on top of the stone backfill. Each subsequent layer of geogrid shall be placed at intervals as shown on the plans and shall continue to within two feet of the top of finished subgrade. There shall be a minimum of 4 layers of seismic reinforcement geogrid with a minimum T_{allow} of 5000 lb./ft. Seismic reinforcement geogrid shall be placed in continuous longitudinal strips perpendicular to the face of the embankment. It shall extend from side slope face to the temporary shoring. The curved transition from side slope to bridge end slope shall be constructed of rectangular pieces of grid and shall be overlapped so that the entire embankment is covered.

The first layer of slope reinforcement geogrid shall be placed two feet above the first layer of seismic reinforcement grid after the embankment material has been placed and prepared in accordance with Section 210, Excavation and Embankment of the Standard Specifications for Highway Construction, edition of 2014. This grid shall be placed in continuous longitudinal strips perpendicular to the face of the embankment slope. Each strip shall be a minimum of twenty-five feet long and have a minimum T_{allow} of 1500 lb./ft. The curved transition from side slope to bridge end slope shall be constructed of rectangular pieces of grid. Grid shall be overlapped so that the entire embankment is covered.

Overlaps of geogrid between rolls shall be located at no less than 30 feet from the finished slope surface. Geogrid shall be overlapped a minimum of 5 feet. The number of overlaps shall be limited to one per strip of geogrid. Mechanical bar connections shall be placed per manufacturer's recommendations if required. Adjacent strips of geogrid need not be overlapped.

The embankment fill between layers of geogrid reinforcement shall be prepared in accordance with Section 210, Excavation and Embankment of the Standard Specifications for Highway Construction, Edition of 2014. Reinforcement can be placed directly on the prepared embankment. No special surface treatment will be required. If a sheep's-foot roller is utilized, the imprints are acceptable surfaces for geogrid reinforcement placement.

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GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION

Tracked construction equipment shall not be operated directly upon the geogrid. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

Rubber-tired equipment may pass over geogrid reinforcement at slow speeds of less than 10 mph. Sudden breaking and sharp turning shall be avoided.

METHOD OF MEASUREMENT: All embankment material including the geogrid reinforcement will be measured in accordance with Section 210 Excavation and Embankment of the Standard Specifications for Highway Construction, Edition of 2014.

BASIS OF PAYMENT: Placement and compaction of embankment material and installing geogrid reinforcement shall be paid for under the item "Compacted Embankment (Special)", which price shall be full compensation for all costs involved in furnishing all material; for proof rolling ground surfaces or subgrade; for constructing the embankments in accordance with Section 210 and this Special Provision; for quality control and acceptance sampling and testing; and for all labor, tools, equipment, and incidentals necessary to complete the work

Payment will be made under:

Pay Item	**Pay Unit**
Compacted Embankment (Special)	Cubic Yard

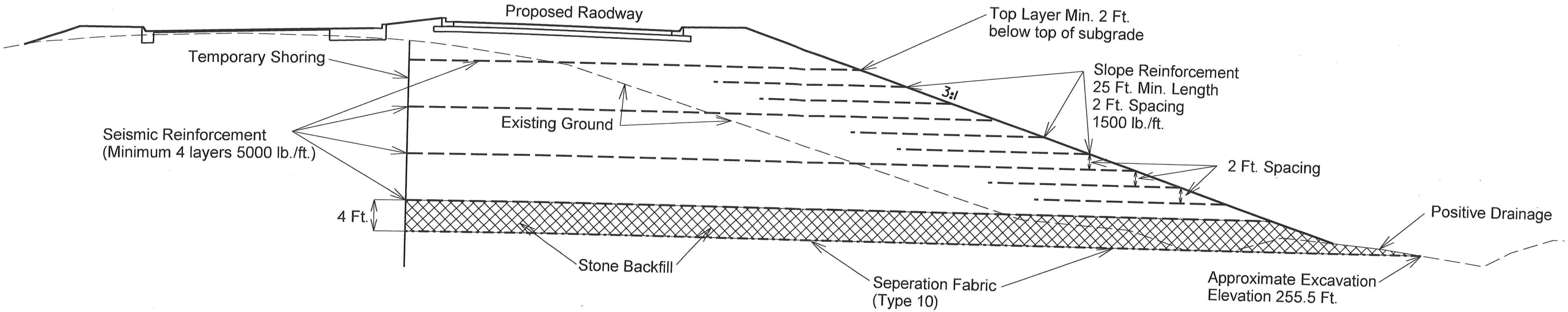
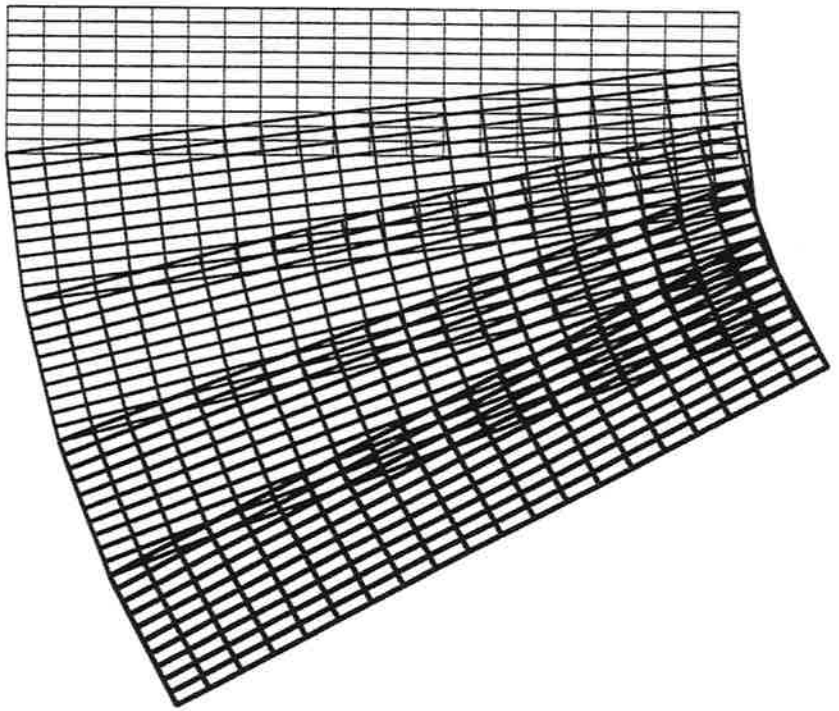


Figure 1 - Reinforced Slope Design

Note: Stone Backfill shall have a 4" to 6" cap of Class 7 as described in Section 207 of the Standard Specifications for Highway Construction, 2014 edition.

Side Slope to End Slope
Geogrid Transition



Geogrid Overlap

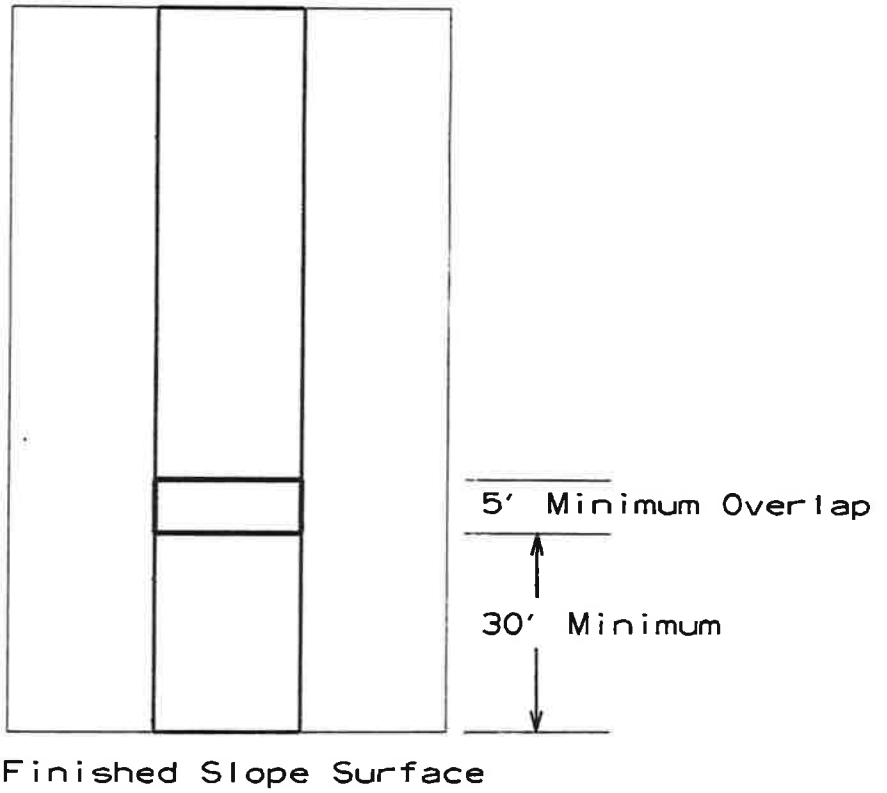


Figure 2 - Geogrid Special Details

GEOLOGY AND SITE CONDITIONS
Job No. 061509

Hwy. 367 – Hwy. 89 (Cabot) (S)
Lonoke County
Route 321 Section 1

Site Conditions

The proposed job contains three bridges. **Bridge 1**, the westernmost bridge, crosses the White Oak Branch of the Bayou Two Prairie, which flows to the south. Bridge 1 is a three span bridge constructed of cast-in-place concrete deck supported by concrete square batter pilings. The guardrail is composed of concrete walls on the bridge and steel leading up to the bridge. Riprap has been placed on the slopes below the bridge abutments. A buried telecommunication line parallels the North side of the roadway and is covered with concrete in the channel. Overhead power lines and a buried gas line parallel the south side of the roadway. The gas line appears to be exposed in the channel. A church and a business with associated parking lots are located on the south and north side of the roadway, down-station of the channel. The area up-station of the channel is moderately to heavily wooded on both sides of the roadway.

Bridge 2 crosses the Bayou Two Prairie and flows to the southeast. The structure is built very similarly to Bridge 1 except, the bents have been placed at a skew to parallel channel flow. Overhead power lines parallel the north side of the bridge. They cross the roadway down-station from the bridge and then parallel the south side of the roadway. Major grid power lines cross the roadway up-station from the bridge. A sewer line and a buried telecommunication line parallel the north side of the roadway. The area around the bridge is moderately to heavily wooded except, along the major grid power line corridor.

Bridge 3 is an 11 span bridge. Railroad tracks run under span 6, an unnamed stream under span 9, and a levee, that parallels the up-station side of the stream, under span 10. The structure is constructed of concrete deck supported by six steel beams and concrete square pilings. The guardrail is composed of concrete walls on the bridge and steel leading up to the bridge. Riprap has been placed on the slopes below the bridge abutments. Overhead power lines, a sewer line, and a buried telecommunication line parallel the north side of the bridge. A buried telecommunication line parallels the down-station side of the railroad tracks. The area around the bridge is moderately to heavily wooded with agricultural fields surrounding the up-station end of the bridge.

Site Geology

The geology of the project alignment changes between Bridge 1 and Bridge 2. **Bridge 1** is located on unconsolidated, primarily clayey deposits mapped as Quaternary alluvial deposits (map symbol Qal). The alluvial deposits overlie shale from the middle part of the Atoka Formation.

The Atoka Formation is a sequence of marine, mostly tan to gray silty sandstones and grayish-black shales. Some rare calcareous beds and siliceous shales are known.

This unit has the largest areal extent of any of the Paleozoic formations in the state. It is the surface rock of the Boston Mountains, dominates the exposures in the Arkansas River Valley and the frontal Ouachita Mountains, and is present in the southern part of the Ouachita Mountains. In the Arkansas River Valley and the frontal Ouachita Mountains, the Atoka Formation has been subdivided into upper, middle, and lower lithic members based on regionally mappable shale or sandstone intervals. The unit locally contains discontinuous streaks of coal and coaly shale in the Boston Mountains and Arkansas River Valley. The Atoka may be up to 25,000 feet thick in the Ouachita Mountains. Shale was encountered in borings at depths ranging from 28 to 32 feet below ground level.

Bridge 2 is also located on alluvial deposits; however, the alluvial deposits overlie the Arkadelphia Formation. In general, the Arkadelphia is mostly a dark-gray to black marl or marly clay with some limy, gray sandstone, gray sandy clay, sandy limestone, concretionary limestone, and white to light-brown impure chalk. The Arkadelphia Formation at the job site consists primarily of marly clay with a few beds of limestone up to 1.2 feet thick. The Arkadelphia was encountered in borings at 45.1 and 50 feet below ground level. The Atoka Formation was encountered below the Arkadelphia Formation at 76.6 and 90 feet below ground level and consisted of shale.

Bridge 3 is located over the same geology as Bridge 2. The Arkadelphia was encountered at depths ranging from approximately 45 to 65 feet below ground (elevation range of 212.5 to 221 feet above MSL). The Atoka Formation was not encountered in the first boring (down-station) due to the higher elevation of the boring location. The Atoka was encountered in the second and third borings at depths ranging from approximately 90.7 to 100.0 feet below ground level. The elevation of the top of the Atoka Formation was too low to be encountered in borings up-station from the third boring. There appeared to be some subsidence under the up-station bridge end cap of Bridge 3. A very soft layer occurs at a depth of 25 feet below ground level in the easternmost boring and may be the cause of the subsidence at the bridge end.

Figure 1. Subsidence under the east bridge end cap.

Scour Potential

The banks of the channel at **Bridge 1** (See Figure 1) consists of lean clay with sand (CL) based on the scour sample taken at the site. The bottom of the channel appears to consist of clay. Due to the cohesion of the clay particles, the sediment has diminished capacity for scour. There is no evidence of scour at the Bridge 1 site.

Figure 2. The stream at Bridge 1 looking upstream.

The channel at **Bridge 2** (See Figure 2) is deeper with taller banks. This may be due to the sediment at this site being slightly coarser. The sample tested for scour consisted of silt with sand (ML). There are some small stream bank collapses, but most of the banks are rather well vegetated. Riprap has been place on the stream banks under the bridge to prevent erosion (See Figure 3). No evidence of scour was observed at Bridge 2.

Figure 3. The stream at Bridge 2 looking upstream.

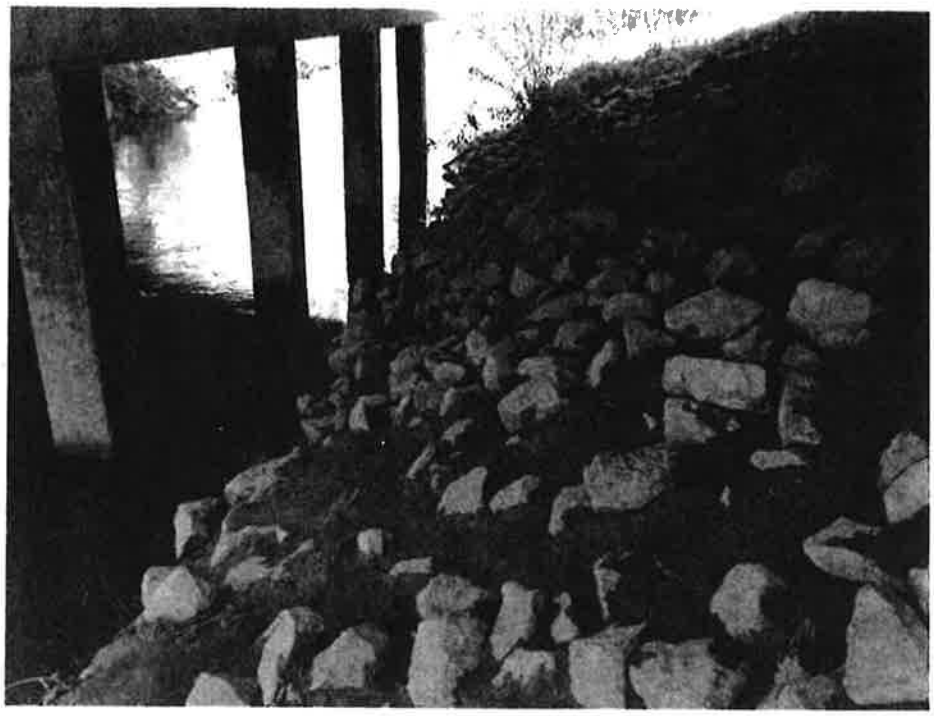


Figure 4. Riprap on stream bank under Bridge 2 looking upstream.

