

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT



**SUBSURFACE INVESTIGATION**

STATE JOB NO. 061084

FEDERAL AID PROJECT NO. STPF-0030(16)

UPRR & PINE ST. STR. & APPRS. (DONALDSON) (S)

STATE HIGHWAY 67 SECTION 7

IN HOT SPRING COUNTY

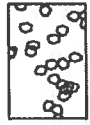
LETTING OF JANUARY 13, 2016

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

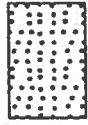
# LEGEND

## SOIL TYPES

(SHOWN IN SYMBOL COLUMN)  
(PREDOMINANT TYPE SHOWN HEAVY)



GRAVEL



SAND



SILT



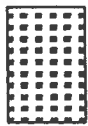
CLAY



ORGANIC  
MATTER

## ROCK TYPES

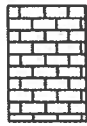
(SHOWN IN SYMBOL COLUMN)



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, 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:  $\frac{6}{8-9} \Rightarrow 8+9 = 17 \text{ blows} / \text{ft}$ . 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.

|   |                   |   |
|---|-------------------|---|
| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT<br/>MATERIALS DIVISION - GEOTECHNICAL SEC.</b> |                   | BORING NO. NEW 1<br>PAGE 1 OF 2               |
| JOB NO. 061084  | Hot Spring County | DATE: November 2, 2005                        |
| JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67                                     |                   | TYPE OF DRILLING: Rotary Wash                 |
| STATION: 224+28 **  |                   | EQUIPMENT: CME 850 w/ CME<br>Automatic Hammer |
| LOCATION: 169' Right of New Center Line of Construction                                 |                   | HAMMER CORRECTION FACTOR: 1.29                |
| LOGGED BY: Richard Martin   |                   |   |

COMPLETION DEPTH: 66.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL   | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.3  |               |                  |          |                 |            |                |                           |                  |                  |
|              |        |         | Moist, Medium Dense, Brown Sandy Silt with<br>Traces of Gravel              |               |                  |          |                 |            |                | 7                         |                  |                  |
|              |        |         | Moist, Medium Dense, Brown Sandy Silt                                       |               |                  |          |                 |            |                | 6-8                       |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 4                         |                  |                  |
|              |        |         | Moist, Loose, Brown Sandy Silt  |               |                  |          |                 |            |                | 3-4                       |                  |                  |
| 5            |        |         |   |               |                  |          |                 |            |                | 5                         |                  |                  |
|              |        |         | Moist, Stiff, Brown and Gray Clay with Sand and<br>Traces of Gravel         |               |                  |          |                 |            |                | 5-8                       |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 3                         |                  |                  |
|              |        |         | Moist, Stiff, Reddish Brown and Gray Clay with<br>Sand and Traces of Gravel |               |                  |          |                 |            |                | 4-8                       |                  |                  |
| 10           |        |         |   |               |                  |          |                 |            |                | 17                        |                  |                  |
|              |        |         | Moist, Dense, Brown and Gray Gravel with Sand<br>and some Clay              |               |                  |          |                 |            |                | 29-20                     |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 3                         |                  |                  |
|              |        |         | Moist to Wet, Medium Dense, Brown Sand with<br>Gravel *                     |               |                  |          |                 |            |                | 7-15                      |                  |                  |
| 15           |        |         |   |               |                  |          |                 |            |                | 0                         |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 0-6                       |                  |                  |
|              |        |         | Wet, Medium Stiff, Gray and Brown Clay                                      |               |                  |          |                 |            |                | 6                         |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 7-8                       |                  |                  |
|              |        |         | Wet, Medium Dense, Brown and Gray Gravel<br>with Sand                       |               |                  |          |                 |            |                | 6                         |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                | 10-15                     |                  |                  |
|              |        |         | Moist, Very Stiff, Dark Gray Clay with Traces of<br>Gravel                  |               |                  |          |                 |            |                | 6                         |                  |                  |
| 30           |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |
|              |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |
| 35           |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 10.0' at 24 hrs. \* A water stratum was encountered at 14.0'. \*\* Old Station 223+50, 39' Right of Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 1  
PAGE 2 OF 2

