

**STATE OF ARKANSAS**

**Arkansas Geological Commission  
Norman F. Williams, State Geologist**

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**INFORMATION CIRCULAR 28-C**

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**ARKANSAS LIGNITE  
INVESTIGATIONS**

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**by**

**W. L. Prior, B. F. Clardy  
and Q. M. Baber III**



**Little Rock, Arkansas  
1985**





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## ARKANSAS LIGNITE INVESTIGATIONS

### INTRODUCTION:

The Arkansas General Assembly, recognizing the importance of lignite as a potential energy source, appropriated funds for the period 1975-1985 for the Arkansas Geological Commission to investigate lignite. This report summarizes most of the data collected during that 10-year period along with a brief summary of the results. The information is in the form of drill logs, lignite analyses and county maps showing the location of the drill sites.

Coal is classified according to its physical and chemical properties into the three major ranks of anthracite, bituminous and lignite. Anthracite is the highest rank with lignite being lowest rank.

Lignite is brown to black in color, has a high moisture and volatile content, and a heating value of less than 8300 Btu/lb on a moist, mineral-matter-free basis (A.S.T.M., 1976). Its high volatile content makes it more readily converted into gas and liquid products than the higher ranking coals. However, the high moisture content of lignite and its susceptibility to spontaneous combustion present problems in transportation and storage.

Arkansas lignite is a potentially valuable source of energy. Major energy companies have spent millions of dollars investigating lignite in the state since 1973. These companies have leased about 200,000 acres of land for lignite in the Gulf Coastal Plain province of southern and eastern Arkansas, and have announced that they have more than 2 billion tons of lignite in proven reserves (Ozark Regional Commission, 1978). In addition to the costs of exploration, the

energy companies have invested substantially in studies on mine planning, product research, surface- and ground-water quality, mine reclamation, and the environmental impact of mining.

The Arkansas Geological Commission made investigations only in areas of the state where lignite could be expected to occur at depths of 150 feet or less. Lignite occurs at such shallow depths in two geological units called the Wilcox and Claiborne Groups, in southern Arkansas and along Crowley's Ridge in northeastern Arkansas. The program consisted of core-drilling the more promising areas and analyzing recovered lignite core samples. As an adjunct to this program, the U. S. Geological Survey's Ground Water Branch has conducted a program of monitoring the ground water in the lignite areas of south Arkansas to obtain a history of water quality and water levels in advance of mining. With the data that they have collected (Terry and others, 1979) before mining begins, there is a reliable basis for estimating the effect of strip mining lignite on ground water aquifers.

From 1973 to 1979 interest in Arkansas lignite increased steadily. In addition to company and government interest, the news media and public were keenly interested in Arkansas lignite and in the possibility of extensive strip mining in lignite areas. From 1979 to 1985 interest in lignite waned because electricity demand did not continue to increase as anticipated. The energy industry as a whole, through energy conservation and sluggish economic conditions, has suffered reduced demands. Therefore, potential new sources of energy have been put "on hold" until energy demand and prices return to higher levels. Lignite is a potential major

source of energy in Arkansas which, with orderly development, will become a major economic asset.

#### **ACKNOWLEDGMENTS:**

The proximate and ultimate analyses of lignite were performed under the direction of Mr. Forrest E. Walker, variously with the U. S. Bureau of Mines Laboratory, the U. S. Department of Energy and also at the United States Geological Laboratories in Pittsburgh, Pennsylvania. Trace element analyses were performed by the U. S. Geological Survey Laboratory (Hildebrand, Clardy, and Holbrook, 1981).

The Dow Chemical Company, General Crude Oil Company, Reynolds Metals Company, Carter Oil Company and Phillips Petroleum Company provided us with information on lignite and gave advice on drilling procedures. In addition, the Carter Oil Company furnished at no charge a Widco electric logger. The drilling program was facilitated by the cooperation of the Arkansas Highway Department and numerous county judges. The Geology Commission appreciates the attitude and warm reception of the many property owners in the areas of our drilling operations. All of the members of the Arkansas Geological Commission staff have assisted with the lignite project.

#### **HISTORY:**

Lignite was mined and used in south Arkansas before the War between the States. It was first used for steam-boiler fuel and as fuel for small locomotives near the mines in Ouachita County. In 1907 a small oil-distilling plant was in operation in Camden and another distillery was operating in Lester, Ouachita County. Both of these plants produced oils distilled from the Camden coal field near Lester. White (1913) stated, "Such lignite

is said to yield as high as 38 gallons of oil per ton, though the average oil production from lignite as it is mined and distilled approximates 25 gallons per ton." There is no record as to the length of time that the plants remained in operation, nor of their production.

In 1938 a plant was constructed in El Dorado by the Arkansas Dye and Chemical Company to produce Vandyke brown dye from lignite. In 1943 the American Dyewood Company of New Jersey moved its plant to Malvern and produced Vandyke brown dye. The dye was used in staining ammunition boxes during World War II. Annual production during the war years was small; in the order of 1,000 tons per year (Selvig, 1950). The Arkansas Chemical Company operated a processing plant at Malvern to extract Monton wax from lignite. The plant operated from 1958 to 1960 (McEntire, 1963).

Since 1973 various energy companies have carried out drilling and test-pitting operations of the various large lignite deposits within the state. Testing has been aimed primarily at using lignite as boiler fuel for generating electrical power, as a source of chemical feed stock, and as a source of various petroleum-type products through gasification and liquidification.

#### **PRESENT INVESTIGATION**

##### **PURPOSES:**

The Commission's staff geologists decided that the primary purposes of the investigation should be to: determine the geographical and geological distribution of lignite in Arkansas at minable depths; obtain heating values and chemical analyses from the deposits encountered; obtain data relating to overburden and ground water; and calculate the lignite resources in the state.

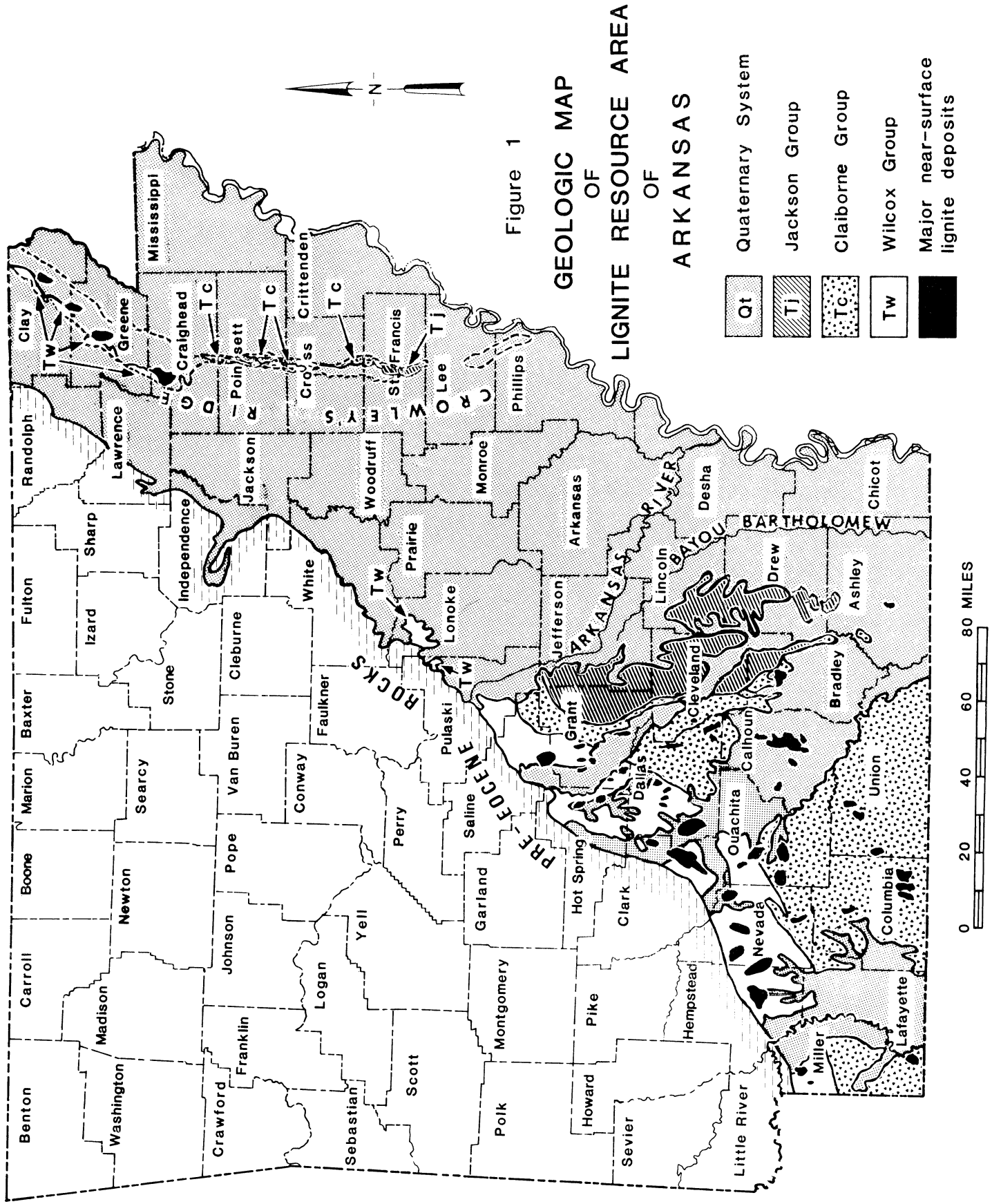


Figure 1

## METHODS:

The drilling program began in northeast Arkansas on Crowley's Ridge because in 1975 company exploration was concentrated in south Arkansas. Lignite was known to occur in the Tertiary sediments of Crowley's Ridge (Fig. 1) from outcrop of drill hole data (Call, 1891; Selvig, 1950).

Initially, the drilling was done by a drilling contractor. A field geologist chose the drill site, logged the drill cuttings, picked the intervals to be cored, described core samples, and packaged them in airtight plastic to prevent loss of moisture. The geologist also operated an electric logging device after the drill hole was completed to record the electrical properties (resistivity and specific conductance) of the rocks. Periodically, all information and samples were delivered to the project geologist, who shipped the lignite samples to 3 different laboratories over a 10-year period. County location maps and drill logs of northeastern Arkansas are listed in Appendix A. Proximate and ultimate analyses for Crowley's Ridge are listed in Appendix C.

In the spring of 1976 the Arkansas Geological Commission purchased a Failing model 1500 drill rig. In August, 1976 the rig was delivered and the lignite investigation moved to south Arkansas. Much of the company activity of this time consisted of development drilling and did not conflict with the Commission's reconnaissance drilling program. In the southern part of the state holes were drilled along highway rights-of-way at about one-mile spacings. Field and office procedures were essentially the same as for the northeast Arkansas part of the project. In the spring of 1977 another contract drilling company was employed for a few weeks to augment our own drilling. In the summer of 1977 a gamma-ray tool was purchased to be used as part of our logging program. The gamma-ray tool records gamma radiation

emitted from the rocks and is used extensively in uranium exploration. The Commission purchased a Central Mine Equipment drill rig (CME 55) in the summer of 1978. This rig utilizes an auger which greatly reduced the problems encountered in drilling through gravel. Drilling and coring data from all test holes drilled to date in south Arkansas appear in Appendix B, and proximate and ultimate analyses of lignite samples are in Appendix C of this report.

Proximate and ultimate analyses were made at the United States Bureau of Mines laboratory, the United States Department of Energy laboratory, and the U. S. Geological Survey laboratory in Pittsburgh, Pennsylvania. Splits of most of the samples were then sent to a U. S. Geological Survey laboratory in Denver, Colorado for trace element analysis. The results of the trace element analyses for 53 samples can be found in Arkansas Geological Commission Information Circular 28 (Hildebrand and others, 1981).

## RESULTS:

During the period 1975-1985 the Arkansas Geological Commission drilled 1,843 test holes to an average depth of 157 feet for a total of over 290,400 feet. Of this total footage, 246,000 feet were drilled in lignite-bearing units. Results indicate that potentially economic deposits of lignite occur within certain sections of the Tertiary age Wilcox and Claiborne Groups. No significant lignite deposits were encountered in either the Jackson Group sediments nor in Quaternary age sediments.

Since 1975, 102 proximate and ultimate analyses have been made on lignite from the Wilcox and Claiborne for this project. Based on these 102 analyses the lignite in Arkansas has an average heat of combustion value of 6,932 Btu/lb on a moist, mineral-matter-free basis. This value makes the lignite



a rank A lignite which has a Btu/lb of between 6,300 and 8,300 (A.S.T.M. 1976).

On an as-received basis the lignite averages 37.2% moisture, 17.7% ash and 0.59% sulfur with an average heating value of 5,615 Btu/lb. Based on average values on a moisture-free basis the lignite has 9,006 Btu/lb with 27.5% ash and 0.96% sulfur. Finally, on a moisture- and ash-free basis the lignite has an average of 12,375 Btu/lb with 1.34% total sulfur. Reflecting its rank the lignite also has averages of 45.5% fixed carbon and 58.5% volatile matter.

The quality and quantity of lignite within Arkansas is a reflection in the differences in the environments of deposition within the Wilcox and Claiborne Groups. As a whole, beds of lignite in both the Wilcox and Claiborne account for 0.63% by footage of all the lignite-bearing Tertiary rocks drilled. A resource figure based on this percentage and calculated for an overburden of 150 feet or less is more than 9 billion tons.

## STRATIGRAPHY

Lignite occurs in sedimentary rocks of Tertiary age in the Gulf Coastal Plain region of Arkansas (Fig. 1). These rocks are divided into Wilcox, Claiborne and Jackson Groups, all of which are Eocene age. These units contain sediments which were deposited in fluvial, deltaic and marine environments. Overlying these Eocene age units in many areas are gravels, sands, silts and clays of Quaternary age.

### EOCENE SERIES

#### WILCOX GROUP:

The Wilcox Group is exposed in outcrops trending southwest from northwestern Lonoke County to northern Miller County and along

Crowley's Ridge in Craighead, Greene, and Clay counties of northeastern Arkansas (Fig. 1). The Wilcox is as much as 850 feet thick in the state and has a maximum outcrop width of 21 miles in southern Hot Spring and northern Dallas Counties. The sediments dip less than 1° to the southeast. In the subsurface the Wilcox is found in the Gulf Coastal Plain from Clay County southward to Chicot County and from Chicot westward to southern Miller County.

The group is made up predominantly of fine to very-fine sands, silty sands, and clays. The sands are generally light gray when unweathered. The clays are generally light shades of gray or brown and contain varying amounts of fine sand and silt. The sands and clays frequently contain enough carbonaceous material to make them dark brown to black. Lignite occurs in beds up to 10 feet thick within 150' of the surface and the beds are generally lenticular in shape. The larger, more important lignite beds appear to be in the lower and middle Wilcox with thinner beds scattered throughout. The depositional environment of the Wilcox is of a fluvial or river type of environment. The type of deposition influenced the shape and distribution of the lignite beds in the Wilcox.

Fifty-two samples of Wilcox Group lignites were collected during this project and submitted for analysis. Proximate and ultimate analyses show that on an as-received basis Wilcox lignites average 35.7% moisture, 17.6% ash, 0.57% sulfur and 5,759 Btu/lb. Moisture-free analyses show an average of 27% ash, 0.9% sulfur and 9,004 Btu/lb. On a moisture- and ash-free basis the Wilcox lignites have 1.2% total sulfur, and 12,226 Btu/lb. Total fixed carbon averages 44% with 56% volatile matter. Based on a moist, mineral-matter-free basis Wilcox lignites average 7,100 Btu/lb and are of Lignite A rank.

Based on 590 drill holes, with an average depth of 161 feet, and 95,000 feet of

section drilled, lignite in the Wilcox Group represents 0.93% of all the Wilcox sediments drilled. The lignite resource in the state is about 4.3 billion tons in the Wilcox Group.

#### **CLAIBORNE GROUP:**

The Wilcox Group is overlain by sands, silts, and clays of the Claiborne Group. Outcrops of the Claiborne Group occur from eastern Saline to western Miller County, and from southern Pulaski southward to western Ashley County. The Claiborne is also exposed in outcrops along Crowley's Ridge in St. Francis, Cross, Poinsett, and southern Craighead Counties in northeastern Arkansas (Fig. 1). In the subsurface the Claiborne is found from Craighead County southward to Ashley and Chicot Counties, and central Grant County eastward to the Mississippi River. The Claiborne, like the underlying Wilcox, generally dips to the southeast at less than 1°.

The group is as much as 1,200 feet thick in Arkansas and is made up predominantly of silty clays, fine to very-fine sands, and silts. The clays are light to dark gray, blue-gray and usually very silty or sandy. The sands are medium to dark gray when unweathered and alter to white, brown and red when weathered. The silts are medium to dark gray and clayey. The sands, silts and clays contain enough carbonaceous material at many places to make them dark brown to black. Lignite beds in the Claiborne are lenticular, generally of limited areal extent, with a maximum reported thickness of over 10 feet. The lignite in the Claiborne was deposited in deltaic to near shallow marine environments which affected the areal distribution and the chemistry of the lignite.

Based on 50 analyses the Claiborne lignites on an as-received basis average 38.7% moisture, 17.9% ash, 0.62% sulfur and 5,467 Btu/lb. Moisture-free values average 28% ash,

1.03% sulfur and 9,008 Btu/lb with moisture and ash-free averages of 1.48% total sulfur and 12,524 Btu/lb. Claiborne lignites on a moist, mineral-matter-free basis are of Lignite A rank with an average of 6,764 Btu/lb.

The Commission lignite project has drilled 1,003 test holes into Claiborne Group sediments and, based on an average depth of 150 feet per hole, the lignite in the Claiborne Group represents 0.45% of all the Claiborne sediments drilled. A resource figure based on these data is 4.7 billion tons. The major lignite deposits in the Claiborne occur about in the middle of the section.

#### **JACKSON GROUP:**

Overlying the Claiborne Group are sediments of the Jackson Group. The Jackson Group outcrops in eastern Grant, Cleveland and Bradley Counties and western Jefferson, Lincoln and Drew Counties in southeastern Arkansas (Fig. 1). Also, outcrops of the Jackson Group occur along the flank of Crowley's Ridge in St. Francis County in eastern Arkansas. The Jackson Group has a reported maximum thickness of 450 feet in the subsurface (Meissner, 1984). It is composed of fossiliferous, calcareous, glauconitic clays, glauconitic fine-grained sands, and carbonaceous silts and clays. The Jackson is the youngest of the three Eocene units in Arkansas and in many places has sediments deposited in a marine environment. Such marine deposits contain little significant lignite. Nearly 11,000 feet of drilling was done in Jackson Group sediments and only a total of 3 feet of lignite was found for the entire section.

#### **QUATERNARY SYSTEM:**

Quaternary deposits overlie the Wilcox, Claiborne and Jackson strata in much of southern and eastern Arkansas. The Quaternary

is made up of Pleistocene terrace and loess deposits and Holocene alluvial deposits.

The Pleistocene is composed primarily of deposits of river gravel, sand, silt and clay that lie above the present flood plains. Loess deposits of Pleistocene age cap Crowley's Ridge from Poinsett to Phillips Counties. Holocene alluvial deposits occur along the streams and are made up of sand, gravel, silt and clay. West of the Arkansas River and Bayou Bartholomew in southern Arkansas, Pleistocene and Holocene deposits together range from 0 to 90 feet thick and are generally less than 30 feet thick. From Bayou Bartholomew northward and eastward Quaternary deposits range from 0 to over 200 feet thick, and with the exception of Crowley's Ridge, the deposits are generally over 100 feet thick. In extreme southwestern Arkansas Pleistocene terrace deposits to the east of the Red River in Lafayette County are 0 to over 150 feet thick. Holocene deposits of the Red River alluvial flood plains in Miller and Lafayette Counties are 0 to 70 feet thick.

Quaternary deposits overlie many lignite bearing units and during this project over 33,000 feet were drilled through the Quaternary to reach the underlying lignite-bearing units. The Quaternary deposits were found to contain only woody plant material and occasionally reworked lignitic material from underlying units.

The Quaternary gravel deposits in Arkansas are very important sources of building and road construction material. Many of these gravel deposits overlie major lignite deposits and so could be a by-product from lignite mining in Arkansas.

During the course of this investigation no estimates of lignite resources at depths greater than 161 feet were made. Lignite is known to occur at greater depths from the deeper drilling of municipal water wells and oil tests, but estimates of resources from these sources would be tenuous at best. However, resources of more than 9 billion tons and proven reserves of slightly more than 2 billion tons of near-surface lignite are a very valuable economic asset to the State of Arkansas.

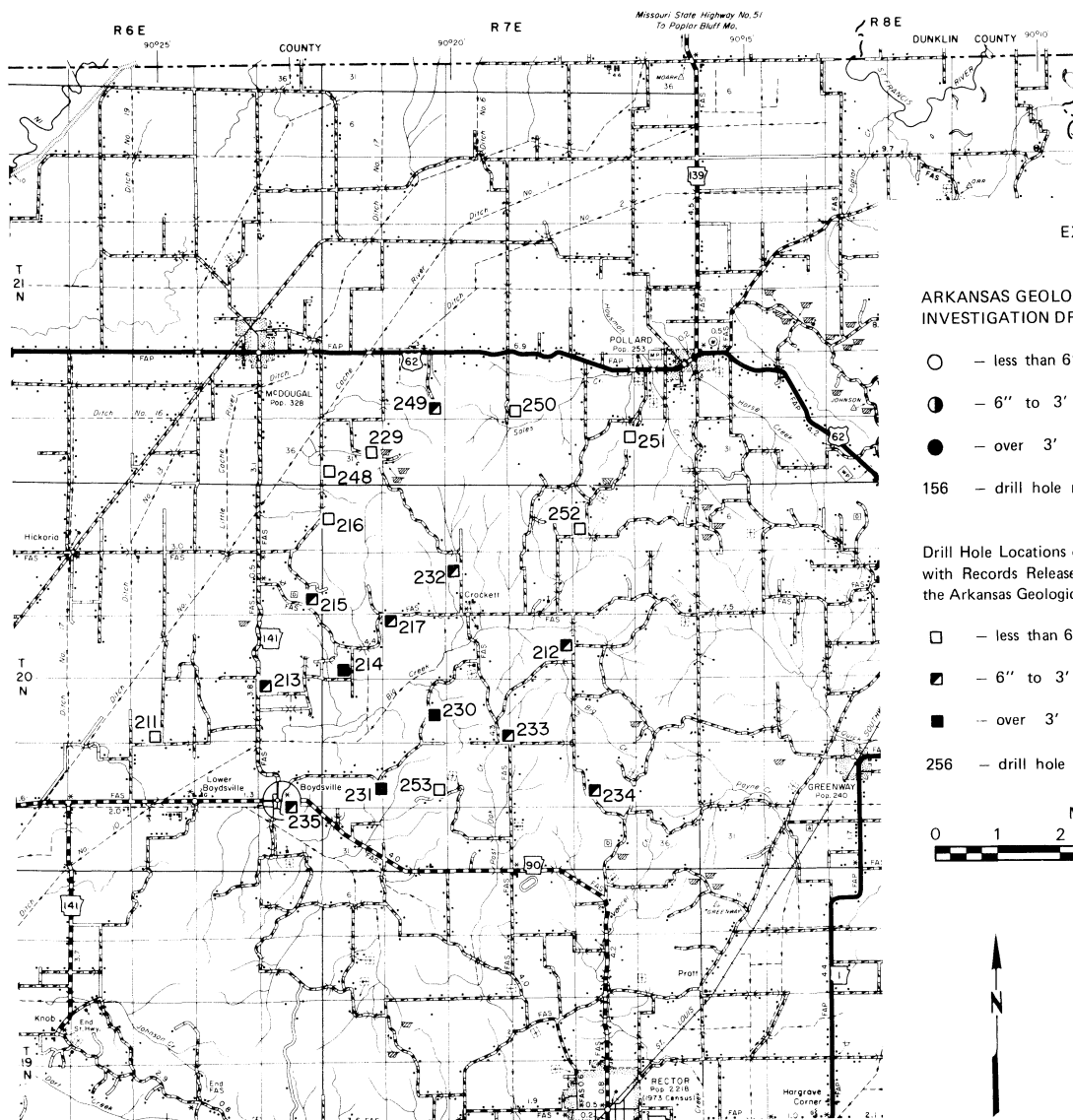


## **APPENDIX A**

**County location maps and drill logs of northeastern Arkansas**

# Arkansas Lignite Investigations

## Clay County



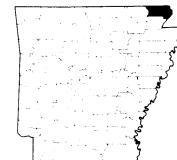
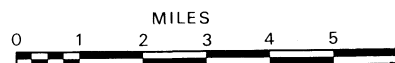
### EXPLANATION

#### ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number

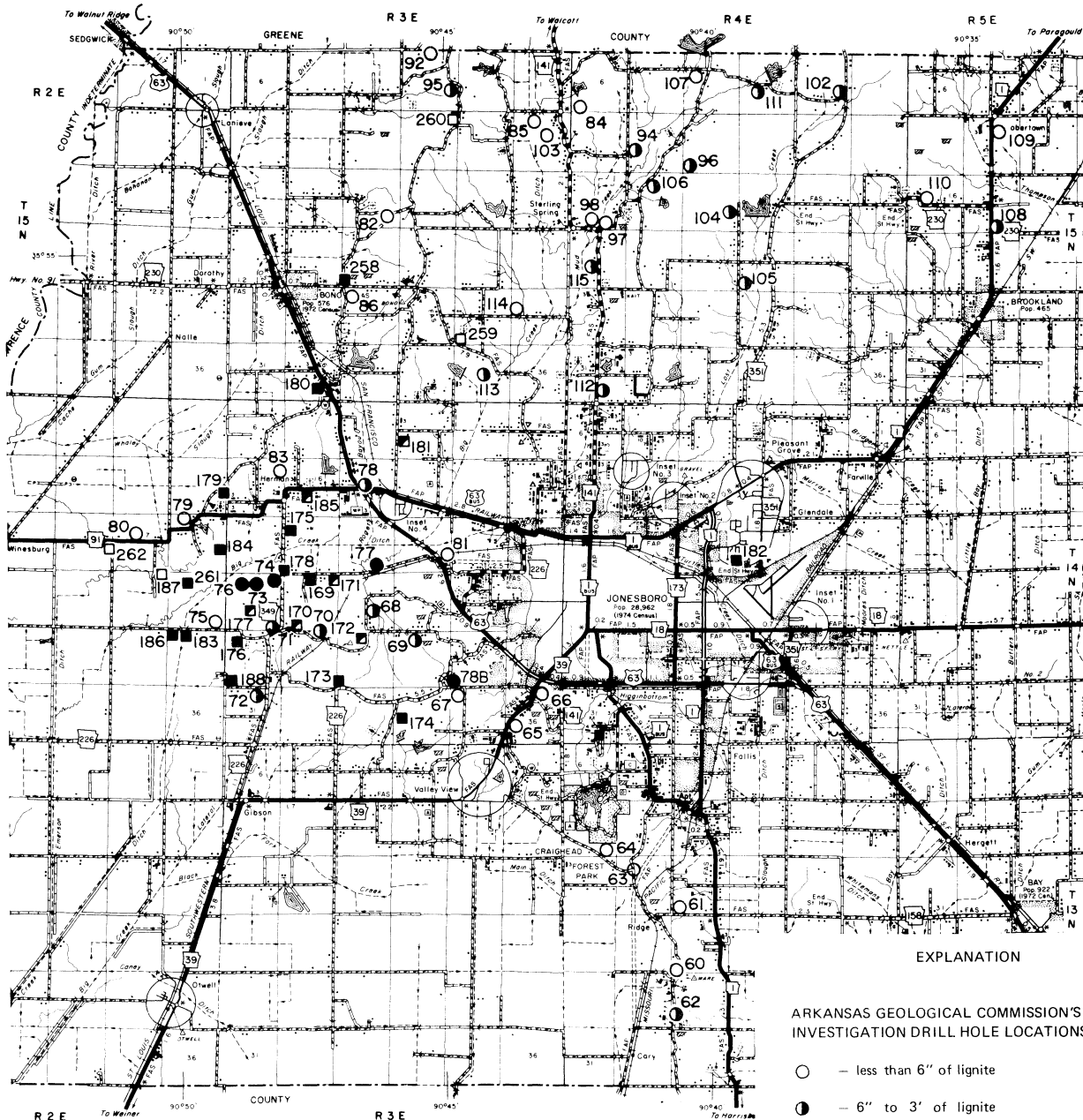
#### Drill Hole Locations of Company Lignite Investigations, with Records Released to the Public and on File with the Arkansas Geological Commission:

- — less than 6" of lignite
- ◑ — 6" to 3' of lignite
- — over 3' of lignite
- 256 — drill hole reference number