The sediment in the channel at **Bridge 3** (See Figures 4 and 5) is similar to the sediment located at Bridge 1. Based on the scour sample taken at this site, the sediment consists of lean clay (CL). The channel has low banks and the channel is somewhat shallow. Due to the cohesion of the clay particles, the sediment in the channel has a diminished capacity for scour. There is no evidence of scour at the Bridge 3 site.

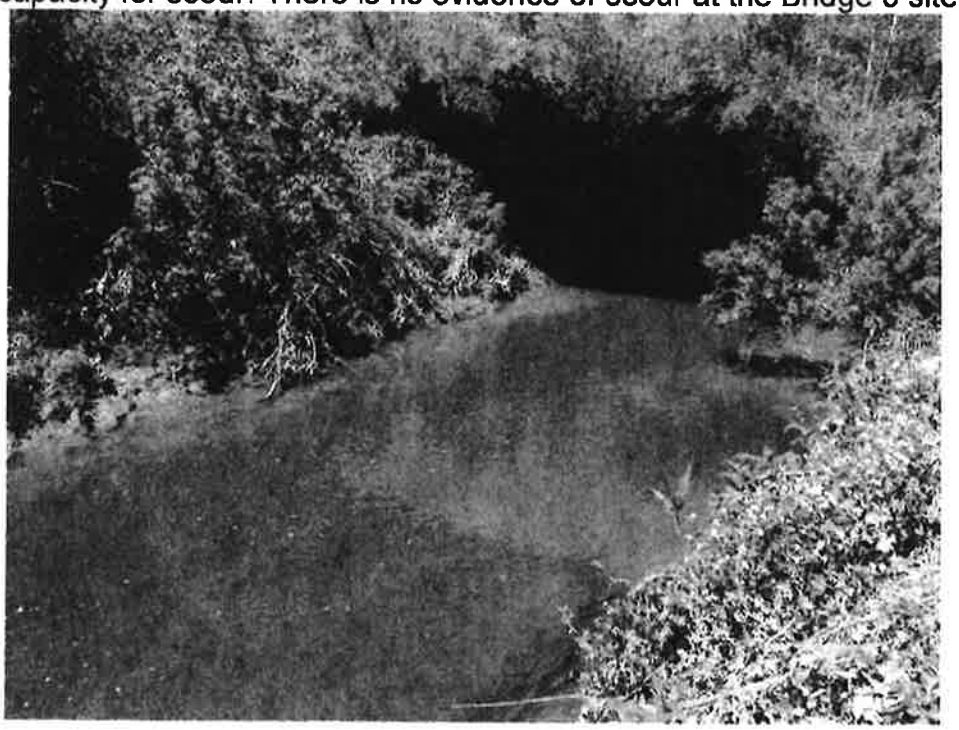


Figure 5. The stream at Bridge 3 looking upstream.

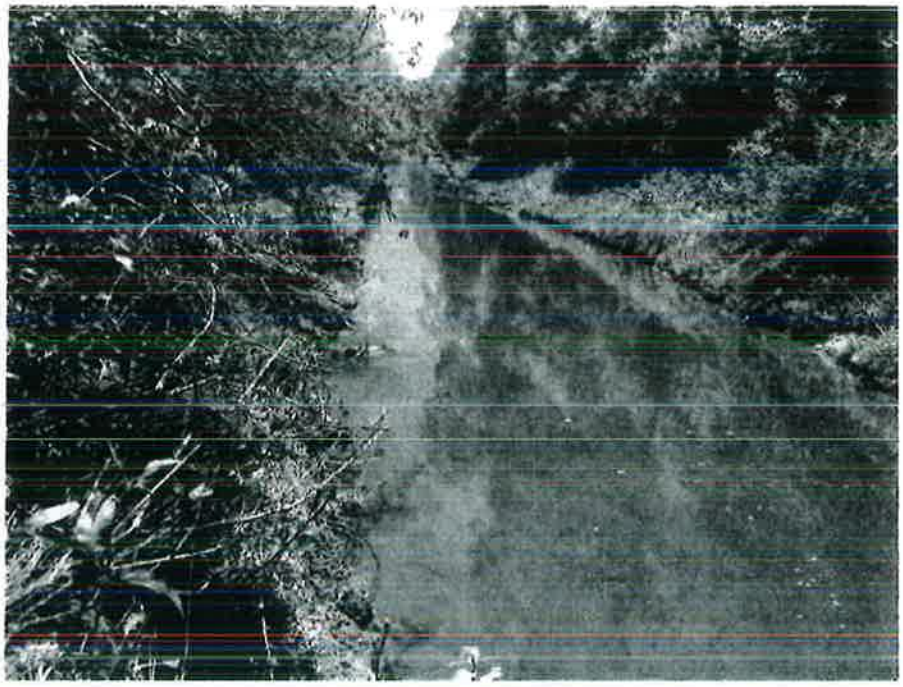


Figure 6. The stream at Bridge 3 looking downstream.

Subsurface Conditions

Based on the results of the borings from Stations 224+28 to 225+64, the subsurface stratigraphy may be generalized as follows:

0 to 28 Feet: Consists primarily of moist to wet, soft to hard, brown to gray **clay** to **sandy clay**.

28 to 35 Feet: Varies from wet, medium stiff to hard, brown to gray **sandy clay** to **sandy clay with gravel** to highly weathered, medium hard, dark gray **shale**.

35 to 64.5 Feet: Consists of slightly weathered to unweathered, medium hard, dark gray **shale**.

Based on the results of the borings from Stations 260+74 to 261+65.5, the subsurface stratigraphy may be generalized as follows:

0 to 45.1 Feet: Varies from moist to wet, soft to very stiff, brown to gray **sandy clay** to **clay** to very loose to medium dense, brown **silty sand** to **sand with clay**.

45.1 to 50 Feet: Varies from wet, stiff, gray **sandy clay** to moist, very stiff, dark gray **clay with occasional layers of moderately hard, gray limestone**.

50 to 76.6 Feet: Consists of moist, very stiff to very hard, dark gray **clay with occasional layers of moderately hard, gray limestone**. One prominent limestone bed occurs in this zone and is approximately one foot thick.

76.6 to 90 Feet: Varies from moist, very stiff to very hard, dark gray **clay with occasional layers of** moderately hard, gray **limestone** to highly weathered to weathered, medium hard, dark gray **shale**.

90 to 101.1 Feet: Consists of highly weathered to slightly weathered, medium hard, dark gray **shale**.

Based on the results of the borings from Stations 265+52.5 to 274+65.5, the subsurface stratigraphy may be generalized as follows:

0 to 45 Feet: Varies from moist to wet, medium stiff to stiff, brown and gray **clay** and **sandy clay** to loose to medium dense, gray **silty sand** to **silty sand with gravel**.

45 to 65 Feet: Varies from moist to wet, medium stiff, brown and gray **sandy clay** to medium dense, gray **silty sand** to moist very stiff to hard, dark gray **clay**.

65 to 90.7 Feet: Consists of moist, very stiff to hard, dark gray **clay**. Some zones within this interval contain thin **limestone** layers.

90.7 to 101.5 Feet: Varies from moist, hard, dark gray **clay** to weathered, medium hard, dark gray **shale to** cemented**,** dark gray **sandstone**.

D_{50} AGGREGATE ANALYSIS FOR SCOUR CALCULATIONS

Job No. 061509

Creek Name	Station	Sample Type	Location	Depth (FT)	Soil Description	Aggregate Size (D50) (IN)
White Oak Branch of Bayou Two Prairic	225+00	Creek Bank	Construction Centerline	NA	CL Lean Clay With Sand	Less Than 0.0029
Bayou Two Prairie	261+16.5	Creek Bank	21.75 Ft. Right of Construction Centerline	NA	ML Silt With Sand	Less Than 0.0029
Unnamed Stream	273+00	Creek Bank	21.75 Ft. Left of Construction Centerline	NA	CL Lean Clay	Less Than 0.0029

Lab Test Summary

Project Number: 061509
Project Name: Hwy. 367 - Hwy. 89 (Cabot) (S)

Station	Location	Depth (ft.)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing No. 200	Unified Soil Classification
274+65.5	6.25' Rt.	4.9	ND				
274+65.5	6.25' Rt.	9.9	15	49	34	62	CL
274+65.5	6.25' Rt.	15.0	14	51	37	76	CH
274+65.5	6.25' Rt.	20.0	12	38	26	70	CL
274+65.5	6.25' Rt.	25.0	17	33	16	89	CL
274+65.5	6.25' Rt.	30.0	15	38	23	92	CL
274+65.5	6.25' Rt.	35.0	14	48	34	89	CL
274+65.5	6.25' Rt.	40.0	11	32	21	77	CL
274+65.5	6.25' Rt.	45.0	12	31	19	72	CL
274+65.5	6.25' Rt.	50.0			NP	42	SC
274+65.5	6.25' Rt.	55.0			NP	28	SM
274+65.5	6.25' Rt.	60.0	24	75	51	98	CH
274+65.5	6.25' Rt.	65.0	21	65	44	99	CH
274+65.5	6.25' Rt.	70.0	23	71	48	98	CH
274+65.5	6.25' Rt.	75.0	24	70	46	93	CH
274+65.5	6.25' Rt.	80.0	23	67	44	97	CH
274+65.5	6.25' Rt.	85.0	19	54	35	95	CH
274+65.5	6.25' Rt.	90.0	22	69	47	98	CH
274+65.5	6.25' Rt.	95.0	21	55	34	96	CH
274+65.5	6.25' Rt.	100.0	20	50	30	90	CH

ROCK MASS RATING SUMMARY

JOB # 080439

SAMPLE #1

Station/Location	224+28/30' LT
Depth (ft)	36.2
	Relative Rating
Uniaxial Compressive Strength	4
RQD	13
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	64
Class Number	II
Description	GOOD ROCK

SAMPLE #2

Station/Location	224+28/30' LT
Depth (ft)	39.1
	Relative Rating
Uniaxial Compressive Strength	7
RQD	17
Spacing of Joints	30
Condition of Joints	25
Groundwater Conditions	7
Sum	86
Class Number	I
Description	VERY GOOD ROCK

SAMPLE #3

Station/Location	224+28/30' LT
Depth (ft)	44.5
	Relative Rating
Uniaxial Compressive Strength	0
RQD	20
Spacing of Joints	30
Condition of Joints	25
Groundwater Conditions	7
Sum	82
Class Number	I
Description	VERY GOOD ROCK

SAMPLE #4

Station/Location	224+28/30' LT
Depth (ft)	50
	Relative Rating
Uniaxial Compressive Strength	7
RQD	20
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	79
Class Number	II
Description	GOOD ROCK

SAMPLE #5

Station/Location	224+28/30' LT
Depth (ft)	54.2
	Relative Rating
Uniaxial Compressive Strength	0
RQD	20
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	72
Class Number	II
Description	GOOD ROCK

SAMPLE #6

Station/Location	224+31/27' RT
Depth (ft)	35.5
	Relative Rating
Uniaxial Compressive Strength	7
RQD	13
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	72
Class Number	II
Description	GOOD ROCK

SAMPLE #7

Station/Location	224+31/27' RT
Depth (ft)	37.0
	Relative Rating
Uniaxial Compressive Strength	4
RQD	13
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	69
Class Number	II
Description	GOOD ROCK

SAMPLE #8

Station/Location	224+31/27' RT
Depth (ft)	42.8
	Relative Rating
Uniaxial Compressive Strength	7
RQD	17
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	76
Class Number	II
Description	GOOD ROCK

SAMPLE #9

Station/Location	224+31/27' RT
Depth (ft)	48.4
	Relative Rating
Uniaxial Compressive Strength	7
RQD	17
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	76
Class Number	II
Description	GOOD ROCK

SAMPLE #10

Station/Location	224+31/27' RT
Depth (ft)	52.5
	Relative Rating
Uniaxial Compressive Strength	7
RQD	17
Spacing of Joints	25
Condition of Joints	25
Groundwater Conditions	7
Sum	81
Class Number	I
Description	VERY GOOD ROCK

SAMPLE #11

Station/Location	225+64/27' LT
Depth (ft)	34.2
	Relative Rating
Uniaxial Compressive Strength	4
RQD	17
Spacing of Joints	10
Condition of Joints	20
Groundwater Conditions	7
Sum	58
Class Number	III
Description	FAIR ROCK

SAMPLE #12

Station/Location	225+64/27' LT
Depth (ft)	38.6
	Relative Rating
Uniaxial Compressive Strength	4
RQD	20
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	71
Class Number	II
Description	GOOD ROCK

SAMPLE #13

Station/Location	225+64/27' LT
Depth (ft)	42.2
	Relative Rating
Uniaxial Compressive Strength	0
RQD	20
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	67
Class Number	II
Description	GOOD ROCK

SAMPLE #14

Station/Location	225+64/27' LT
Depth (ft)	48.6
	Relative Rating
Uniaxial Compressive Strength	7
RQD	20
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	74
Class Number	II
Description	GOOD ROCK

SAMPLE #15

Station/Location	225+64/27' LT
Depth (ft)	53.2
	Relative Rating
Uniaxial Compressive Strength	4
RQD	20
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	76
Class Number	II
Description	GOOD ROCK

SAMPLE #16

Station/Location	225+53/30' RT
Depth (ft)	42.9
	Relative Rating
Uniaxial Compressive Strength	4
RQD	17
Spacing of Joints	25
Condition of Joints	20
Groundwater Conditions	7
Sum	73
Class Number	II
Description	GOOD ROCK

SAMPLE #17

Station/Location	225+53/30' RT
Depth (ft)	48.4
	Relative Rating
Uniaxial Compressive Strength	7
RQD	13
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	67
Class Number	II
Description	GOOD ROCK

SAMPLE #18

Station/Location	225+53/30' RT
Depth (ft)	53.9
	Relative Rating
Uniaxial Compressive Strength	4
RQD	8
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	59
Class Number	III
Description	FAIR ROCK

SAMPLE #19

Station/Location	225+53/30' RT
Depth (ft)	58.8
	Relative Rating
Uniaxial Compressive Strength	4
RQD	13
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	64
Class Number	II
Description	GOOD ROCK

SAMPLE #20

Station/Location	225+53/30' RT
Depth (ft)	63.2
	Relative Rating
Uniaxial Compressive Strength	4
RQD	13
Spacing of Joints	20
Condition of Joints	20
Groundwater Conditions	7
Sum	64
Class Number	II
Description	GOOD ROCK