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 224+28 \*\*  
LOCATION: 169' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: November 2, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 66.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.3   |               |                  |          |                 |            |                |                           |                  |                  |
| 40           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses |               |                  |          |                 |            |                | 8<br>11-16                |                  |                  |
| 45           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Shells      |               |                  |          |                 |            |                | 8<br>13-16                |                  |                  |
|              |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells            |               |                  |          |                 |            |                | 8<br>13-19                |                  |                  |
|              |        |         | Hard, Gray Cemented Silt (47.5' to 47.9')                          |               |                  |          |                 |            |                |                           |                  |                  |
| 50           |        |         | Moist, Hard, Dark Gray Calcareous Clay                             |               |                  |          |                 |            |                |                           |                  |                  |
|              |        |         | Hard, Gray Siltstone (50.0' to 50.3')                              |               |                  |          |                 |            |                | 60<br>(3")                |                  |                  |
| 55           |        |         | Moist, Hard, Dark Gray Calcareous Clay                             |               |                  |          |                 |            |                |                           |                  |                  |
| 60           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with Silt Lenses            |               |                  |          |                 |            |                | 8<br>13-18                |                  |                  |
| 65           |        | X       | Moist, Hard, Dark Gray Calcareous Clay                             |               |                  |          |                 |            |                | 9<br>14-20                |                  |                  |
|              |        | X       | Moist, Hard, Dark Gray Calcareous Clay                             |               |                  |          |                 |            |                | 10<br>14-21               |                  |                  |
| 70           |        |         | Boring Terminated  |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 10.0' at 24 hrs. \* A water stratum was encountered at 14.0'. \*\* Old Station 223+50, 39' Right of Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 2  
PAGE 1 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 225+47  
LOCATION: 126' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: November 2-3, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>Q<br>D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.2   |               |                  |          |                 |            |                |                           |                  |                  |
| 5            |        |         | Moist, Medium Dense, Brown Sandy Silt with Gravel and Cobbles              |               |                  |          |                 |            |                | 3<br>5-6                  |                  |                  |
| 10           |        |         | Moist, Medium Dense, Brown Sandy Silt with some Clay and Traces of Gravel  |               |                  |          |                 |            |                | 4<br>13-11                |                  |                  |
| 15           |        |         | Moist, Medium Dense, Brown Sand with Gravel and some Clay                  |               |                  |          |                 |            |                | 4<br>10-12                |                  |                  |
| 20           |        |         | Wet, Medium Dense, Brown Gravel with Sand *                                |               |                  |          |                 |            |                | 0<br>2-20                 |                  |                  |
| 25           |        |         | Wet, Very Stiff, Brown and Gray Silty Clay with Sand Seams and some Gravel |               |                  |          |                 |            |                | 4<br>4-6                  |                  |                  |
| 30           |        |         | Wet, Medium Dense, Brown Sand with Gravel and Cobbles                      |               |                  |          |                 |            |                | 6<br>10-12                |                  |                  |
| 35           |        |         | Moist, Stiff, Gray Clay  |               |                  |          |                 |            |                |                           |                  |                  |
|              |        |         | Moist, Very Stiff, Dark Gray Clay with some Silt Lenses                    |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.5'. \* A water stratum was encountered at 14.0'. \*\* Old Station 224+50, 3' Left of Center Line of Construction.

|  |   |
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| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT</b><br><b>MATERIALS DIVISION - GEOTECHNICAL SEC.</b>  | BORING NO. NEW 2<br>PAGE 2 OF 3   |
| JOB NO. 061084 Hot Spring County<br>JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67<br>STATION: 225+47<br>LOCATION: 126' Right of New Center Line of Construction<br>LOGGED BY: Richard Martin | DATE: November 2-3, 2005<br>TYPE OF DRILLING: Rotary Wash<br><br>EQUIPMENT: CME 850 w/ CME Automatic Hammer<br>HAMMER CORRECTION FACTOR: 1.29 |

COMPLETION DEPTH: 86.5

| DEPTH<br>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. | % S C R | % R Q D |
|--------------|--------|---------|--|------------|---------------|----------|--------------|------------|----------------|------------------------|---------|---------|
|              |        |         | SURFACE ELEVATION: 221.2   |            |               |          |              |            |                |                        |         |         |
| 40           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses |            |               |          |              |            |                | 6<br>10-13             |         |         |
| 45           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Shells      |            |               |          |              |            |                | 14<br>12-18            |         |         |
| 47.5         |        | X       | Hard, Gray Cemented Silt (47.5' to 47.6')                          |            |               |          |              |            |                | 8<br>13-17             |         |         |
| 50           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells           |            |               |          |              |            |                | 8<br>12-15             |         |         |
| 55           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Silt Lenses      |            |               |          |              |            |                | 9<br>13-16             |         |         |
| 60           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Silt Lenses      |            |               |          |              |            |                | 9<br>12-18             |         |         |
| 65           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells            |            |               |          |              |            |                | 8<br>14-19             |         |         |
| 70           |        | X       |  |            |               |          |              |            |                |                        |         |         |