# Arkansas Lignite Investigations

## Craighead County



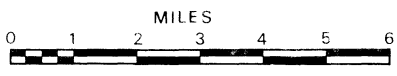
### EXPLANATION

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number

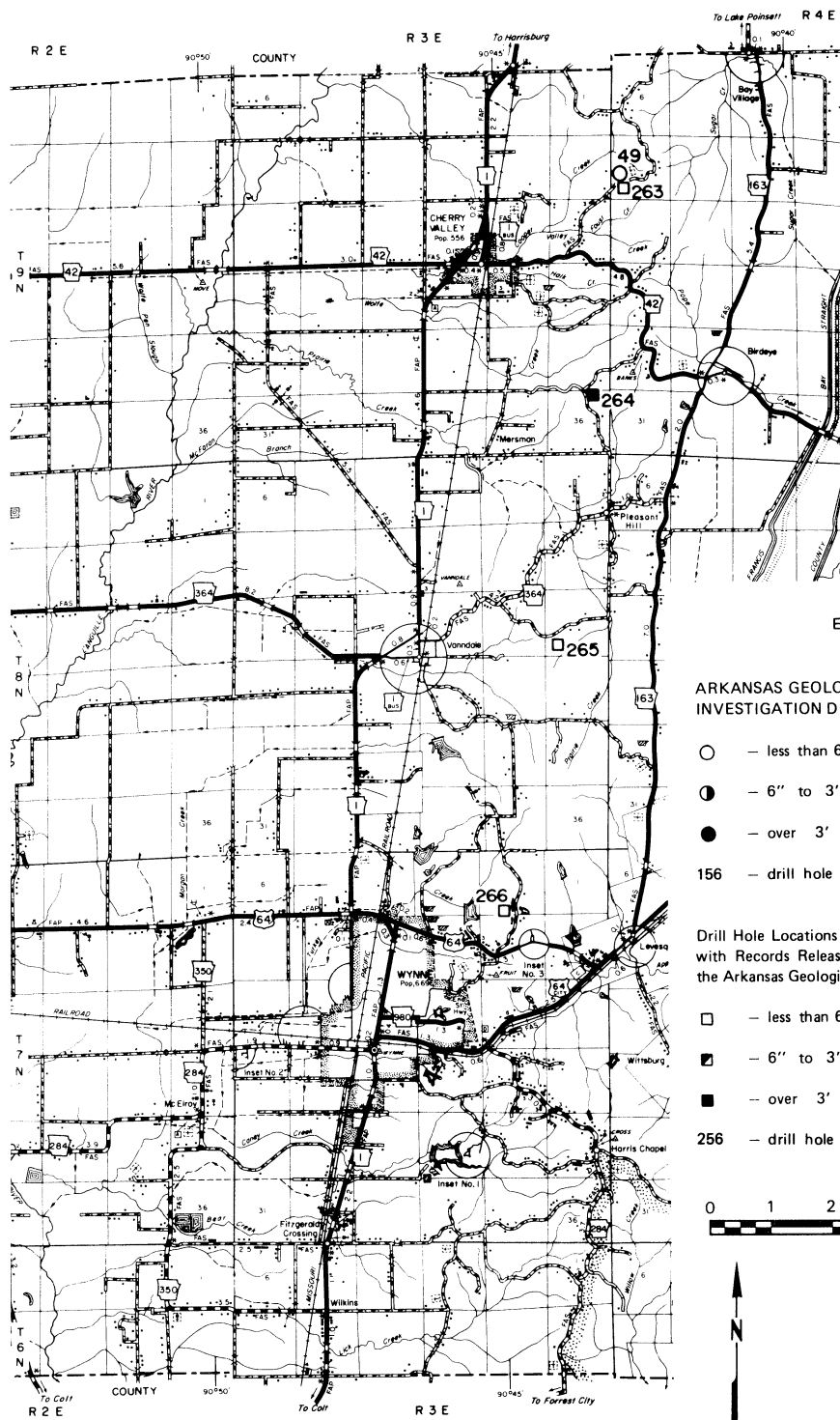
Drill Hole Locations of Company Lignite Investigations, with Records Released to the Public and on File with the Arkansas Geological Commission:

- — less than 6" of lignite
- ◑ — 6" to 3' of lignite
- — over 3' of lignite
- 256 — drill hole reference number



# Arkansas Lignite Investigations

## Cross County



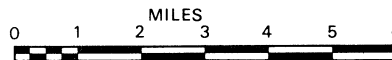
### EXPLANATION

#### ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number

#### Drill Hole Locations of Company Lignite Investigations, with Records Released to the Public and on File with the Arkansas Geological Commission:

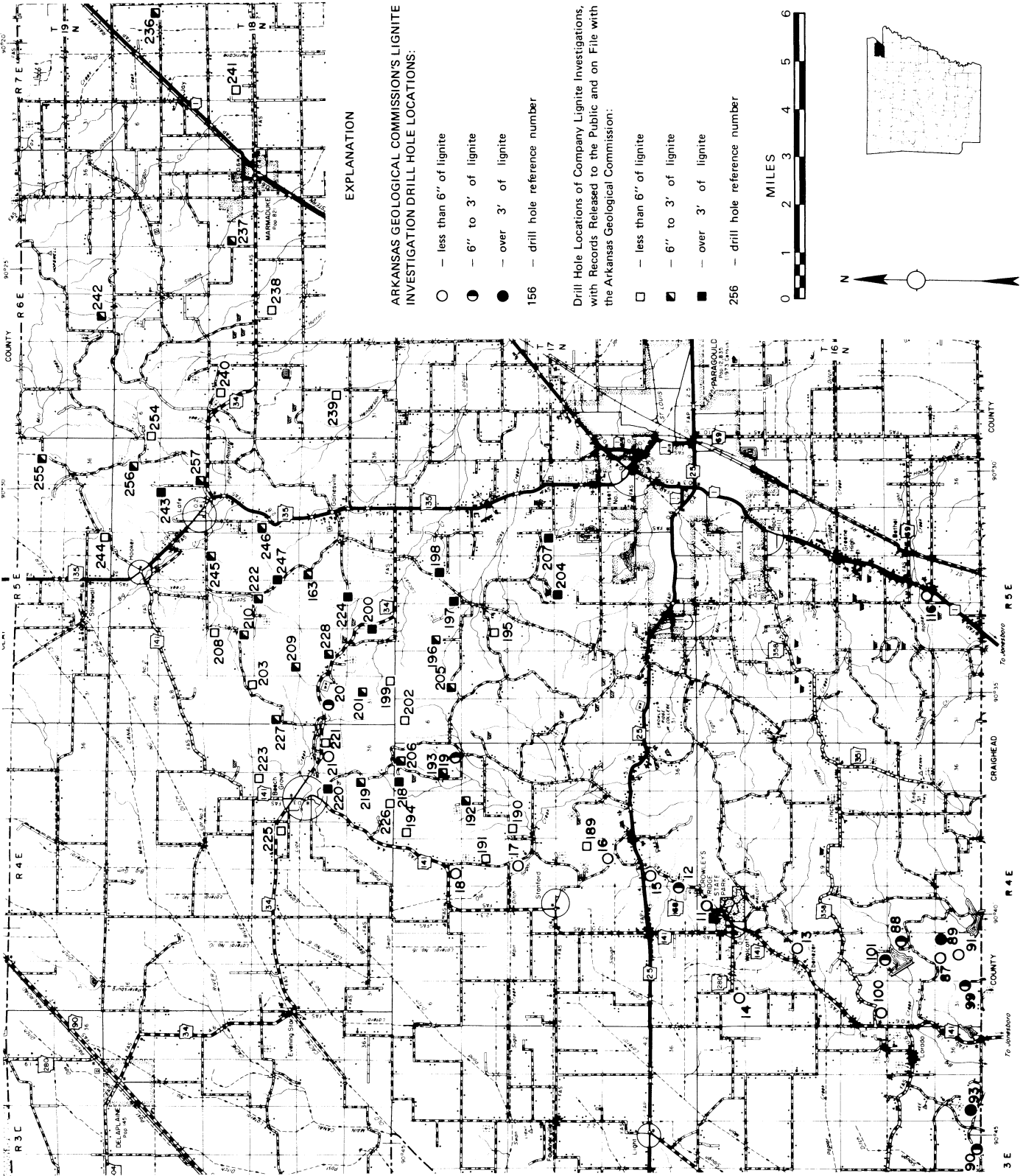
- — less than 6" of lignite
- ▣ — 6" to 3' of lignite
- — over 3' of lignite
- 256 — drill hole reference number





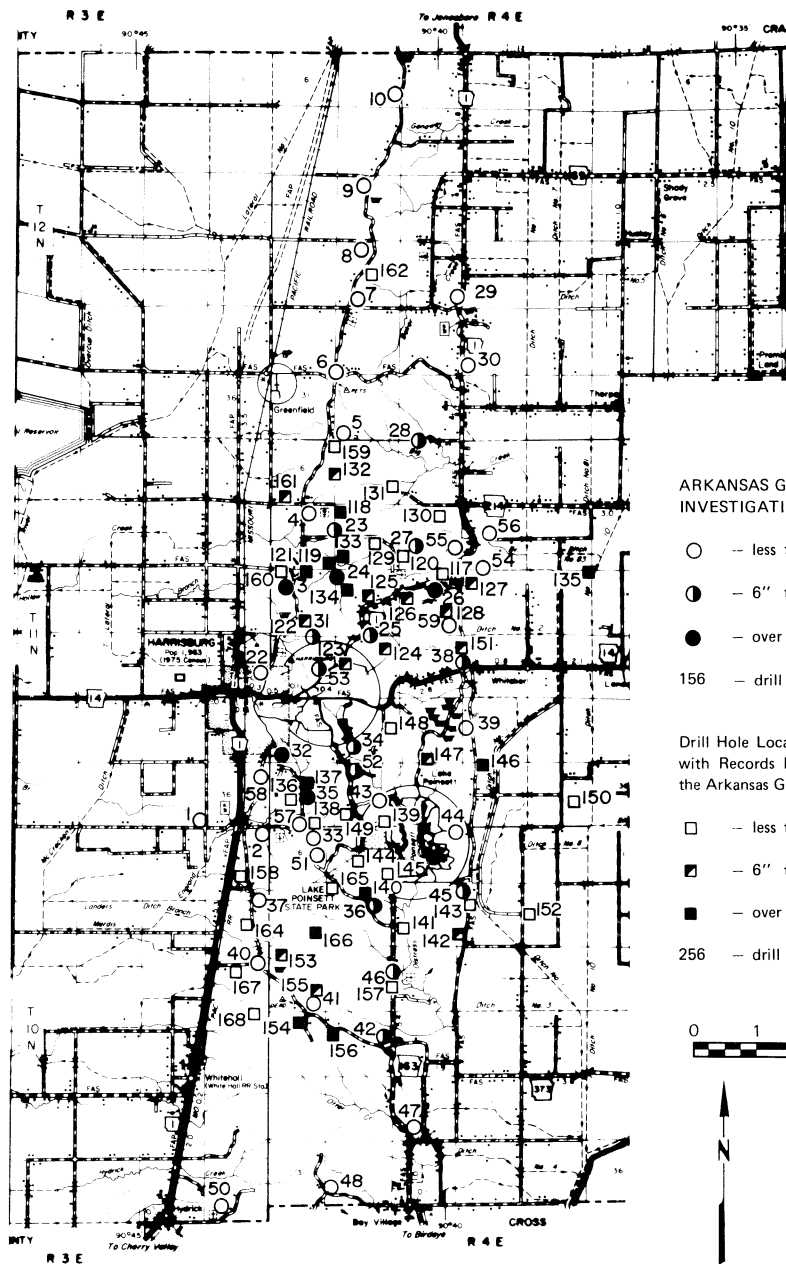
# Arkansas Lignite Investigations

## Greene County



# Arkansas Lignite Investigations

## Poinsett County



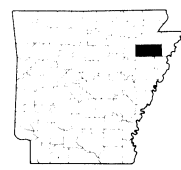
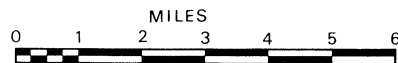
### EXPLANATION

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

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- -- over 3' of lignite
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Drill Hole Locations of Company Lignite Investigations, with Records Released to the Public and on File with the Arkansas Geological Commission:

- -- less than 6" of lignite
- ◑ -- 6" to 3' of lignite
- -- over 3' of lignite
- 256 -- drill hole reference number



ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1.** Elevation 272'  
Location: SE¼, Sec. 35, T. 11 N., R. 3 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 25' Clay, brown, silty, with gravel  
25'- 40' Clay, brown, sandy, with gravel  
40'- 72' Clay, brown, sandy, with some shale fragments  
72'- 78' Clay, brown to light-tan, with very fine-grain sand  
78'- 90' Clay, brown to light-tan, with coarse sand  
90'-115' Sand, fine to medium-grained, with iron staining  
115'-126' Sand, very coarse up to 2mm with well-rounded characteristics  
126'-136' Clay, light-tan, with sand and chert pebbles  
136'-138' Clay, tan  
138'-160' Sand, coarse, with chert and with iron staining  
160'-190' Sand, coarse, with thin layers of light gray clay  
190'-210' Sand, coarse, with thin layers of light-gray clay  
210'-220' Clay, gray and tan, with traces of lignite  
T. D.: 220'

**Drill Hole No. 2.** Elevation 302'  
Location: NE¼, Sec. 1, T. 10 N., R. 3 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 7' Clay, light-tan, sandy with iron staining  
7'- 12' Clay, light-tan, sandy with iron staining  
12'- 17' Clay, light-tan, sandy with iron staining  
17'- 21' Sand, small gravel  
21'- 24' Sand, light-tan clay, with decrease in gravel  
24'- 28' Clay, tan, with large rounded chert  
28'- 30' Clay, gray  
30'- 35' Clay, gray, with sand (fine)  
35'- 40' Clay, gray, with decrease in sand  
40'- 50' Clay, gray and tan  
50'- 54' Clay, tan and gray, with sand  
54'- 58' Clay, tan and gray, with decrease in sand  
58'- 74' Clay, tan and gray, silty  
74'- 80' Clay, gray, with trace of iron stain  
80'- 90' Clay, gray, with iron stain, with trace of lignite  
90'- 94' Clay, gray, with increase in sand  
94'-100' Clay, sandy, with iron stain  
100'-135' Clay, sandy, with iron stain  
135'-142' Clay, tan and gray, with sand, with trace of lignite  
142'-175' Sand, clay, tan, with layers  
175'-190' Clay, gray and tan, with increase of sand, with trace of lignite  
190'-200' Clay, gray and tan, with increase of sand, with trace of lignite  
200'-205' Clay, tan and gray, with silt  
205'-230' Clay, tan and gray, with silt, and a trace of lignite  
230'-238' Clay, tan and gray, with approximately 3 inch siltstone layer at 235'  
T. D.: 238'

**Drill Hole No. 3.** Elevation 352'  
Location: NW¼, Sec. 18, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 8' Clay, red, gravel, with sand  
8'- 12' Clay, tan, with gravel

12'- 14' Clay, tan and gray, with gravels  
14'- 16' Clay, tan and gray, with a decrease in sand  
16'- 22' Clay, tan and gray, with sand  
22'- 40' Clay, tan and gray, with iron staining  
40'- 50' Clay, tan and gray, with iron staining  
50'- 58' Clay, tan and gray, with iron staining and a trace of lignite  
58'- 66' Clay, gray, with a thin layer of lignite @65%, approximately 6"  
66'- 70' Clay, gray, with sand  
70'- 80' Cored interval, ten feet:  
Recovered: Lost:  
5.0 feet 5.0 feet  
3.2' Lignite, dark-layered carbonaceous material, clay, light-gray and tan, with sand, and good zoning  
1.3' Lignite  
0.5' Lignite with layers of clay, gray  
80'- 82' Lignite, with dark-gray clay  
82'-117' Clay, blue-gray, with trace of lignite  
117'-135' Clay, blue-gray, with sand  
135'-150' Clay, blue-gray, with sand  
T. D.: 150'

**Drill Hole No. 4.** Elevation 310'  
Location: NE¼, Sec. 7, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 10' Gravel, clay, tan, with sand  
10'- 13' Clay, gray, with sand  
13'- 22' Clay, dark gray, with carbonaceous material  
22'- 32' Clay, light-gray to blue, slightly silty  
32'- 40' Clay, gray, silty  
40'- 70' Same  
70'-100' Sand, gray to white, fine-grained  
100'-113' Clay, gray, with sand, lignite at 112', approximately 4 inches  
113'-120' Clay, gray, sandy  
120'-150' Clay, gray, sandy with carbonaceous material  
T. D.: 150'

**Drill Hole No. 5.** Elevation 380'  
Location: SW¼, Sec. 32, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 6' Clay, tan, gravel  
6'- 8' Clay, tan, sand, gravel  
8'- 10' Clay, tan, sand  
10'- 12' Clay, red, sand  
12'- 13' Clay, tan, sand  
13'- 18' Sand, fine grained  
T. D.: 18'

**Drill Hole No. 6.** Elevation 367'  
Location: NE¼, Sec. 31, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 5' Weathered surface material  
5'- 10' Clay, tan, sand and gravel  
10'- 12' Clay, tan to gray, with sand and gravel  
12'- 18' Gravel  
18'- 20' Clay, gray, with sand  
20'- 27' Clay, gray, with very-fine sand  
27'- 50' Sand, white  
50'- 70' Clay, gray, sand  
70'- 90' Clay, tan and gray  
90'-100' Clay, tan and gray  
100'-120' Clay, tan and gray, with sand  
120'-150' Clay, tan and gray, with sand  
T. D.: 150'

**Drill Hole No. 7.** Elevation 365'  
Location: SW¼, Sec. 20, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 5' Clay, tan and red, with sand  
5'- 10' Clay, tan, with sand  
10'- 15' Clay, gray, with sand  
15'- 21' Sand, gray, with clay  
21'- 50' Sand, gray, with clay  
50'-100' Sand, gray with thin layers of gray clay  
100'-150' Sand, gray, with thin layers of gray to blue clay  
T. D.: 150'

**Drill Hole No. 8.** Elevation 300'  
Location: NW¼, Sec. 20, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 9' Clay, tan, with gravel  
9'- 11' Clay, gray, with sand and gravel  
11'- 22' Clay, tan and gray, with sand and gravel  
22'- 40' Clay, gray, with sand  
40'- 62' Sand, gray, w/some clay layers  
62'- 75' Sand, gray, w/some clay layers  
75'-100' Sand, gray, w/some clay layers  
100'-120' Sand, gray, with black specks of carbonaceous material  
120'-150' Same  
T. D.: 150'

**Drill Hole No. 9.** Elevation 278'  
Location: NE¼, Sec. 17, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 7' Clay, brown, with sand  
7'- 12' Gravel  
12'- 14' Clay, gray to tan, with silt  
14'- 27' Clay, gray, with sand  
27'- 30' Clay, gray, with sand  
30'- 33' Clay, dark-gray, lignite, approximately 1 to 2 inches  
33'- 36' Clay, gray, with very-fine sand  
36'- 60' Sand, gray, very-fine  
60'-147' Sand, gray, with some clay, gray  
T. D.: 147'

**Drill Hole No. 10.** Elevation 290'  
Location: SE¼, Sec. 5, T. 12 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 10/75.

0'- 10' Weathered top soil with red clay  
10'- 27' Gravel, sand  
27'- 28' Clay, gray, with sand  
28'- 35' Sand, gray, with thin clay layers  
35'- 40' Gravel, well-rounded, clay, gray, with sand  
40'- 50' Gravel, sand, clay, white  
50'- 60' Sand, very-fine  
60'- 70' Clay, light-gray, with sand  
70'- 80' Clay, light-gray, with very-fine sand  
80'- 90' Same  
90'-100' Clay, tan and gray, with sand  
100'-120' Clay, light-gray to tan, with very-fine sand  
120'-125' Clay, gray, carbonaceous with trace of lignite  
125'-135' Clay, dark-gray, with sand, with trace of lignite  
135'-145' Cored interval, ten feet  
Recovered: Lost:  
0 feet 10 feet  
145'-150' Clay, dark-brown, with lignite partings  
150'-180' Clay, gray, with medium-grained sand  
T. D.: 180'

## ARKANSAS LIGNITE INVESTIGATIONS

### Drill Hole No. 11. Elevation 340'

Location: NE¼, Sec. 4, T. 16 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 5' Weathered topsoil, clay, brown, with gravel  
5'- 10' Clay, gray, with sand and gravel  
10'- 19' Siltstone, approximately 2 inches, clay, gray, with sand  
19'- 23' Clay, tan to gray, @ 20' lignite, approximately 2 inches  
23'- 28' Gravel, sand, well-rounded  
28'- 32' Clay, tan to gray, with sand  
32'- 38' Sand, 2 inches, at 32 feet, gravel with sand  
38'- 40' Gravel, pebble, with sand  
40'- 44' Sand, gray  
44'- 46' Sand, clay, white  
46'- 50' Gravel, clay  
50'-116' Sand, very fine, white  
116'-120' Sand, trace of lignite  
120'-122' Sand, very-fine, clay, gray  
122'-134' Clay, dark-gray, with silt  
134'-150' Clay, dark-gray, with silt  
T. D.: 150'

### Drill Hole No. 12. Elevation 382'

Location: SW¼, Sec. 34, T. 17 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 7' Gravel, (pebble size), with sand  
7'- 16' Gravel, clay, tan, with sand  
16'- 52' Sand, very-fine, trace lignite at 47'  
52'- 64' Sand, clay, silty, gray  
64'- 75' Clay, gray, with trace of lignite  
75'-106' Clay, gray  
106'-114' Clay, dark gray, silty  
114'-116' @ 115' lignite, approximately 6-12 inches, clay, gray, silty  
116'-138' Clay, gray, silty  
138'-140' @ 138' lignite, approximately 2 feet  
140'-160' Clay, trace lignite  
T. D.: 160'

### Drill Hole No. 13. Elevation 405'

Location: NW¼, Sec. 17, T. 16 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 30' Clay, reddish brown  
30'- 37' Clay, tan and gray, with gravel  
37'- 64' Gravel, sand, very-fine  
64'- 80' Clay, tan, with trace of lignite  
80'- 88' Clay, sandy  
88'- 93' Sand, fine  
93'- 98' Clay, white, silty with sand  
98'-110' Clay, white, with trace of lignite  
110'-136' Sand, gravel  
136'-150' Clay, gray  
150'-160' Clay, gray, with sand  
T. D.: 160'

### Drill Hole No. 14. Elevation 290'

Location: SW¼, Sec. 6, T. 16 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 20' Clay, silty, tan and gray  
20'- 25' Clay, light gray, with sand  
25'- 28' Sand  
28'- 37' Sand  
37'- 50' Sand, coarse  
50'- 79' Sand, fine, gray  
79'-79.2' Lignite stringer  
79.2'- 98' Sand, gray, fine-grained  
98'-116' Sand, coarse  
116'-160' Clay, silty, gray  
160'-180' Clay, silty, gray  
180'-181' Siltstone

181'- 190' Clay, silty, gray  
T. D.: 190'

### Drill Hole No. 15. Elevation 335'

Location: SW¼, Sec. 27, T. 17 N., R. 4 E.  
County, Greene  
Logged by D. W. Lumbert 11/75.

0'- 14' Sand, dark, tan, clay  
14'- 35' Sand, coarse, gravel  
35'- 86' Sand, white, very fine  
86'-94.5' Clay, light gray, with sand, with trace of lignite  
94.5'-95' Lignite  
95'-106' Clay, light gray  
106'-110' Clay, with trace of lignite, carbonaceous  
110'-126' Clay, light-gray, with sand  
126'-140' Sand, hard layer with clay, gray  
140'-150' Clay, light-gray, with sand, fine  
T. D.: 150'

### \* Drill Hole No. 16. Elevation 420'

Location: NW¼, Sec. 27, T. 17 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 6' Sand, red, clay  
6'- 12' Sandstone, tan, clay with gravel  
12'- 34' Sand, fine-grained, with trace of lignite  
34'- 58' Sand, fine-grained, with trace of lignite  
58'- 80' Sand, with clay, tan, thin layers  
80'- 95' Sand  
95'-140' Clay, light, layered with sand  
140'-150' Sand  
T. D.: 150'

### Drill Hole No. 17. Elevation 300'

Location: NW¼, Sec. 15, T. 17 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 6' Sand, gravel  
6'- 10' Clay, light-gray, tan with sand and gravel  
10'- 31' Sand, light-tan, clay  
31'- 47' Sand, tan, gray, clay  
47'- 54' Clay, dark-gray, lignite trace, thin layers, approximately 1-2" per layer  
54'- 67' Clay, dark gray, increasing zones  
67'- 96' Clay, dark gray, with sand, @ 67' a 3" seam of lignite  
96'- 97' Siltstone, 2 4" layers  
97'-150' Sand, dark gray, clay, silty  
T. D.: 150'

### Drill Hole No. 18. Elevation 302'

Location: SW¼, Sec. 3, T. 17 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 25' Clay, light-gray, tan, with sand and gravel  
25'- 39' Clay, dark gray, tan, with sand and gravel  
39'- 61' Gravel w/clay, light-tan and gray  
61'- 76' Sand, fine-grained  
76'-105' Clay, light-gray  
105'-113' Sand, light-tan, clay, light-gray layers, with chert conglomerate  
T. D.: 113'

### Drill Hole No. 19. Elevation 348'

Location: SE¼, Sec. 1, T. 17 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 11/75.

0'- 6' Sand, gray, clay, with trace of lignite

6'- 10' Sand, gray, clay, with trace of lignite  
10'- 16' Sand, light-gray, clay  
16'- 35' Sand, with gravel  
35'- 36' Sand, coarse  
36'- 37' Clay, light-gray, with sand and gravel, with layer of lignite  
37'- 41' Clay, gray, with sand, @ 40' lignite  
41'- 45' Clay, silty, dark-brown, with stringers of lignite  
T. D.: 45'

### Drill Hole No. 20. Elevation 365'

Location: SW¼, Sec. 30, T. 18 N., R. 5 E.  
County, Greene  
Logged by: M. A. Stoyanov 11/75.

0'- 9' Clay, light-tan, sandy with gravel, trace of lignite at 6'  
9'- 16' Clay, light-tan to gray, sandy with gravel  
16'- 35' Sand, coarse  
35'-36.6' Clay, light-gray, sandy and gravel  
36.6'- 37' Lignite  
37'- 45' Clay, dark-brown, with lignite stringers  
45'- 90' Clay, dark-gray, silty  
90'- 95' Clay, dark-gray, silty with lignite stringers  
95'-116' Clay, light-tan, with lignite trace  
116'-150' Clay, dark-gray, silty  
T. D.: 150'

### Drill Hole No. 21. Elevation 330'

Location: NW¼, Sec. 25, T. 18 N., R. 4 E.  
County, Greene  
Logged by: M. A. Stoyanov 11/75.

0'- 15' Sand, red, tan, with clay  
15'- 16½' Gravel  
16½'- 52' Sand, red and tan, with clay  
52'- 78' Sand, fine, clay, light-tan  
78'- 88' Sand, fine, clay, with gravel  
88'-110' Clay, light-gray, very sandy  
110'-118' Clay, dark-gray, with sand, at 118', trace of lignite  
118'-133' Clay, dark-gray, with sand  
133'-170' Clay, light-gray, very sandy  
T. D.: 170'

### Drill Hole No. 22. Elevation 278'

Location: SE¼, Sec. 24, T. 11 N., R. 3 E.  
County, Poinsett  
Logged by: D. W. Lumbert 11/75.

0'- 10' Clay, tan, gray, with possible trace of lignite  
10'- 15' Clay, tan, gray, with silt  
15'- 24' Gravel, seam with clay, sandy  
24'- 35' Sand with clay, gray  
35'- 40' Sand with clay, gray  
40'- 50' Sand with gravel  
50'- 70' Sand, fine-grained  
70'- 78' Clay, gray, with sand, fine grained  
78'- 88' Clay, gray, with sand, fine-grained  
88'-110' Clay, gray  
110'-120' Clay, dark-gray, w/lignite trace  
120'-122' Clay, dark-gray, with lignite stringer at 118'  
122'-135' Clay, dark-gray, with clay, tan  
135'-140' Clay, tan, gray  
140'-150' Clay, gray, with sand, fine-grained  
150'-160' Clay, gray, with sand, fine-grained  
160'-170' Lignite, approximately 1-2", with sand, iron cemented with clay, tan, gray  
T. D.: 170'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 23.** Elevation 348'  
Location: NE¼, Sec. 7, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 1' Humus, with red clay and sand  
1'- 10' Clay, red with scattered pebbles and sand  
10'- 19' Clay, red, with gravel  
19'- 30' Clay, red to dark brown, sandy  
30'- 62' Clay, light-gray, sandy, with lignite stringers  
62'- 69' Lignite with clay, gray  
69'- 70' Clay, red to light-gray, sandy  
70'- 80' Clay, light-gray to bluish, with sand  
80'-114' Clay, light-gray to bluish, with sand  
114'-115' Stringer of lignite  
115'-150' Clay, light-gray to blue, with silt  
T. D.: 150'

**Drill Hole No. 24.** Elevation 368'  
Location: NE¼, Sec. 18, T. 11 N., R. 4 E.  
County, Polk  
Logged by D. W. Lumbert 12/75.