SAMPLE #21

Station/Location	
Depth (ft)	
	Relative Rating
Uniaxial Compressive Strength	
RQD	
Spacing of Joints	
Condition of Joints	
Groundwater Conditions	
Sum	
Class Number	
Description	

SAMPLE #22

Station/Location	
Depth (ft)	
	Relative Rating
Uniaxial Compressive Strength	
RQD	
Spacing of Joints	
Condition of Joints	
Groundwater Conditions	
Sum	
Class Number	
Description	

SAMPLE #23

Station/Location	
Depth (ft)	
	Relative Rating
Uniaxial Compressive Strength	
RQD	
Spacing of Joints	
Condition of Joints	
Groundwater Conditions	
Sum	
Class Number	
Description	

SAMPLE #24

Station/Location	
Depth (ft)	
	Relative Rating
Uniaxial Compressive Strength	
RQD	
Spacing of Joints	
Condition of Joints	
Groundwater Conditions	
Sum	
Class Number	
Description	

Rock Core Unconfined Compression Test Summary

Project Number: 061509
Project Name: Hwy. 367 - Hwy. 89 (Cabot) (S)
Date Tested: 3/28/2019

Station	Location	Sample No.	Depth (ft.)	Diameter (in)	Height (in)	Total Load (lbs.)	Correction Factor	Stress (psi)	Remarks
224+28	30' Lt.	1	36.2	1.75	3.57	12,040	1.00	5,006	
224+28	30' Lt.	2	39.1	1.75	3.80	20,850	1.00	8,668	
224+28	30' Lt.	3	44.5	1.75	-				Broke in Saw
224+28	30' Lt.	4	50.0	1.75	4.00	19,020	1.00	7,908	
224+28	30' Lt.	5	54.2	1.75	-				Broke in Saw
224+31	27' Rt.	6	35.5	1.75	3.95	18,340	1.00	7,625	
224+31	27' Rt.	7	37.0	1.75	3.53	17,800	1.00	7,400	
224+31	27' Rt.	8	42.8	1.75	3.45	24,290	1.00	10,098	
224+31	27' Rt.	9	48.4	1.75	3.55	27,760	1.00	11,541	
224+31	27' Rt.	10	52.5	1.75	4.65	24,140	1.00	10,036	
225+64	27' Lt.	11	34.2	1.75	4.05	16,450	1.00	6,839	
225+64	27' Lt.	12	38.6	1.75	4.85	9,960	1.00	4,141	
225+64	27' Lt.	13	42.2	1.75	-				Broke in Saw
225+64	27' Lt.	14	48.6	1.75	4.50	20,240	1.00	8,415	
225+64	27' Lt.	15	53.2	1.75	4.05	16,270	1.00	6,764	
225+53	30' Rt.	16	42.9	1.75	3.95	12,020	1.00	4,997	
225+53	30' Rt.	17	48.4	1.75	4.30	18,820	1.00	7,824	
225+53	30' Rt.	18	53.9	1.75	4.70	8,840	1.00	3,675	
225+53	30' Rt.	19	58.8	1.75	3.90	10,930	1.00	4,544	
225+53	30' Rt.	20	63.2	1.75	3.40	10,630	1.00	4,419	

* Please note any broken samples, fractures or other characteristics of sample in Remarks.

LEGEND

SOIL TYPES

(SHOWN IN SYMBOL COLUMN)

(PREDOMINANT TYPE SHOWN HEAVY)

GRAVEL | SAND | SILT | CLAY | ORGANIC MATTER

ROCK TYPES

(SHOWN IN SYMBOL COLUMN)

SANDSTONE | SHALE or SILTSTONE | LIMESTONE or DOLOMITE | ALTERNATING LAYERS of SHALE and SANDSTONE | OTHER

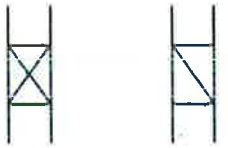
SAMPLER TYPES

(SHOWN IN SAMPLE COLUMN)

SHELBY TUBE

UNDISTURBED SAMPLE RECOVERY | DISTURBED SAMPLE RECOVERY | NO RECOVERY

SPLIT SPOON



SAMPLE RECOVERY | NO RECOVERY

ROCK CORING

% RECOVERY INDICATED ON LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANULAR SOIL		CLAY		CLAY-SHALE		SHALE	
"N" Value	Density	"N" Value	Consistency	"N" Value	Consistency	"N" Value	Consistency
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft		
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	Over 60	
31-50	Dense	9-15	Stiff	9-15	Stiff	More than 2"	
Over 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetration	
		31-60	Hard	31-60	Hard	in 60 Blows:	Medium Hard
		Over 60	Very Hard	Over 60	Very Hard	Less than 2"	
						Penetration	
						in 60 Blows:	Hard

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

Standard Penetration Test – Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140-pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, and then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value (N_f) can be obtained by adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9=17 blows/ft$. The "N" Value corrected to 60% efficiency (N_{60}) can be obtained by multiplying N_f by the hammer correction factor published on the boring log.

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	clay
	sandy clay
	shale with clay seams
	shale/siltstone
	silt/cemented silt
	sandy clay with gravel
	silty sand
	limestone/dolomite
	claystone with frequent limestone layers limestone with frequent claystone layers
	silty clay
	clayey sand

Symbol	Description
	cavity
	silty sand with gravel
	cemented sand/sandstone
Soil Samplers	
	Split spoon - sample recovery
	Rock coring

Notes:

1. Exploratory borings were drilled on March 14 and 18, 2018 using a 4-inch diameter continuous flight power auger.

2. No free water was encountered at the time of drilling or when re-checked the following day.

3. Boring locations were taped from existing features and elevations extrapolated from the final design schematic plan.

4. These logs are subject to the limitations, conclusions, and recommendations in this report.

5. Results of tests conducted on samples recovered are reported on the logs.

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 1
PAGE 1 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 224+28
LOCATION: 30' Left of Construction Centerline
LOGGED BY: Austin Dillman / Donnie Thornton

DATE: February 12, 2019
TYPE OF DRILLING: Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094
HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 55.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.3	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5		X	Moist, Stiff, Brown and Gray Clay						4 5-4		
10		X	Moist, Very Stiff, Brown Clay						6 7-9		
15		X	Wet, Soft, Light Brown Clay						2 2-2		
20		X	Wet, Stiff, Brown and Gray Sandy Clay*						4 5-6		
25		X	Wet, Very Stiff, Brown Sandy Clay with Trace Gravel						4 8-13		
30			SHALE								
		X	SHALE - Highly Weathered, Medium Hard, Dark Gray						47 62-27 (7")		
35			SHALE - Highly Weathered, Medium Hard, Dark							50	0

REMARKS: * A water stratum was encountered at 23.1' below ground level.
White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 1
PAGE 2 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 224+28
LOCATION: 30' Left of Construction Centerline
LOGGED BY: Austin Dillman / Donnie Thornton

DATE: February 12, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 55.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 265.3								
			Gray								
40			SHALE - Slightly Weathered, Medium Hard, Dark Gray							94	64
45										100	90
50			SHALE - Unweathered, Medium Hard, Dark Gray							95	95
55										100	98
60			Boring Terminated								
65											
70											

REMARKS: * A water stratum was encountered at 23.1' below ground level.
White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 2
PAGE 1 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 224+31
LOCATION: 27' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 6, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.7

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.2	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5			Moist, Stiff, Brown and Gray Clay								
10			Moist, Very Stiff, Brown and Gray Clay						7 7-6 4 9-13		
15											
20			Moist, Loose, Light Brown Silt						3 4-5		
25			Moist, Stiff, Brown Sandy Clay						3 4-7		
30			Wet, Very Stiff, Brown Sandy Clay with Gravel						5 7-11		
35			Wet, Hard, Brown Sandy Clay with Gravel SHALE						6 18-29		

REMARKS: White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 2
PAGE 2 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 224+31
LOCATION: 27' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 6, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.7

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 265.2								
									10 (0")		
										84	64
40			SHALE - Unweathered, Medium Hard, Dark Gray								
										97	74
45											
										96	88
50											
			SHALE - Unweathered, Medium Hard, Occasional Fractures, Dark Gray							97	86
55											
			Boring Terminated								
60											
65											
70											

REMARKS: White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 3
PAGE 1 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 225+64
LOCATION: 27' Left of Construction Centerline
LOGGED BY: Austin Dillman / Donnie Thornton

DATE: February 13,2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.1

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.0	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5			Moist, Soft, Gray Clay						0 2-2		
10			Moist, Very Stiff, Brown and Gray Sandy Clay						5 11-12		
15			Wet, Medium Stiff, Brown Clay with Sand						1 2-3		
20			Wet, Medium Stiff, Brown Sandy Clay*						2 3-3		
25			Wet, Stiff, Brown Sandy Clay						4 5-6		
30			SHALE - Medium Hard, Highly Weathered, Dark Gray						47 10 (0")		
35			SHALE - Medium Hard, Weathered with Highly Weathered Layers, Dark Gray							53	0

REMARKS: *A water stratum was encountered at 24.1' below ground level.
White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 3
PAGE 2 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 225+64
LOCATION: 27' Left of Construction Centerline
LOGGED BY: Austin Dillman / Donnie Thornton

DATE: February 13,2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 54.1

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 265.0								
			SHALE - Medium Hard, Slightly Weathered, Frequent Fractures, Dark Gray							100	80
40										100	99
45			SHALE - Medium Hard, Unweathered, Occasional Fractures, Dark Gray							96	88
50			SHALE - Medium Hard, Unweathered, Dark Gray							100	100
55			Boring Terminated								
60											
65											
70											

REMARKS: *A water stratum was encountered at 24.1' below ground level.
White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 4
PAGE 1 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 225+53
LOCATION: 30' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 5
TYPE OF DRILLING: Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 64.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.2	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5			Wet, Medium Stiff, Gray Clay						3 2-3		
10			Moist, Stiff, Brown and Gray Clay						2 6-7		
15			Moist, Medium Dense, Light Brown Silt with Trace Gravel						7 8-10		
20			Wet, Medium Stiff, Gray Clay						3 3-4		
25			Wet, Stiff, Reddish Brown Sandy Clay with Some Gravel						3 6-6		
30			Wet, Hard, Brown and Gray Sandy Clay with Gravel						9 16-20		
35											

REMARKS: White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 4
PAGE 2 OF 2

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 225+53
LOCATION: 30' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 5
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 64.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.2	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
40			SHALE - Highly Weathered, Medium Hard, Dark Gray						22 60 (2")		
			SHALE - Slightly Weathered, Hard, Dark Gray						20 (0")		
45			SHALE - Unweathered, Medium Hard, Dark Gray							89	77
50			SHALE - Unweathered, Medium Hard, Occasional Fractures, Dark Gray							98	86
55			SHALE - Unweathered, Medium Hard, Frequent Fractures, Dark Gray							74	55
60			SHALE - Unweathered, Medium Hard, Occasional Fractures, Dark Gray							96	45
65			Boring Terminated							94	60
70											

REMARKS: White Oak Branch of the Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 5
PAGE 1 OF 3

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 260+74
LOCATION: 27' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 20, 2019
TYPE OF DRILLING: Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094
HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 79.7

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 259.8								
5			Moist, Stiff, Brown and Gray Sandy Clay						4 6-8		
10			Moist, Very Stiff, Gray Sandy Clay*						6 8-10		
15			Moist, Stiff, Brown Sandy Clay						3 5-7		
20			Wet, Stiff, Brown Sandy Clay						3 5-5		
25			Wet, Loose, Brown Silty Sand						2 2-5		
30			Wet, Medium Stiff, Brown Sandy Clay						1 2-3		
35											

REMARKS: * A water stratum was encountered at 12.8' below ground level.
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 5
PAGE 2 OF 3

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 260+74
LOCATION: 27' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 20, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 79.7

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 259.8	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			Wet, Very Loose, Brown Silty Sand						1 2-2		
40			Wet, Very Stiff, Brown and Gray Sandy Clay with Some Gravel						6 8-8		
45			LIMESTONE - Unweathered, Moderately Hard, Gray (Arkadelphia Formation)						18 (1")	46	7
50			Moist, Very Stiff to Hard, Dark Gray Clay							50	0
55			CLAY WITH OCCASIONAL LIMESTONE LAYERS - Unweathered, Medium Hard, Dark Gray							80	14
			LIMESTONE - Unweathered, Moderately Hard, Gray								
60			CLAY WITH FREQUENT LIMESTONE LAYERS - Unweathered, Medium Hard, Dark Gray							56	0
65			Moist, Very Stiff to Hard, Dark Gray Clay							56	0
70											

REMARKS: * A water stratum was encountered at 12.8' below ground level.
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 5
PAGE 3 OF 3

JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 260+74
LOCATION: 27' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: February 20, 2019
TYPE OF DRILLING: Hollow Stem Auger - Diamond Core
EQUIPMENT: Acker 2094
HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 79.7

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 259.8								
			Moist, Very Stiff to Hard, Dark Gray Clay with Occasional Limestone Concretions							100	7
75			LIMESTONE WITH FREQUENT CLAY LAYERS - Unweathered, Moderately Hard, Dark Gray								
			SANDY CLAY WITH FREQUENT LIMESTONE LAYERS - Unweathered, Soft Layers Interbedded with Moderately Hard Layers, Dark Gray							86	26
80			SHALE - Highly Weathered, Soft, Moderate Dip, Dark Gray (Atoka Formation)								
			SHALE - Weathered, Medium Hard, Moderate Dip, Dark Gray								
			Boring Terminated								
85											
90											
95											
100											
105											

REMARKS: * A water stratum was encountered at 12.8' below ground level.
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 6
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 261+65.5
LOCATION: 9' Centerline of Construction
LOGGED BY: Don McCollum

DATE: February 25, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.1

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 265.5								
5			Moist, Stiff, Brown and Gray Clay						2 5-6		
10			Moist, Medium Stiff, Brown and Gray Clay						3 3-5		
15			Wet, Soft, Light Gray Clay						1 2-2		
20			Wet, Medium Stiff, Light Gray Silty Clay						2 3-4		
25			Wet, Stiff, Gray Sandy Clay						3 5-4		
30			Wet, Medium Dense, Light Brown Sand with Clay						3 11-14		
35											

REMARKS: * Sampler blocked off by a cobble
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 6
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 261+65.5
LOCATION: 9' Centerline of Construction
LOGGED BY: Don McCollum

DATE: February 25, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.1

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 265.5	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
40			Wet, Stiff, Brown Sandy Clay						5 5-5		
45			Wet, Medium Stiff, Light Brown and Light Gray Sandy Clay						0 2-3		
50			No Sample Recovered						10 5-4		
55			Moist, Very Stiff, Dark Gray Clay (Arkadelphia Formation)						3 9-13		
60			Moist, Very Hard, Dark Gray Clay (Sampler Refusal at 61.4')						8 12-18		
			LIMESTONE								
65			Moist, Very Stiff, Dark Gray Clay						8 13-23 (11")		
70									6 14-16		

REMARKS: * Sampler blocked off by a cobble
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 261+65.5
LOCATION: 9' Centerline of Construction
LOGGED BY: Don McCollum