REMARKS: Hollow stem augers were utilized to a depth of 29.5'. \* A water stratum was encountered at 14.0'. \*\* Old Station 224+50, 3' Left of Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 2  
PAGE 3 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 225+47  
LOCATION: 126' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: November 2-3, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL                                 | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.2                                |               |                  |          |                 |            |                |                           |                  |                  |
| 75           |        | X       | Moist, Hard, Dark Gray Calcareous Clay                  |               |                  |          |                 |            |                | 9<br>14-20                |                  |                  |
| 80           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells |               |                  |          |                 |            |                | 9<br>16-21                |                  |                  |
|              |        |         | Hard, Gray Cemented Silt (81.7' to 82.3')               |               |                  |          |                 |            |                | 10<br>14-25               |                  |                  |
| 85           |        | X       | Moist, Hard, Dark Gray Calcareous Clay                  |               |                  |          |                 |            |                | 10<br>15-22               |                  |                  |
| 90           |        |         | Boring Terminated                                       |               |                  |          |                 |            |                |                           |                  |                  |
| 95           |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |
| 100          |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |
| 105          |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.5'. \* A water stratum was encountered at 14.0'. \*\* Old Station 224+50, 3' Left of Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 3  
PAGE 1 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 226+48  
LOCATION: 130' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: November 7-8, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL                                 | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.0                                |               |                  |          |                 |            |                |                           |                  |                  |
| 5            |        |         | Moist, Medium Dense, Brown Sand with Traces of Gravel   |               |                  |          |                 |            |                | 5<br>9-12                 |                  |                  |
| 10           |        |         | Moist, Very Stiff, Brown and Gray Clay with Sand        |               |                  |          |                 |            |                | 18<br>23-23               |                  |                  |
| 15           |        |         | Moist to Wet, Dense, Brown Sand with Gravel *           |               |                  |          |                 |            |                | 3<br>5-12                 |                  |                  |
| 20           |        |         | Wet, Medium Dense, Brown Sand with Gravel               |               |                  |          |                 |            |                | 12<br>19-25               |                  |                  |
| 25           |        |         | Wet, Dense, Brown Sand with Gravel                      |               |                  |          |                 |            |                | 6<br>10-12                |                  |                  |
| 30           |        |         | Moist, Very Stiff, Dark Gray Clay with some Silt Lenses |               |                  |          |                 |            |                | 7<br>10-14                |                  |                  |
| 35           |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers utilized to a depth of 29.8'. \* A water stratum encountered at 13.5'. Water level was 8.0' upon completion of drilling. \*\* Old Station 225+70, Center Line of Construction.



|   |   |                                 |
|---|---|---------------------------------|
| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT<br/>MATERIALS DIVISION - GEOTECHNICAL SEC.</b> |   | BORING NO. NEW 3<br>PAGE 2 OF 3 |
| JOB NO. 061084      Hot Spring County   | DATE: November 7-8, 2005                      |                                 |
| JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67                                     | TYPE OF DRILLING: Rotary Wash                 |                                 |
| STATION: 226+48   | EQUIPMENT: CME 850 w/ CME<br>Automatic Hammer |                                 |
| LOCATION: 130' Right of New Center Line of Construction                                 | HAMMER CORRECTION FACTOR: 1.29                |                                 |
| LOGGED BY: Richard Martin   |   |                                 |

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 221.0   |               |                  |          |                 |            |                | 7<br>11-15                |                  |                  |
| 40           |        | X       | Moist, Very Stiff, Dark Gray Clay                                  |               |                  |          |                 |            |                | 9<br>9-13                 |                  |                  |
| 45           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells           |               |                  |          |                 |            |                | 7<br>10-15                |                  |                  |
|              |        |         | Hard, Gray Cemented Silt (48.0' to 48.3')                          |               |                  |          |                 |            |                |                           |                  |                  |
| 50           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses |               |                  |          |                 |            |                | 7<br>11-60<br>(4")        |                  |                  |
|              |        |         | Hard, Gray Cemented Silt (51.0' to 51.3')                          |               |                  |          |                 |            |                |                           |                  |                  |
| 55           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses |               |                  |          |                 |            |                | 7<br>10-14                |                  |                  |
| 60           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay                       |               |                  |          |                 |            |                | 8<br>12-17                |                  |                  |
| 65           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay                       |               |                  |          |                 |            |                | 8<br>14-17                |                  |                  |
| 70           |        | X       |  |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers utilized to a depth of 29.8'. \* A water stratum encountered at 13.5'. Water level was 8.0' upon completion of drilling. \*\* Old Station 225+70, Center Line of Construction.

|  |   |
|--|---|
| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT</b><br><b>MATERIALS DIVISION - GEOTECHNICAL SEC.</b>  | BORING NO. NEW 3<br>PAGE 3 OF 3   |
| JOB NO. 061084 Hot Spring County<br>JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67<br>STATION: 226+48<br>LOCATION: 130' Right of New Center Line of Construction<br>LOGGED BY: Richard Martin | DATE: November 7-8, 2005<br>TYPE OF DRILLING: Rotary Wash<br><br>EQUIPMENT: CME 850 w/ CME Automatic Hammer<br>HAMMER CORRECTION FACTOR: 1.29 |