0'- 1' Humus, with well-rounded gravel  
1'- 5' Clay, brown to light gray, with sand  
5'- 10' Clay, silty, red-brown to gray  
10'- 20' Clay, light-gray, with iron stains, silty  
20'- 40' Clay, light gray, with iron stains, fine sand, and pea-gravel  
40'- 50' Clay, light gray, with thin layer of iron cemented sandstone  
50'- 77' Clay, dark-gray  
77'- 88' Clay, dark-gray, with trace of lignite  
80'- 90' Cored interval, ten feet:  
Recovered: 10' Lost: 0'  
4.5' Lignite  
2.5' Lignite with inter layers of clay, dark gray  
3.0' Lignite, with clay, dark gray, with sand  
90'-100' Clay, light-gray to light blue  
100'-120' Clay, blue-gray, with fine sand  
120'-150' Clay, blue to tan, with iron stains  
T. D.: 150'

**Drill Hole No. 25.** Elevation 398'  
Location: SW¼, Sec. 17, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75

0'- 20' Clay, red with sand, gravel  
20'- 30' Clay, red to tan, with sand, iron cemented and well consolidated  
30'- 40' Clay, dark brown, with sand  
40'- 49' Clay, dark brown, with sand and narrow lignite seams  
49'- 60' Clay, dark-brown, with sand  
60'- 62' Lignite  
62'- 86' Clay, light to dark blue, with sand  
86'-104' Clay, blue to dark-gray, with sand  
104'-129' Clay, blue to dark gray, with sand and narrow lignite seams  
129'-144' Clay, blue to dark-gray, with sand  
144'-150' Clay, dark blue to dark-gray, with sand  
T. D.: 150'

**Drill Hole No. 26.** Elevation 350'  
Location: NE¼, Sec. 16, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 6' Clay, red, with sand  
6'- 22' Sand, coarse with pea-gravel  
22'- 35' Sand and gravel  
35'- 41' Clay, light-gray, sandy, with trace of lignite  
41'- 42' Lignite  
Core 42'- 50' No recovery, estimated 30% clay, 70% lignite  
Core 49'- 50' No recovery due to large gravel falling into hole -- Main lignite deposit between 40'- 50' with little clay--from cuttings. It indicated good grade of lignite.  
60'- 70' 25% lignite, 25% sand, and 50% clay  
T. D.: 70'

**Drill Hole No. 27.** Elevation 365'  
Location: SE¼, Sec. 9, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 27' Clay, red, with very fine-grained sand  
27'- 40' Sand, very fine-grained, with iron stained gravel  
40'- 41' Gravel, with white clay and sand  
41'- 44' Gravel, fine-grained sand, and white clay with a trace of lignite  
44'- 50' Sand, very fine-grained and white clay  
50'- 63' Clay, gray, with sand with trace of lignite. At this point, casing was installed to eliminate the gravel problem. We cleaned the hole in purpose to obtain a good recovery on the core.  
63'- 73' Core Interval 10'  
Recovered: 10' Lost: 0'  
63'- 64.5' Lignitic clay  
64.5'-66.8' Lignite, 2.3'  
66.8'- 68' Lignitic clay  
68'- 73' Sand, with gray clay  
73'-140' Clay, gray, with very fine sand  
T. D.: 140'

**Drill Hole No. 28.** Elevation 264'  
Location: SE¼, Sec. 33, T. 12 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand and gravel  
10'- 20' Gravel  
20'- 40' Clay, red, with gravel  
40'- 60' Clay, light-tan to white, with very fine sand  
60'- 70' Clay, gray, with trace of lignite  
70'- 80' Clay, gray  
80'- 82' Clay, dark-gray, with approximately 6 inches of lignite  
82'- 86' Clay, dark-gray, to black (lignitic)  
86'-89' Clay, dark-gray to black (lignitic) with sand  
89'- 92' Clay, light-gray, with very-fine sand  
92'- 98' Clay, blue-gray, with sand  
98'-130' Clay, blue to light-gray, w/sand  
T. D.: 130'

**Drill Hole No. 29.** Elevation 254'  
Location: SE¼, Sec. 21, T. 12 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 21' Clay, dark-tan, with sand

21'- 37' Clay, light-gray, kaolin  
37'- 40' Clay, changing to dark-gray  
40'- 50' Clay, changing to light-gray  
50'- 60' Clay, silty, changing to blue-green  
60'- 62' Lignitic clay, dark-gray, with sand, very-fine, silty  
62'-110' Clay, dark-gray, with sand, with trace of lignite  
110'-150' Clay, gray, with sand, with trace of lignite  
T. D.: 150'

**Drill Hole No. 30.** Elevation 274'  
Location: SW¼, Sec. 27, T. 12 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 52' Clay, reddish-brown, with sand and gravel  
52'-118' Sand, with clay, red, white, tan, with lignite trace  
118'-120' Clay, gray, with sand  
120'-150' Sand, gray  
T. D.: 150'

**Drill Hole No. 31.** Elevation 398'  
Location: SE¼, Sec. 18, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 20' Clay, red, with sand  
20'- 30' Clay, red, with sand increasing  
30'- 50' Sand  
50'- 60' Sand, very-fine  
60'- 95' Sand, tan and gray, with clay  
95'-105' Clay, gray, with trace of lignite  
105'-118' Clay, with lignite, thin layers  
118'-120' Clay, tan, gray, with sand  
120'-130' Sand, with clay, dark-gray  
130'-140' Sand, with lignite, thin layers  
140'-150' Cored interval 10'  
Recovered: 6' Lost: 4'  
2.5' Lignite  
1.5' Lignite, clay layers, dark-gray  
2.0' Clay, dark-gray  
T. D.: 150

**Drill Hole No. 32.** Elevation 362'  
Location: SW¼, Sec. 30, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand  
10'- 20' Clay, white  
20'- 44' Clay, white, with sand  
44'- 48' Clay, gray, with sand, @ 45' - 47.5' lignite  
48'- 51' Clay, white, with sand  
51'- 70' Clay, white, with sand, very-fine  
70'- 74' Clay, white, with lignite, 2-4"  
74'- 90' Clay, brown, white, with sand  
90'-100' Clay, dark-gray, with sand, very-fine  
100'-108' Clay, gray, with very-fine sand  
108'-110' Lignite  
110'-138' Clay, gray, with very-fine sand  
138'-140' Clay, dark-gray, with sand  
T. D.: 140'

**Drill Hole No. 33.** Elevation 355'  
Location: NE¼, Sec. 6, T. 10 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 10' Clay, red, sandy with gravel  
10'- 20' Sand, red, small  
20'- 30' Sand, white, small  
30'- 40' Clay, red, sandy, with gravel  
ABANDONED HOLE

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 34.** Elevation 340'  
Location: SW¼, Sec. 29, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Sand, red, silty  
10'- 20' Sand, black, w/clay, dark gray  
20'- 30' Clay, dark gray, with sand  
30'- 40' Clay, dark gray, with sand, with trace of lignite  
40'- 70' Clay, dark gray, with sand  
70'- 80' Clay, gray, with sand, very fine  
80'- 97' Clay, blue gray, with sand  
97'-97.3' Lignite  
97.3'-148' Clay, blue gray  
148'-150' Lignite  
150'-160' Clay, dark gray, clay, blue  
T. D.: 160'

**Drill Hole No. 35.** Elevation 306'  
Location: SE¼, Sec. 31, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Sand, tan, with tan clay  
10'- 20' Clay, with gravel, sandy  
20'- 40' Clay, dark gray  
40'- 50' Clay, light gray to tan, with fine sand  
50'- 58' Clay, light to dark gray, with trace of lignite  
58'- 60' Clay, light to dark gray, with very-fine sand  
60'- 73' Clay, dark gray, w/trace of lignite  
73'- 83' Corad Interval 10'  
Recovered: 10' Lost: 0'  
4.5' Lignite, with clay intervals  
2.7' Lignite, with clay and increase in silt  
2.8' Lignite, w/clay, dark gray  
83'- 87' Clay, dark brown  
87'- 90' Clay, blue gray with sand  
90'-150' Sand, very fine, white  
T. D.: 150'

**Drill Hole No. 36.** Elevation 332'  
Location: NE¼, Sec. 8, T. 10 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Gravel, with sand, clay, red  
10'- 20' Sand, yellow, with clay, tan  
20'- 30' Clay, yellow to tan, with sand, very-fine  
30'- 50' Clay, yellow, with sand  
50'- 61' Clay, dark brown  
61'- 65' Lignite @ 61'-62', with clay, dark-brown  
65'- 98' Clay, blue gray, w/sand, very fine  
98'-110' Clay, dark brown, with sand  
110'-148' Clay, dark brown, with sand, with trace of lignite  
148'-150' Clay, blue-gray, with sand  
T. D.: 150'

**Drill Hole No. 37.** Elevation 342'  
Location: SE¼, Sec. 1, T. 10 N., R. 3 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 20' Clay, gray, tan, with sand  
20'- 26' Gravel  
26'- 36' Clay, dark gray  
36'- 50' Clay, dark brown, with trace of lignite  
50'- 60' Clay, gray, with sand  
60'-150' Clay, blue-gray, with sand  
T. D.: 150'

**Drill Hole No. 38.** Elevation 310'  
Location: SE¼, Sec. 21, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand  
10'- 20' Sand  
20'- 48' Clay, tan, with sand  
48'- 50' Clay, tan and gray, lignite trace, sand with wood parts  
50'- 70' Clay, tan and gray, with sand  
70'-102' Clay, gray, with sand  
102'-103' Sand with lignite partings  
103'-110' Sand, with clay, gray  
110'-120' Clay, blue-gray, with sand  
120'-130' Clay, blue-gray, with sand and 6" of siltstone, hard white  
130'-150' Clay, blue-gray, with sand  
T. D.: 150'

**Drill Hole No. 39.** Elevation 260'  
Location: NW¼, Sec. 27, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Gravel  
10'- 20' Clay, light gray, with sand  
20'- 30' Clay, dark gray, with sand  
30'- 40' Clay, gray, with sand  
40'- 60' Clay, dark gray, with sand  
60'- 70' Clay, light gray, with sand  
70'- 90' Clay, blue-gray, with sand  
90'-100' Sand, light gray  
100'-120' Clay, light gray, with sand  
120'-130' Clay, blue-gray, with sand  
130'-160' Clay, light gray, with sand  
T. D.: 160'

**Drill Hole No. 40.** Elevation 358'  
Location: SE¼, Sec. 12, T. 10 N., R. 3 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand and gravel  
10'- 20' Gravel and clay, tan, with sand  
20'- 40' Clay, white, with sand  
40'- 50' Clay, dark gray  
50'- 70' Clay, dark gray, with trace of lignite  
70'-100' Clay, light gray, with sand  
100'-118' Clay, light gray, tan and yellow, with sand  
118'-120' Clay, white and light gray, with sand  
120'-140' Clay, white, with sandstone  
140'-150' Clay, dark gray, with sand  
T. D.: 150'

**Drill Hole No. 41.** Elevation 448'  
Location: SE¼, Sec. 18, T. 10 N., R. 5 E.  
County, Poinsett  
Logged by: M. A. Stoyanov 12/75.

0'- 10' Clay, tan, with sand, very-fine  
10'- 20' Sand, tan, very-fine, with clay  
20'- 40' Gravel  
40'- 70' Sand and gravel  
T. D.: 70'

**Drill Hole No. 42.** Elevation 332'  
Location: NE¼, Sec. 20, T. 10 N., R. 4 E.  
County, Poinsett  
Logged by: M. A. Stoyanov 12/75.

0'- 20' Clay, red, w/sand, very-fine, and pea-size gravel  
10'- 20' Sand and gravel  
20'- 60' Clay, white, w/sand, very-fine  
60'- 80' Clay, silty, brown, lignite stringers @ 68' and 71'  
T. D.: 80'

**Drill Hole 43.** Elevation 340'  
Location: SE¼, Sec. 32, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: M. A. Stoyanov 12/75.

0'- 10' Sand, tan, very-fine w/clay

10'- 20' Clay, gray, with very-fine sand, @ 18' lignite 3"  
20'- 30' Sand, very-fine, with clay, dark-brown  
30'-60' Clay, dark gray, w/sand, very-fine  
60'-70' Sand, very-fine with clay, dark-brown, trace of lignite  
70'- 80' Clay, blue-green, w/sand, very-fine  
80'- 90' Clay, dark gray, with lignite stringer  
90'-120' Clay, blue-green, with sand, very-fine  
120'-130' Clay, blue-green, with sand, very-fine, 4" hard siltstone  
130'-150' Clay, blue-green, with sand, very-fine  
T. D.: 150'

**Drill Hole No. 44.** Elevation 360'  
Location: NE¼, Sec. 4, T. 10 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand  
10'- 20' Pea gravel, sand and tan clay  
20'- 30' Clay, dark to light-tan to red, with sand  
30'-40' Clay, dark-brown, with sand and trace of lignite at 40'  
40'- 50' Clay, dark-brown, with sand  
50'- 60' Clay, dark-brown  
60'- 70' Clay, dark-brown, with stringer of lignite @ 63'  
70'-100' Clay, dark gray, with sand  
100'-130' Clay, light-gray  
T. D.: 130'

**Drill Hole No. 45.** Elevation 342'  
Location: NW¼, Sec. 10, T. 10 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red to brown, with gravel and sand  
10'- 30' Clay, light-tan, with very-fine sand  
30'- 40' Clay, dark-brown, with very-fine sand and lignite stringer at 39'  
40'- 50' Clay, dark gray, with lignite stringer at 43'  
50'- 56' Clay, dark-gray  
56'- 58' Lignite, and clay, dark-gray, with sand  
58'- 60' Clay, dark gray, with sand  
60'- 80' Clay, light-gray, with sand  
80'-120' Clay, bluish-green, with sand  
120'-140' Clay, tan, with sand  
140'-150' Clay, blue-green, with sand  
T. D.: 150'

**Drill Hole No. 46.** Elevation 258'  
Location: SE¼, Sec. 16, T. 10 N., R. 4 E.  
County, Poinsett  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red, with sand and gravel  
10'- 20' Gravel, pea-size, with clay, tan, and sand  
20'- 28' Clay, red, with sand  
28'- 30' Clay, dark-gray, with sand  
30'- 36' Gravel  
36'- 40' Clay, dark-gray, with sand, trace of lignite at 39'  
40'- 50' Clay, dark-brown, with sand  
50'- 51½' Lignite  
51½'-55' Clay, dark gray, with sand  
55'- 70' Clay, light-gray, with sand  
70'- 80' Clay, bluish-green, with sand  
80'-100' Clay, bluish-green with lignite stringers @ 86' and 98'  
100'-130' Clay, bluish-green, with sand and clay, white  
130'-150' Clay, bluish-gray, with sand  
T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 47.** Elevation 245'  
Location: SW¼, Sec. 28, T. 10 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 5' Clay, red to tan, with sand  
5'- 10' Clay, bluish-gray, tan, with sand  
10'- 40' Clay, tan, with sand  
40'- 50' Clay, dark-gray, with sand,  
lignite at 48' 2" thickness  
50'- 60' Clay, dark gray, with sand, very  
fine  
60'- 70' Clay, tan and gray, with sand  
70'- 80' Sand, salt and pepper  
80'- 90' Sand, with clay, light-gray,  
trace of lignite at 83'  
90'-100' Clay, gray to dark-brown, with  
trace of lignite in thin layers  
100'-110' Clay, bluish-green, with sand  
110'-120' Clay, light-gray  
120'-130' Clay, dark brown, with trace of  
lignite in thin layers  
130'-150' Clay, bluish-green, with sand  
T. D.: 150'

**Drill Hole No. 48.** Elevation 407'  
Location: SE¼, Sec. 31, T. 10 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 12/75.

0'- 10' Clay, red to tan, with very fine  
sand  
10'- 20' Clay, dark-tan, with very fine  
sand  
20'- 30' Clay, red to dark-tan, with sand  
30'- 34' Sand, with clay, red to tan  
34'- 37' Gravel, small, with sand and  
clay, red  
37'- 45' Sand, salt and pepper  
45'- 50' Sand, black and white, with  
gravel  
50'- 60' Sand, large  
60'- 79' Sand, iron cemented  
79'- 90' Clay, dark-gray, with very fine  
sand  
90'-112' Clay, dark-brown, with very fine  
sand  
112'-115' Clay, bluish gray, with sand  
115'-115' 3" Lignite, 3 in., hard  
115' 3"-115' Clay, bluish-green to gray, with  
sand  
116'-120' Clay, bluish-gray, lignite trace  
120'-130' Clay, blue, light-gray, lignite  
trace  
130'-150' Clay, blue-gray, with sand,  
lignite traces  
T. D.: 150'

**Drill Hole No. 49.** Elevation 445'  
Location: SW¼, Sec. 7, T. 9 N., R. 4 E.  
County, Cross  
Logged by: D. W. Lumbert 12/75.

0'- 30' Clay, dark-tan, with sand  
30'- 40' Clay, reddish brown, with sand  
40'- 50' Sand, salt and pepper  
50'- 60' Sand  
60'- 66' Gravel, pea-size, with sand  
66'- 70' Gravel, pea-size  
70'- 80' Clay, red and tan, with very-  
fine sand  
80'- 90' Sand and gravel  
T. D.: 90'

**Drill Hole No. 50.** Elevation 402'  
Location: SW¼, Sec. 36, T. 10 N., R. 3 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 10' Sand and gravel, red

10'- 40' Sand, coarse with gravel  
40'- 90' Clay, white, with sand  
90'-100' Clay, light-brown, with sand  
100'-110' Pea gravel  
110'-120' Clay, light-gray, with sand  
120'-128' Sand, dark-gray, with clay  
128'-150' Clay, dark-gray, with sand  
T. D.: 150'

**Drill Hole No. 51.** Elevation 355'  
Location: NE¼, Sec. 6, T. 10 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 6' Clay, dark-tan, with sand and  
gravel  
6'- 8' Pea-gravel  
8'- 9' Clay, red with sand  
9'- 20' Gravel, pea-sized  
T. D.: 20'

**Drill Hole No. 52.** Elevation 388'  
Location: NW¼, Sec. 32, T. 11 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 10' Clay, dark-tan, with sand  
10'- 30' Clay, red, with sand  
30'- 40' Clay, light-tan, with sand  
40'- 57' Clay, white, with sand  
57'- 67' Clay, dark-brown, with sand  
67'- 70' Clay, dark-gray, with sand  
70'- 70' 6" 6 inch lignite stringer  
70' 6"-160' Clay, dark-gray, with sand  
160'-200' Clay, blue-green, with silt  
T. D.: 200'

**Drill Hole No. 53.** Elevation 386'  
Location: SE¼, Sec. 19, T. 11 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 38' Clay, dark-tan, with sand  
38'- 42' Pea-gravel and sand  
42'- 80' Clay, brown to tan, with sand  
60'- 72' Pea gravel  
72'- 75' Lignite, with sand  
75'- 88' Clay, gray, with sand  
88'- 98' Clay, light-tan, with sand  
98'-120' Clay, dark-gray  
120'-121' Clay, dark-brown, with trace  
of lignite  
121'-124' Clay, dark-gray, with sand  
124'-125' Lignite stringer  
125'-163' Clay, gray to blue  
163'-174' Clay, dark-gray, with lignite  
stringers  
174'-194' Clay, dark-gray, with sand  
194'-200' Clay, blue-gray  
T. D.: 200'

**Drill Hole No. 54.** Elevation 278'  
Location: SW¼, Sec. 10, T. 11 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 12/75.

0'- 42' Sand, white, tan and red  
42'- 69' Sand with silt, and clay, gray  
69'- 80' Clay, light-gray, with sand  
80'-110' Sand, coarse, light-gray  
110'-134' Sand, very-fine, light gray  
Lignite stringer  
134'-190' Sand, very-fine, light-gray  
190'-200' Clay, blue-green, with fine sand  
T. D.: 200'

**Drill Hole No. 55.** Elevation 262'  
Location: SE¼, Sec. 9, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 1/76.

0'- 4' Clay, brown, with coarse sand  
and gravel

4'- 10' Clay, light-gray to tan, with  
sand  
10'- 20' Clay, light-tan to light-gray,  
with coarse sand and large to  
medium gravel  
20'- 30' Clay, gray to light-gray, with  
sand  
30'- 35' Clay, gray, with silt and trace  
of lignite  
35'- 42' Clay, dark-gray, with silt  
42'- 50' Clay, blue-gray with silt  
50'-110' Clay, blue-gray and tan, with  
silt and fine sand  
T. D.: 110'

**Drill Hole No. 56.** Elevation 240'  
Location: NW¼, Sec. 10, T. 11 N., R. 4 E.  
County, Polk  
Logged by: D. W. Lumbert 1/76.

0'- 10' Clay, dark-brown, with sand  
and gravel  
10'- 20' Clay, brown, with sand and silt  
20'- 30' Clay, dark to light-gray, with  
sand  
30'- 40' Clay, dark to light-gray, with  
sand  
40'- 50' Black spongy peat  
50'- 55' Black spongy peat  
55'- 60' Fossil bed containing gastropods  
and pelecypods, sand, silt, and  
gray-clay  
60'-100' Clay, white-light gray, with sand  
100'-110' Clay, gray, with silt  
T. D.: 110'

**Drill Hole No. 57.** Elevation 262'  
Location: SE¼, Sec. 31, T. 11 N., R. 4 E.  
County, Polk  
Logged by: M. A. Stoyanov 1/76.

0'- 18' Clay, dark-tan  
18'- 19' Pea gravel  
19'- 55' Clay, light-tan, with red silt  
55'- 74' Clay, and silt, light-tan to gray,  
with trace of lignite  
74'- 93' Clay, gray, with silt  
93'-107' Clay, gray, with silt and lignite  
stringers  
107'-112' Clay, dark-brown, lignitic  
112'-115' Clay, light-gray to tan  
115'-129' Clay, brown, with sand  
129'-136' Clay, blue-gray, with silt  
136'-190' Sand, very-fine, with lignite  
stringer at 154'  
T. D.: 190'

**Drill Hole No. 58.** Elevation 325'  
Location: NE¼, Sec. 36, T. 11 N., R. 3 E.  
County, Polk  
Logged by: M. A. Stoyanov 1/76.

0'- 10' Clay, dark-tan to dark-brown,  
with sand  
10'- 14' Clay, dark-tan, with sand  
14'- 15' Gravel  
15'- 19' Clay, dark-tan, with silt  
19'- 22' Silt, light-gray  
22'- 34' Clay, white, with sand  
34'- 36' Clay, brown  
36'- 43' Clay, dark-gray  
43'- 53' Clay, dark-gray, with lignite  
stringers  
53'- 59' Clay, dark-gray, with silt  
59'- 61' Clay, lignitic  
61'- 64' Clay, dark-gray  
64'- 69' Clay, lignitic  
69'- 97' Clay, dark-gray  
97'-110' Clay, dark-brown  
110'-120' Clay, light-brown, with silt  
120'-130' Clay, light-brown  
T. D.: 130'

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 59.** Elevation 312'

Location: SE¼, Sec. 16, T. 11 N., R. 4 E.  
County, Poinsett  
Logged by: M. A. Stoyanov 1/76.

0'-22' Sand, dark-tan, with clay  
22'-23' Gravel  
23'-27' Sand, dark-tan, with clay  
27'-34' Clay, light-gray, with sand  
34'-39' Clay, light-gray to light tan, with sand  
39'-43' Clay, dark-brown, with sand  
43'-48' Clay, gray, with sand and trace of lignite  
48'-57' Clay, dark-gray, with sand  
57'-71' Clay, dark-brown, lignitic  
71'-75' Clay, lignitic, with lignite stringer  
75'-96' Clay, light-gray, with silt  
96'-150' Clay, blue-green with silt  
T. D.: 150'

**Drill Hole No. 60.** Elevation 388'

Location: NW¼, Sec. 28, T. 13 N., R. 4 E.  
County, Craighead  
Logged by: M. A. Stoyanov 1/76.

0'-10' Sand, fine, with gravel  
10'-20' Sand, very-fine  
20'-30' Sand, very-fine, with white to gray clay, and trace of lignite  
30'-40' Clay, gray, to brown, with silt  
40'-50' Clay, gray, with silt  
50'-60' Clay, gray, with silt, very fine sand, and glauconite  
60'-70' Clay, gray and white  
70'-90' Clay, blue-green to brown, with silt  
90'-100' Clay, light blue to gray, with silt  
100'-105' Clay, blue-green, with silt  
105'-120' Clay, light-gray, with silt  
120'-130' Clay, light blue-gray and white, with silt  
130'-160' Clay, light gray-green, with silt  
T. D.: 160

**Drill Hole No. 61.** Elevation 292'

Location: SW¼, Sec. 16, T. 13 N., R. 4 E.  
County, Craighead  
Logged by: M. A. Stoyanov 1/76.

0'-4' Clay, light-tan, with sand  
4'-20' Clay, dark-tan, with sand and gravel  
20'-30' Clay, white, with sand  
30'-32' Clay, white to light-gray, with sand  
32'-50' Sand, gray, very-fine, with white clay  
50'-60' Clay, gray, with sand  
60'-118' Clay, gray to light-tan, with sand  
118'-137' Clay, dark-gray, with silt  
137'-137'4" Siltstone  
137'4"-144' Clay, dark-gray, with silt  
144'-162' Clay, dark-gray, with silt and sand  
162'-166' Clay, gray, with siltstone, sand and trace of lignite  
166'-200' Sand, red to tan, with clay and silt  
T. D.: 200'

**Drill Hole No. 62.** Elevation 388'

Location: SW¼, Sec. 28, T. 13 N., R. 4 E.  
County, Craighead  
Logged by: M. A. Stoyanov 1/76.

0'-5' Clay, dark tan, with sand

5'-10' Sand  
10'-17' Gravel  
17'-36' Clay, light gray, with silt  
36'-38' Clay, dark gray  
38'-40' Clay, dark-brown, with silt  
40'-48' Clay, gray  
48'-57' Clay, blue-gray, with silt  
57'-58' Clay, dark-brown, lignitic  
58'-64' Clay, gray, with silt  
64'-67' Sand  
67'-68' Clay, dark-brown, with silt  
68'-70' Clay, dark-brown, with trace peat (lignitic)  
70'-75' Peat (soft lignite?)  
75'-85' Cored Interval 10'  
Recovered: 0  
3.5 Lignitic clay  
1.5 Lignite  
5.0 Clay, gray, with silt  
85'-118' Clay, blue-gray, with silt  
118'-126' Clay, dark-brown, with silt  
126'-134' Clay, blue-green, with silt  
134'-150' Clay, light gray, with silt  
T. D.: 150'

**Drill Hole No. 63.** Elevation 362'

Location: NW¼, Sec. 17, T. 13 N., R. 4 E.  
County, Craighead  
Logged by: M. A. Stoyanov 1/76.