DATE: February 25, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.1

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 265.5								
									15		
									15-16		
75			Moist, Hard, Dark Gray Clay						9		
									14-17		
80			Moist, Very Hard, Dark Gray Clay						22		
									42-60 (8")		
			LIMESTONE INTERBEDDED WITH CLAY								
85									60 (2")		
			Moist, Very Hard, Sandy Clay with Some Gravel								
90									60 (4")		
95			SHALE - Weathered to Highly Weathered, Medium Hard, Dark Gray (Atoka Formation)						44		
									60 (1")		
100			SHALE - Slightly Weathered, Medium Hard, Dark Gray						20 (1")		
			Boring Terminated								
105											

REMARKS: * Sampler blocked off by a cobble
Bayou Two Prairie

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 265+78
LOCATION: 13.5' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 27, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 281.2								
5			Moist, Stiff, Brown and Gray Clay						2 4-6		
10			Moist, Medium Stiff, Brown and Gray Clay						3 3-5		
15			Moist, Stiff, Brown and Gray Sandy Clay						6 4-6		
20			Wet, Medium Stiff, Light Gray Clay						0 2-4		
25			Wet, Stiff, Brown and Gray Clay						0 3-10		
30									6 4-5		
35											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 7
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 265+78
LOCATION: 13.5' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 27, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 281.2	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
40		X							2 5-6		
45		X	Wet, Medium Stiff, Brown and Gray Clay						2 4-3		
50		X	Wet, Stiff, Brown and Gray Clay						3 4-8		
55		X	Wet, Medium Stiff, Brown and Gray Clay						0 2-3		
60		X	Wet, Medium Stiff, Gray Sandy Clay						0 3-5		
65		X	Wet, Medium Dense, Brown Silty Sand with Trace Gravel						3 3-9		
70		X	Moist, Very Stiff, Dark Gray Clay (Arkadelphia Formation)						3 9-11		

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 7
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 265+78
LOCATION: 13.5' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 27, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 281.2								
			Moist, Hard, Dark Gray Clay						9 15-18		
75			Clay with Frequent Limestone Layers								
			Moist, Very Stiff, Dark Gray Clay						9 12-14		
80			Moist, Hard, Dark Gray Clay						10 15-19		
85			Moist, Very Hard, Dark Gray Clay						12 60 (0")		
			LIMESTONE INTERBEDDED WITH CLAY								
90			Moist, Hard, Dark Gray Clay						9 15-19		
95			Moist, Very Stiff, Dark Gray Clay						5 13-17		
100									6 12-15		
105			Boring Terminated								

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 266+60.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 28 and March 5 and 6, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 258.1								
5			Wet, Medium Stiff, Gray Clay						0 2-3		
10			Wet, Stiff, Brown and Gray Silty Clay						3 4-5		
15			Wet, Stiff, Reddish Brown Clay						5 5-7		
20			Wet, Medium Dense, Lt Brown and Light Gray Clayey Sand						3 5-6		
25			Wet, Medium Stiff, Lt Brown and Light Gray Clay with Sand						3 3-3		
30			Wet, Medium Stiff, Reddish Brown Sandy Clay						0 2-3		
35											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 8
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 266+60.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 28 and March 5 and 6, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094
HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 258.1	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			Wet, Loose, Reddish Brown Silty Sand						2 3-3		
40											
			Wet, Medium Dense, Reddish Brown Silty Sand with Gravel						9 13-11		
45											
			Moist, Very Stiff, Dark Gray Clay (Arkadelphia Formation)						7 12-16		
50											
			Moist, Hard, Dark Gray Clay with Some Sand Seams						9 15-19		
55											
			Moist, Very Hard, Dark Gray Clay						8 30 (5")		
			LIMESTONE								
60											
			Moist, Hard, Dark Gray Clay						11 20-22		
65											
									11 15-19		
70											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 266+60.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Don McCollum

DATE: February 28 and March 5 and 6, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 258.1	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
75			Moist, Hard, Dark Gray Clay with Some Sand Seams						10 17-16		
80			Moist, Hard, Dark Gray Clay						10 17-20 8 15-18		
85									7 14-20		
90			Moist, Very Hard, Dark Gray Clay						17 60 (2")		
95			SHALE - Weathered, Medium Hard, Dark Gray (Atoka Formation)						60 (2")		
100											
105			Boring Terminated						10 (0")		

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 269+16.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Austin Dillman and Donnie Thornton

DATE: March 11 and 12, 2019
TYPE OF DRILLING: Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.2

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 257.5								
5			Moist, Stiff, Brown and Gray Clay						1 4-5		
10			Moist, Stiff, Light Gray Clay						2 4-5		
15			Moist, Stiff, Reddish Brown and Gray Sandy Clay						2 4-7		
20			Wet, Stiff, Reddish Brown and Gray Sandy Clay						2 4-6		
25			Wet, Loose, Light Brown Silty Sand						3 3-2		
30			Wet, Medium Stiff, Gray Sandy Clay						1 3-4		
35											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 269+16.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Austin Dillman and Donnie Thornton

DATE: March 11 and 12, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.2

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 257.5								
			Wet, Stiff, Light Brown and Light Gray Sandy Clay						4 5-7		
40											
			Wet, Very Stiff, Gray Sandy Clay with Some Gravel						4 6-10		
45											
			Moist, Very Stiff, Dark Gray Clay (Arkadelphia Formation)						7 10-18		
50											
									10 15-17		
55											
			Moist, Hard, Dark Gray Clay						11 16-20		
60											
									11 15-17		
			LIMESTONE								
65											
									12 16-20		
			Moist, Hard, Dark Gray Clay								
70											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 9
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 269+16.5
LOCATION: 22' Right of Construction Centerline
LOGGED BY: Austin Dillman and Donnie Thornton

DATE: March 11 and 12, 2019
TYPE OF DRILLING: Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094
HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 100.2

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 257.5								
									10 16-19		
75			CLAY INTERBEDDED WITH LIMESTONE								
									13 19-24		
80											
									12 16-20		
85			Moist, Hard, Dark Gray Clay								
									11 15-20		
90											
									11 16-20		
95											
									81 60 (0")		
100			Moist, Very Hard, Dark Gray Clay								
			SANDSTONE (Atoka Formation)						79 (2")		
105			Boring Terminated								

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 10
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 273+24.5
LOCATION: 27.75' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 18 and19, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 264.0	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5			Wet, Soft, Light Brown Clay with Trace Gravel						0 2-2		
10									0 0-2		
15											
20			Moist, Stiff, Light Brown and Gray Clay						4 5-8		
25			Moist, Stiff, Light Brown and Gray Clay with Sand						3 5-7		
30			Moist, Stiff, Light Brown and Gray Sandy Clay						2 5-6		
35			Moist, Medium Stiff, Light Brown and Gray Clay						1 3-5		

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 10
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 273+24.5
LOCATION: 27.75' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 18 and19, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 264.0	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
40			Moist, Medium Stiff, Light Brown and Gray Sandy Clay						0 2-4		
45			Moist, Stiff, Light Brown and Gray Sandy Clay						3 5-5		
50			Moist, Very Stiff, Dark Gray Clay (Arkadelphia Formation)						5 7-11 10 13-17		
55									11 14-19		
60									10 16-21		
65									11 16-20		
70			Moist, Hard, Dark Gray Clay								

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 10
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 273+24.5
LOCATION: 27.75' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 18 and19, 2019
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101.5

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 264.0								
									12 16-21		
75											
									5 12-19		
80											
			Moist, Very Hard, Dark Gray Clay						10		
			LIMESTONE						34 (5")		
85											
									12 16-22		
			Moist, Hard, Dark Gray Clay								
90											
									22 29-23		
			CLAY WITH FREQUENT LIMESTONE LAYERS								
95											
									12 75 (5")		
			Moist, Very Hard, Dark Gray Clay								
100											
			Moist, Hard, Dark Gray Clay						12 14-21		
			Boring Terminated								
105											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 274+65.5
LOCATION: 6.25' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 14 and 18, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL SURFACE ELEVATION: 281.0	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
5		X	Moist, Soft, Light Brown Sandy Clay with Some Gravel	- / ND / -	15		49		1 1-1		
10		X	Moist, Medium Stiff, Brown Sandy Lean Clay with Trace Gravel	CL / -					1 3-4		
15		X	Moist, Medium Stiff, Brown and Gray Fat Clay with Sand and Trace Gravel	CH / -	14		51		0 2-3		
20		X	Wet, Medium Stiff, Brown and Gray Sandy Lean Clay with Some Gravel	CL / -	12		38		0 2-4		
25		X	Wet, Very Soft, Brown Lean Clay	CL / -	17		33		0 0-0		
30		X	Wet, Stiff, Brown Lean Clay with Trace Organic Matter	CL / -	15		38		5 8-7		
35											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 274+65.5
LOCATION: 6.25' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 14 and 18, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 281.0								
40			Moist, Stiff, Brown and Gray Lean Clay	CL	14		48		4 7-8		
45			Moist, Stiff, Brown and Gray Lean Clay with Sand	CL	11		32		4 5-7		
50				CL	12		31		4 5-5		
55			Wet, Medium Dense, Light Brown and Gray Clayey Sand	SC	NP				4 7-6		
60			Wet, Medium Dense, Brown and Gray Silty Sand	SM	NP				6 11-9		
65			Moist, Very Stiff, Dark Gray Fat Clay (Arkadelphia Formation) CLAY WITH FREQUENT LIMESTONE LAYERS	CH	24		75		5 7-9		
70				CH	21		65		8 13-18		

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
MATERIALS DIVISION - GEOTECHNICAL SEC.

BORING NO. 11
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JOB NO. 061509 Lonoke County
JOB NAME: Hwy. 367 - Hwy. 89 (Cabot)(S)
Route 321 Section 1
STATION: 274+65.5
LOCATION: 6.25' Right of Construction Centerline
LOGGED BY: Austin Dillman

DATE: March 14 and 18, 2018
TYPE OF DRILLING:
Hollow Stem Auger - Rotary Wash
EQUIPMENT: Acker 2094

HAMMER CORRECTION FACTOR: N/A

COMPLETION DEPTH: 101

DEPTH FT.	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SOIL GROUP	PLASTIC LIMIT	% MOIST.	LIQUID LIMIT	DRY WEIGHT LBS PER CU.FT.	NO. OF BLOWS PER 6-IN.	% TCR	% RQD
			SURFACE ELEVATION: 281.0								
				CH	23		71		10 14-17		
				-							
75				CH	24		70		11 17-18		
				-							
80				CH	23		67		11 15-19		
			Moist, Hard, Dark Gray Fat Clay	-							
85				CH	19		54		13 16-21		
				-							
90				CH	22		69		11 16-17		
				-							
95				CH	21		55		11 18-19		
				-							
100				CH	20		50		15 18-20 (6")		
			Moist, Very Hard, Dark Gray Clay								
			Boring Terminated								
105											

REMARKS: Drain Two & UPRR

ARKANSAS DEPARTMENT OF TRANSPORTATION
ArDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director
MATERIALS DIVISION
11301 West Baseline Road | P.O. Box 2261 | Little Rock, AR 72203-2261 | Phone: 501.569.2185 | Fax: 501.569.2368

May 10, 2018

TO: Mr. Trinity Smith, Engineer of Roadway Design

SUBJECT: Job No. 061509
Hwy. 367 – Hwy. 89 (Cabot) (S)
Route 321 Section 1
Lonoke County

Transmitted herewith is the requested Soil Survey, strength data and Resilient Modulus test results for the above referenced job. The project consists of widening approximately 3.7 miles of Highway 321 in Cabot. Samples were taken in the existing travel lanes, shoulders and ditch line.

Based on laboratory results of samples obtained, the subgrade soils consist primarily of moderately to highly plastic sandy clay. Cross-sections are not currently available, but it is assumed the construction grade line will closely match that of the existing roadway. The subgrade soils are expected to provide a stable working platform with conventional processing if the weather is favorable during construction. If embankment is to be placed within the existing ditch line all soft unstable organic material should be undercut prior to construction, anticipated to be no more than two feet.

Additional earthwork recommendations will be made upon request when plans are further developed and cross-sections become available.

Listed below is the additional information requested for use in developing the plans:

1. The Qualified Products List (QPL) indicates that Aggregate Base Course (Class CL-7) is available from commercial producers located in the vicinity of Little Rock.

2. Asphalt Concrete Hot Mix

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

Michael C. Benson
Materials Engineer

MCB:pt:bjj
Attachment
cc: State Constr. Eng. – Master File Copy
District 6 Engineer
System Information and Research Div.
G. C. File

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 04/23/2018
JOB NUMBER - 061509

SEQUENCE NO. - 1
MATERIAL CODE - SSRV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

JOB NAME - HWY. 367 - HWY. 89 (CABOT)(S)

STATION LIMITS	R-VALUE AT 240 psi
BEGIN JOB - END JOB	<5
RESILIENT MODULUS	
STA. 230+00	7375
STA. 255+00	6998
STA. 288+00	5846
STA. 346+00	5898

REMARKS -
-

AASHTO TESTS : T190

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	230+00
Date Tested:	April 18, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/JORDAN	**Depth:**	0-5
Lab No.:	20180529	**AASHTO Class:**	A-4 (4)
Sample ID:	RV134	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.95
Middle	3.95
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3187.20

4. Soil Properties:

Optimum Moisture Content (%):	14.6
Maximum Dry Density (pcf):	112.1
95% of MDD (pcf):	106.5
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3187.20
Compaction Moisture content (%):	14.9
Compaction Wet Density (pcf):	124.32
Compaction Dry Density (pcf):	108.20
Moisture Content After Mr Test (%):	14.7

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 7608(Sc)^-0.15157(S3)^0.37310

8. Comments _____

9. Tested By: GW **Date:** April 18, 2018

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	230+00
Date Tested:	April 18, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/JORDAN	**Depth:**	0-5
Lab No.:	20180529	**AASHTO Class:**	A-4 (4)
Sample ID:	RV134	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

PARAMETER	*Chamber Confining Pressure*	*Nominal Maximum Axial Stress*	*Actual Applied Max. Axial Load*	*Actual Applied Cyclic Load*	*Actual Applied Contact Load*	*Actual Applied Max. Axial Stress*	*Actual Applied Cyclic Stress*	*Actual Applied Contact Stress*	*Average Recov Def. LVDT 1 and 2*	*Resilient Strain*	*Resilient Modulus*
DESIGNATION	S_3	S_{cyclic}	P_{max}	P_{cyclic}	$P_{contact}$	S_{max}	S_{cyclic}	$S_{contact}$	H_{avg}	ε_r	M_r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.5	23.0	2.6	2.1	1.9	0.2	0.00113	0.00014	13,391
Sequence 2	6.0	4.0	47.7	45.1	2.6	3.9	3.7	0.2	0.00236	0.00029	12,568
Sequence 3	6.0	6.0	70.9	67.4	3.5	5.8	5.5	0.3	0.00377	0.00047	11,795
Sequence 4	6.0	8.0	95.0	89.1	5.9	7.8	7.3	0.5	0.00543	0.00068	10,803
Sequence 5	6.0	10.0	119.4	111.0	8.4	9.8	9.1	0.7	0.00708	0.00088	10,322
Sequence 6	4.0	2.0	25.4	22.7	2.7	2.1	1.9	0.2	0.00126	0.00016	11,867
Sequence 7	4.0	4.0	47.4	44.6	2.8	3.9	3.7	0.2	0.00279	0.00035	10,529
Sequence 8	4.0	6.0	69.3	66.5	2.8	5.7	5.5	0.2	0.00447	0.00056	9,803
Sequence 9	4.0	8.0	93.4	88.2	5.2	7.7	7.2	0.4	0.00628	0.00078	9,254
Sequence 10	4.0	10.0	118.1	110.4	7.6	9.7	9.1	0.6	0.00807	0.00101	9,009
Sequence 11	2.0	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00169	0.00021	8,713
Sequence 12	2.0	4.0	46.8	44.1	2.8	3.8	3.6	0.2	0.00363	0.00045	8,000
Sequence 13	2.0	6.0	68.1	65.3	2.8	5.6	5.4	0.2	0.00563	0.00070	7,629
Sequence 14	2.0	8.0	90.9	86.7	4.3	7.5	7.1	0.4	0.00774	0.00096	7,375
Sequence 15	2.0	10.0	115.1	108.4	6.7	9.4	8.9	0.5	0.00966	0.00120	7,388