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL                                 | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S C R | % R Q D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|---------|---------|
|              |        |         | SURFACE ELEVATION: 221.0                                |               |                  |          |                 |            |                |                           |         |         |
|              | /      | X       | Moist, Hard, Dark Gray Calcareous Clay                  |               |                  |          |                 |            |                | 9<br>13-20                |         |         |
| 75           | /      | X       |   |               |                  |          |                 |            |                | 9<br>13-19                |         |         |
| 80           | /      | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells |               |                  |          |                 |            |                | 10<br>14-21               |         |         |
| 85           | /      | X       | Hard, Gray Cemented Silt (83.6' to 84.1')               |               |                  |          |                 |            |                |                           |         |         |
|              | /      | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells |               |                  |          |                 |            |                | 9<br>16-21                |         |         |
| 90           |        |         | Boring Terminated                                       |               |                  |          |                 |            |                |                           |         |         |
| 95           |        |         |   |               |                  |          |                 |            |                |                           |         |         |
| 100          |        |         |   |               |                  |          |                 |            |                |                           |         |         |
| 105          |        |         |   |               |                  |          |                 |            |                |                           |         |         |

REMARKS: Hollow stem augers utilized to a depth of 29.8'. \* A water stratum encountered at 13.5'. Water level was 8.0' upon completion of drilling. \*\* Old Station 225+70, Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 4  
PAGE 1 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 227+57 \*  
LOCATION: 132' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 27 & 31, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL   | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 219.8  |               |                  |          |                 |            |                |                           |                  |                  |
| 5            |        | X       | Moist, Very Stiff, Brown and Gray Clay with Sand                    |               |                  |          |                 |            |                | 6<br>10-12                |                  |                  |
| 10           |        | X       | Moist, Medium Dense, Brown and Gray Sand with Clay Seams and Gravel |               |                  |          |                 |            |                | 5<br>7-10                 |                  |                  |
| 15           |        | X       | Wet, Medium Dense, Brown Sand with Gravel                           |               |                  |          |                 |            |                | 8<br>11-15                |                  |                  |
| 20           |        | X       | Wet, Medium Dense, Brown Gravel with Sand                           |               |                  |          |                 |            |                | 6<br>10-13                |                  |                  |
| 25           |        | X       | Wet, Medium Dense, Brown Gravel with Sand and some Clay             |               |                  |          |                 |            |                | 6<br>12-13                |                  |                  |
| 30           |        | X       | Moist, Very Stiff, Dark Gray Clay                                   |               |                  |          |                 |            |                | 6<br>10-13                |                  |                  |
| 35           |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 8.0' at 24 hrs. \* Old Station 226+80, Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 4  
PAGE 2 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 227+57 \*  
LOCATION: 132' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 27 & 31, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         | SURFACE ELEVATION: 219.8   |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       | Moist, Very Stiff, Dark Gray Clay with Traces of Gravel                    |               |                  |          |                 |            |                | 6<br>6-11                 |                  |                  |
| 40           |        |         | Moist, Very Stiff, Dark Gray Clay  |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Shells              |               |                  |          |                 |            |                | 8<br>12-16                |                  |                  |
| 45           |        |         | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells                   |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Thin Cemented Silt Seams |               |                  |          |                 |            |                | 9<br>12-18                |                  |                  |
| 50           |        |         | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells                   |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       | Moist, Hard, Dark Gray Calcareous Clay with Shells                         |               |                  |          |                 |            |                | 10<br>13-18               |                  |                  |
| 55           |        |         | Moist, Very Stiff to Hard, Dark Gray Calcareous Clay with Silt Lenses      |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       |  |               |                  |          |                 |            |                | 9<br>12-17                |                  |                  |
| 60           |        |         |  |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       |  |               |                  |          |                 |            |                | 9<br>14-17                |                  |                  |
| 65           |        |         |  |               |                  |          |                 |            |                |                           |                  |                  |
|              |        | X       |  |               |                  |          |                 |            |                | 10<br>16-21               |                  |                  |
| 70           |        |         |  |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 8.0' at 24 hrs. \* Old Station 226+80, Center Line of Construction.

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| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT</b><br><b>MATERIALS DIVISION - GEOTECHNICAL SEC.</b>  | BORING NO. NEW 4<br>PAGE 3 OF 3  |
| JOB NO. 061084 Hot Spring County<br>JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67<br>STATION: 227+57 *<br>LOCATION: 132' Right of New Center Line of Construction<br>LOGGED BY: Richard Martin | DATE: October 27 & 31, 2005<br>TYPE OF DRILLING: Rotary Wash<br><br>EQUIPMENT: CME 850 w/ CME Automatic Hammer<br>HAMMER CORRECTION FACTOR: 1.29 |