0'-24' Sand and pea-gravel  
24'-38' Sand, light-gray, with clay and silt  
38'-60' Clay, gray, with silt  
60'-70' Clay, gray, with silt and lignite stringer  
70'-150' Clay, light-gray, with silt  
150' Sand, white  
T. D.: 150'

**Drill Hole No. 64.** Elevation 372'

Location: SE¼, Sec. 7, T. 13 N., R. 4 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'-40' Sand, large, with gravel, pea-size  
40'-45' Sand, large  
45'-47' Clay, light gray  
47'-50' Sand, large  
50'-90' Sand, large, w/gravel, pea size  
T. D.: 90'

**Drill Hole No. 65.** Elevation 409'

Location: SW¼, Sec. 36, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'-20' Sand and gravel, with some clay, dark tan  
20'-42' Gravel, pebble-size, with sand  
42'-50' Clay, light-gray to tan  
50'-70' Sand, with clay, light-gray  
70'-138' Sand  
138'-145' Clay, light-gray to tan, with sand  
145'-150' Clay, red with sand, and very-fine silt  
150'-160' Clay, light-gray, with silt  
160'-190' Clay, red, with sand and silt  
190'-200' Clay, red, with sand  
T. D.: 200'

**Drill Hole No. 66.** Elevation 382'

Location: NE¼, Sec. 36, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'-8' Clay, dark-tan  
8'-13' Gravel, pea-size  
13'-58' Sand, with clay, tan  
58'-80' Clay, light-gray, with sand

80'-100' Sand, light tan, with clay  
100'-120' Sand, white to tan  
120'-130' Sand, gray to light-gray  
130'-170' Sand, gray to light-gray and tan, with clay, gray  
T. D.: 170'

**Drill Hole No. 67.** Elevation 368'

Location: NW¼, Sec. 35, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'-30' Sand and gravel  
(CAVE IN)

**Drill Hole No. 68.** Elevation 282'

Location: SE¼, Sec. 21, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'-16' Clay, dark tan, with silt  
16'-20' Clay, tan, with silt and gravel  
20'-33' Clay, mottled, with silt  
33'-38' Sand, white, with clay, tan  
38'-43' Clay, tan, with sand and silt  
43'-62' Clay, white, with sand, white, and silt  
62'-102' Sand, white to tan, with clay and silt  
102'-105' Siltstone layer,  
105'-108' Lignitic clay  
108'-118' Clay, white to tan, with silt  
118'-130' Clay, brown to white, with lignite  
130'-138' Clay, white to tan, with silt  
138'-156' Clay, gray, with silt  
156'-157' Clay, gray, w/lignite and silt  
157'-160' Clay, gray, with silt  
160'-168' Core interval 8'  
Recovered: 0  
8'  
160'-163.5' Clay, gray, with silt  
163.5'-164' Lignite  
164'-165' Clay, gray, with sand and siltstone  
165'-168' Clay, gray, with silt  
168'-170' Clay, gray, with silt  
170'-174' Siltstone, with clay, white  
174'-180' Clay, gray, lignite trace  
180'-185' Core interval 5'  
Recovered: 0  
5'  
180'-181' Clay, light-brown, with silt  
181'-183' Lignite  
183'-184' Clay, light-brown,  
184'-185' Clay, light-brown to blue-green, with silt  
185'-186' Clay, very lignitic  
186'-190' Clay, blue, with silt  
190'-200' Core interval 10'  
Recovered: 0  
10'  
190'-197.5' Clay, tan and gray, very sandy, with silt  
197.5'-198.5' Clay, blue-green, with lignite  
198.5'-200' Clay, blue-green  
200'-210' Core interval 10'  
Recovered: 0  
10'  
200'-202' Clay, tan to gray, with silt  
202'-203.5' Lignite  
203.5'-204' Clay, gray, with lignite  
204'-205' Clay, gray, with silt  
205'-210' Clay, blue-green  
210'-214' Clay, blue-green, with lignite stringer  
T. D.: 214'



ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 69.** Elevation 302'  
Location: NW¼, Sec. 27, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'- 10' Clay, tan, with medium sand  
10'- 12' Clay, light gray, with medium sand  
12'- 20' Clay, tan, with pea-size gravel and sand  
20'- 26' Clay, tan, with sand  
26'- 27' Gravel, pea size with clay, tan  
27'- 32' Clay, tan, with sand  
32'- 40' Clay, light gray, with sand  
40'- 72' Sand, with clay, light gray  
72'- 90' Clay, light gray, with sand  
90'-100' Clay, light tan, with silt  
100'-153' Sand, with clay, light gray  
153'-154.6' Lignite, 6"  
154.6'-170' Sand, with clay, tan  
170'-180' Sand, with lignite stringers  
180'-193' Clay, brown, with silt  
193'-200' Silt, lignitic  
200'-206' Clay, gray, with silt  
206'-206.2' Lignite  
206.2'-210' Clay, gray, with silt  
210'-220' Clay, gray, with large sand  
T. D.: 220'

**Drill Hole No. 70.** Elevation 320'  
Location: NE¼, Sec. 29, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'- 6' Clay, brown tan, with sand and silt  
6'- 8' Gravel  
8'- 17' Clay, tan, with silt  
17'- 20' Clay, tan, with sand  
20'- 30' Sand, tan, medium  
30'- 67' Sand, fine, tan  
67'- 87' Sand, tan, with clay  
87'- 90' Clay, red, with sand  
90'- 96' Sand, red  
96'-108' Clay, red, with sand  
108'-110' Lignite, with brown lignitic clay  
110'-115' Clay, tan, with silt  
115'-117' Lignite  
117'-117.5' Clay, brown, lignitic  
117.5'-119' Clay, brown, lignitic, with lignite stringers  
119'-124' Clay, tan, with silt  
124'-130' Clay, lignitic, with lignite stringers  
130'-145' Sand, tan, medium  
145'-148' Lignite, with clay, dark gray  
148'-150' Clay, lignitic, brown  
150'-198' Clay, very silty, with sand  
198'-200' Lignite, with clay, dark-brown  
200'-211' Clay, tan, with silt and sand  
T. D.: 211'

**Drill Hole No. 71.** Elevation 310'  
Location: SE¼, Sec. 19, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'- 40' Clay, tan, with silt and trace gravel  
40'- 48' Clay, light gray, with silt and sand  
48'- 54' Clay, mottled, with silt and sand  
54'- 58' Gravel, with clay, and sand  
58'- 65' Clay, light-gray, with silt and sand  
65'- 76' Clay, light gray, with silt  
76'- 85' Clay, light-gray, with silt and trace of lignite  
85'-100' Clay, light-gray, with silt  
100'-142' Sand, light-gray to tan, with clay and sand  
142'-159' Sand, light-gray, to white, with

minor gravel  
159'-165' Clay, light-gray, with sand and silt  
165'-168' Clay, light-gray, with silt and sand  
168'-170' Clay, brown, lignitic with lignite stringer  
170'-176' Clay, gray, with sand and silt  
176'-176.5' Lignite, soft  
176.5'-180' Lignite  
180'-182' Lignite, soft, with wood fibers  
182'-192' Clay, gray, with silt and sand  
192'-195' Clay, light-gray, with silt and sand  
195'-200' Clay, blue green, with silt  
  
Core interval 10' (175'-185')  
Bagged 2'7" for analysis; the rest was lignitic clay.

Recovered: 10' Lost: 0'

T. D.: 200'

**Drill Hole No. 72.** Elevation 275'  
Location: NE¼, Sec. 31, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'- 24' Clay, tan, with medium sand  
24'- 50' Sand, very-fine, with clay, tan  
50'- 70' Sand, medium, with clay, light-tan and light-gray  
70'- 80' Sand, clean, with clay, tan  
80'- 90' Sand, coarse, with clay, tan  
90'-124' Sand, clean, medium with very little clay  
124'-125' Lignite  
125'-148' Clay, light-gray, with sand  
148'-163' Clay, dark-gray, with silt  
163' Siltstone, very hard  
T. D.: 163'

**Drill Hole No. 73.** Elevation 275'  
Location: NE¼, Sec. 19, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'- 6' Clay, dark tan, with sand  
6'- 10' Clay, light tan, with sand and gravel  
10'- 16' Gravel, with sand and clay, tan  
16'- 40' Sand, with gravel and clay, tan @ 39' Wood fibers  
40'- 50' Cored interval 10'  
Recovered: 8' Lost: 2'  
2.0' Lost  
5.0' Lignite  
3.0' Clay, dark-gray to bluish-green  
50'- 71' Clay, blue-gray, with clay, light gray with silt  
71'-102' Sand, salt and pepper  
102'-150' Sand, very fine  
150' Clay, blue-green, with silt  
T. D.: 150'

**Drill Hole No. 74.** Elevation 265'  
Location: SE¼, Sec. 18, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 2/76.

0'- 18' Clay, tan, with sand  
18'- 26' Clay, light-gray to red  
26'- 32' Clay, dark-gray, with very-fine sand  
32'- 34' Gravel  
34'- 46' Sand, very-fine, white and black  
46'- 56' Core interval 10'  
Recovered: 10' Lost: 0'

5.0' Lignite  
2.5' Lignite, with clay, gray  
2.5' Clay, gray to bluish-green  
56'- 60' Lignite, hard, with clay, light-gray  
60'- 70' Clay, blue-gray, with silt  
70'- 80' Clay, dark-gray, with silt  
80'- 95' Sand, very-fine, tan  
95'-110' Clay, dark-gray  
110'-112' Sand, very fine, light-tan  
112'-113' Siltstone  
113'-120' Sand, very-fine, light-tan  
120'-130' Clay, light green  
130'-140' Clay, light-gray  
140'-142' Siltstone  
142'-150' Clay, light-gray  
T. D.: 150'

**Drill Hole No. 74a.** Elevation 265'  
Location: SE¼, Sec. 18, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'-16' Clay, light tan, with medium sand  
16'- 26' Clay, light-gray, with medium sand  
26'- 32' Clay, dark-gray, with sand, very-fine  
32'- 33' Gravel  
33'- 52' Sand, salt and pepper  
52'- 55' Lignite  
T. D.: 55' - Due to waterline

**Drill Hole No. 74-b.** Elevation 265'  
Location: SE¼, Sec. 18, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 2/76.

0'- 16' Clay, light tan, with sand, medium  
16'- 26' Clay, light-gray, with sand, medium  
26'- 32' Clay, dark-gray, with sand, very-fine  
32'- 33' Gravel  
33'- 45' Sand, salt and pepper - H<sub>2</sub>O, sand  
45'- 52' Lignite, with some clay, light-gray, at 47'  
52'- 53' Lignite  
53'- 60' Clay, light-gray, with sand, very-fine  
60'- 70' Clay, blue-green, with silt  
70'- 74' Clay, dark-gray, with sand  
74'- 80' Clay, blue-green, with silt  
80'- 95' Clay, tan, with sand  
95'- 96' Siltstone  
96'-112' Clay, dark-gray, with silt  
112'-113' Siltstone  
113'-126' Sand, with clay, light tan  
126'-130' Clay, light-gray, with sand  
130'-142' Clay, light-gray, with silt  
142'-142½' Siltstone  
142½'-150' Clay, gray, with silt  
150'-160' Clay, dark-gray, with sand  
160'-170' Clay, dark-green, with sand  
170'-174' Lignite, with clay, dark-gray  
174'-176' Clay, light-gray  
176'-186' Clay, blue-green, with sand  
186'-197' Clay, dark-gray, with sand  
197'-199' Lignite, with clay, dark gray to black  
199'-200' Lignite  
200'-202' Clay, dark-gray  
202'-288' Clay, dark-green to black, with silt  
288'-288½' Siltstone  
288½'-300' Clay, dark-green to black, with silt  
T. D.: 300'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 75.** Elevation 275'  
Location: SE¼, Sec. 24, T. 14 N., R. 2 E.  
County, Craighead  
Logged by: M. A. Stoyanov\* 2/76.

0' - 4' Sand, tan  
4' - 10' Clay, tan to gray, with sand  
10' - 38' Clay, tan to light-gray, with silt  
38' - 48' Clay, tan and red, with silt  
48' - 58' Sand, tan, coarse  
58' - 63' Sand, fine, with gravel  
\*63' - 75' Clay, blue green, with silt  
75' - 78' Clay, gray, with silt  
78' - 79' Siltstone  
79' - 82' Sand, gray, fine, with clay and silt  
82' - 82.3' Siltstone, gray  
82.3' - 92' Sand, gray, fine with clay and silt  
92' - 170' Sand, gray, fine with 2" layer of siltstone  
170' - 183' Sand, gray, fine, with 1" thick stringer of lignite  
183' - 186' Sand, gray, fine-grained, with 1" siltstone  
186' - 192' Sand, gray, fine-grained  
192' - 192.5' Siltstone  
192.5' - 201.5' Sand, fine-grained, gray  
T. D.: 201.5'  
  
\*From 63' to T. D. was drillers log only

**Drill Hole No. 76.** Elevation 267'  
Location: NE¼, Sec. 19, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: B. F. Clardy\* 2/76.

0' - 4' Sand, tan, medium-grained  
4' - 12' Clay, tan and gray, with silt  
12' - 25' Clay, with sand, tan  
25' - 26' Gravel  
26' - 31' Clay, tan to light gray, with silt  
31' - 38' Clay, gray, with silt  
38' - 44' Lignite with some woody material and clay seams  
44' - 50' Clay, tan, with silt  
50' - 65' Clay, light gray with silt  
65' - 83' Clay, gray, with silt  
83' - 83.5' Siltstone  
83.5' - 91' Clay, gray, with silt  
91' - 123' Sand, gray, fine, with 2" layer of siltstone  
123' - 125' Clay, with silt and sand, fine  
125' - 125.5' Siltstone  
125.5' - 54' Clay, gray, with silt and sand, fine  
154' - 158' Clay, light-gray, with silt  
158' - 177.5' Clay, gray, with silt and sand, 2" layer of siltstone  
177.5' - 184' Sand, gray, with clay and silt  
184' - 195' Clay, gray, with sand, fine  
195' - 199' Lignite  
199' - 280' Clay, gray, with silt and sand, fine  
280' - 289' Clay, gray, with sand, fine  
289' - 289.5' Siltstone  
T. D.: 289.5'  
  
Core (37' - 47') 100% recovery  
4.2' lignite.  
  
37' - 37.5' Clay, gray, silty w/lignite at 37.5  
37.5' - 40.7' Lignite, black, with brown woody streaks  
40.7' - 41' Dark gray lignitic silty clay

41' - 42' Lignite  
42' - 43' Clay, dark gray, silty and lignitic  
43' - 45' Clay, tan  
45' - 47' Clay, gray, silty  
  
Core (190' - 200') 50% recovery  
190' - 195' lost, probably loose sand  
195' - 199' Sand, glauconitic, gray, and semi-consolidated  
199' - 200' lignite  
  
\*Drillers log only except for core

**Drill Hole No. 77.** Elevation 270'  
Location: SE¼, Sec. 16, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 3/76.

0' - 32' Clay, gray to tan, with brown humus  
32' - 48' Gravel, pea-size to pebbles, with sand  
48' - 58' Clay, dark gray, with silt  
58' - 70' Sand, medium  
70' - 91' Sand, fine, with trace of lignite @ 87'  
91' - 94' Lignite, soft, black  
94' - 98' Clay, black, very lignitic  
98' - 100' Clay, light-gray, to white  
100' - 140' Sand, fine, with light stringer @ 129'  
140' - 150' Clay, bluish-green, with silt  
150' - 158' Sand, very-fine  
158' - 170' Sand, very-fine, with clay, blue to gray, @ 167' siltstone  
170' - 176½' Sand, very-fine, with clay, blue gray  
176½' - 182' Lignite stringers, with clay, gray  
182' - 200' Clay, tan, with silt  
T. D.: 200'

**Drill Hole No. 78-B.** Elevation 345'  
Location: Sec. 23, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

0' - 24' Clay, light-brown, with silt  
24' - 38' Clay, tan, with silt  
38' - 40' Sand, coarse  
40' - 58' Clay, tan to light-gray, w/silt  
58' - 68' Clay, gray to blue-green, with silt  
68' - 68.5' Sand and gravel  
68.5' - 79' Clay, dark-gray to gray, with silt  
79' - 83' Lignite w/clay, brown, lignitic  
83' - 88' Clay, dark-brown, with silt  
88' - 122' Clay, light-gray, with silt  
122' - 124' Clay, dark brown  
124' - 148' Clay, light-gray, with silt  
148' - 154' Clay, blue-green, with silt  
154' - 162' Clay, gray, with silt and clay, blue green  
162' - 162.5' Siltstone layer, approximately 6"  
162.5' - 168' Clay, lignitic, with sand  
168' - 171' Lignite  
171' - 200' Clay, light gray, with silt  
T. D.: 200'

**Drill Hole No. 78.** Elevation 310'  
Location: SW¼, Sec. 9, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: D. W. Lumbert 3/76.

0' - 24' Clay, light-tan, with sand, medium

24' - 38' Clay, tan, with sand  
38' - 40' Sand, coarse with gravel  
40' - 58' Clay, tan to light-gray, with sand  
58' - 68' Clay, gray, blue-green, with silt  
68' - 68.5' Sand and gravel layer  
68.5' - 71.5' Clay, dark-gray, with silt  
71.5' - 79' Clay, gray, with silt  
79' - 80' Clay, dark-gray, with silt  
80' - 82.5' Lignite  
82.5' - 93' Clay, light-gray, with silt  
93' - 94' Clay, gray, with sand  
94' - 95' Lignite  
95' - 99' Clay, gray, with silt  
99' - 105' Clay, light-gray, with silt  
105' - 105.5' Sand, gray  
105.5' - 112' Clay, gray, with sand  
112' - 118' Sand, with clay, gray  
118' - 122' Clay, gray, with sand  
122' - 190' Sand, gray, with clay  
190' - 212' Clay, gray, with silt  
212' - 213' Lignite  
213' - 220' Clay, dark-brown, with trace of lignite and silt  
220' - 230' Clay, light-gray, with silt  
230' - 246' Clay, dark to light-gray, with silt, some wood fibers  
246' - 248' Lignite with clay, dark-brown  
248' - 252' Clay, light-brown, with silt  
252' - 260' Clay, dark to light-gray, with silt  
T. D.: 260'

**Drill Hole No. 79.** Elevation 325'  
Location: NE¼, Sec. 13, T. 14 N., R. 2 E.  
County, Craighead  
Logged by: D. W. Lumbert 3/76.

0' - 10' Clay, red, with sand  
10' - 30' Clay, red to tan, with sand  
30' - 52' Clay, red, with sand and gravel  
52' - 60' Sand, with clay, tan to dark-brown  
60' - 80' Sand, with clay, tan to dark-brown  
80' - 100' Clay, dark-brown, with sand with trace of lignite  
100' - 120' Sand, very-fine, clay, gray to blue  
120' - 130' Clay, light to dark-gray, with very-fine sand  
130' - 150' Clay, light to dark-gray, with very-fine sand  
150' - 170' Clay, dark-gray, with sand and/or silt  
170' - 190' Clay, dark-gray, blue, white, with sand  
190' - 200' Clay, dark-gray, with silt  
T. D.: 200'

**Drill Hole No. 80.** Elevation 255'  
Location: NE¼, Sec. 14, T. 14 N., R. 2 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

0' - 55' Sand, gray, with clay, white to tan  
55' - 56' Gravel with sand  
56' - 70' Sand, gray, with clay, white to tan  
70' - 71' Sand, with black organic material (tar)  
71' - 80' Sand, gray, with clay, tan to gray  
80' - 90' Sand, with gravel and tar  
90' - 100' Sand, gray, with clay, and sand, white to brown, very-fine  
100' - 105' Sand, gray, with clay, tan  
105' - 110' Sand, gray, with gravel  
110' - 120' Sand, gray, with clay  
120' - 130' Sand, gray, with clay increasing  
T. D.: 130'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 81.** Elevation 280'  
Location: Sec. 15, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

- 0'-27' Sand, white to tan, with 3" siderite at 23'
- 27'-27.5' Siltstone, hard with clay, red
- 27.5'-50' Sand and gravel with clay, red
- 50'-60' Clay, mottled, with sand, white
- 60'-80' Clay, tan, with sand
- 80'-90' Clay, gray, with sand
- 90'-120' Clay, light tan, white, with sand
- 120'-130' Clay, light gray, increase in sand
- 130'-149' Sand, salt-pepper, with clay, tan @ 148' lignite stringer
- 149'-195' Sand, salt-pepper, with clay, brown
- 195'-200' Clay, black, very lignitic  
T. D.: 200'

**Drill Hole No. 82.** Elevation 400'  
Location: Sec. 16, T. 15 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

- 0'-50' Clay, red, tan, with sand
- 50'-60' Sand, red, with clay, white, and silt
- 60'-70' Sand, red, with clay, white, red
- 70'-80' Sand, red (larger grain), with clay, white
- 80'-110' Sand, red to tan, with clay, white  
T. D.: 110'

**Drill Hole No. 83.** Elevation 300'  
Location: Sec. 7, T. 14 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

- 0'-35' Clay, tan, with sand
- 35'-68' Clay, red to tan, with sand
- 68'-84' Gravel
- 84'-89' Clay, gray, with sand
- 89'-92' Clay, dark gray, with sand
- 92'-92'2" Lignite stringer, approximately 2"
- 92'2"-107' Clay, gray, with sand, thin lignite stringer @ 107'
- 107'-114' Clay, gray, with silt
- 114'-120' Clay, blue-green, with silt
- 120'-130' Sand, very fine, with siltstone layer at 130'
- 130'-136' Clay, blue green, with siltstone layer @ 136'
- 136'-138' Clay, blue-green
- 138'-140' Clay, lignitic
- 140'-154' Clay, blue-green to gray, with silt, @ 154' lignite, with wood fibers
- 154'-177' Clay, light-gray, with silt
- 177'-192' Clay, gray, with silt and silt stone layer @ 192'
- 192'-200' Sand, very fine, with siltstone layer @ 198'  
T. D.: 200'

**Drill Hole No. 84.** Elevation 420'  
Location: Sec. 6, T. 15 N., R. 4 E.  
County, Craighead  
Logged by: D. W. Lumbert 3/76.

- 0'-20' Clay, red with sand
- 20'-62' Gravel, with clay, red, with sand
- 62'-68' Sand, coarse, clay, red to tan
- 68'-94' Clay, light-gray to tan, with sand
- 94'-98' Clay, light-gray, with sand
- 98'-128' Sand, clay, tan
- 128'-230' Sand, clay, light-gray to tan
- 230'-238' Clay, light-gray to tan, with

- sand
- 238'-265' Clay, dark-gray
- 265'-265.4' Hard material, probably silt-stone, none to ID
- 265.4'-284' Clay, dark gray, with trace of lignite with fine sand, hard layer @ 284', approximately 5"
- 284'-300' Clay, gray to dark-gray, with sand  
T. D.: 300'

**Drill Hole No. 85.** Elevation 320'  
Location: Sec. 12, T. 15 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

- 0'-10' Sand, tan with clay, silt
- 10'-20' Sand, tan, with silt
- 20'-38' Clay, gray, with silt and sand
- 38'-45' Gravel, with sand, tan-gray
- 45'-60' Sand, tan, gray, with clay
- 60'-80' Sand and gravel  
T. D.: 80'
- Cave-in, lost circulation  
No mud

**Drill Hole No. 86.** Elevation 340'  
Location: Sec. 28, T. 15 N., R. 3 E.  
County, Craighead  
Logged by: M. A. Stoyanov 3/76.

- 0'-20' Clay, dark-tan, with sand
- 20'-38' Clay, tan, very sandy
- 38'-50' Gravel, pea-sized, with coarse sand
- 50'-60' Sand, coarse, with clay, red  
T. D.: 60'
- Cave-in, sand  
No mud

**Drill Hole No. 87.** Elevation 474'  
Location: NE¼, Sec. 32, T. 16 N., R. 4 E.  
County, Greene  
Logged by: M. Howard 3/76.

- 0'-28' Clay, dark-tan, with iron concretions
- 28'-36' Clay, light-tan, with iron concretions
- 36'-50' Coarse sand and pea gravel
- 50'-60' Coarse sand  
Hole abandoned at 60' - could not get past base of gravel at 50'

**Drill Hole No. 88.** Elevation 395'  
Location: NE¼, Sec. 29, T. 16 N., R. 4 E.  
County, Greene  
Logged by: D. W. Lumbert 3/76.

- 0'-5' Clay, brown to tan, with sand
- 5'-12' Sand, coarse, w/gravel, pea-size
- 12'-20' Sand, coarse
- 20'-50' Sand, medium to fine, clay, tan
- 50'-60' Sand, fine, clean silica
- 60'-70' Sand, fine, clean silica
- 70'-80' Sand, fine, clean silica
- 80'-88' Sand, fine, clean silica
- 88'-100' Sand, very-fine, compacted
- 100'-108' Sand, fine, clean silica
- 108'-112' Clay, light-brown, with silt
- 112'-113' Lignite
- 113'-120' Clay, light-brown, with silt  
T. D.: 120'

**Drill Hole No. 89.** Elevation 360'  
Location: Sec. 32, T. 16 N., R. 4 E.  
County, Greene  
Logged by: M. A. Stoyanov 4/76.

- 0'-8' Clay, dark-tan, with sand
- 8'-11' Clay, dark-tan, with sand
- 11'-14' Gravel, with sandy clay

- 14'-18' Gravel
- 18'-19' Clay, light-gray, with sand
- 19'-21' Gravel
- 21'-37' Clay, light-gray, tan sand
- 37'-40' Sand, light-gray, and clay
- 40'-50' Sand, tan
- 50'-90' Sand, tan, very fine
- 90'-100' Sand, light-tan, fine
- 100'-110' Sand, light-tan, white, very fine
- 110'-130' Sand, light-tan, very fine
- 130'-150' Sand, tan, very fine with clay  
T. D.: 150'

**Drill Hole 89-B.** Elevation 360'  
Location: Sec. 32, T. 16 N., R. 4 E.  
County, Greene  
Logged by: M. A. Stoyanov 4/76.

- 0'-10' Clay, dark-tan, with sand
- 10'-14' Gravel, pea-size
- 14'-37' Clay, tan, with silt
- 37'-48' Clay, dark-tan, with silt
- 48'-70' Sand, well rounded, w/clay, tan
- 70'-102' Sand, well rounded, w/clay, red
- 102'-109' Clay, dark, lignitic @ 109' lignite
- 109'-160' Sand, very fine
- 160'-169' Clay, gray, with silt
- 169'-178' Clay, lignitic, trace lignite
- 178'-181' Lignite, hard
- 181'-182' Clay, light-gray, with silt
- 182'-185' Lignite, hard
- 185'-188' Clay, gray, with silt @ 188' sandstone layer 3"
- 188'-206' Clay, blue-green and light-gray
- 206'-211' Clay, dark-gray and blue-green
- 211'-244' Siltstone @ 211' and clay, gray, blue-green
- 244'-259' Clay, gray, with silt
- 259'-260' Lignite, hard
- 260'-266' Clay, with silt
- 266'-290' Clay, light-gray @ 290' lignite stringer
- 290'-300' Clay, gray, with silt  
T. D. 300'

Cored interval 177.9'-187.9'  
Recovered: Lost:  
6' 4'  
177.9'-182' Lignite (hard)  
182'-183.9' Clay, tan, very sandy

**Drill Hole No. 90.** Elevation 365'  
Location: Sec. 34, T. 16 N., R. 3 E.  
County, Greene  
Logged by: M. A. Stoyanov 4/76.

- 0'-2' Sand, tan
- 2'-11' Clay, dark-tan, with sand
- 11'-19' Sand, gravel
- 19'-27' Clay, tan, with sand and gravel
- 27'-70' Sand, tan
- 70'-113' Clay, light-gray, with sand @ 100' Lignite, approximately 3" to 4" stringer
- 113'-113'3" @ 113' lignite, approximately 2" to 3" stringer
- 113'3"-216' Clay, dark-gray, with silt @ 216' siltstone  
T. D. 216', unable to penetrate  
Unable to penetrate

**Drill Hole No. 91.** Elevation 448'  
Location: Sec. 32, T. 16 N., R. 4 E.  
County, Greene  
Logged by: M. A. Stoyanov 4/76.

- 0'-21' Clay, dark-tan, with sand
- 21'-44' Sand and gravel, coarse
- 44'-178' Sand, coarse
- 178'-180' Clay, dark brown, lignitic material  
T. D.: 180', lost circulation

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 92.** Elevation

Location:

County

Logged by:

Abandoned

**Drill Hole No. 93.** Elevation 428'

Location: Sec. 35, T. 16 N., R. 3 E.

County, Greene

Logged by: D. W. Lumbert

4/76.

0'-21' Clay, tan, with sand  
 21'-27' Sand, with clay, tan  
 27'-63' Gravel, with clay, red, with sand  
 63'-68' Clay, red, with sand and gravel  
 68'-71' Gravel  
 71'-90' Clay, red, with sand, with layers of gravel  
 90'-130' Sand, packed, with gravel, clay, red  
 130'-195' Clay, dark gray, with sand  
 195'-236' Sand, packed with clay  
 236'-236.5' Lignite  
 236.5'-249' Sand, packed with clay, dark gray  
 249'-252' Clay, lignitic  
 252'-255' Lignite  
 255'-258' Clay, lignitic, with sand  
 258'-259' Siltstone  
 259'-276' Clay, light gray, with sand  
 276'-276.5' Siltstone  
 T. D.: 276.5'

**Drill Hole No. 94.** Elevation 340'

Location: Sec. 8, T. 15 N., R. 4 E.

County, Craighead

Logged by: D. W. Lumbert

4/76.

0'-20' Clay, tan, with sand  
 20'-52' Clay, tan, with sand and gravel  
 52'-54' Gravel  
 54'-94' Sand, coarse, clay, tan  
 94'-107' Sand, medium grained, clay, light gray tan  
 107'-140' Clay, gray, with sand  
 140'-160' Clay, gray, with sand "packed"  
 160'-190' Clay, dark gray, with silt  
 190'-195' Clay, dark gray, with sand  
 195'-196' Clay, dark gray, with silt  
 196'-197' Lignite  
 197'-232' Clay, dark gray, blue green, with silt; @ 223' siltstone 2" layer  
 232'-233' Lignite  
 233'-241' Clay, blue green, dark brown, with silt  
 @ 241' siltstone layer  
 241'-275' Clay, blue green, dark tan, with sand  
 275'-287' Clay, dark tan, brown, with sand  
 287'-289' Lignite  
 289'-300' Clay, dark tan, brown, with sand  
 T. D.: 300'

**Drill Hole No. 95.** Elevation 440'

Location: Sec. 3, T. 15 N., R. 3 E.

County, Craighead

Logged by: M. A. Stoyanov

4/76.

0'-26' Clay, tan, very sandy  
 26'-77' Clay, red, tan, with pea size gravel  
 77'-100' Clay, tan, sandy  
 100'-175' Clay, light tan, white, with sand, coarse  
 175'-278' Clay, dark gray, very sandy, white  
 278'-285' Clay, dark gray, with sand

285'-287' Lignite, with wood fibers  
 287'-300' Clay, dark gray, with sand  
 T. D.: 300'

**Drill Hole No. 96.** Elevation 355'

Location: Sec. 9, T. 15 N., R. 4 E.

County, Craighead

Logged by: M. A. Stoyanov

4/76.

0'-32' Clay, red, very sandy  
 32'-50' Sand, red, with clay  
 50'-82' Sand, coarse  
 82'-117' Sand, coarse  
 117'-165' Clay, white, light gray, tan, with sand  
 165'-200' Clay, brown, lignite traces with sand  
 @198' lignite stringer 6"  
 200'-230' Clay, light tan, white, with packed sand  
 230'-240' Clay, light tan, very sandy  
 240'-265' Clay, light tan, white with increase in sand  
 265'-267' Lignite, hard  
 267'-277' Clay, gray, with packed sand  
 277'-300' Clay, gray, white, with packed sand  
 T. D.: 300'

**Drill Hole No. 97.** Elevation 330'

Location: Sec. 18, T. 15 N., R. 4 E.

County, Craighead

Logged by: M. A. Stoyanov

4/76.