TESTED BY GW DATE April 18, 2018

REVIEWED BY _____ DATE _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

MATERIALS DIVISION

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS

RECOMPACTED / THINWALL TUBE SAMPLES

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	230+00
Date Tested:	April 18, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/JORDAN	**Depth:**	0-5
Lab No.:	20180529	**AASHTO Class:**	A-4 (4)
Sample ID:	RV134	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

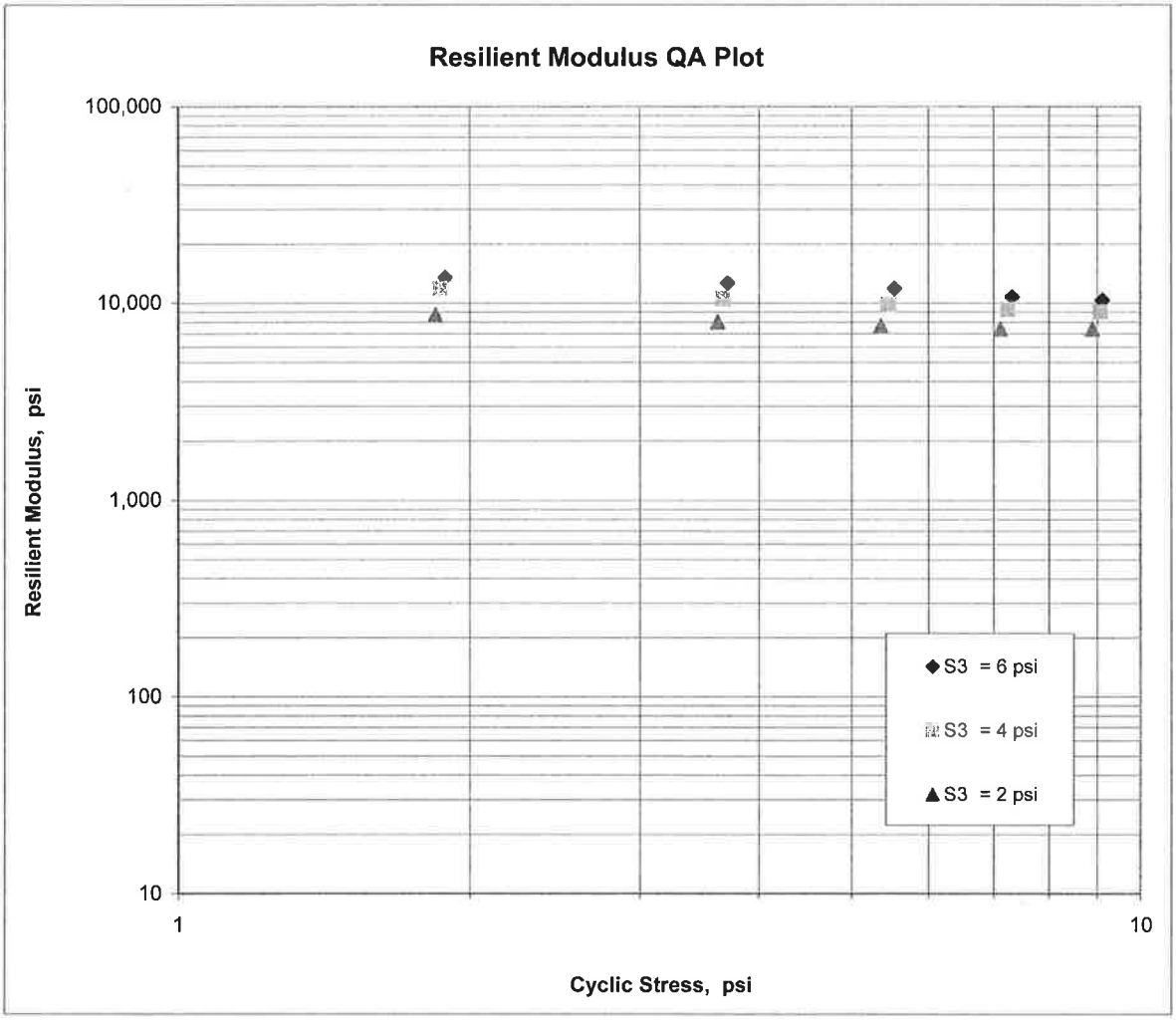
$$M_R = K1\,(S_C)^{K2}\,(S_3)^{K5}$$

K1 = 7,608

K2 = -0.15157

K5 = 0.37310

R^2 = 0.99



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	255+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180530	**AASHTO Class:**	A-4 (5)
Sample ID:	RV135	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.24
Initial Volume, AoLo (cu. in):	98.18

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3255.20

4. Soil Properties:

Optimum Moisture Content (%):	14.4
Maximum Dry Density (pcf):	113.7
95% of MDD (pcf):	108.0
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3255.20
Compaction Moisture content (%):	15.2
Compaction Wet Density (pcf):	126.33
Compaction Dry Density (pcf):	109.66
Moisture Content After Mr Test (%):	14.7

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 8959(Sc)^-0.23351(S3)^0.33977

8. Comments _____

9. Tested By: GW **Date:** April 19, 2018

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	255+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180530	**AASHTO Class:**	A-4 (5)
Sample ID:	RV135	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

PARAMETER	*Chamber Confining Pressure*	*Nominal Maximum Axial Stress*	*Actual Applied Max. Axial Load*	*Actual Applied Cyclic Load*	*Actual Applied Contact Load*	*Actual Applied Max. Axial Stress*	*Actual Applied Cyclic Stress*	*Actual Applied Contact Stress*	*Average Recov Def. LVDT 1 and 2*	*Resilient Strain*	*Resilient Modulus*
DESIGNATION	S_3	S_{cyclic}	P_{max}	P_{cyclic}	$P_{contact}$	S_{max}	S_{cyclic}	$S_{contact}$	H_{avg}	ε_r	M_r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.3	22.5	2.8	2.1	1.8	0.2	0.00105	0.00013	14,070
Sequence 2	6.0	4.0	47.5	44.8	2.8	3.9	3.7	0.2	0.00225	0.00028	13,029
Sequence 3	6.0	6.0	70.1	66.4	3.7	5.7	5.4	0.3	0.00373	0.00046	11,666
Sequence 4	6.0	8.0	93.0	86.8	6.1	7.6	7.1	0.5	0.00561	0.00070	10,131
Sequence 5	6.0	10.0	115.6	107.0	8.6	9.4	8.7	0.7	0.00763	0.00095	9,182
Sequence 6	4.0	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00118	0.00015	12,407
Sequence 7	4.0	4.0	47.1	44.2	2.9	3.8	3.6	0.2	0.00260	0.00032	11,160
Sequence 8	4.0	6.0	68.0	65.1	2.9	5.6	5.3	0.2	0.00432	0.00054	9,886
Sequence 9	4.0	8.0	90.9	85.7	5.3	7.4	7.0	0.4	0.00622	0.00078	9,017
Sequence 10	4.0	10.0	113.2	105.5	7.8	9.3	8.6	0.6	0.00835	0.00104	8,278
Sequence 11	2.0	2.0	25.0	22.1	2.8	2.0	1.8	0.2	0.00160	0.00020	9,040
Sequence 12	2.0	4.0	46.5	43.7	2.8	3.8	3.6	0.2	0.00330	0.00041	8,668
Sequence 13	2.0	6.0	66.6	63.7	2.9	5.4	5.2	0.2	0.00530	0.00066	7,881
Sequence 14	2.0	8.0	87.9	83.5	4.4	7.2	6.8	0.4	0.00740	0.00092	7,395
Sequence 15	2.0	10.0	110.0	103.1	6.9	9.0	8.4	0.6	0.00965	0.00120	6,998

TESTED BY GW DATE April 19, 2018

REVIEWED BY _____ DATE _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

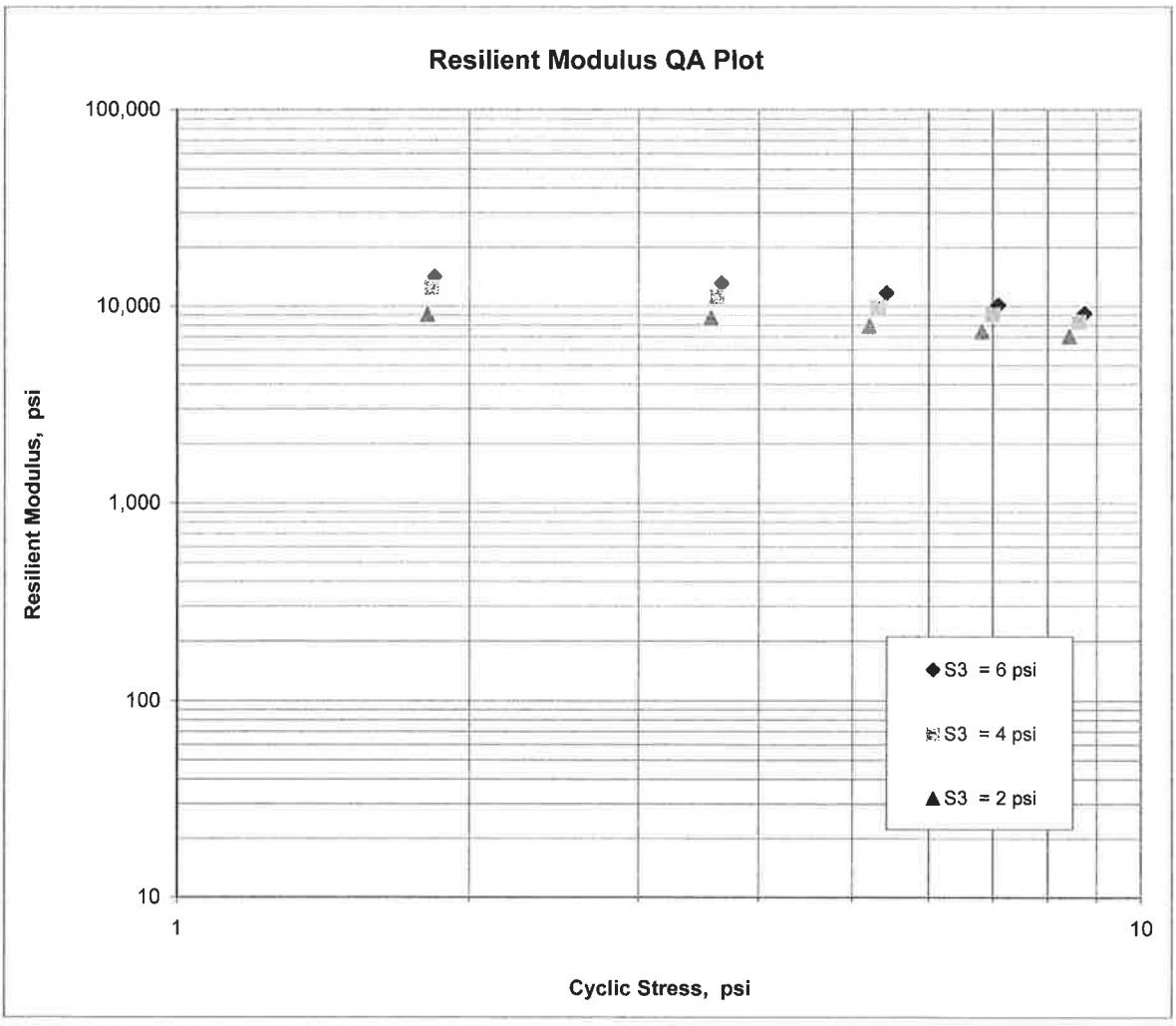
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	255+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180530	**AASHTO Class:**	A-4 (5)
Sample ID:	RV135	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

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

K1 = 8,959
K2 = -0.23351
K5 = 0.33977
R^2 = 0.95



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	288+00
Date Tested:	April 19, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180531	**AASHTO Class:**	A-6 (4)
Sample ID:	RV136	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.95
Middle	3.95
Bottom	3.95
Average	3.95
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.18
Initial Volume, AoLo (cu. in):	97.68

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3217.40

4. Soil Properties:

Optimum Moisture Content (%):	15.9
Maximum Dry Density (pcf):	111.5
95% of MDD (pcf):	105.9
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3217.40
Compaction Moisture content (%):	16.8
Compaction Wet Density (pcf):	125.50
Compaction Dry Density (pcf):	107.45
Moisture Content After Mr Test (%):	16.1

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 9648(Sc)^-0.30099(S3)^0.21286

8. Comments _____

9. Tested By: GW **Date:** April 19, 2018

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	288+00
Date Tested:	April 19, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180531	**AASHTO Class:**	A-6 (4)
Sample ID:	RV136	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

PARAMETER	*Chamber Confining Pressure*	*Nominal Maximum Axial Stress*	*Actual Applied Max. Axial Load*	*Actual Applied Cyclic Load*	*Actual Applied Contact Load*	*Actual Applied Max. Axial Stress*	*Actual Applied Cyclic Stress*	*Actual Applied Contact Stress*	*Average Recov Def. LVDT 1 and 2*	*Resilient Strain*	*Resilient Modulus*
DESIGNATION	S_3	S_{cyclic}	P_{max}	P_{cyclic}	$P_{contact}$	S_{max}	S_{cyclic}	$S_{contact}$	H_{avg}	ε_r	M_r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.2	22.5	2.7	2.1	1.8	0.2	0.00127	0.00016	11,630
Sequence 2	6.0	4.0	47.1	44.4	2.6	3.9	3.6	0.2	0.00275	0.00034	10,629
Sequence 3	6.0	6.0	68.9	65.4	3.5	5.7	5.4	0.3	0.00469	0.00059	9,181
Sequence 4	6.0	8.0	90.8	84.9	5.9	7.5	7.0	0.5	0.00736	0.00092	7,594
Sequence 5	6.0	10.0	111.5	103.2	8.4	9.2	8.5	0.7	0.01043	0.00130	6,513
Sequence 6	4.0	2.0	25.1	22.3	2.8	2.1	1.8	0.2	0.00141	0.00018	10,421
Sequence 7	4.0	4.0	46.8	44.0	2.8	3.8	3.6	0.2	0.00311	0.00039	9,304
Sequence 8	4.0	6.0	67.7	64.8	2.9	5.6	5.3	0.2	0.00520	0.00065	8,212
Sequence 9	4.0	8.0	89.9	84.7	5.2	7.4	7.0	0.4	0.00772	0.00096	7,221
Sequence 10	4.0	10.0	111.1	103.5	7.7	9.1	8.5	0.6	0.01072	0.00134	6,353
Sequence 11	2.0	2.0	25.1	22.2	2.8	2.1	1.8	0.2	0.00176	0.00022	8,327
Sequence 12	2.0	4.0	46.7	43.9	2.8	3.8	3.6	0.2	0.00369	0.00046	7,832
Sequence 13	2.0	6.0	67.3	64.5	2.8	5.5	5.3	0.2	0.00592	0.00074	7,172
Sequence 14	2.0	8.0	88.3	84.0	4.3	7.2	6.9	0.4	0.00854	0.00107	6,472
Sequence 15	2.0	10.0	109.7	102.9	6.8	9.0	8.4	0.6	0.01159	0.00145	5,846