COMPLETION DEPTH: 86.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL   | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S C C R | % R Q D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|-----------|---------|
|              |        |         | SURFACE ELEVATION: 219.8  |               |                  |          |                 |            |                |                           |           |         |
| 75           | /      | X       | Moist, Hard, Dark Gray Calcareous Clay                                  |               |                  |          |                 |            |                | 11<br>15-21               |           |         |
| 80           | /      | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells                 |               |                  |          |                 |            |                | 11<br>16-22               |           |         |
| 85           | /      | X       | Moist, Hard, Dark Gray Calcareous Clay with some Shells                 |               |                  |          |                 |            |                | 12<br>17-22               |           |         |
|              | /      | X       | Hard, Gray Cemented Sand (83.2' to 83.5')                               |               |                  |          |                 |            |                |                           |           |         |
|              | /      | X       | Moist, Hard, Dark Gray Calcareous Clay with Silt Lenses and some Shells |               |                  |          |                 |            |                | 10<br>15-23               |           |         |
| 90           |        |         | Boring Terminated   |               |                  |          |                 |            |                |                           |           |         |
| 95           |        |         |   |               |                  |          |                 |            |                |                           |           |         |
| 100          |        |         |   |               |                  |          |                 |            |                |                           |           |         |
| 105          |        |         |   |               |                  |          |                 |            |                |                           |           |         |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 8.0' at 24 hrs. \* Old Station 226+80, Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 5  
PAGE 1 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 228+57 \*  
LOCATION: 128' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 20 & 24, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 81.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL                            | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S<br>C<br>R | % R<br>Q<br>D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|---------------|---------------|
|              |        |         |  |               |                  |          |                 |            |                |                           |               |               |
| 5            |        | X       | Moist, Very Stiff, Brown and Gray Silty Clay       |               |                  |          |                 |            |                | 8<br>10-17                |               |               |
| 10           |        | X       | Moist, Very Dense, Brown and Gray Sand with Gravel |               |                  |          |                 |            |                | 6<br>24-30                |               |               |
| 15           |        | X       | Wet, Dense, Brown Sand with Gravel                 |               |                  |          |                 |            |                | 10<br>18-17               |               |               |
| 20           |        | X       | Wet, Medium Dense, Brown Gravel with Sand          |               |                  |          |                 |            |                | 5<br>8-11                 |               |               |
| 25           |        | X       | Moist, Stiff, Dark Gray Clay                       |               |                  |          |                 |            |                | 4<br>5-8                  |               |               |
| 30           |        | X       |  |               |                  |          |                 |            |                | 7<br>11-13                |               |               |
| 35           |        |         |  |               |                  |          |                 |            |                |                           |               |               |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 13.0' at 24 hrs. \* Old Station 227+80, Center Line of Construction.

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| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT<br/>MATERIALS DIVISION - GEOTECHNICAL SEC.</b> |   | BORING NO. NEW 5<br>PAGE 2 OF 3 |
| JOB NO. 061084 Hot Spring County  | DATE: October 20 & 24, 2005                   |                                 |
| JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67                                     | TYPE OF DRILLING: Rotary Wash                 |                                 |
| STATION: 228+57 *   | EQUIPMENT: CME 850 w/ CME<br>Automatic Hammer |                                 |
| LOCATION: 128' Right of New Center Line of Construction                                 | HAMMER CORRECTION FACTOR: 1.29                |                                 |
| LOGGED BY: Richard Martin   |   |                                 |

COMPLETION DEPTH: 81.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL                                      | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S C R | % R Q D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|---------|---------|
|              |        |         | SURFACE ELEVATION: 221.5                                     |               |                  |          |                 |            |                |                           |         |         |
| 40           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay                 |               |                  |          |                 |            |                | 8<br>10-13                |         |         |
| 45           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with Shells           |               |                  |          |                 |            |                | 8<br>11-16                |         |         |
| 50           |        | X       | Hard, Gray Limestone (50.4' to 50.8')                        |               |                  |          |                 |            |                | 60<br>(5.5")              |         |         |
| 55           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells     |               |                  |          |                 |            |                | 8<br>13-14                |         |         |
| 60           |        | X       |  |               |                  |          |                 |            |                | 9<br>15-17                |         |         |
| 65           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Silt Lenses |               |                  |          |                 |            |                | 10<br>14-18               |         |         |
| 70           |        | X       |  |               |                  |          |                 |            |                |                           |         |         |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 13.0' at 24 hrs. \* Old Station 227+80, Center Line of Construction.

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| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT</b><br><b>MATERIALS DIVISION - GEOTECHNICAL SEC.</b>  | BORING NO. NEW 5<br>PAGE 3 OF 3  |
| JOB NO. 061084 Hot Spring County<br>JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67<br>STATION: 228+57 *<br>LOCATION: 128' Right of New Center Line of Construction<br>LOGGED BY: Richard Martin | DATE: October 20 & 24, 2005<br>TYPE OF DRILLING: Rotary Wash<br><br>EQUIPMENT: CME 850 w/ CME Automatic Hammer<br>HAMMER CORRECTION FACTOR: 1.29 |