0'-2' Gravel, pea sized, with sand  
 2'-10' Sand, tan, with clay  
 10'-60' Sand, light gray, white, with clay, white  
 60'-70' Sand, light tan, very fine  
 70'-150' Sand, light tan, very fine  
 T. D.: 150'  
 Cave in; unable to drill

**Drill Hole No. 98.** Elevation 315'

Location: Sec. 18, T. 15 N., R. 4 E.

County, Craighead

Logged by: M. A. Stoyanov

5/76.

0'-24' Clay, dark tan, with sand  
 24'-49' Sand, coarse  
 49'-200' Sand, fine, "packed"  
 200'-245' Sand, coarse  
 T. D.: 245'

**Drill Hole No. 99.** Elevation 385'

Location: Sec. 31, T. 16 N., R. 4 E.

County, Greene

Logged by: D. W. Lumbert

5/76.

0'-18' Clay, red, with sand  
 18'-36' Gravel, clay, red, with sand  
 36'-100' Sand, clay, red  
 100'-190' Sand, large, clay, tan, with gravel  
 190'-200' Sand, large, clay, light gray  
 200'-215' Sand, compacted, clay, light gray to white layers  
 215'-224' Clay, light gray, with sand  
 224'-240' Clay, dark gray, with sand  
 240'-248' Clay, dark gray, trace of lignite with sand  
 248'-250' Lignite, with clay  
 T. D.: 250'

**Drill Hole No. 100.** Elevation 410'

Location: Sec. 19, T. 16 N., R. 4 E.

County, Greene

Logged by: D. W. Lumbert

5/76.

0'-10' Clay, red and tan, with 50% sand  
 10'-20' Sand, with tan clay layers  
 20'-26' Sand, medium-size, with gravel

26'-38' Gravel  
 38'-50' Sand, coarse, with clay, tan  
 50'-100' Gravel, clay, tan, with gravel  
 100'-140' Sand, coarse, with clay, light gray  
 140'-160' Sand, coarse, with clay, gray  
 T. D.: 160'

**Drill Hole No. 101.** Elevation 372'

Location: Sec. 20, T. 16 N., R. 4 E.

County, Greene

Logged by: D. W. Lumbert

5/76.

0'-6' Clay, dark brown-tan, with sand  
 6'-22' Clay, gray, with sand  
 22'-28' Gravel with large coarse sand  
 28'-34' Sand  
 34'-38' Clay, gray, with sand  
 38'-39' Siltstone  
 39'-43' Clay, gray, with sand  
 43'-53' Clay, pink to red, with layers of siltstone  
 53'-57' Clay, gray, with sand  
 57'-65' Sand, "packed"  
 65'-74' Sand, clay, gray, "silty"  
 74'-100' Sand, coarse, clay, gray  
 100'-120' Sand, coarse, clay, white-gray, with trace of lignite  
 120'-133' Sand, very fine, clay, gray to dark gray  
 133'-136' Clay, with very black lignitic material  
 136'-137' Lignite "hard"  
 137'-140' Clay, dark lignitic, silty  
 140'-150' Clay, gray, with sand  
 150'-160' Clay, dark gray, with sand  
 160'-172' Clay, gray, with silt  
 172'-215' Clay, gray and blue-green, with silt  
 215'-215.5' Lignite  
 215.5'-260' Clay, blue-gray, with silt  
 260'-261' Lignite  
 261'-270' Clay, gray, with silt  
 270'-280' Clay, dark-gray, with silt  
 280'-300' Clay, dark-gray, with silt, with trace of lignite  
 T. D.: 300'

**\* Drill Hole No. 102.** Elevation 440'

Location: Sec. 2, T. 15 N., R. 4 E.

County, Craighead

Logged by: M. A. Stoyanov

5/76.

0'-6' Clay, tan, light-gray, with sand  
 6'-11' Gravel, tan, with sand  
 11'-26' Clay, gray  
 26'-71' Clay, gray, with sand  
 71'-96' Clay, gray, dark, with silt  
 96'-102' Clay, gray, with increase of silt  
 102'-175' Sand, gray, fine  
 175'-195' Sand, coarse  
 195'-200' Clay, light-gray, with silt  
 200'-240' Clay, light-gray, with sand  
 240'-247' Clay, light-gray, with lignite stringer  
 247'-263' Clay, light-gray, with silt  
 @ 263' lignite, approximately 6"  
 263'-300' Clay, light-gray, with silt  
 T. D.: 300'

**Drill Hole No. 103 and 103A.** Elevation 340'

Location: Sec. 12, T. 15 N., R. 3 E.

County, Craighead

Logged by: D. W. Lumbert

5/76.

0'-11' Clay, tan, sandy  
 11'-21' Clay, tan and gray, sandy with gravel  
 21'-32' Sand, coarse, and gravel  
 T. D.: 32'; abandoned location

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

103-A.

0'- 16' Clay, tan, sandy  
16'- 70' Sand and gravel  
Abandoned location  
T. D.: 70'

**Drill Hole No. 104.** Elevation 385'  
Location: Sec. 16, T. 15 N., R. 4 E.  
County, Craighead

Logged by: D. W. Lumbert 5/76.

0'- 10' Clay, red tan, with sand  
10'- 20' Clay, tan, with sand,  
20'- 21' Gravel  
@ 19.5 gravel  
21'- 36' Sand, coarse, clay, tan  
36'- 38' Clay, yellow, with sand  
38'- 39' Clay, tan gray, with sand  
39'- 58' Clay, gray, with silt  
58'- 58.2' Lignite  
58.2'- 67' Clay, gray, with silt  
@ 67' siderite 4"  
67'- 85' Clay, gray, as above  
@ 85' lignite stringer  
85'- 99' Clay, gray, silty  
99'-101' Silt, tan to light brown, w/clay  
101'-118' Sand, fine, gray to white  
118'-170' Sand, medium to coarse, quartz  
and chert pebbles  
170'-173' Lignitic clay and lignite stringers  
173'-195' Sand and silt, lignitic in places  
195'-201' Lignite stringers and lignitic clay  
201'-223' Sand, medium tan to light brown  
223'-224' Lignite  
224'-230' Clay, brown, lignitic  
230'-240' Clay, gray, with silt stringers  
240'-293' Sand, gray, medium grained  
293'-294.5' Lignite  
294.5'-300' Clay, gray  
T. D.: 300'

**Drill Hole No. 105.** Elevation 360'  
Location: Sec. 22, T. 15 N., R. 4 E.  
County, Craighead

Logged by: D. W. Lumbert 5/76.

0'- 21' Clay, tan, with sand  
21'- 32' Sand and gravel  
32'- 50' Sand & gravel w/clay, tan, gray  
50'-120' Sand, medium-grained, clay,  
tan gray  
120'-170' Clay, light gray, with sand  
170'-215' Clay, gray, with sand  
215'-230' Sand, "packed", clay, gray  
230'-233' Clay, brown, with sand  
233'-234' Lignite  
234'-240' Clay, dark brown gray, w/ sand  
240'-300' Clay, dark brown gray, with  
sand and trace of lignite  
T. D.: 300'

**Drill Hole No. 106.** Elevation 378'  
Location: Sec. 17, T. 15 N., R. 4 E.  
County, Craighead

Logged by: D. W. Lumbert 5/76.

0'- 6' Clay, tan brown, with sand  
6'- 14' Gravel, coarse sand, w/clay, tan  
14'- 110' Sand, clay, tan  
110'-133' Sand, very coarse  
133'-133.6' Lignite  
133.6'-247' Sand, clay, gray  
247'-248' Siltstone  
248' Sand, clay, gray  
T. D.: 248'

**Drill Hole No. 107.** Elevation 350'  
Location: NW¼, Sec. 4, T. 15 N., R. 4 E.  
County, Craighead

Logged by: J. M. Howard 5/76.

0'- 8' Tan silt with sand

8'- 35' Tan sand  
35'- 95' Tan sand w/white silt, clay seams  
95'- 100' Sand, coarse, iron-stained, lost  
circulation  
T. D.: 100'

**Drill Hole No. 108.** Elevation 295'

Location: SE¼, Sec. 17, T. 15 N., R. 5 E.  
County, Craighead

Logged by: J. M. Howard 5/76.

0'- 31' Tan silt, clay, with minor sand  
31'- 70' Gray sand, with clay  
70'- 79' Dark gray clay, with sand  
@79' lignite 2"  
79'- 100' Gray sand, with minor, thin  
stringers of lignite  
100'-138' Gray sand, with clay  
138'-138½' Lignite  
138½'-140' Gray sand, with clay, thin pink  
layers of silt clay  
140'- 300' Gray sand, medium to coarse,  
some hard packed layers of sand  
T. D.: 300'

**Drill Hole No. 109.** Elevation 290'

Location: NE¼, Sec. 8, T. 15 N., R. 5 E.  
County, Craighead

Logged by: J. M. Howard 5/76.

0'- 10' Sand, tan, medium with small  
limonite concretions  
10'- 11' Gravel  
11'- 25' Gray clay with sand  
25'- 30' Sand, gray, with gravel  
T. D.: 30'

**Drill Hole No. 110.** Elevation 300'

Location: NW¼, Sec. 18, T. 15 N., R. 5 E.  
County, Craighead

Logged by: J. M. Howard 5/76.

0'- 19' Clay, tan, with sand  
19'- 27' Gravel and sand  
27'- 90' Sand, tan, medium to fine-  
grained  
T. D.: 90'

**Drill Hole No. 111.** Elevation 380'

Location: SW¼, Sec. 3, T. 15 N., R. 4 E.  
County, Craighead

Logged by: J. M. Howard 5/76.

0'- 5' Sand, tan, with clay  
5'- 22' Sand, tan, and gravel  
Sand, medium to coarse grained,  
clean, rounded to sub angular  
22'- 140' Sand, tan  
140'- 150' Sand, fine, gray, with few thin  
stringers of clay, light-tan  
150'- 249' Clay, layers of light brown, in  
sand, fine  
249'-250½' Lignite, hard  
250½'- 260' Sand, fine, with light-green clay  
stringers  
260'-260½' Siderite layer, hard, 8" thick  
260½'-275' Sand, fine  
275'-277' Lignite, hard  
277'-289' Sand, fine  
@ 289 siderite layer, hard  
T. D.: 289'

**Drill Hole No. 112.** Elevation 335'

Location: SE¼, Sec. 31, T. 15 N., R. 4 E.  
County, Craighead

Logged by: J. M. Howard 6/76.

0'- 27' Clay, tan with sand  
27'- 37' Clay, tan, with sand and gravel  
37'- 105' Sand, tan, medium-grained  
105'-215' Sand, tan, coarse with few thin  
stringers of gray and brown clay  
@ 215' lignite, 3", hard  
215'-255' Sand, tan, fine

@ 254' lignite, hard, 9"  
255'-266' Sand, tan, w/stringer of gray clay  
@ 265' lignite, hard, 3"  
266'-286' Clay, gray, with sand stringers  
@ 285' Lignite, hard, 3"  
286'-300' Clay, green & gray interlayered  
T. D.: 300'

**Drill Hole No. 113.** Elevation 295'

Location: SE¼, Sec. 35, T. 15 N., R. 3 E.  
County, Craighead

Logged by: J. M. Howard 6/76.

0'- 16' Clay, tan, with silt  
16'- 27' Clay, light-gray  
27'- 30' Sand, iron-stained, with silt  
30'- 49' Clay, tan, with gravel  
49'- 70' Sand, tan, coarse  
70'- 94' Sand, tan, coarse with gravel  
94'- 97' Clay, brown  
@ 96' lignite, hard, 6"  
97'-130' Sand, gray, fine  
@ 106½' lignite, hard, 18"  
130'-135' Sand, gray, very coarse  
135'-300' Clay, gray, with sand with  
siderite layers  
T. D.: 300'

**Drill Hole No. 114.** Elevation 315'

Location: NW¼, Sec. 25, T. 15 N., R. 3 E.  
County, Craighead

Logged by: J. M. Howard 6/76.

0'- 45' Clay, brown, with silt  
45'- 65' Clay, gray, interbedded with  
brown silt and brown organic  
clay layers  
65'- 71' Sand, coarse, with gravel  
71'-135' Sand, medium tan  
135'-140' Sand, tan, medium to coarse,  
with gravel, scattered traces of  
lignite  
140'-150' Sand, tan, medium  
T. D.: 150'

**Drill Hole No. 115.** Elevation 330'

Location: SW¼, Sec. 19, T. 15 N., R. 4 E.  
County, Craighead

Logged by: J. M. Howard 6/76.

0'- 14' Clay, tan, with silt  
14'- 30' Sand, fine, w/red to white clay  
30'- 40' Clay, light-gray, with fine sand  
40'- 90' Sand, tan, medium, clean  
90'-103' Sand, tan, coarse, with thin gray  
clay stringers  
103'-140' Sand, gray, fine to medium,  
clean  
140'-205' Sand, gray, medium to coarse,  
clean  
205'-240' Sand, gray, fine to medium,  
clean  
240'-243' Clay, gray  
243'-255' Sand, gray, fine  
255'-289' Clay, gray with small shows of  
lignite - 2 separate 1" stringers  
@ 263' siderite, hard, 2"  
289'-290' Lignite, soft, with brown clay  
290'-300' Clay, gray  
@ 293' siderite, hard, 6"  
T. D.: 300'

**Drill Hole No. 116.** Elevation 295'

Location: SW¼, Sec. 27, T. 16 N., R. 5 E.  
County, Greene

Logged by: J. M. Howard 6/76.

0'- 4' Silt, brown, with sand  
4'- 22' Sand, brown, with gray to  
cream clay  
22'-105' Sand, tan, medium to fine  
105'-110' Clay, cream to pink, with sand  
110'-165' Sand, tan, medium to coarse  
T. D.: 165'



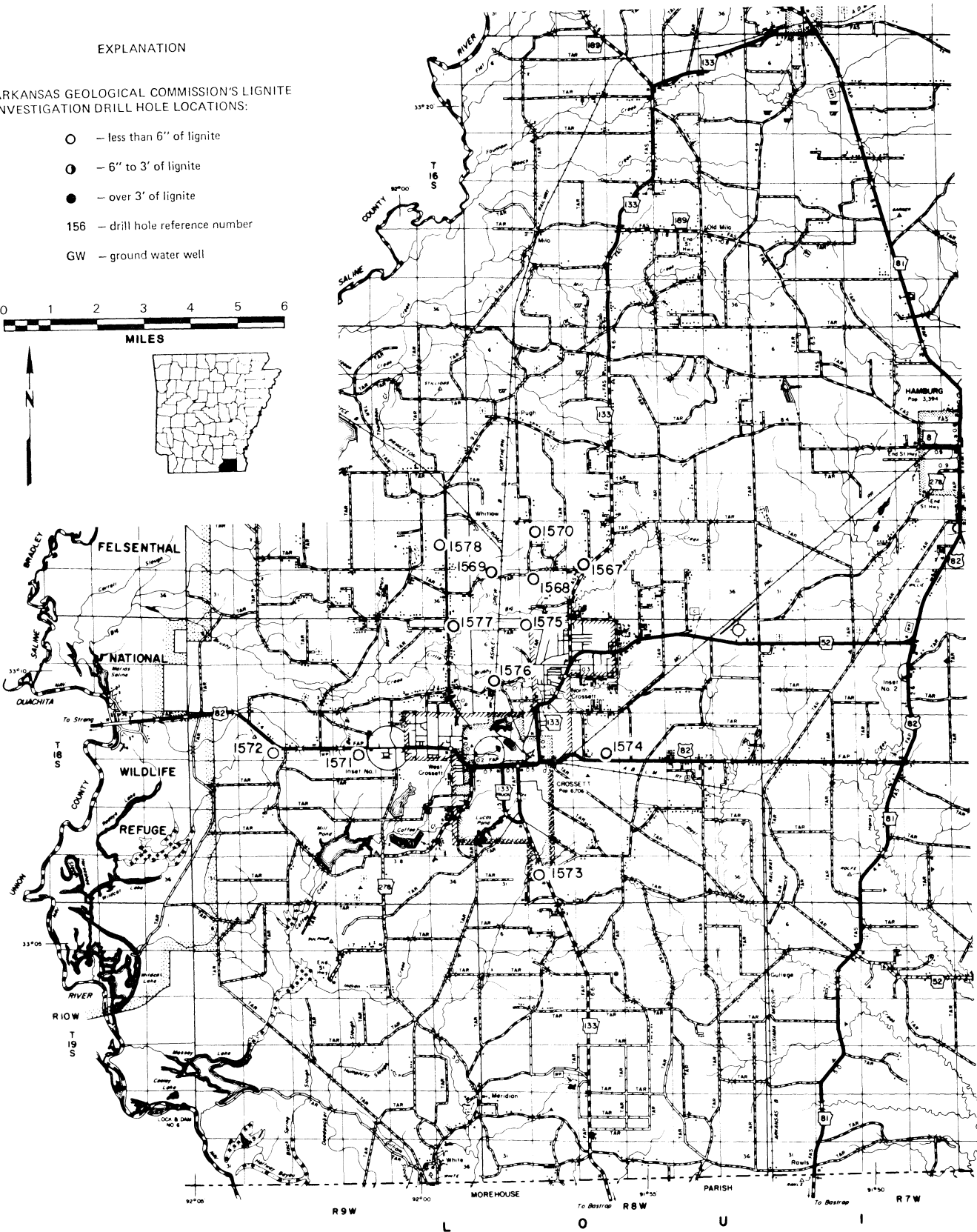
**APPENDIX B**  
**County location maps and drill logs of south Arkansas**

# Arkansas Lignite Investigations Ashley County

**EXPLANATION**

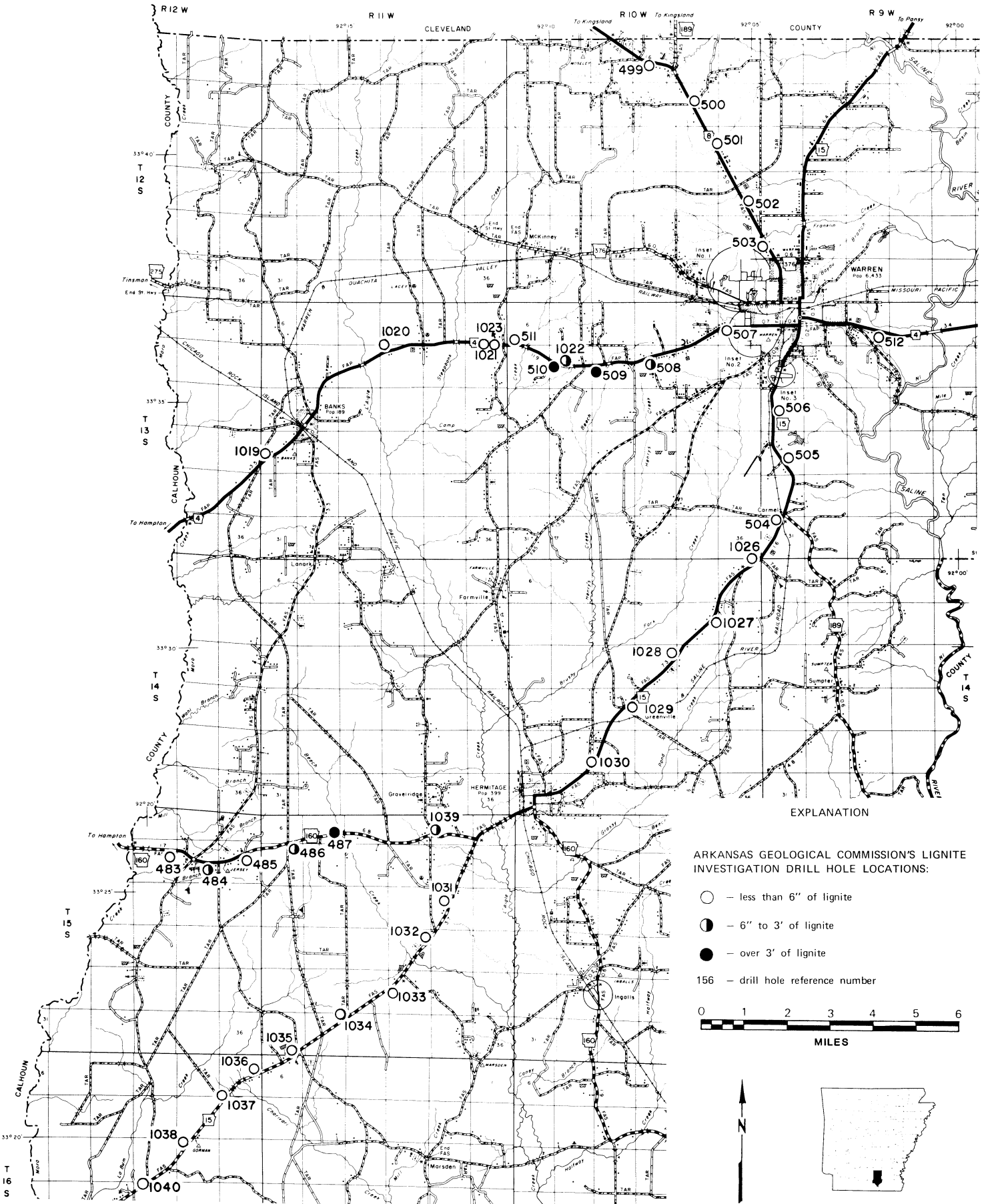
ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well

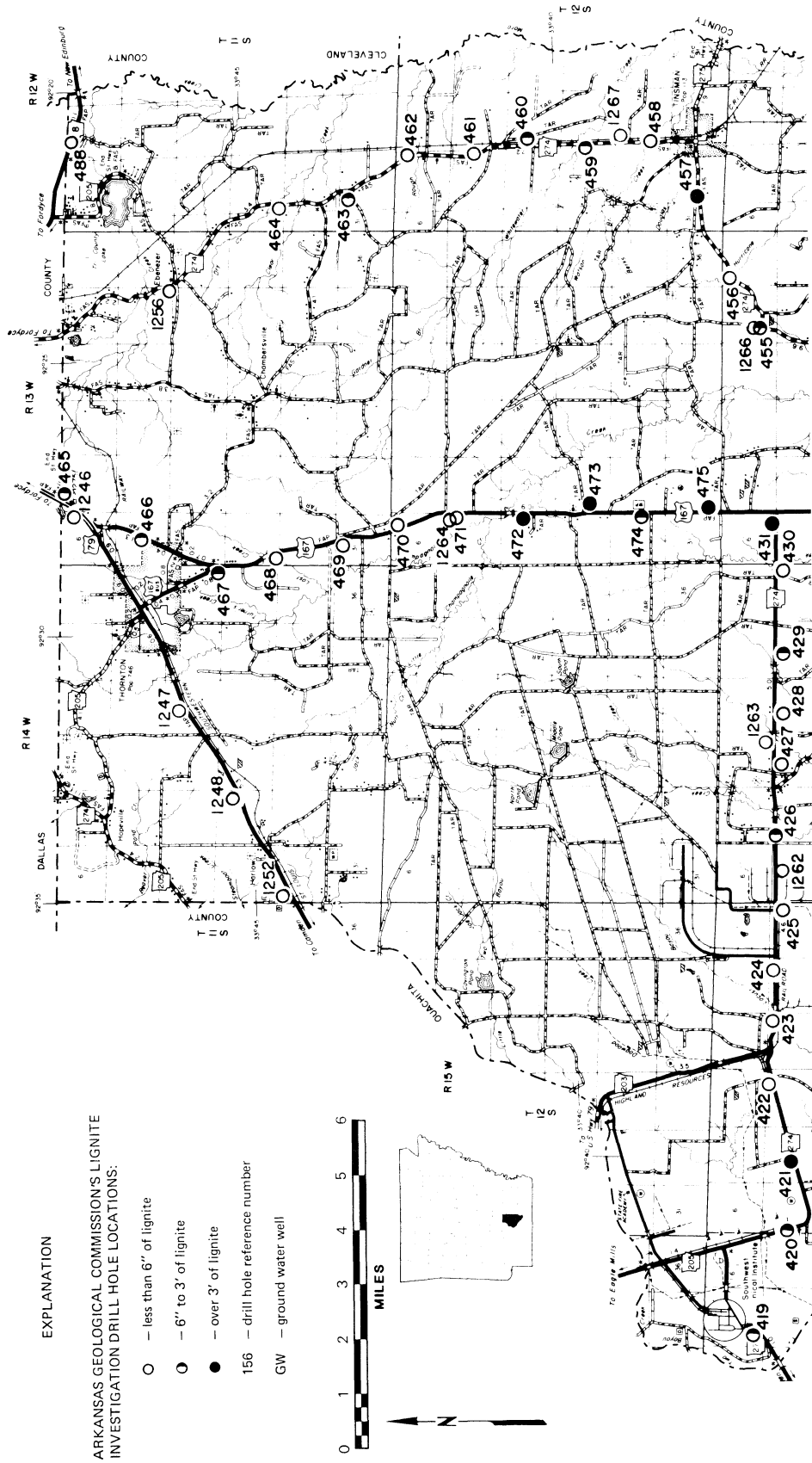




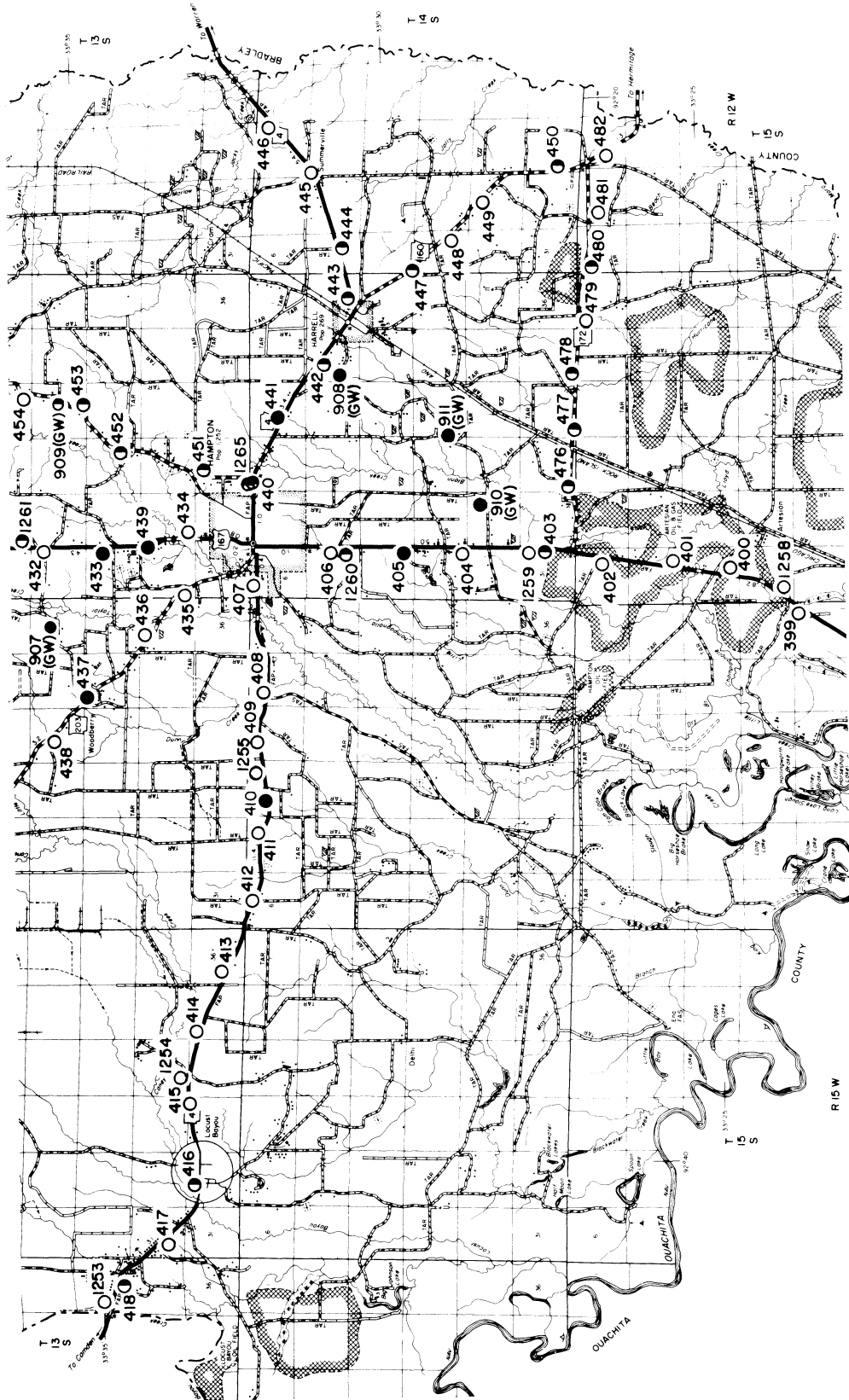
# Arkansas Lignite Investigations Bradley County