TESTED BY GW DATE April 19, 2018

REVIEWED BY _____ DATE _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

MATERIALS DIVISION

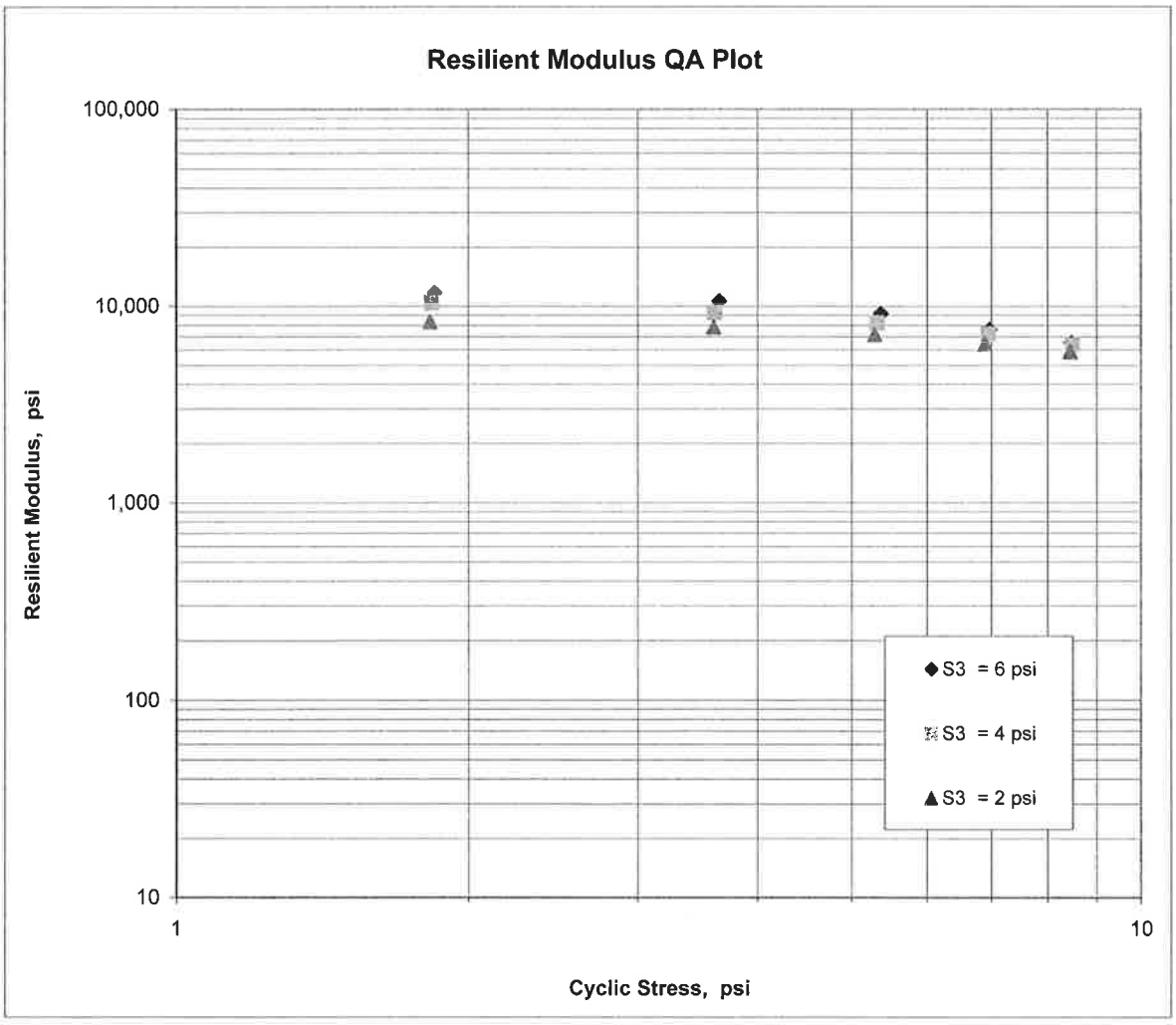
AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS

RECOMPACTED / THINWALL TUBE SAMPLES

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	288+00
Date Tested:	April 19, 2018	**Location:**	27'RT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180531	**AASHTO Class:**	A-6 (4)
Sample ID:	RV136	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

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

K1 =	9,648
K2 =	-0.30099
K5 =	0.21286
R^2 =	0.89



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	346+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180532	**AASHTO Class:**	A-7-6 (11)
Sample ID:	RV137	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

1. Testing Information:

Preconditioning - Permanent Strain > 5% (Y=Yes or N= No)	N
Testing - Permanent Strain > 5% (Y=Yes or N=No)	N
Number of Load Sequences Completed (0-15)	15

2. Specimen Information:

Specimen Diameter (in):	
Top	3.96
Middle	3.96
Bottom	3.96
Average	3.96
Membrane Thickness (in):	0.01
Height of Specimen, Cap and Base (in):	8.02
Height of Cap and Base (in):	0.00
Initial Length, Lo (in):	8.02
Initial Area, Ao (sq. in):	12.24
Initial Volume, AoLo (cu. in):	98.18

3. Soil Specimen Weight:

Weight of Wet Soil Used (g):	3101.50

4. Soil Properties:

Optimum Moisture Content (%):	17.2
Maximum Dry Density (pcf):	106.3
95% of MDD (pcf):	101.0
In-Situ Moisture Content (%):	N/A

5. Specimen Properties:

Wet Weight (g):	3101.50
Compaction Moisture content (%):	17.4
Compaction Wet Density (pcf):	120.37
Compaction Dry Density (pcf):	102.53
Moisture Content After Mr Test (%):	17.0

6. Quick Shear Test (Y=Yes, N=No, N/A=Not Applicable): #VALUE!

7. Resilient Modulus, Mr: 8074(Sc)^-0.21806(S3)^0.20114

8. Comments _____

9. Tested By: GW **Date:** April 19, 2018

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION

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

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	346+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180532	**AASHTO Class:**	A-7-6 (11)
Sample ID:	RV137	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

PARAMETER	*Chamber Confining Pressure*	*Nominal Maximum Axial Stress*	*Actual Applied Max. Axial Load*	*Actual Applied Cyclic Load*	*Actual Applied Contact Load*	*Actual Applied Max. Axial Stress*	*Actual Applied Cyclic Stress*	*Actual Applied Contact Stress*	*Average Recov Def. LVDT 1 and 2*	*Resilient Strain*	*Resilient Modulus*
DESIGNATION	S_3	S_{cyclic}	P_{max}	P_{cyclic}	$P_{contact}$	S_{max}	S_{cyclic}	$S_{contact}$	H_{avg}	ε_r	M_r
UNIT	psi	psi	lbs	lbs	lbs	psi	psi	psi	in	in/in	psi
Sequence 1	6.0	2.0	25.3	22.5	2.8	2.1	1.8	0.2	0.00145	0.00018	10,149
Sequence 2	6.0	4.0	47.6	44.8	2.8	3.9	3.7	0.2	0.00311	0.00039	9,421
Sequence 3	6.0	6.0	70.0	66.3	3.7	5.7	5.4	0.3	0.00513	0.00064	8,467
Sequence 4	6.0	8.0	92.7	86.6	6.1	7.6	7.1	0.5	0.00772	0.00096	7,343
Sequence 5	6.0	10.0	114.3	105.8	8.5	9.3	8.6	0.7	0.01060	0.00132	6,538
Sequence 6	4.0	2.0	25.3	22.6	2.8	2.1	1.8	0.2	0.00161	0.00020	9,198
Sequence 7	4.0	4.0	47.2	44.5	2.7	3.9	3.6	0.2	0.00349	0.00043	8,354
Sequence 8	4.0	6.0	68.3	65.6	2.7	5.6	5.4	0.2	0.00569	0.00071	7,559
Sequence 9	4.0	8.0	91.4	86.3	5.1	7.5	7.0	0.4	0.00814	0.00102	6,941
Sequence 10	4.0	10.0	113.8	106.3	7.5	9.3	8.7	0.6	0.01092	0.00136	6,376
Sequence 11	2.0	2.0	25.1	22.5	2.7	2.1	1.8	0.2	0.00198	0.00025	7,427
Sequence 12	2.0	4.0	47.0	44.3	2.7	3.8	3.6	0.2	0.00408	0.00051	7,103
Sequence 13	2.0	6.0	68.0	65.3	2.6	5.6	5.3	0.2	0.00639	0.00080	6,692
Sequence 14	2.0	8.0	89.7	85.5	4.2	7.3	7.0	0.3	0.00899	0.00112	6,231
Sequence 15	2.0	10.0	112.2	105.5	6.7	9.2	8.6	0.5	0.01172	0.00146	5,898

TESTED BY GW DATE April 19, 2018

REVIEWED BY _____ DATE _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

MATERIALS DIVISION

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS

RECOMPACTED / THINWALL TUBE SAMPLES

Job No.	061509	**Material Code**	SSRVPS
Date Sampled:	3/6/18	**Station No.:**	346+00
Date Tested:	April 19, 2018	**Location:**	27'LT
Name of Project:	HWY. 367 - HWY. 89 (CABOT)(S)		
County:	**Code:** 43 **Name:** LONOKE		
Sampled By:	THORNTON/FRAZIER/CAMPBELL	**Depth:**	0-5
Lab No.:	20180532	**AASHTO Class:**	A-7-6 (11)
Sample ID:	RV137	**Material Type (1 or 2):**	2
LATITUDE:		**LONGITUDE:**	

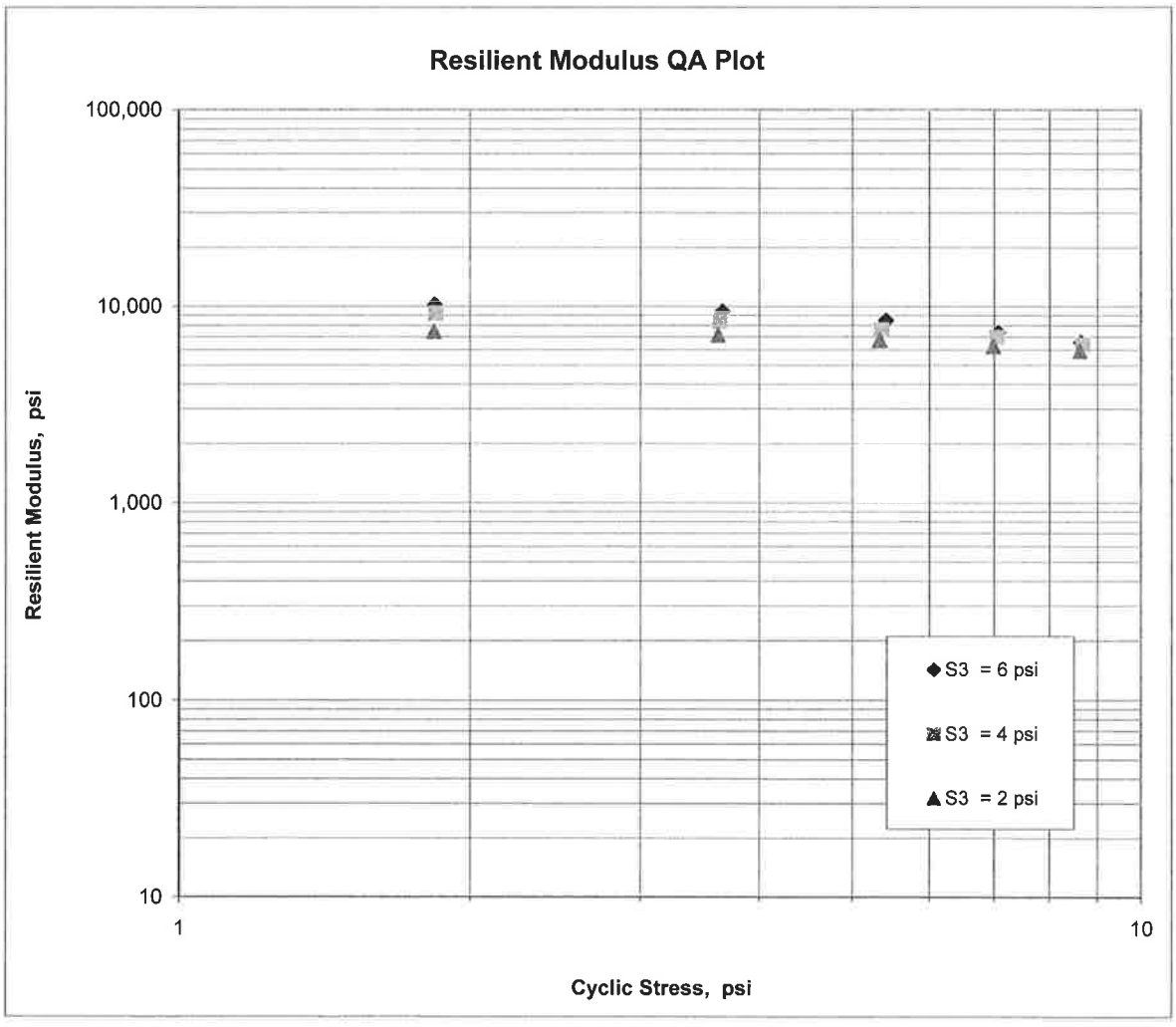
$$M_R = K1\ (S_C)^{K2}\ (S_3)^{K5}$$

K1 = 8,074

K2 = -0.21806

K5 = 0.20114

R^2 = 0.91



JOB: 061509

JOB NAME: HWY. 367 - HWY. 89 (CABOT)(S)