COMPLETION DEPTH: 81.5

| D<br>E<br>P<br>T<br>H<br><br>FT. | S<br>Y<br>M<br>B<br>O<br>L | S<br>A<br>M<br>P<br>L<br>E<br>S | DESCRIPTION OF MATERIAL                                      | SOIL<br>G<br>R<br>O<br>U<br>P | P<br>L<br>A<br>S<br>T<br>I<br>C<br><br>L<br>I<br>M<br>I<br>T | %<br>M<br>O<br>I<br>S<br>T. | L<br>I<br>Q<br>U<br>I<br>D<br><br>L<br>I<br>M<br>I<br>T | D<br>R<br>Y<br><br>W<br>E<br>I<br>G<br>H<br>T | L<br>B<br>S<br><br>P<br>E<br>R<br><br>C<br>U.<br>F<br>T. | N<br>O.<br><br>O<br>F<br><br>B<br>L<br>O<br>W<br>S<br><br>P<br>E<br>R<br>6-<br>I<br>N. | %<br>C<br>C<br>R | %<br>R<br>O<br>O<br>D |
|----------------------------------|----------------------------|---------------------------------|--|-------------------------------|--|-----------------------------|---|---|--|--|------------------|-----------------------|
|                                  |                            |                                 | SURFACE ELEVATION: 221.5                                     |                               |  |                             |   |   |  | 10<br>16-20  |                  |                       |
| 75                               |                            |                                 | Moist, Hard, Dark Gray Calcareous Clay with Shells           |                               |  |                             |   |   |  | 10<br>15-20  |                  |                       |
| 80                               |                            |                                 | Moist, Hard, Dark Gray Calcareous Clay with some Silt Lenses |                               |  |                             |   |   |  | 10<br>15-21  |                  |                       |
| 85                               |                            |                                 | Boring Terminated  |                               |  |                             |   |   |  |  |                  |                       |
| 90                               |                            |                                 |  |                               |  |                             |   |   |  |  |                  |                       |
| 95                               |                            |                                 |  |                               |  |                             |   |   |  |  |                  |                       |
| 100                              |                            |                                 |  |                               |  |                             |   |   |  |  |                  |                       |
| 105                              |                            |                                 |  |                               |  |                             |   |   |  |  |                  |                       |

REMARKS: Hollow stem augers were utilized to a depth of 29.2'. Water level was 13.0' at 24 hrs. \* Old Station 227+80, Center Line of Construction.



**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 6  
PAGE 1 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 229+57 \*  
LOCATION: 128' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 24-25, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME  
Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 71.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S C R | %<br>R O D |
|--------------|--------|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------|------------|
|              |        |         | SURFACE ELEVATION: 221.0   |               |                  |          |                 |            |                |                           |            |            |
|              |        |         | Moist. Stiff, Brown Clay with Traces of Gravel                               |               |                  |          |                 |            |                |                           |            |            |
| 5            |        | X       | Moist, Stiff, Brown and Gray Clay with Sand                                  |               |                  |          |                 |            |                | 3<br>4-5                  |            |            |
| 10           |        | X       | Moist, Stiff, Brown and Gray Clay with Sand and Traces of Gravel             |               |                  |          |                 |            |                | 5<br>6-9                  |            |            |
| 15           |        | X       | Wet, Dense to Medium Dense, Brown Gravel with Sand                           |               |                  |          |                 |            |                | 14<br>16-20               |            |            |
| 20           |        | X       |  |               |                  |          |                 |            |                | 10<br>11-13               |            |            |
| 25           |        | X       | Moist, Very Stiff, Dark Gray Clay  |               |                  |          |                 |            |                | 5<br>6-11                 |            |            |
| 30           |        | X       | Moist, Very Stiff, Dark Gray Clay with some Silt Lenses and Traces of Shells |               |                  |          |                 |            |                | 7<br>11-13                |            |            |
| 35           |        | X       |  |               |                  |          |                 |            |                |                           |            |            |

REMARKS: Hollow stem augers were utilized to a depth of 29.3'. Water level was 9.0' at 24 hrs. \* Old Station 228+80, Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 6  
PAGE 2 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 229+57 \*  
LOCATION: 128' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 24-25, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 71.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL   | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | %<br>S<br>C<br>R | %<br>R<br>O<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|------------------|------------------|
|              |        |         |   |               |                  |          |                 |            |                |                           |                  |                  |
|              |        |         | SURFACE ELEVATION: 221.0  |               |                  |          |                 |            |                |                           |                  |                  |
| 40           |        | X       | Moist, Very Stiff, Dark Gray Clay with some Silt Lenses                 |               |                  |          |                 |            |                | 7<br>10-11                |                  |                  |
| 45           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses      |               |                  |          |                 |            |                | 8<br>11-15                |                  |                  |
| 50           |        | X       | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells                |               |                  |          |                 |            |                | 8<br>10-13                |                  |                  |
|              |        | X       | Hard, Gray Limestone (50.8' to 51.0')                                   |               |                  |          |                 |            |                | 8<br>38-24                |                  |                  |
| 55           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with Shells                      |               |                  |          |                 |            |                | 9<br>13-18                |                  |                  |
| 60           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Silt Lenses            |               |                  |          |                 |            |                | 9<br>13-18                |                  |                  |
| 65           |        | X       | Moist, Hard, Dark Gray Calcareous Clay with some Silt Lenses and Shells |               |                  |          |                 |            |                | 10<br>14-18               |                  |                  |
| 70           |        | X       |   |               |                  |          |                 |            |                |                           |                  |                  |

REMARKS: Hollow stem augers were utilized to a depth of 29.3'. Water level was 9.0' at 24 hrs. \* Old Station 228+80, Center Line of Construction.