# Arkansas Lignite Investigations Calhoun County



Arkansas Lignite Investigations  
Calhoun County

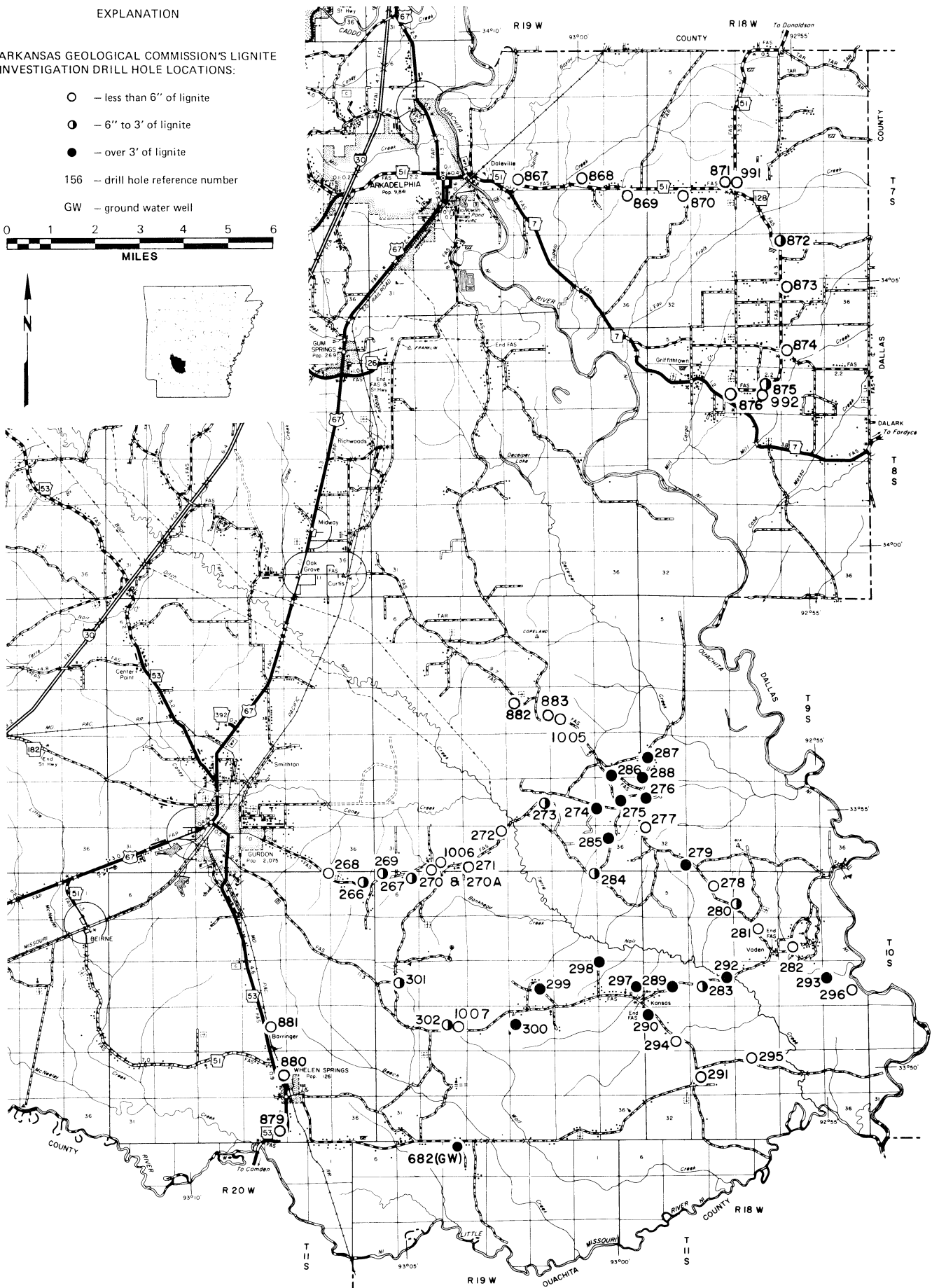
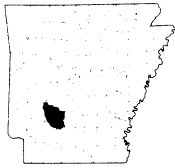


# Arkansas Lignite Investigations Clark County

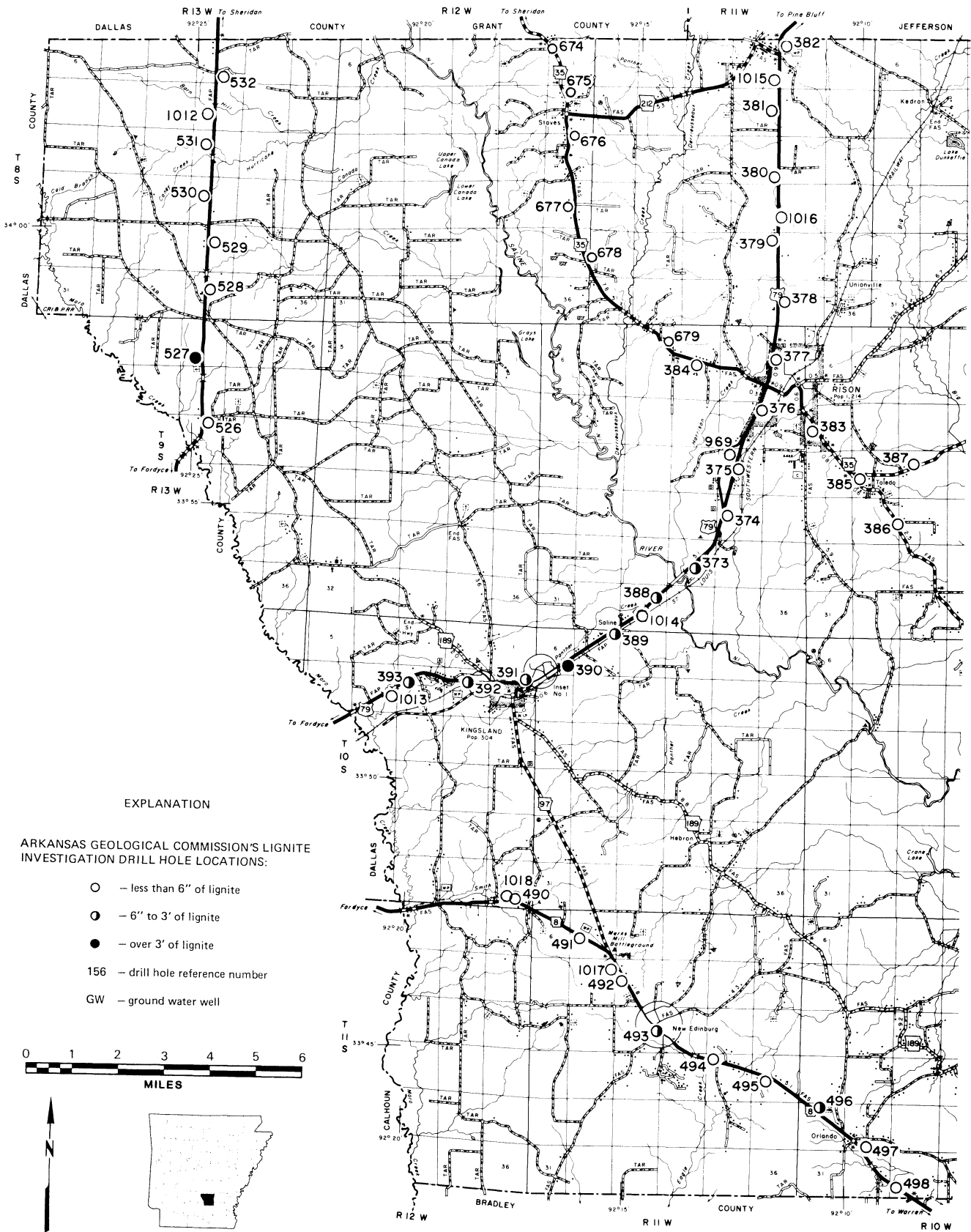
## EXPLANATION

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well



# Arkansas Lignite Investigations Cleveland County



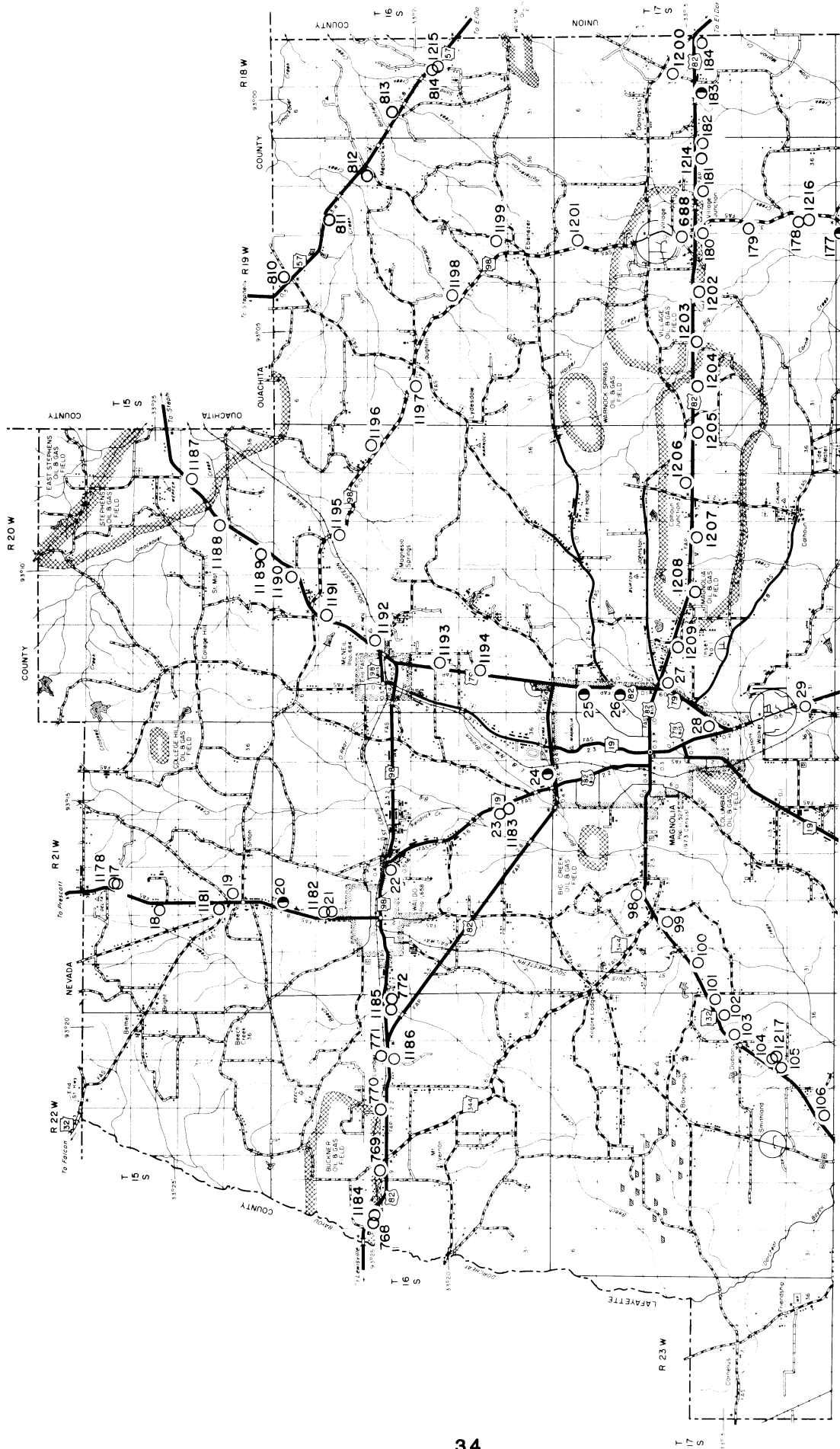
**EXPLANATION**

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

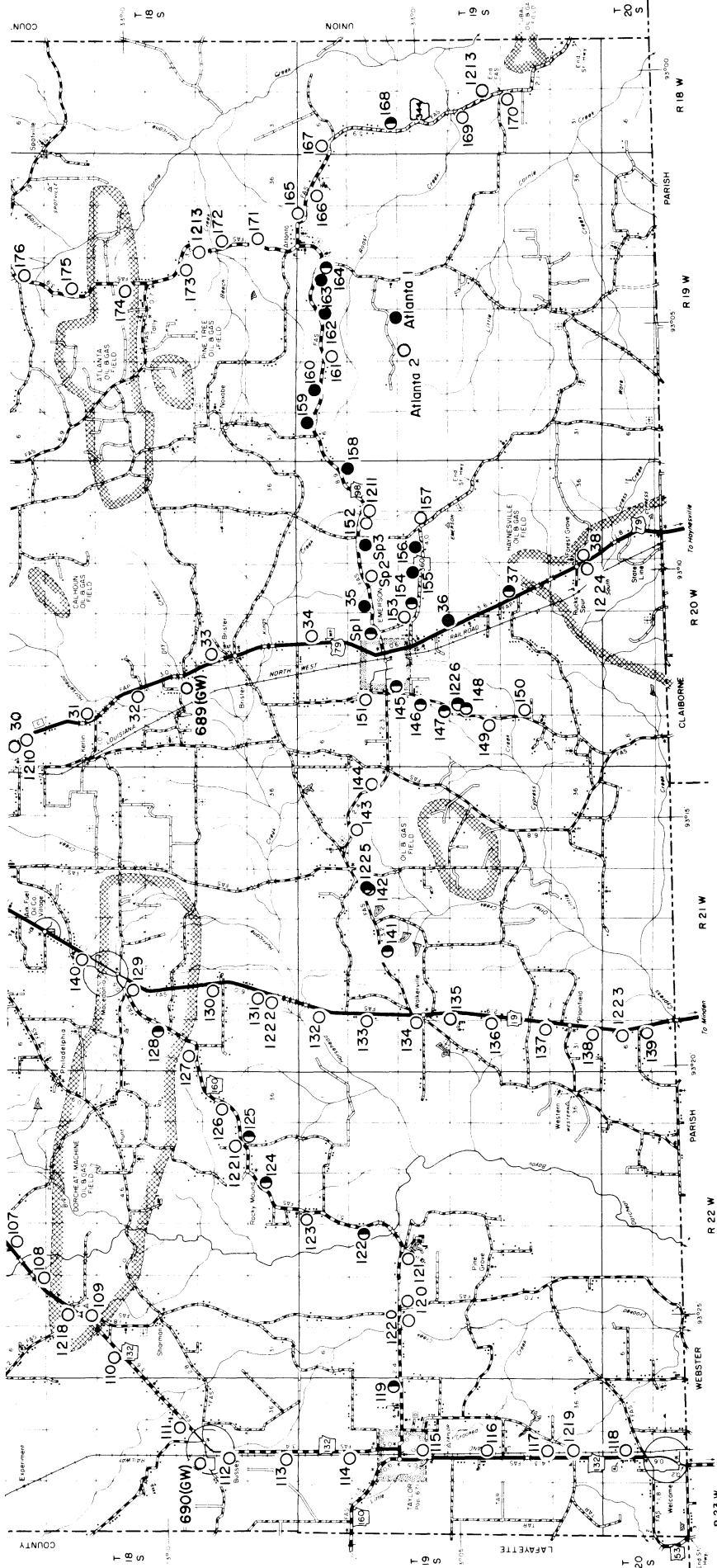
- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well



Arkansas Lignite Investigations  
Columbia County



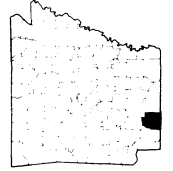
# Arkansas Lignite Investigations Columbia County



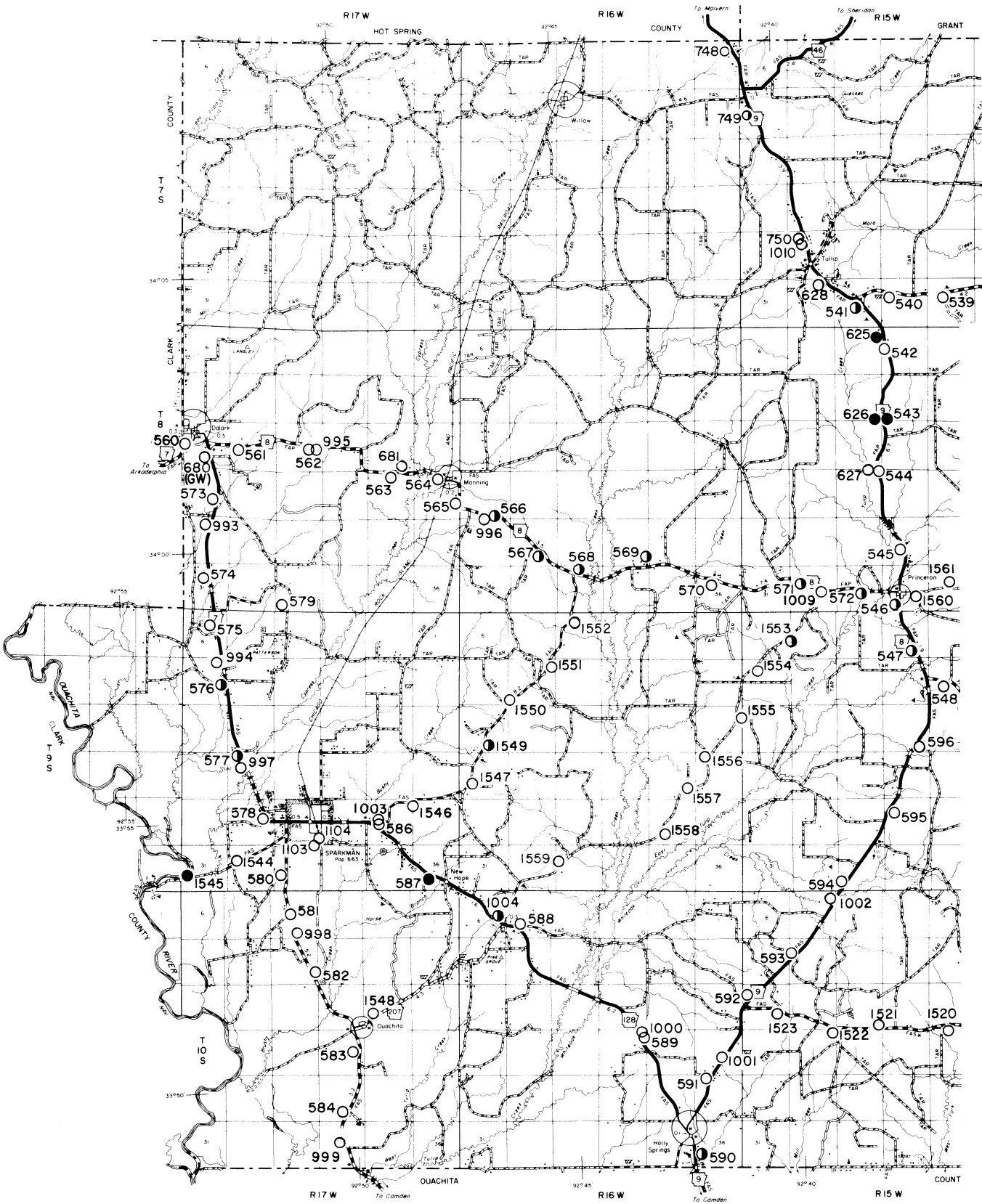
**EXPLANATION**

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well

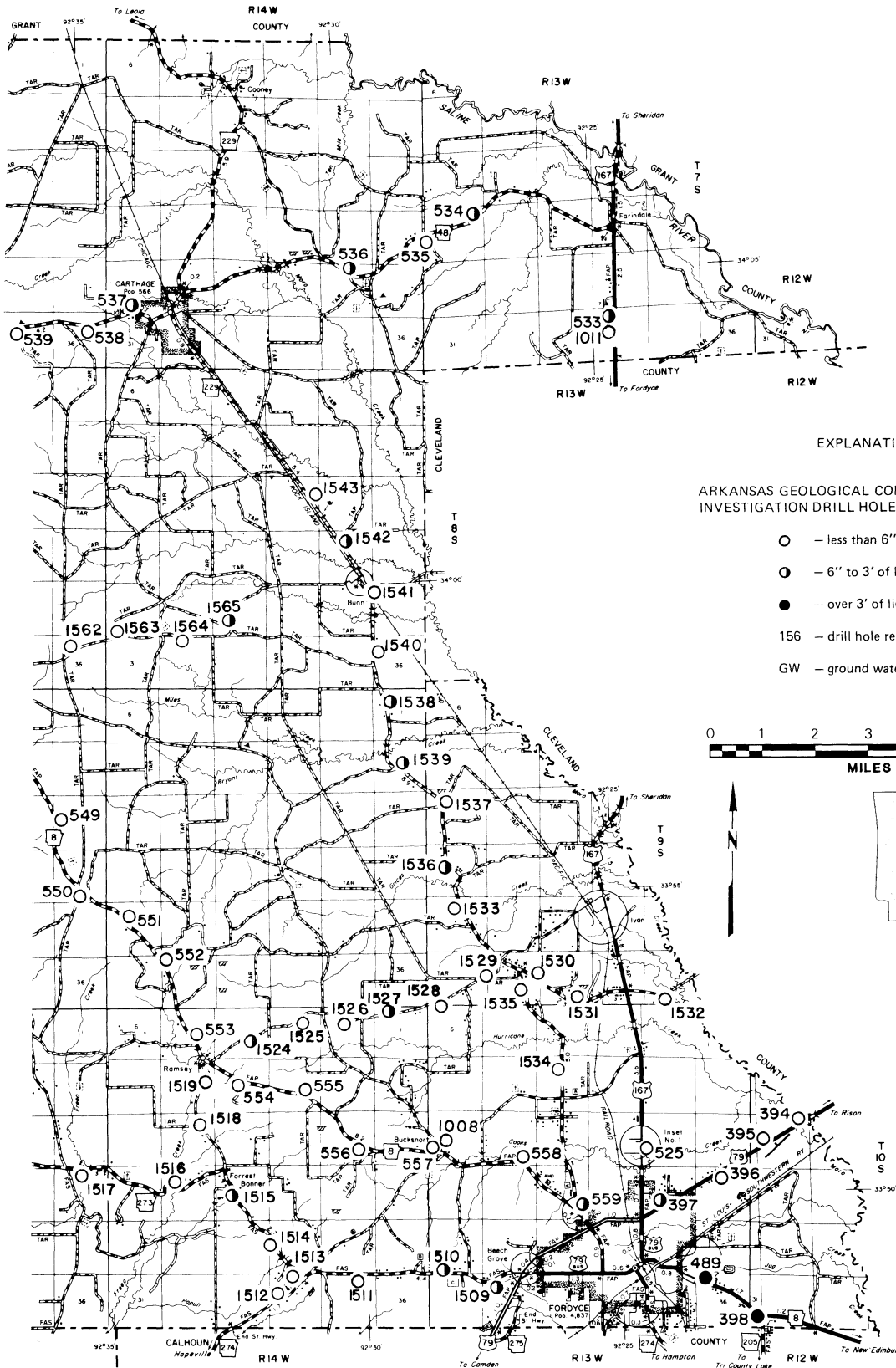


Arkansas Lignite Investigations  
Dallas County





# Arkansas Lignite Investigations Dallas County



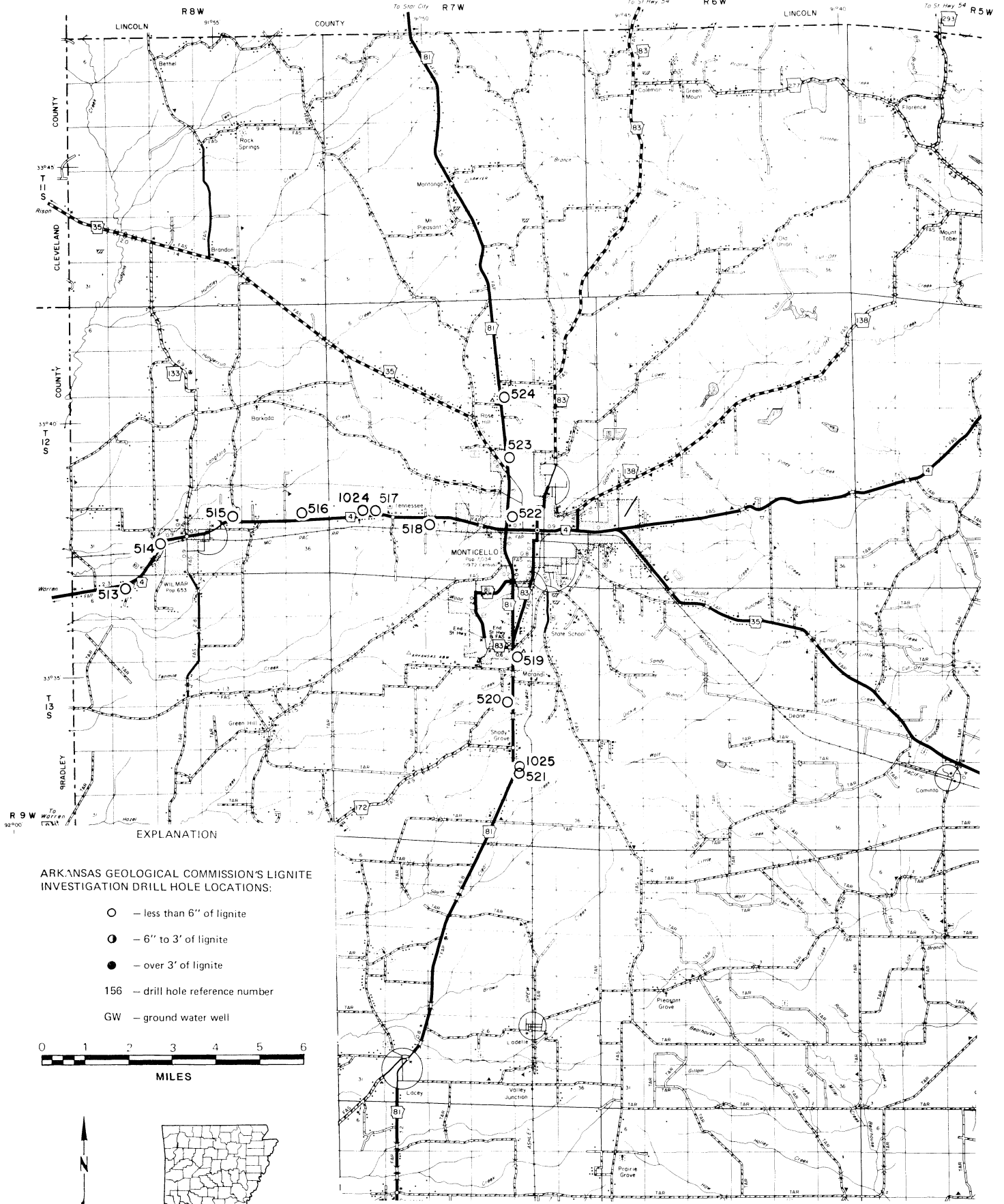
**EXPLANATION**

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well



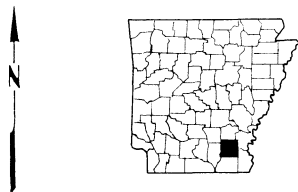
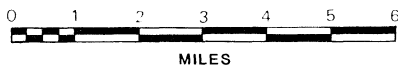
# Arkansas Lignite Investigations Drew County



**EXPLANATION**

**ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:**

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well

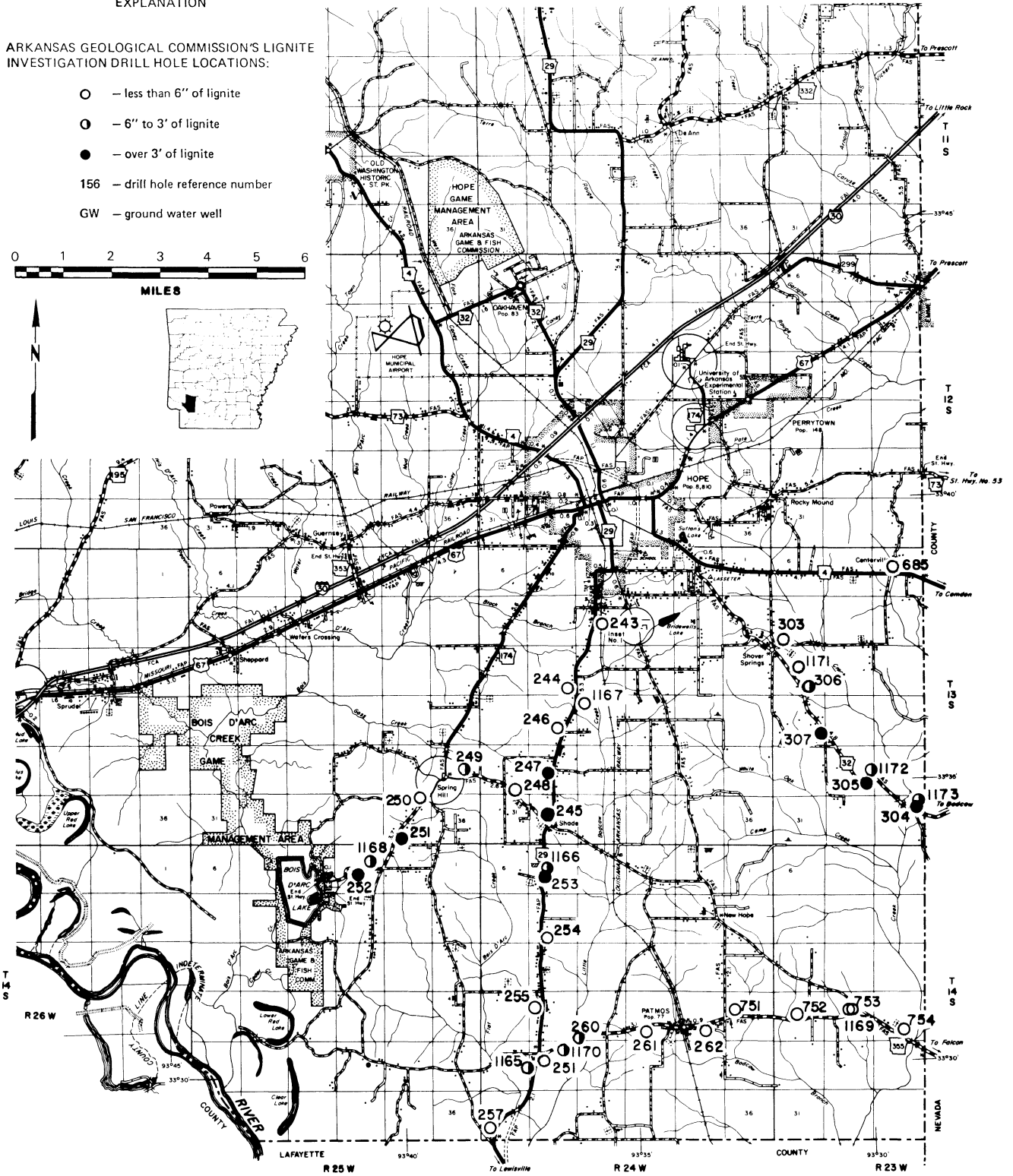
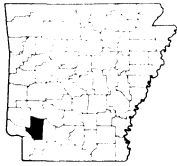