COUNTY NO. 43 **DATE TESTED** 4/10/2018

Arkansas State Highway Transporation Department

Materials Division

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E S					
230+00	27 RT	0-5	BR/GR	95	94	92	90	87	24	07	A-4(4)	RV134	
255+00	27 LT	0-5	BR/GR	90	88	86	84	78	24	09	A-4(5)	RV135	
288+00	27 RT	0-5	BR/GR	79	72	65	59	38	37	24	A-6(4)	RV136	
346+00	27 LT	0-5	BR/GR	82	81	79	76	54	41	28	A-7-6(11)	RV137	
255+00	18 LT	0-5	BROWN	96	95	94	93	88	28	11	A-6(8)	S100	16.8
255+00	27 LT	0-5	BR/GR	100				94	28	10	A-4(8)	S101	20.3
261+00	06 RT	0-5	BR/GR	99	97	96	95	87	24	08	A-4(5)	S102	17.8
261+00	18 RT	0-5	BROWN	98	97	96	94	86	24	07	A-4(4)	S103	16.9
261+00	27 RT	0-5	BROWN	72	70	67	65	56	25	07	A-4(1)	S104	19.5
280+00	06 LT	0-5	BROWN	100	99	98	95	64	40	22	A-6(12)	S105	26.6
280+00	18 LT	0-5	BROWN	99	97	96	95	51	38	18	A-6(6)	S106	29.1
280+00	27 LT	0-5	BROWN	96	94	91	86	66	39	27	A-6(15)	S107	25.2
288+00	06 RT	0-5	GRAY	99	99	97	96	46	39	25	A-6(8)	S108	21.3
288+00	18 RT	0-5	BROWN	98	91	89	81	56	42	29	A-7-6(12)	S109	21.1
288+00	27 RT	0-5	BR/GR	99	99	98	88	70	37	26	A-6(15)	S110	21.7
296+00	06 LT	0-5	GRAY	98	97	96	92	83	27	10	A-4(6)	S111	23.4
296+00	18 LT	0-5	GRAY	92	83	77	71	61	26	09	A-4(3)	S112	26.8
304+00	06 RT	0-5	GRAY	99	97	96	90	74	26	11	A-6(6)	S113	22.3
304+00	18 RT	0-5	GRAY	100	99	99	93	75	23	04	A-4(1)	S114	23.8
304+00	27 RT	0-5	GRAY	98	98	92	91	74	21	05	A-4(1)	S115	19.9
312+00	12 LT	0-5	BROWN	77	68	63	58	44	26	13	A-6(2)	S116	22.2
312+00	21 LT	0-5	BROWN	99	99	98	82	63				S117	18.6
320+00	06 RT	0-5	GRAY	99	95	91	85	74	35	22	A-6(14)	S118	21.6
320+00	18 RT	0-5	GRAY	99	98	97	92	71	31	18	A-6(10)	S119	21.3
320+00	27 RT	0-5	BROWN	99	97	94	89	72	34	20	A-6(12)	S120	22.4
328+00	06 LT	0-5	BROWN	99	99	95	85	69	28	15	A-6(7)	S121	21.5

comments: W=MULTIPLE LAYERS

Tuesday, April 24, 2018

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E S					
328+00	18 LT	0-5	BROWN	85	80	77	72	58	36	23	A-6(10)	S122	19.1
328+00	27 LT	0-5	BROWN	99	97	94	86	70	32	19	A-6(11)	S123	20.5
338+00	12 RT	0-5	BR/GR	98	95	93	82	66	31	16	A-6(8)	S124	19.6
338+00	20 RT	0-5	BR/GR	97	95	92	83	66	36	23	A-6(12)	S125	23.1
338+00	27 RT	0-5	BR/GR	85	83	81	71	56	25	11	A-6(3)	S126	19.9
346+00	12 LT	0-5	BROWN	99	99	98	94	58	46	33	A-7-6(15)	S127	29.7
346+00	18 LT	0-5	BROWN	99	99	97	93	66	28	12	A-6(5)	S128	22.1
346+00	27 LT	0-5	BR/GR	99	99	97	94	66	39	22	A-6(12)	S129	19.3
354+00	12 RT	0-5	BR/GR	98	95	75	72	58	22	07	A-4(1)	S130	19.7
354+00	18 RT	0-5	BROWN	99	99	97	76	61	24	11	A-6(4)	S131	17.2
362+00	12 LT	0-5	BROWN	100	99	97	84	68	23	07	A-4(2)	S132	21.5
362+00	18 LT	0-5	BROWN	98	97	94	88	72	31	16	A-6(9)	S133	20.8
203+00	12 RT	0-5	BR/GR	100				93	32	16	A-6(14)	S82	21.2
203+00	21 RT	0-5	BROWN	90	87	83	80	72	23	07	A-4(3)	S83	21.4
203+00	30 RT	0-5	BROWN	98	95	93	90	85	28	12	A-6(8)	S84	23.9
211+00	12 LT	0-5	GRAY	100				93	26	11	A-6(8)	S85	23.2
211+00	21 LT	0-5	GRAY	100				90	27	11	A-6(8)	S86	21.4
219+00	12 RT	0-5	BR/GR	97	94	92	91	87	27	10	A-4(7)	S87	19.2
219+00	21 LT	0-5	BR/GR	96	91	87	84	78	23	08	A-4(4)	S88	14.6
219+00	30 RT	0-5	BR/GR	91	89	87	85	82	24	08	A-4(4)	S89	11.7
230+00	06 RT	0-5	GRAY	100				93	26	09	A-4(7)	S90	18.2
230+00	18 RT	0-5	GRAY	96	95	94	93	90	25	08	A-4(5)	S91	18.7
230+00	27 RT	0-5	BR/GR	100				92	24	06	A-4(4)	S92	20.4
238+00	06 LT	0-5	GRAY	100				95	25	06	A-4(4)	S93	19.1
238+00	18 LT	0-5	GRAY	100				92	25	10	A-4(7)	S94	20.7
238+00	27 LT	0-5	BROWN	92	89	84	81	77	26	10	A-4(5)	S95	16.7
246+00	06 RT	0-5	GRAY	100				91	27	09	A-4(7)	S96	21.1
246+00	18 RT	0-5	GRAY	100				92	27	09	A-4(7)	S97	18.9

comments: W=MULTIPLE LAYERS

Tuesday, April 24, 2018

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	LAB #:	%MOISTURE
				S	I	E	V	E S					
246+00	27 RT	0-5	BR/GR	73	70	66	63	59	26	08	A-4(2)	S98	17.7
255+00	06 LT	0-5	BROWN	100				90	31	14	A-6(12)	S99	19.6

comments: W=MULTIPLE LAYERS

Tuesday, April 24, 2018

JOB: 061509
JOB NAME: HWY. 367 - HWY. 89 (CABOT)(S)

COUNTY NO. 43

Arkansas State Highway Transporation Department
Materials Division
Michael Benson, Materials Engineer

DATE TESTED
4/10/2018

PAVEMENT SOUNDINGS

STA.#	LOC.			
203+00	12 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.0W	**4.0**	**6.0**
203+00	21 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		2.25W	**---**	**7.0**
203+00	30 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	**---**
211+00	12 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**4.25**	**8.0**
211+00	21 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**---**	**8.0**
219+00	12 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		2.0W	**5.0**	**6.0**
219+00	21 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		2.0W	**4.5**	**7.0**
219+00	30 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	**---**
230+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		2.0W	**5.0**	**6.0**
230+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**---**	**7.0**
230+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	
238+00	06 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**4.0**	**8.0**
238+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**---**	**8.0**
238+00	27 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	**---**
246+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.0W	**4.0**	**7.0**
246+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.5W	**---**	**7.0**
246+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	**---**

comments: W=MULTIPLE LAYERS

Tuesday, April 24, 2018

255+00	06 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		2.5	**4.0W**	**8.0**	
255+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		3.5W	**---**	**8.0**	
255+00	27 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		---	**---**	**---**	
261+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		2.0	**4.75W**	**7.0**	
261+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		5.0W	**---**	**7.0**	
261+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		---	**---**	**---**	
280+00	06 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		3.0W	**4.5**	**7.0**	
280+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		4.5	**---**	**8.0**	
280+00	27 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		---	**---**	**8.0**	
288+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		2.5	**6.0W**	**6.0**	
288+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		3.5W	**---**	**7.0**	
288+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		---	**---**	**---**	
296+00	06 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		3.0	**4.5W**	**7.0**	
296+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		4.0W	**---**	**8.0**	
304+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		2.0	**6.0**	**6.0**	
304+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7	
		4.5	**---**	**6.0**	
304+00	27 RT	ACHMSC	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**---**	**---**	**---**
312+00	12 LT	ACHMSC	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.5W	**1.0X**	**5.5**	**7.0**
312+00	21 LT	ACHMSC	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		7.0	**---**	**---**	**8.0**

comments: W=MULTIPLE LAYERS

STA.#	LOC.	PAVEMENT SOUNDINGS		
320+00	06 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.5	**5.0**	**7.0**
320+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**3.5**	**7.0**
320+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	---	---
328+00	06 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.0	**4.0**	**6.0**
328+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.25	---	**8.0**
328+00	27 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	---	---
338+00	12 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.0	**5.5**	**7.0**
338+00	20 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		5.5	---	**8.0**
338+00	27 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	---	---
346+00	12 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.0W	**4.5**	**7.0**
346+00	18 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	**4.0**	**8.0**
346+00	27 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	---	---
354+00	12 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		3.0W	**5.0**	**8.0**
354+00	18 RT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		4.5	---	**7.0**
362+00	12 LT	ACHMSC	ACHMBC	AGG. BASE CRS CL-7
		---	---	---
362+00	18 LT	ACHMSC	AGG. BASE CRS CL-7	
		3.5W	**5.0**	

comments: W=MULTIPLE LAYERS

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 1
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180477	20180478	20180479
SAMPLE ID	S82	S83	S84
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	203+00	203+00	203+00
LOCATION	12 RT	21 RT	30 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 46.80	34 56 46.80	34 56 46.80
LONGITUDE DEG-MIN-SEC	92 03 41.50	92 03 41.50	92 03 41.60
% PASSING 2 IN.			
1 1/2 IN.		100	
3/4 IN.		91	
3/8 IN.		91	100
NO. 4	100	90	98
NO. 10		87	95
NO. 40		83	93
NO. 80		80	90
NO. 200	93	72	85
LIQUID LIMIT	32	23	28
PLASTICITY INDEX	16	07	12
AASHTO SOIL	A-6(14)	A-4(3)	A-6(8)
UNIFIED SOIL			
% MOISTURE CONTENT	21.2	21.4	23.9
ACHMSC (IN)	3.0W	2.25W	---
ACHMBC (IN)	4.0	---	---
AGG. BASE CRS CL-7 (IN)	6.0	7.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/10/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 2
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180480	20180481	20180482
SAMPLE ID	S85	S86	S87
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	211+00	211+00	219+00
LOCATION	12 LT	21 LT	12 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	GRAY	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 39.80	34 56 39.90	34 56 34.90
LONGITUDE DEG-MIN-SEC	92 03 37.10	92 03 36.80	92 03 30.20
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.			100
NO. 4	100	100	97
NO. 10			94
NO. 40			92
NO. 80			91
NO. 200	93	90	87
LIQUID LIMIT	26	27	27
PLASTICITY INDEX	11	11	10
AASHTO SOIL	A-6(8)	A-6(8)	A-4(7)
UNIFIED SOIL			
% MOISTURE CONTENT	23.2	21.4	19.2
ACHMSC (IN)	4.0W	4.0W	2.0W
ACHMBC (IN)	4.25	---	5.0
AGG. BASE CRS CL-7 (IN)	8.0	8.0	6.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/10/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 3
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180483	20180484	20180485
SAMPLE ID	S88	S89	S90
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	219+00	219+00	230+00
LOCATION	21 LT	30 RT	06 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BR/GR	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 34.90	34 56 34.90	34 56 35.50
LONGITUDE DEG-MIN-SEC	92 03 30.10	92 03 30.10	92 03 16.90
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.		100	
3/8 IN.	100	96	
NO. 4	96	91	100
NO. 10	91	89	
NO. 40	87	87	
NO. 80	84	85	
NO. 200	78	82	93
LIQUID LIMIT	23	24	26
PLASTICITY INDEX	08	08	09
AASHTO SOIL	A-4(4)	A-4(4)	A-4(7)
UNIFIED SOIL			
% MOISTURE CONTENT	14.6	11.7	18.2
ACHMSC (IN)	2.0W	---	2.0W
ACHMBC (IN)	4.5	---	5.0
AGG. BASE CRS CL-7 (IN)	7.0	---	6.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/10/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 4
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180486	20180487	20180488
SAMPLE ID	S91	S92	S93
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	230+00	230+00	238+00
LOCATION	18 RT	27 RT	06 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	BR/GR	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 35.40	34 56 35.40	34 56 35.90
LONGITUDE DEG-MIN-SEC	92 03 16.90	92 03 16.90	92 03 7.30
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100		
3/8 IN.	98		
NO. 4	96	100	100
NO. 10	95		
NO. 40	94		
NO. 80	93		
NO. 200	90	92	95
LIQUID LIMIT	25	24	25
PLASTICITY INDEX	08	06	06
AASHTO SOIL	A-4(5)	A-4(4)	A-4(4)
UNIFIED SOIL			
% MOISTURE CONTENT	18.7	20.4	19.1
ACHMSC (IN)	4.0W	---	4.0W
ACHMBC (IN)	---	---	4.0
AGG. BASE CRS CL-7 (IN)	7.0		8.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 5
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180489	20180490	20180491
SAMPLE ID	S94	S95	S96
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	238+00	238+00	246+00
LOCATION	18 LT	27 LT	06 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	BROWN	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 36.10	34 56 36.20	34 56 34.90
LONGITUDE DEG-MIN-SEC	92 03 7.30	92 03 7.30	92 02 59.40
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.		100	
3/8 IN.		97	
NO. 4	100	92	100
NO. 10		89	
NO. 40		84	
NO. 80		81	
NO. 200	92	77	91
LIQUID LIMIT	25	26	27
PLASTICITY INDEX	10	10	09
AASHTO SOIL	A-4(7)	A-4(5)	A-4(7)
UNIFIED SOIL			
% MOISTURE CONTENT	20.7	16.7	21.1
ACHMSC (IN)	4.0W	---	3.0W
ACHMBC (IN)	---	---	4.0
AGG. BASE CRS CL-7 (IN)	8.0	---	7.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/10/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 6
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180492	20180493	20180494
SAMPLE ID	S97	S98	S99
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	246+00	246+00	255+00
LOCATION	18 RT	27 RT	06 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	BR/GR	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 34.70	34 56 34.70	34 56 31.70
LONGITUDE DEG-MIN-SEC	92 02 57.80	92 02 57.80	92 02 48.10
% PASSING 2 IN.			
1 1/2 IN.		100	
3/4 IN.		86	
3/8 IN.		78	
NO. 4	100	73	100
NO. 10		70	
NO. 40		66	
NO. 80		63	
NO. 200	92	59	90
LIQUID LIMIT	27	26	31
PLASTICITY INDEX	09	08	14
AASHTO SOIL	A-4(7)	A-4(2)	A-6(12)
UNIFIED SOIL			
% MOISTURE CONTENT	18.9	17.7	19.6
ACHMSC (IN)	3.5W	---	2.5
ACHMBC (IN)	---	---	4.0W
AGG. BASE CRS CL-7 (IN)	7.0	---	8.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 7
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180495	20180496	20180497
SAMPLE ID	S100	S101	S102
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	255+00	255+00	261+00
LOCATION	18 LT	27 LT	06 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BR/GR	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 32.00	34 56 32.00	34 56 30.30
LONGITUDE DEG-MIN-SEC	92 02 47.60	92 02 47.60	92 02 43.60
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100		
3/8 IN.	96		100
NO. 4	96	100	99
NO. 10	95		97
NO. 40	94		96
NO. 80	93		95
NO. 200	88	94	87
LIQUID LIMIT	28	28	24
PLASTICITY INDEX	11	10	08
AASHTO SOIL	A-6(8)	A-4(8)	A-4(5)
UNIFIED SOIL			
% MOISTURE CONTENT	16.8	20.3	17.8
ACHMSC (IN)	3.5W	---	2.0
ACHMBC (IN)	---	---	4.75W
AGG. BASE CRS CL-7 (IN)	8.0	---	7.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/10/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 8
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180498	20180499	20180500
SAMPLE ID	S103	S104	S105
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	261+00	261+00	280+00
LOCATION	18 RT	27 RT	06 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 29.50	34 56 29.50	34 56 25.20
LONGITUDE DEG-MIN-SEC	92 02 41.00	92 02 41.00	92 02 27.20
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.	100	100	
NO. 4	98	72	100
NO. 10	97	70	99
NO. 40	96	67	98
NO. 80	94	65	95
NO. 200	86	56	64
LIQUID LIMIT	24	25	40
PLASTICITY INDEX	07	07	22
AASHTO SOIL	A-4(4)	A-4(1)	A-6(12)
UNIFIED SOIL			
% MOISTURE CONTENT	16.9	19.5	26.6
ACHMSC (IN)	5.0W	---	3.0W
ACHMBC (IN)	---	---	4.5
AGG. BASE CRS CL-7 (IN)	7.0	---	7.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 9
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180501	20180502	20180503
SAMPLE ID	S106	S107	S108
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	280+00	280+00	288+00
LOCATION	18 LT	27 LT	06 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 23.10	34 56 23.20	34 56 21.30
LONGITUDE DEG-MIN-SEC	92 02 19.60	92 02 19.60	92 02 14.20
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.		100	
3/8 IN.	100	99	100
NO. 4	99	96	99
NO. 10	97	94	99
NO. 40	96	91	97
NO. 80	95	86	96
NO. 200	51	66	46
LIQUID LIMIT	38	39	39
PLASTICITY INDEX	18	27	25
AASHTO SOIL	A-6(6)	A-6(15)	A-6(8)
UNIFIED SOIL			
% MOISTURE CONTENT	29.1	25.2	21.3
ACHMSC (IN)	4.5	---	2.5
ACHMBC (IN)	---	---	6.0W
AGG. BASE CRS CL-7 (IN)	8.0	8.0	6.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 10
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180504	20180505	20180506
SAMPLE ID	S109	S110	S111
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	288+00	288+00	296+00
LOCATION	18 RT	27 RT	06 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BR/GR	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 20.40	34 56 20.40	34 56 20.40
LONGITUDE DEG-MIN-SEC	92 02 10.60	92 02 10.70	92 02 4.20
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100		100
3/8 IN.	98	100	99
NO. 4	98	99	98
NO. 10	91	99	97
NO. 40	89	98	96
NO. 80	81	88	92
NO. 200	56	70	83
LIQUID LIMIT	42	37	27
PLASTICITY INDEX	29	26	10
AASHTO SOIL	A-7-6(12)	A-6(15)	A-4(6)
UNIFIED SOIL			
% MOISTURE CONTENT	21.1	21.7	23.4
ACHMSC (IN)	3.5W	---	3.0
ACHMBC (IN)	---	---	4.5W
AGG. BASE CRS CL-7 (IN)	7.0	---	7.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 11
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180507	20180508	20180509
SAMPLE ID	S112	S113	S114
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	296+00	304+00	304+00
LOCATION	18 LT	06 RT	18 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	GRAY	GRAY
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 20.80	34 56 20.90	34 56 21.00
LONGITUDE DEG-MIN-SEC	92 02 1.10	92 01 52.90	92 01 51.00
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100		
3/8 IN.	98	100	
NO. 4	92	99	100
NO. 10	83	97	99
NO. 40	77	96	99
NO. 80	71	90	93
NO. 200	61	74	75
LIQUID LIMIT	26	26	23
PLASTICITY INDEX	09	11	04
AASHTO SOIL	A-4(3)	A-6(6)	A-4(1)
UNIFIED SOIL			
% MOISTURE CONTENT	26.8	22.3	23.8
ACHMSC (IN)	4.0W	2.0	4.5
ACHMBC (IN)	---	6.0	---
AGG. BASE CRS CL-7 (IN)	8.0	6.0	6.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 12
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/11/18