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| JOB NO. 061084 Hot Spring County<br>JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67<br>STATION: 229+57 *<br>LOCATION: 128' Right of New Center Line of Construction<br>LOGGED BY: Richard Martin | DATE: October 24-25, 2005<br>TYPE OF DRILLING: Rotary Wash<br>EQUIPMENT: CME 850 w/ CME Automatic Hammer<br>HAMMER CORRECTION FACTOR: 1.29 |
|--|--|

COMPLETION DEPTH: 71.5

| DEPTH<br>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. | % S C R | % R Q D |
|--------------|--------|---------|--------------------------|------------|---------------|----------|--------------|------------|-----------------|------------------------|---------|---------|
|              |        |         | SURFACE ELEVATION: 221.0 |            |               |          |              |            |                 | 10                     |         |         |
|              |        |         |                          |            |               |          |              |            |                 | 14-20                  |         |         |
|              |        |         | Boring Terminated        |            |               |          |              |            |                 |                        |         |         |
| 75           |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 80           |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 85           |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 90           |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 95           |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 100          |        |         |                          |            |               |          |              |            |                 |                        |         |         |
| 105          |        |         |                          |            |               |          |              |            |                 |                        |         |         |

REMARKS: Hollow stem augers were utilized to a depth of 29.3'. Water level was 9.0' at 24 hrs. \* Old Station 228+80, Center Line of Construction.

|   |   |
|---|---|
| <b>ARKANSAS HWY. &amp; TRANS. DEPARTMENT</b><br><b>MATERIALS DIVISION - GEOTECHNICAL SEC.</b> | BORING NO. NEW 7<br>PAGE 1 OF 3               |
| JOB NO. 061084 Hot Spring County  | DATE: October 25-26, 2005                     |
| JOB NAME: UP RR & Pine St. Str. & Apprs.<br>U.S. 67   | TYPE OF DRILLING: Rotary Wash                 |
| STATION: 230+88 *   | EQUIPMENT: CME 850 w/ CME<br>Automatic Hammer |
| LOCATION: 180' Right of New Center Line of Construction                                       | HAMMER CORRECTION FACTOR: 1.29                |
| LOGGED BY: Richard Martin   |   |

COMPLETION DEPTH: 76.5

| DEPTH<br>FT. | SYMBOL | SAMPLES | DESCRIPTION OF MATERIAL   | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S<br>C<br>R | % R<br>Q<br>D |
|--------------|--------|---------|---|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|---------------|---------------|
|              |        |         | SURFACE ELEVATION: 221.5  |               |                  |          |                 |            |                |                           |               |               |
|              |        |         | Moist, Medium Dense, Brown Silty Sand with Gravel                 |               |                  |          |                 |            |                | 4                         |               |               |
|              |        |         | Moist, Medium Dense, Brown Silty Sand with Traces of Gravel       |               |                  |          |                 |            |                | 5-6                       |               |               |
|              |        |         | Moist, Medium Dense, Brown Silt with Sand                         |               |                  |          |                 |            |                | 7                         |               |               |
| 5            |        |         | Moist, Loose, Brown Clayey, Sandy Silt                            |               |                  |          |                 |            |                | 6-7                       |               |               |
|              |        |         | Moist, Stiff, Brown and Gray Clay with Sand                       |               |                  |          |                 |            |                | 4                         |               |               |
|              |        |         | Moist, Stiff, Brown and Gray Clay with Sand                       |               |                  |          |                 |            |                | 3-5                       |               |               |
| 10           |        |         | Wet, Medium Dense, Brown and Gray Sand with Gravel and Clay Seams |               |                  |          |                 |            |                | 3                         |               |               |
|              |        |         | Wet, Dense, Brown Sand with Gravel                                |               |                  |          |                 |            |                | 6-5                       |               |               |
|              |        |         | Wet, Medium Dense, Brown Gravel with Sand                         |               |                  |          |                 |            |                | 5                         |               |               |
| 15           |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 7-10                      |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 5                         |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 11                        |               |               |
| 20           |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 18-16                     |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 11                        |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 13-11                     |               |               |
| 25           |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 6                         |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 8-9                       |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 6                         |               |               |
| 30           |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 3                         |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 5-11                      |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 3                         |               |               |
| 35           |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 11                        |               |               |
|              |        |         | Moist, Very Stiff, Dark Gray Clay                                 |               |                  |          |                 |            |                | 13-11                     |               |               |

REMARKS: Hollow stem augers were utilized to a depth of 29.4'. Water level was 9.5' at 24 hrs. \* Old Station 230+20, 53' Right of Center Line of Construction.