# Arkansas Lignite Investigations Hempstead County

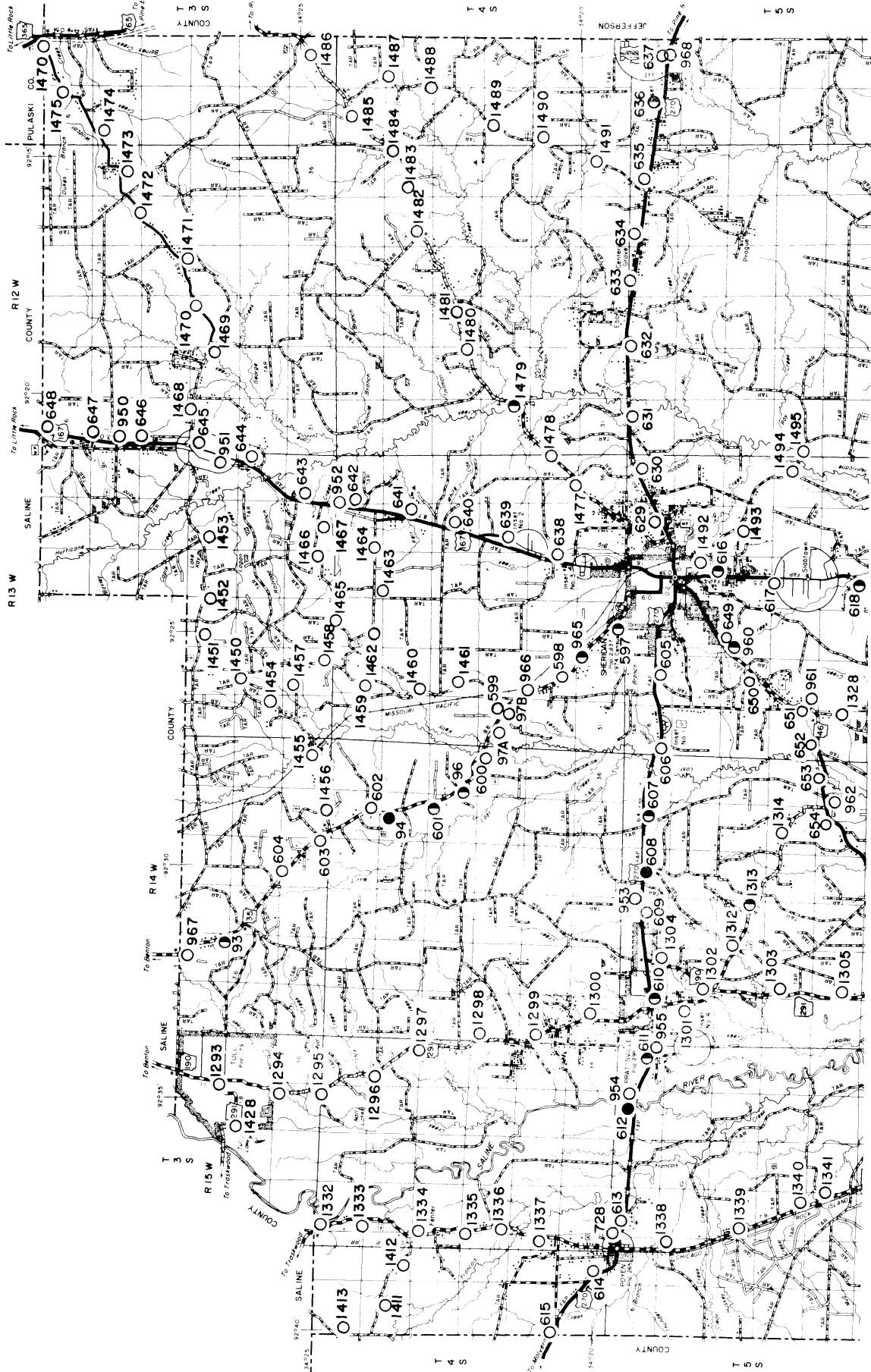
## EXPLANATION

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

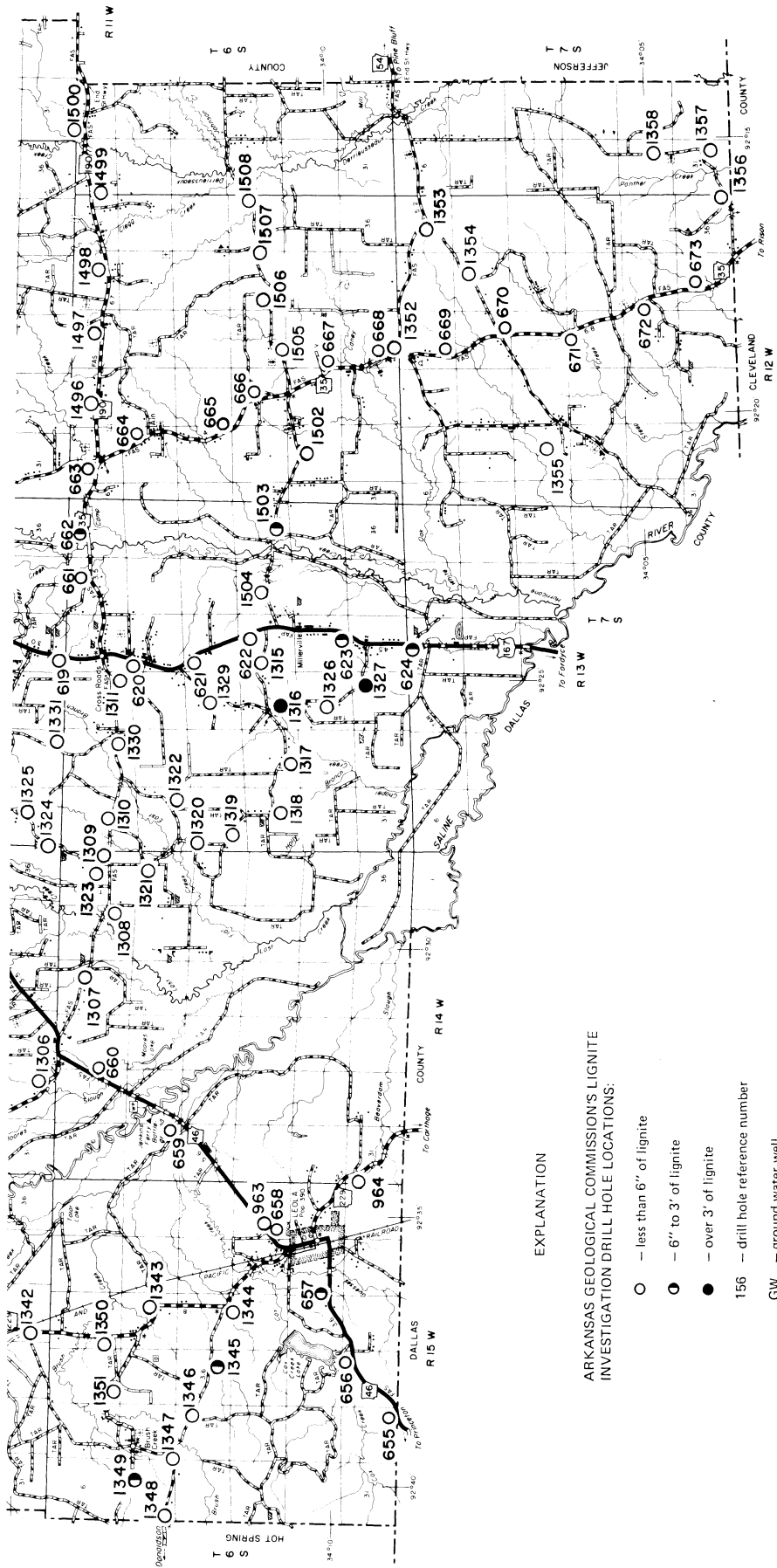
- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well



Arkansas Lignite Investigations  
Grant County



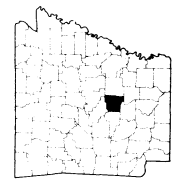
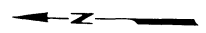
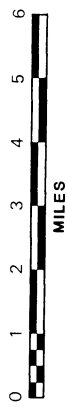
# Arkansas Lignite Investigations Grant County



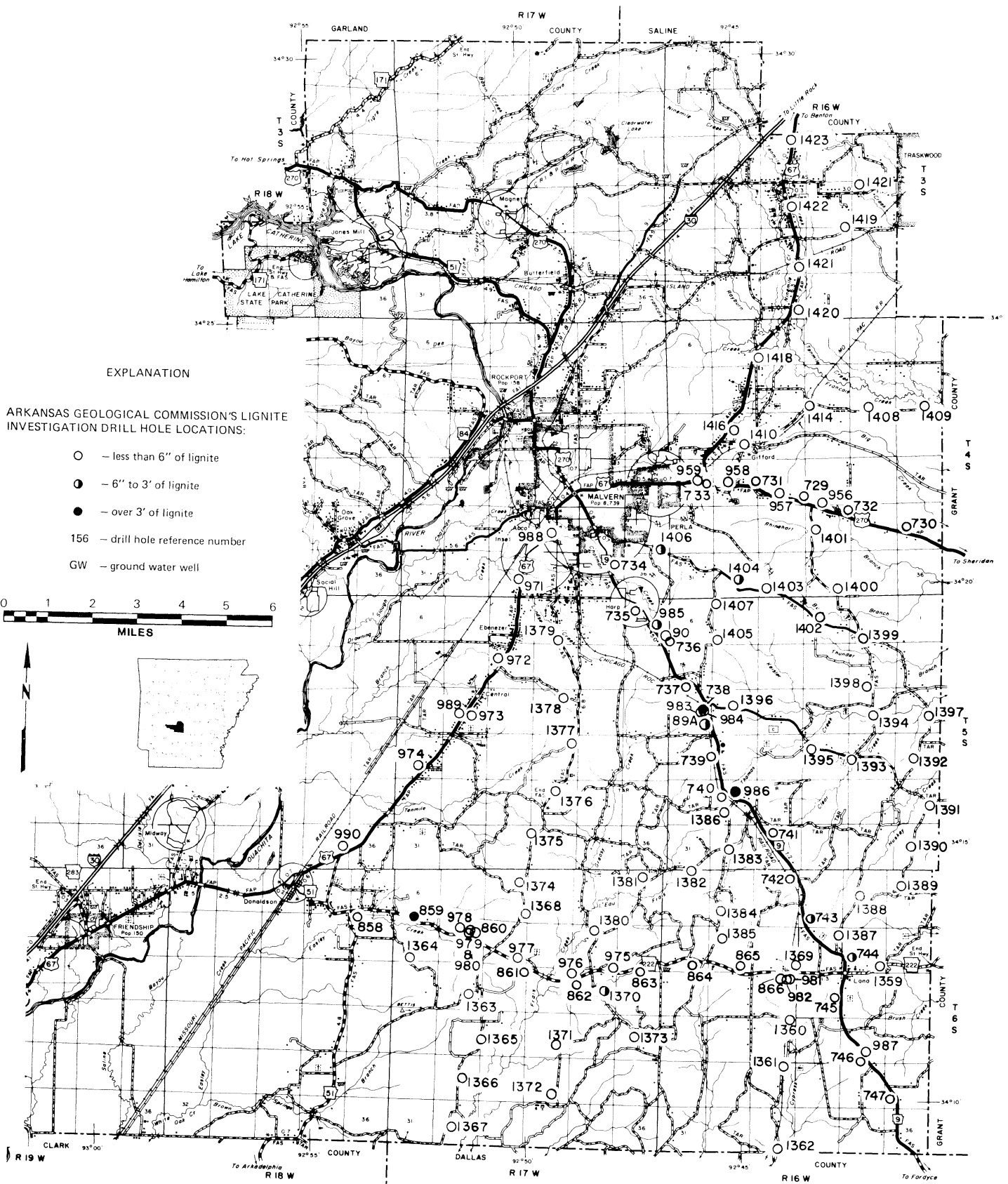
**EXPLANATION**

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well



# Arkansas Lignite Investigations Hot Spring County



**EXPLANATION**

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

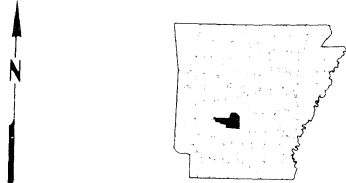
○ — less than 6" of lignite

● — 6" to 3' of lignite

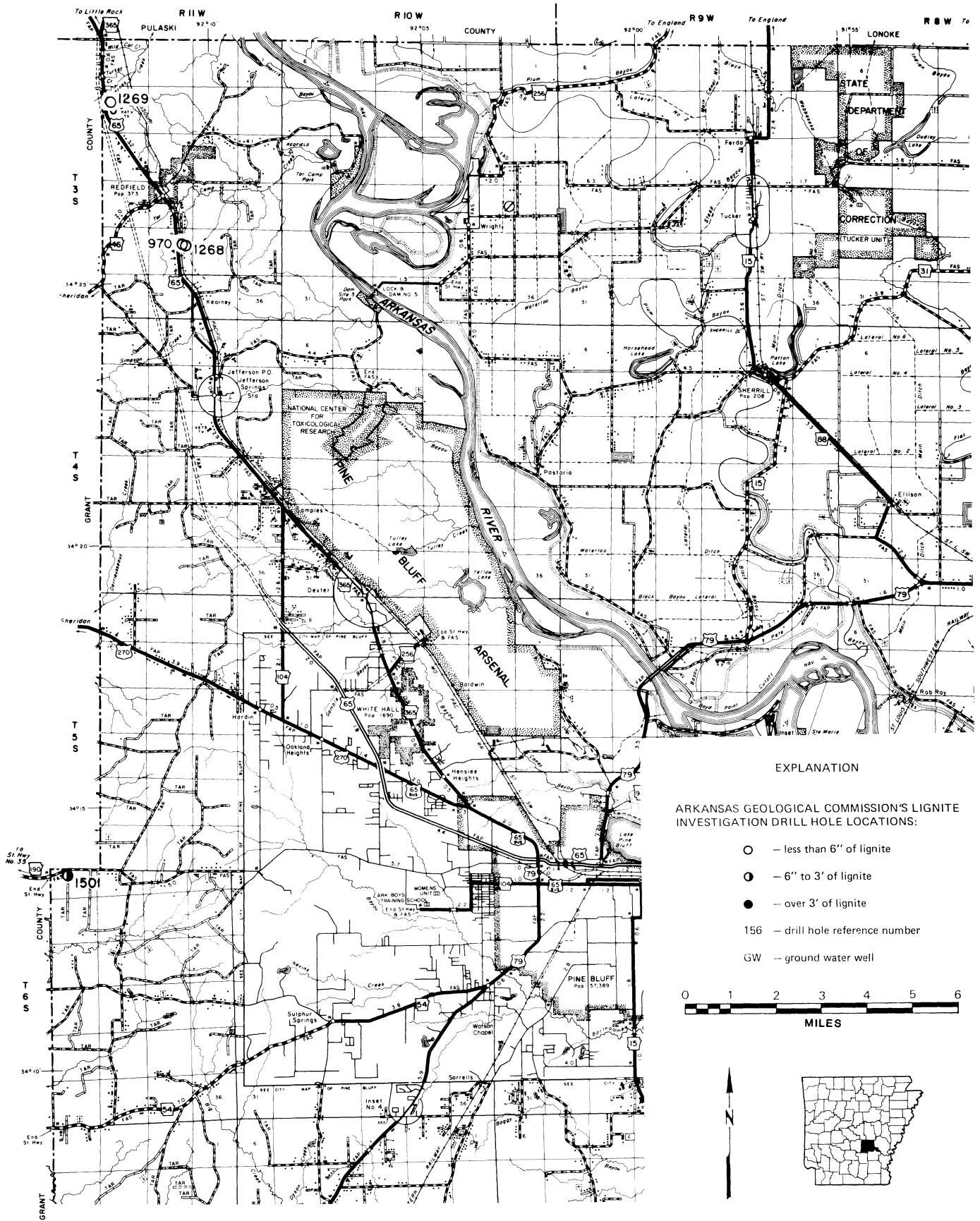
● — over 3' of lignite

156 — drill hole reference number

GW — ground water well

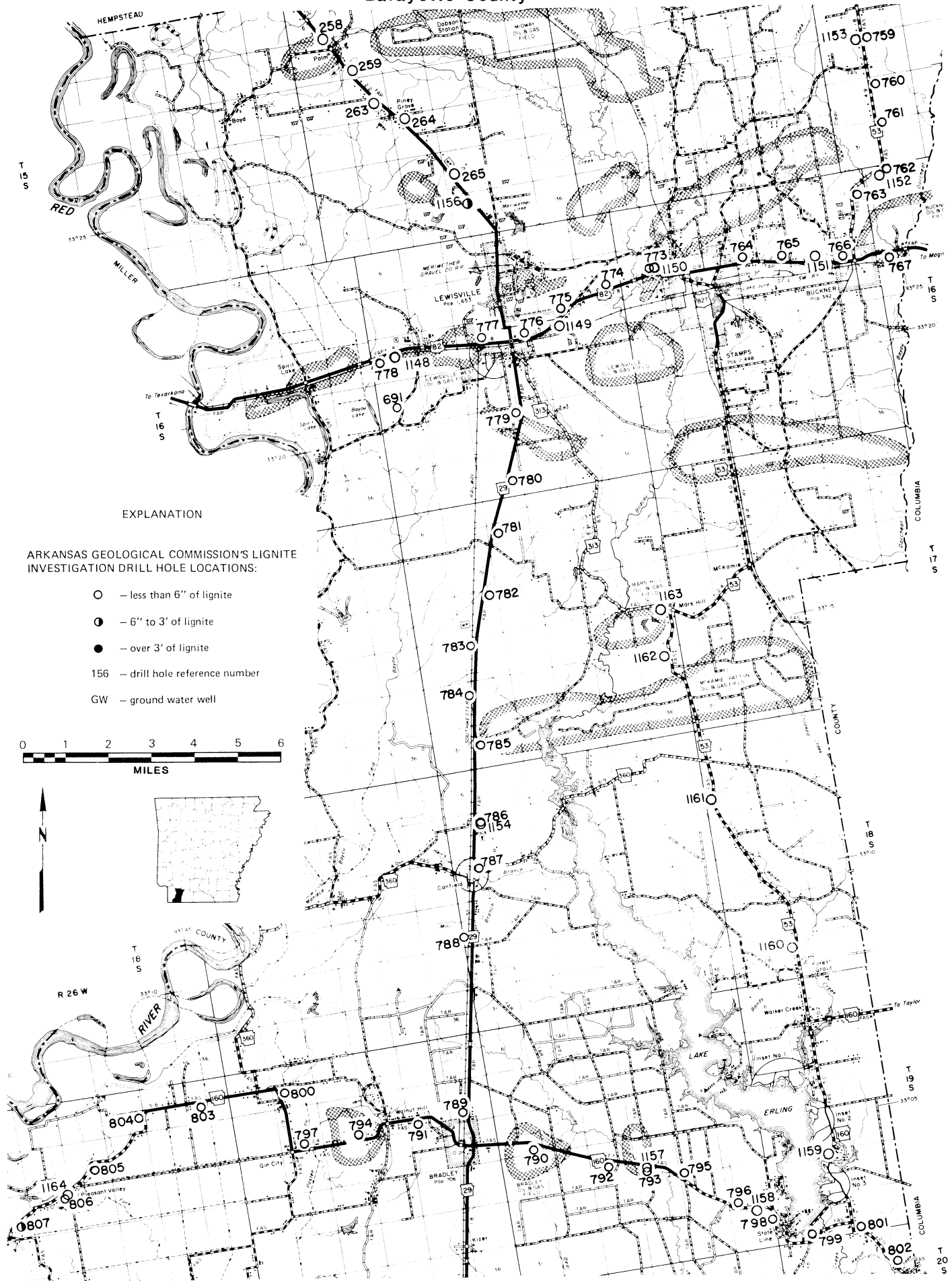


# Arkansas Lignite Investigations Jefferson County





# Arkansas Lignite Investigations Lafayette County



**EXPLANATION**

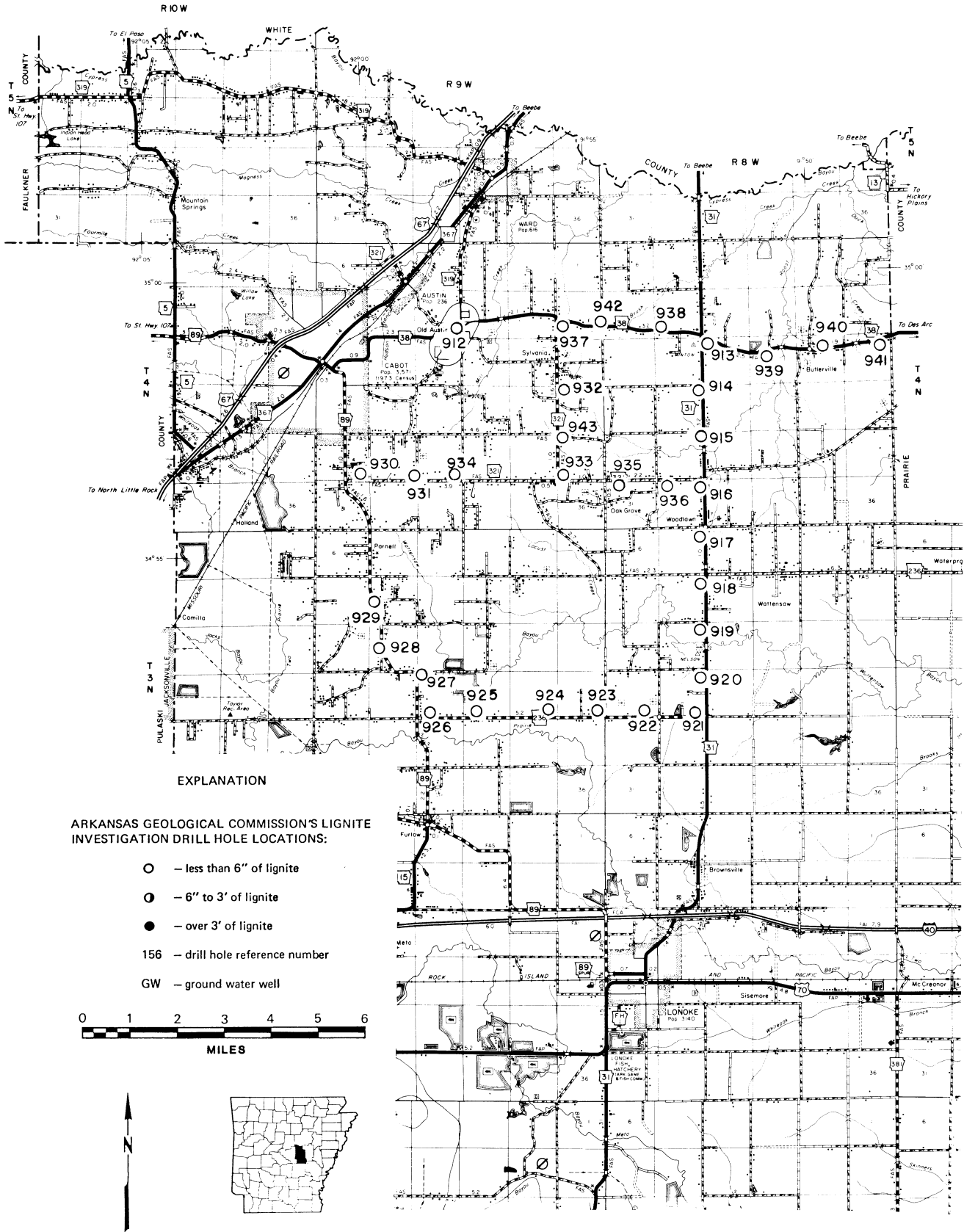
ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well

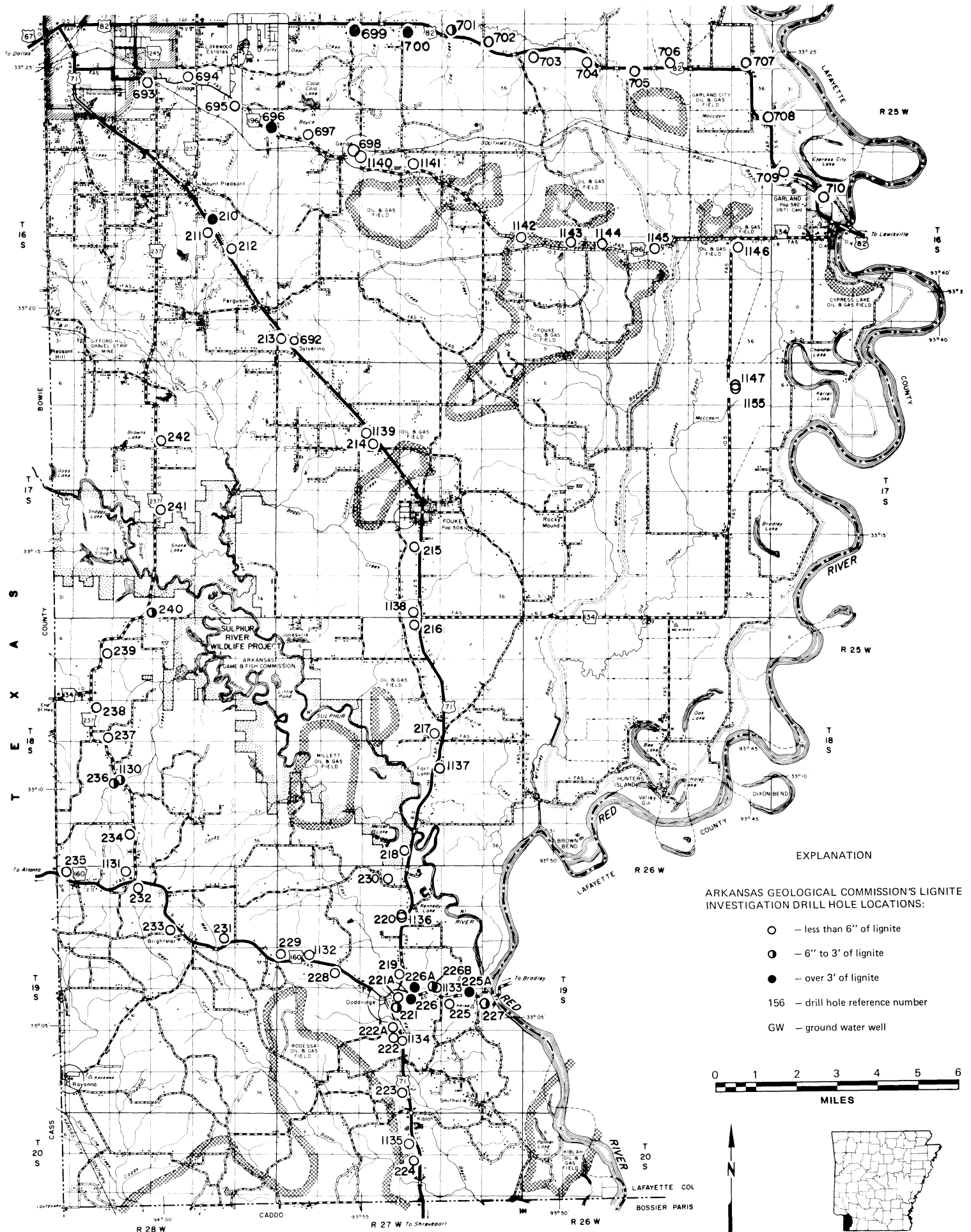




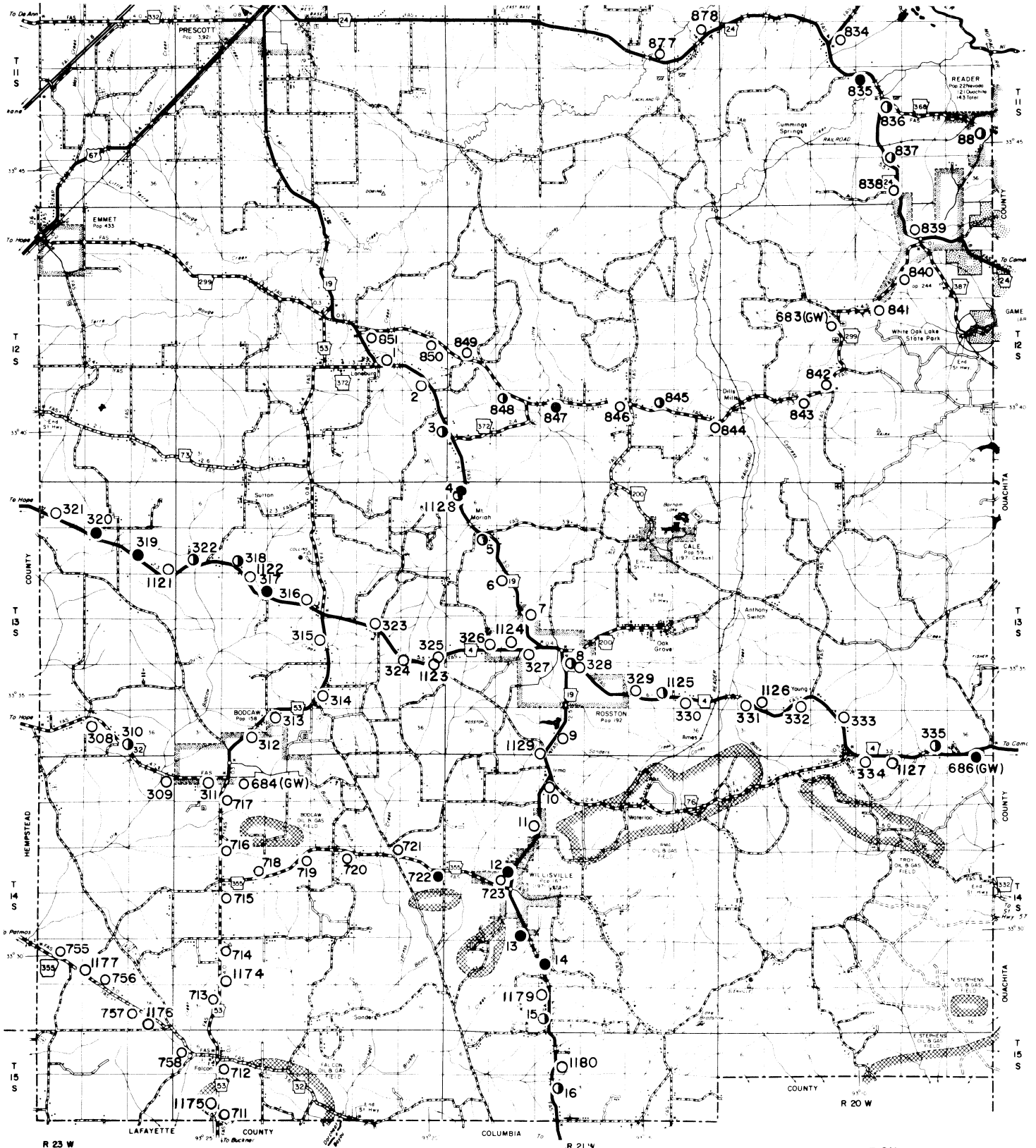
# Arkansas Lignite Investigations Lonoke County