LAB NUMBER	20180510	20180511	20180512
SAMPLE ID	S115	S116	S117
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	304+00	312+00	312+00
LOCATION	27 RT	12 LT	21 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 21.00	34 56 21.30	34 56 21.90
LONGITUDE DEG-MIN-SEC	92 01 51.00	92 01 43.80	92 01 41.60
% PASSING 2 IN.			
1 1/2 IN.		100	
3/4 IN.	100	86	
3/8 IN.	99	84	100
NO. 4	98	77	99
NO. 10	98	68	99
NO. 40	92	63	98
NO. 80	91	58	82
NO. 200	74	44	63
LIQUID LIMIT	21	26	
PLASTICITY INDEX	05	13	
AASHTO SOIL	A-4(1)	A-6(2)	
UNIFIED SOIL			
% MOISTURE CONTENT	19.9	22.2	18.6
ACHMSC (IN)	---	4.5W	7.0
ACHMSC (IN)	---	1.0X	---
ACHMBC (IN)	---	5.5	---
AGG. BASE CRS CL-7 (IN)	---	7.0	8.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 13
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180513	20180514	20180515
SAMPLE ID	S118	S119	S120
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	320+00	320+00	320+00
LOCATION	06 RT	18 RT	27 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	GRAY	GRAY	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 22.00	34 56 22.00	34 56 22.00
LONGITUDE DEG-MIN-SEC	92 01 32.00	92 01 31.90	92 01 32.00
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.			100
3/8 IN.	100	100	99
NO. 4	99	99	99
NO. 10	95	98	97
NO. 40	91	97	94
NO. 80	85	92	89
NO. 200	74	71	72
LIQUID LIMIT	35	31	34
PLASTICITY INDEX	22	18	20
AASHTO SOIL	A-6(14)	A-6(10)	A-6(12)
UNIFIED SOIL			
% MOISTURE CONTENT	21.6	21.3	22.4
ACHMSC (IN)	3.5	---	---
ACHMBC (IN)	5.0	3.5	---
AGG. BASE CRS CL-7 (IN)	7.0	7.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 14
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180516	20180517	20180518
SAMPLE ID	S121	S122	S123
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	328+00	328+00	328+00
LOCATION	06 LT	18 LT	27 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 22.20	34 56 22.80	34 56 22.90
LONGITUDE DEG-MIN-SEC	92 01 28.10	92 01 22.40	92 01 22.40
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.		100	100
3/8 IN.	100	93	99
NO. 4	99	85	99
NO. 10	99	80	97
NO. 40	95	77	94
NO. 80	85	72	86
NO. 200	69	58	70
LIQUID LIMIT	28	36	32
PLASTICITY INDEX	15	23	19
AASHTO SOIL	A-6(7)	A-6(10)	A-6(11)
UNIFIED SOIL			
% MOISTURE CONTENT	21.5	19.1	20.5
ACHMSC (IN)	3.0	3.25	---
ACHMBC (IN)	4.0	---	---
AGG. BASE CRS CL-7 (IN)	6.0	8.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/11/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 15
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180519	20180520	20180521
SAMPLE ID	S124	S125	S126
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	338+00	338+00	338+00
LOCATION	12 RT	20 RT	27 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BR/GR	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 21.90	34 56 20.90	34 56 20.90
LONGITUDE DEG-MIN-SEC	92 01 16.40	92 01 10.60	92 01 10.60
% PASSING 2 IN.			
1 1/2 IN.			100
3/4 IN.		100	93
3/8 IN.	100	99	86
NO. 4	98	97	85
NO. 10	95	95	83
NO. 40	93	92	81
NO. 80	82	83	71
NO. 200	66	66	56
LIQUID LIMIT	31	36	25
PLASTICITY INDEX	16	23	11
AASHTO SOIL	A-6(8)	A-6(12)	A-6(3)
UNIFIED SOIL			
% MOISTURE CONTENT	19.6	23.1	19.9
ACHMSC (IN)	3.0	5.5	---
ACHMBC (IN)	5.5	---	---
AGG. BASE CRS CL-7 (IN)	7.0	8.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 16
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180522	20180523	20180524
SAMPLE ID	S127	S128	S129
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	346+00	346+00	346+00
LOCATION	12 LT	18 LT	27 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BROWN	BROWN	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 18.80	34 56 18.80	34 56 18.80
LONGITUDE DEG-MIN-SEC	92 01 2.40	92 01 1.50	92 01 1.50
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.			
3/8 IN.	100	100	100
NO. 4	99	99	99
NO. 10	99	99	99
NO. 40	98	97	97
NO. 80	94	93	94
NO. 200	58	66	66
LIQUID LIMIT	46	28	39
PLASTICITY INDEX	33	12	22
AASHTO SOIL	A-7-6(15)	A-6(5)	A-6(12)
UNIFIED SOIL			
% MOISTURE CONTENT	29.7	22.1	19.3
ACHMSC (IN)	4.0W	---	---
ACHMBC (IN)	4.5	4.0	---
AGG. BASE CRS CL-7 (IN)	7.0	8.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/23/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

SEQUENCE NO. - 17
MATERIAL CODE - SSRVPS
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/11/18

LAB NUMBER	20180525	20180526	20180527
SAMPLE ID	S130	S131	S132
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	354+00	354+00	362+00
LOCATION	12 RT	18 RT	12 LT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BROWN	BROWN
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 17.70	34 56 17.70	34 56 17.70
LONGITUDE DEG-MIN-SEC	92 00 52.60	92 00 52.50	92 00 45.10
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100		
3/8 IN.	99	100	
NO. 4	98	99	100
NO. 10	95	99	99
NO. 40	75	97	97
NO. 80	72	76	84
NO. 200	58	61	68
LIQUID LIMIT	22	24	23
PLASTICITY INDEX	07	11	07
AASHTO SOIL	A-4(1)	A-6(4)	A-4(2)
UNIFIED SOIL			
% MOISTURE CONTENT	19.7	17.2	21.5
ACHMSC (IN)	3.0W	4.5	---
ACHMBC (IN)	5.0	---	---
AGG. BASE CRS CL-7 (IN)	8.0	7.0	---

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 04/11/18	SEQUENCE NO.	- 18
JOB NUMBER	- 061509	MATERIAL CODE	- SSRVPS
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 43
SUPPLIER NAME	- STATE	DISTRICT NO.	- 06
NAME OF PROJECT	- HWY. 367 - HWY. 89 (CABOT)(S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- LONOKE, COUNTY	DATE SAMPLED	- 03/06/18
SAMPLED BY	- THORNTON/FRAZIER	DATE RECEIVED	- 03/15/18
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 04/10/18

MATERIAL DESC. - SOIL SURVEY - R VALUE- PAVEMENT SOUNDINGS

LAB NUMBER	20180528
SAMPLE ID	S133
TEST STATUS	INFORMATION ONLY
STATION	362+00
LOCATION	18 LT
DEPTH IN FEET	0-5
MAT'L COLOR	BROWN
MAT'L TYPE	
LATITUDE DEG-MIN-SEC	34 56 17.90
LONGITUDE DEG-MIN-SEC	92 00 43.00
% PASSING 2 IN.	
1 1/2 IN.	
3/4 IN.	
3/8 IN.	100
NO. 4	98
NO. 10	97
NO. 40	94
NO. 80	88
NO. 200	72
LIQUID LIMIT	31
PLASTICITY INDEX	16
AASHTO SOIL	A-6(9)
UNIFIED SOIL	
% MOISTURE CONTENT	20.8
ACHMSC (IN)	3.5W
AGG. BASE CRS CL-7 (IN)	5.0

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 04/11/18
JOB NUMBER - 061509
FEDERAL AID NO.- TO BE ASSIGNED
PURPOSE - SOIL SURVEY SAMPLE
SPEC. REMARKS - NO SPECIFICATION CHECK
SUPPLIER NAME - STATE
NAME OF PROJECT - HWY. 367 - HWY. 89 (CABOT)(S)
PROJECT ENGINEER - NOT APPLICABLE
PIT/QUARRY - ARKANSAS
LOCATION - LONOKE, COUNTY
SAMPLED BY - THORNTON/FRAZIER
SAMPLE FROM - TEST HOLE
MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

SEQUENCE NO. - 1
MATERIAL CODE - RV
SPEC. YEAR - 2014
SUPPLIER ID. - 1
COUNTY/STATE - 43
DISTRICT NO. - 06

DATE SAMPLED - 03/06/18
DATE RECEIVED - 03/15/18
DATE TESTED - 04/10/18

LAB NUMBER	20180529	20180530	20180531
SAMPLE ID	RV134	RV135	RV136
TEST STATUS	INFORMATION ONLY	INFORMATION ONLY	INFORMATION ONLY
STATION	230+00	255+00	288+00
LOCATION	27 RT	27 LT	27 RT
DEPTH IN FEET	0-5	0-5	0-5
MAT'L COLOR	BR/GR	BR/GR	BR/GR
MAT'L TYPE			
LATITUDE DEG-MIN-SEC	34 56 35.40	34 56 32.00	34 56 20.40
LONGITUDE DEG-MIN-SEC	92 03 16.90	92 02 47.60	92 02 10.70
% PASSING 2 IN.			
1 1/2 IN.			
3/4 IN.	100	100	100
3/8 IN.	98	93	89
NO. 4	95	90	79
NO. 10	94	88	72
NO. 40	92	86	65
NO. 80	90	84	59
NO. 200	87	78	38
LIQUID LIMIT	24	24	37
PLASTICITY INDEX	07	09	24
AASHTO SOIL	A-4(4)	A-4(5)	A-6(4)
UNIFIED SOIL			
% MOISTURE CONTENT			

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT - LITTLE ROCK, ARKANSAS
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE	- 04/11/18	SEQUENCE NO.	- 2
JOB NUMBER	- 061509	MATERIAL CODE	- RV
FEDERAL AID NO.	- TO BE ASSIGNED	SPEC. YEAR	- 2014
PURPOSE	- SOIL SURVEY SAMPLE	SUPPLIER ID.	- 1
SPEC. REMARKS	- NO SPECIFICATION CHECK	COUNTY/STATE	- 43
SUPPLIER NAME	- STATE	DISTRICT NO.	- 06
NAME OF PROJECT	- HWY. 367 - HWY. 89 (CABOT)(S)		
PROJECT ENGINEER	- NOT APPLICABLE		
PIT/QUARRY	- ARKANSAS		
LOCATION	- LONOKE, COUNTY	DATE SAMPLED	- 03/06/18
SAMPLED BY	- THORNTON/FRAZIER	DATE RECEIVED	- 03/15/18
SAMPLE FROM	- TEST HOLE	DATE TESTED	- 04/10/18

MATERIAL DESC. - SOIL SURVEY - RESISTANCE R-VALUE ACTUAL RESULTS

LAB NUMBER	20180532
SAMPLE ID	RV137
TEST STATUS	INFORMATION ONLY
STATION	346+00
LOCATION	27 LT
DEPTH IN FEET	0-5
MAT'L COLOR	BR/GR
MAT'L TYPE	
LATITUDE DEG-MIN-SEC	34 56 18.80
LONGITUDE DEG-MIN-SEC	92 01 1.50
% PASSING 2 IN.	
1 1/2 IN.	100
3/4 IN.	91
3/8 IN.	84
NO. 4	82
NO. 10	81
NO. 40	79
NO. 80	76
NO. 200	54
LIQUID LIMIT	41
PLASTICITY INDEX	28
AASHTO SOIL	A-7-6(11)
UNIFIED SOIL	
% MOISTURE CONTENT	

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265