**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 7  
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JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 230+88 \*  
LOCATION: 180' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 25-26, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 76.5

| DEPTH<br>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. | % S C R | % R Q D |
|--------------|--------|---------|--|------------|---------------|----------|--------------|------------|----------------|------------------------|---------|---------|
|              |        |         |  |            |               |          |              |            |                |                        |         |         |
|              |        |         | SURFACE ELEVATION: 221.5   |            |               |          |              |            |                | 7<br>11-15             |         |         |
| 40           |        |         | Moist, Very Stiff, Dark Gray Calcareous Clay with some Silt Lenses   |            |               |          |              |            |                | 9<br>12-15             |         |         |
| 45           |        |         | Moist, Very Stiff, Dark Gray Calcareous Clay   |            |               |          |              |            |                | 9<br>12-16             |         |         |
| 50           |        |         | Moist, Very Stiff, Dark Gray Calcareous Clay with Shells   |            |               |          |              |            |                | 8<br>11-16             |         |         |
| 55           |        |         | Hard, Gray Cemented Silt with some Clay (52.6' to 52.8')<br>Moist, Hard, Dark Gray Calcareous Clay with Shells |            |               |          |              |            |                | 10<br>14-17            |         |         |
| 60           |        |         | Moist, Hard, Dark Gray Calcareous Clay with Shells and Traces of Gravel  |            |               |          |              |            |                | 11<br>14-18            |         |         |
| 65           |        |         | Moist, Hard, Dark Gray Calcareous Clay with Shells   |            |               |          |              |            |                | 9<br>13-18             |         |         |
| 70           |        |         | Moist, Hard, Dark Gray Calcareous Clay with Silt Lenses  |            |               |          |              |            |                |                        |         |         |

REMARKS: Hollow stem augers were utilized to a depth of 29.4'. Water level was 9.5' at 24 hrs. \* Old Station 230+20, 53' Right of Center Line of Construction.


**ARKANSAS HWY. & TRANS. DEPARTMENT  
MATERIALS DIVISION - GEOTECHNICAL SEC.**

BORING NO. NEW 7  
PAGE 3 OF 3

JOB NO. 061084 Hot Spring County  
JOB NAME: UP RR & Pine St. Str. & Apprs.  
U.S. 67  
STATION: 230+88 \*  
LOCATION: 180' Right of New Center Line of Construction  
LOGGED BY: Richard Martin

DATE: October 25-26, 2005  
TYPE OF DRILLING: Rotary Wash  
EQUIPMENT: CME 850 w/ CME Automatic Hammer  
HAMMER CORRECTION FACTOR: 1.29

COMPLETION DEPTH: 76.5

| DEPTH<br>FT. | SYMBOL  | SAMPLES | DESCRIPTION OF MATERIAL  | SOIL<br>GROUP | PLASTIC<br>LIMIT | % MOIST. | LIQUID<br>LIMIT | DRY WEIGHT | LBS PER CU.FT. | NO. OF BLOWS<br>PER 6-IN. | % S<br>C<br>R | % R<br>O<br>D |
|--------------|---|---------|--|---------------|------------------|----------|-----------------|------------|----------------|---------------------------|---------------|---------------|
|              |   |         |  |               |                  |          |                 |            |                |                           |               |               |
|              |   |         | SURFACE ELEVATION: 221.5   |               |                  |          |                 |            |                |                           |               |               |
| 75           |  |         | Moist, Hard, Dark Gray Calcareous Clay with Silt Lenses and Shells |               |                  |          |                 |            |                | 10<br>14-19               |               |               |
|              |   |         | Moist, Hard, Dark Gray Calcareous Clay with Shells                 |               |                  |          |                 |            |                | 9<br>14-19                |               |               |
|              |   |         | Boring Terminated  |               |                  |          |                 |            |                |                           |               |               |
| 80           |   |         |  |               |                  |          |                 |            |                |                           |               |               |
| 85           |   |         |  |               |                  |          |                 |            |                |                           |               |               |
| 90           |   |         |  |               |                  |          |                 |            |                |                           |               |               |
| 95           |   |         |  |               |                  |          |                 |            |                |                           |               |               |
| 100          |   |         |  |               |                  |          |                 |            |                |                           |               |               |
| 105          |   |         |  |               |                  |          |                 |            |                |                           |               |               |

REMARKS: Hollow stem augers were utilized to a depth of 29.4'. Water level was 9.5' at 24 hrs. \* Old Station 230+20, 53' Right of Center Line of Construction.