# Arkansas Lignite Investigations Miller County



# Arkansas Lignite Investigations Nevada County

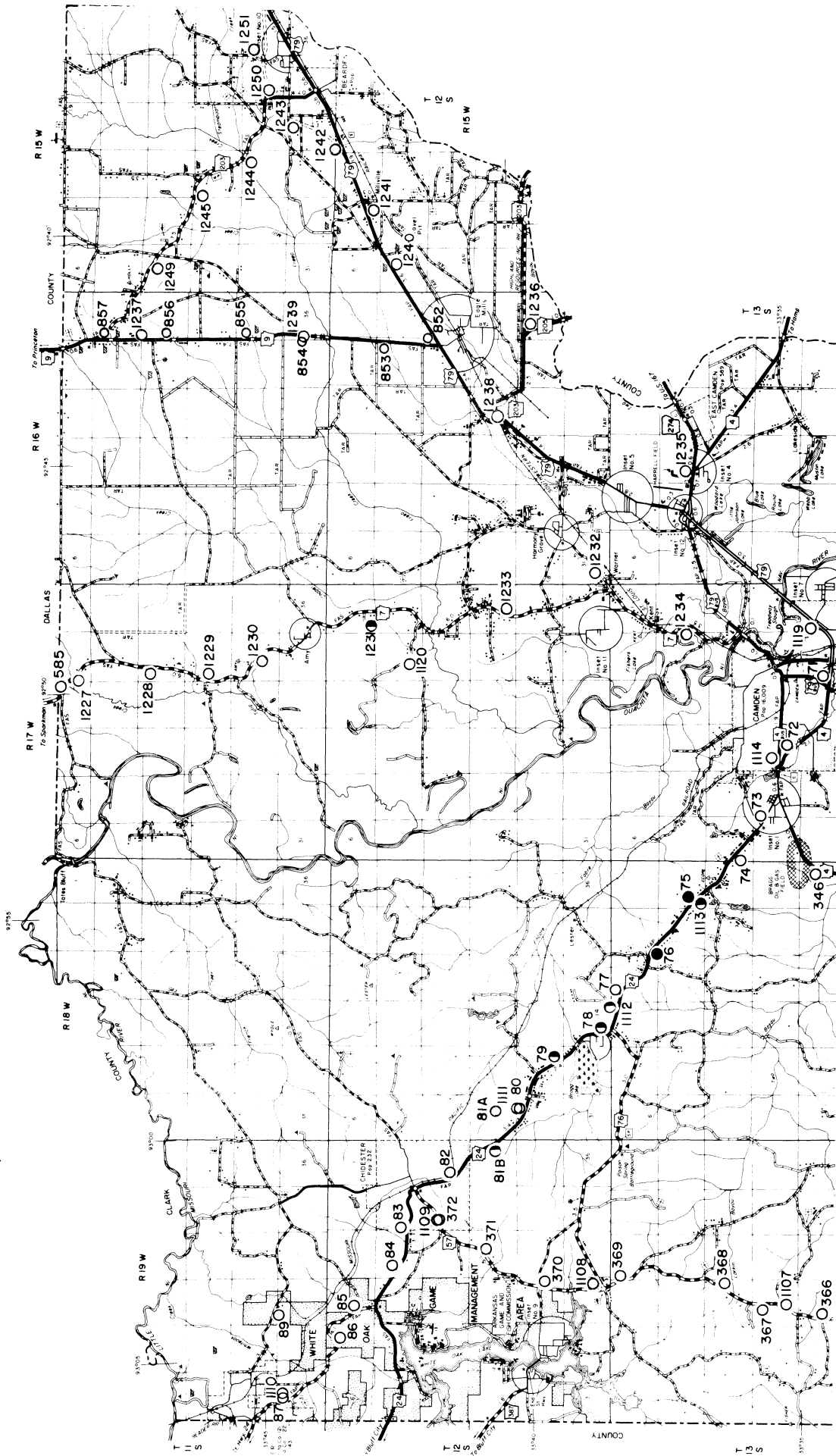


**EXPLANATION**

**ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:**

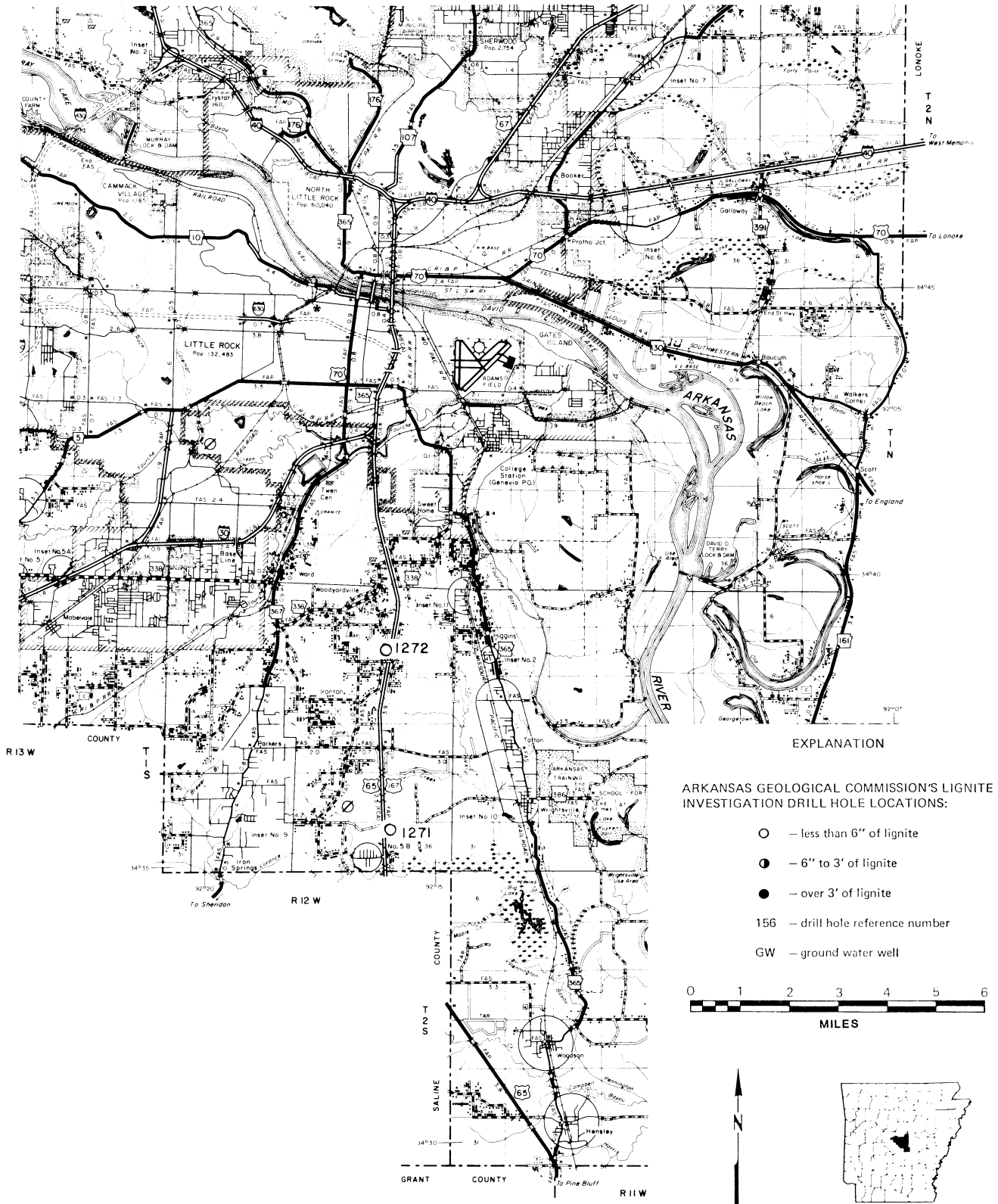
- — less than 6" of lignite
- — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well

Arkansas Lignite Investigations  
Ouachita County





# Arkansas Lignite Investigations Pulaski County

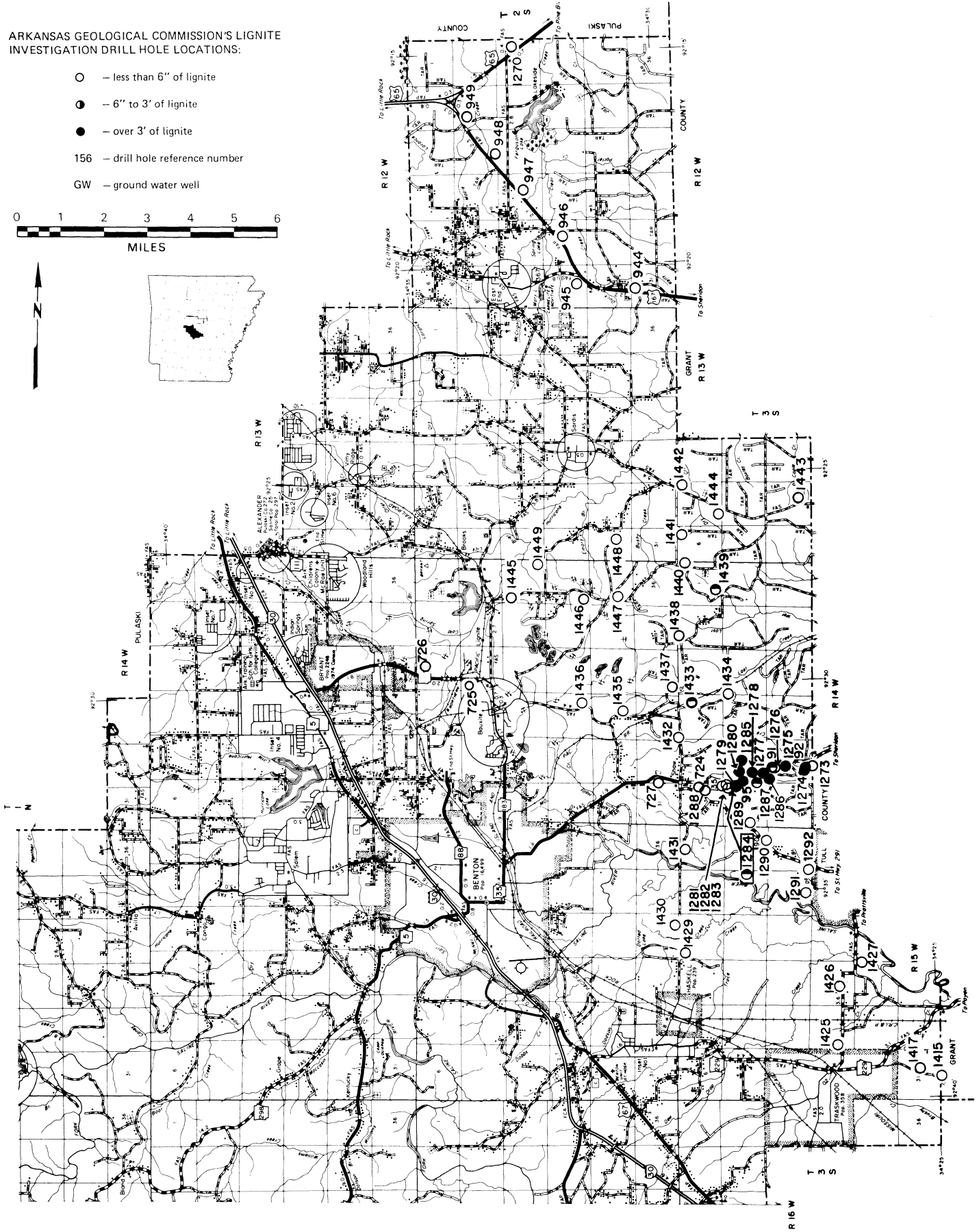
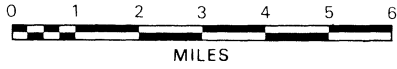


# Arkansas Lignite Investigations Saline County

## EXPLANATION

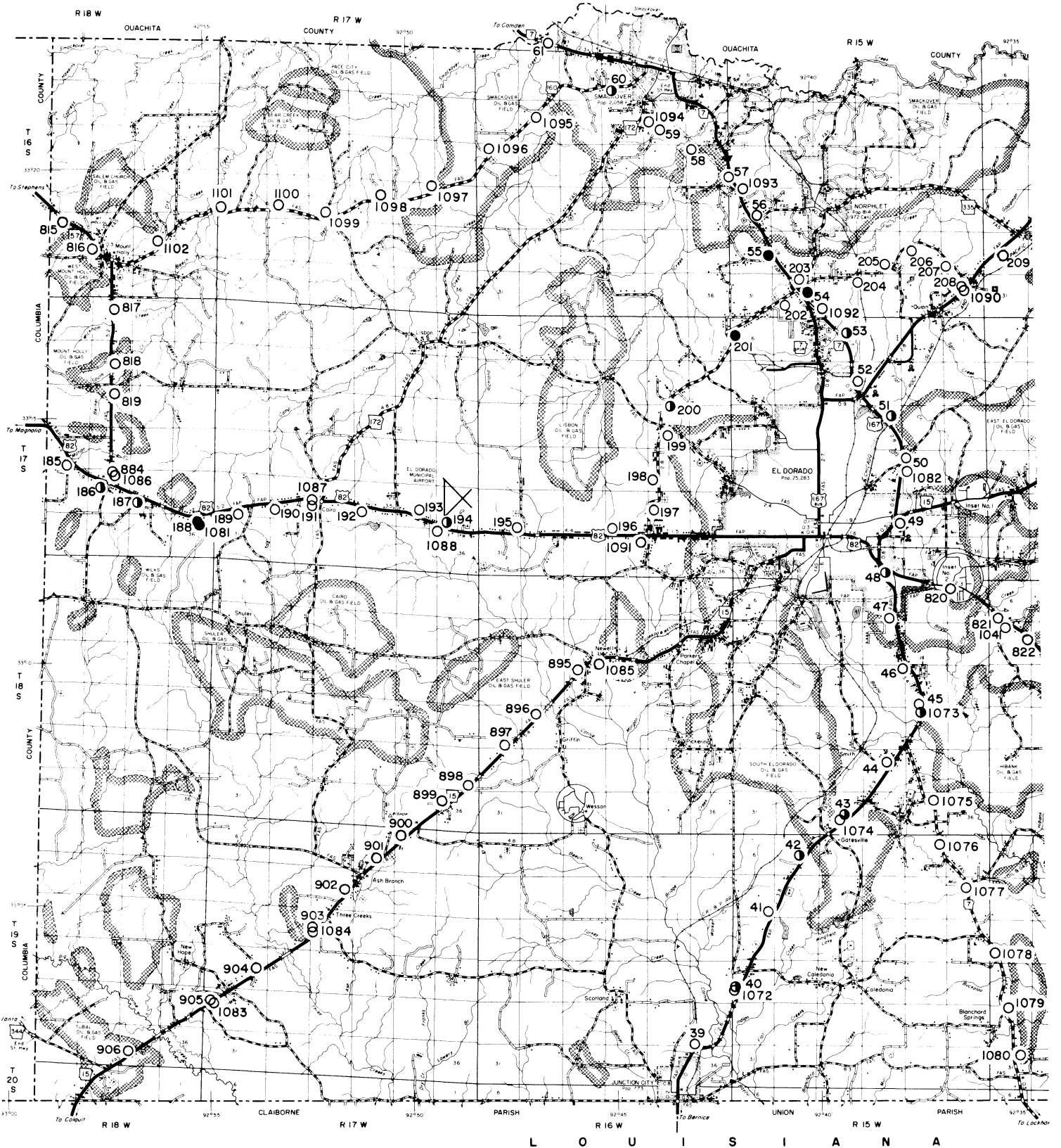
ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE INVESTIGATION DRILL HOLE LOCATIONS:

- — less than 6" of lignite
- ◐ — 6" to 3' of lignite
- — over 3' of lignite
- 156 — drill hole reference number
- GW — ground water well





# Arkansas Lignite Investigations Union County





# Arkansas Lignite Investigations Union County

## EXPLANATION

ARKANSAS GEOLOGICAL COMMISSION'S LIGNITE  
INVESTIGATION DRILL HOLE LOCATIONS:

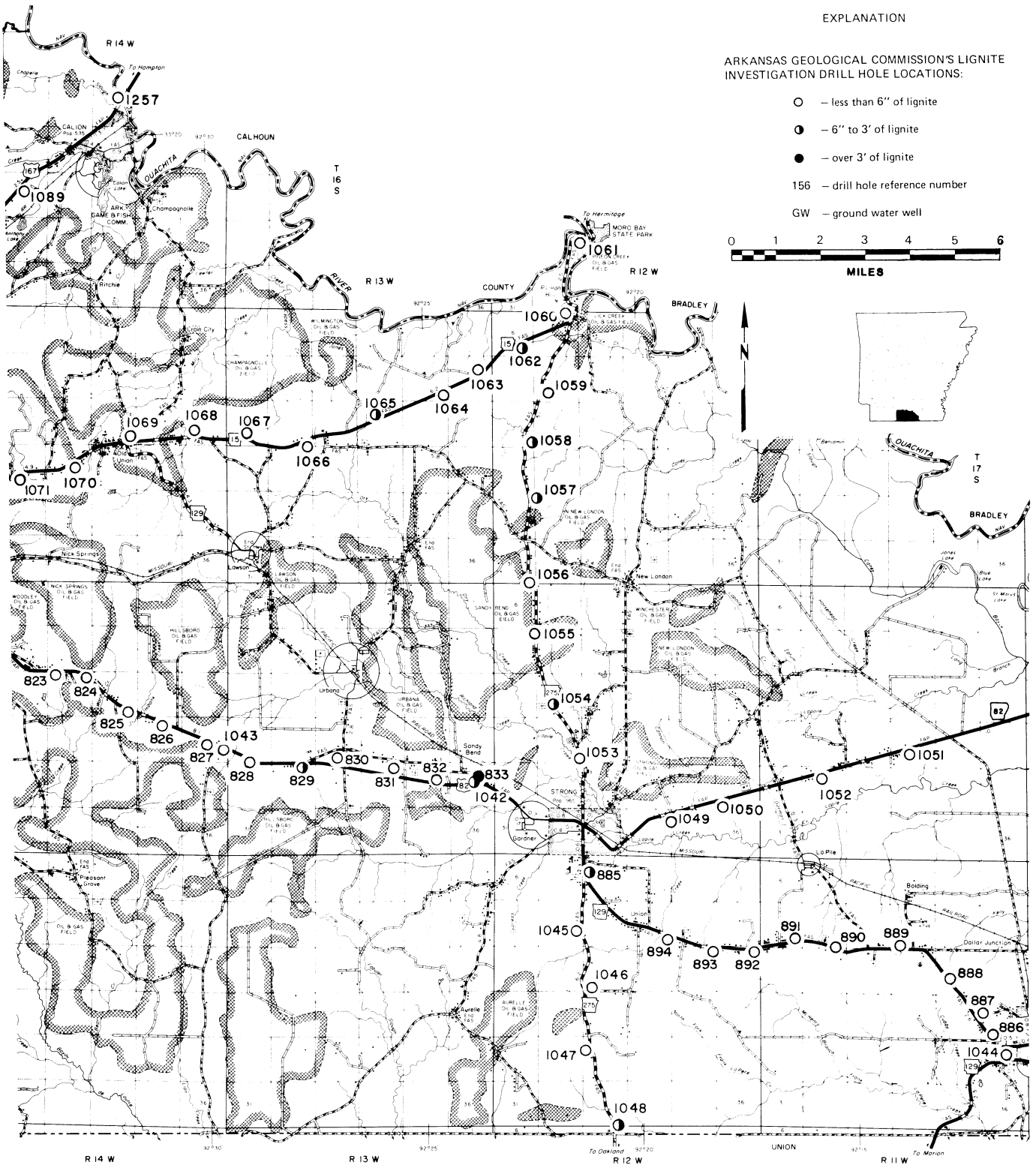
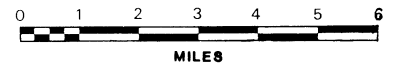
○ — less than 6" of lignite

◐ — 6" to 3' of lignite

● — over 3' of lignite

156 — drill hole reference number

GW — ground water well



## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1.** Elevation 258'  
Location: Sec. 23, T. 12 S., R. 22 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0'- 10' Sand, coarse grained, with red clay and humus  
10'- 16' Sand, coarse grained, with some red clay  
16'- 20' Clay, light gray, turning to dark gray, with traces of lignite  
20'- 25' Clay, dark gray, with fractured lignite  
25'- 30' Contact between Wilcox and Midway formations, small gravel with mixed red clay and coarse sand, some woody lignite  
30'- 33' Clay, dark gray, with subconchoidal fracture  
T. D.: 33'

**Drill Hole No. 2.** Elevation 380'  
Location: SE¼, Sec. 24, T. 12 S., R. 22 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0' 10' Sand, medium-grained, with red clay  
10'- 20' Sand, medium coarse grained, with red and tan clay  
20'- 30' Sand, fine grained, with clay, tan to white  
30'- 40' Sand, fine grained, with white clay nodules  
40'- 50' Clay, white, with thin beds of fine grained sand  
50'- 60' Sand, fine to medium-grained, with white and tan clay  
60'- 83' Clay, white, some fine grained sand  
83'- 93' Gravel and coarse grained sand with white clay fragments  
The coarse material in the gravel is granule size.  
93'- 95' Clay, gray, with traces of lignite and sand  
95'-100' Sand, medium to coarse, with some gray clay  
100'-118' Sand, fine grained, with gray clay  
118'-124' Sand, fine grained, with gray clay  
124'-140' Clay, gray, with fine sand  
140'-150' Clay, gray, with plant fragments and fine grained sand  
T. D.: 150'

**Drill Hole No. 3.** Elevation 350'  
Location: SE¼, Sec. 25, T. 12 S., R. 22 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0'- 10' Clay, red, with medium to fine grained sand  
10'- 19' Clay, white to light tan, with fine-grained sand  
19'- 22' Clay, dark gray, with fine grained sand  
22'- 36' Clay, gray, with sand  
36'- 42.5' Clay, dark gray, with some sand  
42.5'- 44' Clay and sand as above with ironstone concretions  
44'- 56' Clay, light tan, with some sand  
56'- 57' Clay, as above, with ironstone concretions  
57'- 61' Clay, tan, with fine grained sand  
61'- 75' Clay, white, with thin layers of very fine grained sand  
75'- 76' Clay, lignitic, with very fine

grained sand  
76'- 80' Clay, gray to tan, with very fine-grained sand  
80'- 86' Sand, with iron concretions and some white clay layers  
86'- 90' Sand, very fine-grained, with tan to reddish tan clay layers  
90'- 91' Siderite  
91'- 96' Sand, medium to fine-grained, with white clay  
96'-103' Clay, white, to gray, with fine-grained sand  
103'-105' Sand, medium to coarse-grained with iron concretions  
106'-106' Lignite  
106'-116' Clay, gray, with very-fine sand  
116'-120' Clay, dark gray, with trace of lignite and very fine sand  
T. D.: 120'

**Drill Hole No. 4.** Elevation 270'  
Location: NW¼, Sec. 6, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0'- 8' Clay, reddish tan, with medium-grained sand and humus  
8'- 28' Clay, white, with fine-grained sand and iron concretions  
28'- 33' Clay, dark to light-gray, with trace of lignite and fine-grained sand  
33'- 33.5' Lignite  
33.5'- 43' Clay, gray to dark-gray, with very fine sand  
43'- 44' Lignite  
44'- 46' Clay, lignitic, with fine-grained sand  
46'- 49' Clay, gray, with fine-grained sand  
49'- 50' Lignite, with dark-gray clay  
50'- 55' Clay, light-blue  
55'- 56' Lignite, hard  
56'- 57' Clay, gray to dark-gray  
57'- 60' Clay, light-gray to light-blue  
60'- 78' Clay, gray to light-brown, coarsely crystalline  
Lignite  
78'- 78.5' Clay, light gray to brown  
78.5'- 86' Clay, dark-brown, with some silt  
86'- 87' Clay, dark brown, with some silt  
87'- 89' Lignite, with some lignitic clay  
89'- 90' Clay, dark brown to gray  
90'- 92.5' Lignite, hard  
92.5'- 97' Clay, brown  
97'- 98' Clay, light-gray to light-blue  
98'- 101' Clay, gray  
101'-103.5' Sand, very-fine grained, with clay stringers  
103.5'-104' Lignite  
104'-108' Clay, light gray to blue  
108'- 111' Clay, brown  
111'-112' Lignite  
112'-126' Clay, light-gray, with some very fine-grained sand  
T. D.: 126'

**Drill Hole No. 5.** Elevation 270'  
Location: NE¼, Sec. 7, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0' 10' Clay, tan, with medium-grained sand  
10'- 20' Clay, brown, lignitic, with medium to fine-grained sand  
20'- 54' Clay, brown, lignitic, with silt  
54'- 60' Clay, light brown, plastic with fine-grained sand  
60'- 73' Sand, fine-grained, with brown clay layers and trace of lignite

73'- 90' Sand, very-fine-grained, with some brown clay and lignite stringers @ 73', 83' and 86'  
90'-112' Sand, fine-grained, with traces of lignite and some light-brown to gray clay  
112'-117' Clay, gray, with very fine-grained sand  
117'-118' Clay, brown, with very fine sand  
118'-123' Clay, gray, w/very fine-grained sand  
123'-124' Lignitic clay, with very-fine sand  
124'-125' Clay, brown to light tan, with very-fine grained sand  
125'-126' Lignite, hard  
126'-127' Clay, lignitic,  
127'-150' Clay, light-gray to blue, with some silt and fine sand  
T. D.: 150'

**Drill Hole No. 6.** Elevation 380'  
Location: NW¼, Sec. 17, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0'- 5' Clay, red, with medium-grained sand  
5'- 7' Clay, white, kaolinite  
7'- 10' Clay, dark-gray, carbonaceous, with some sand  
10'- 14' Clay, lignitic, with very fine-grained sand  
14'- 17' Clay, brown, carbonaceous, fissile  
17'-17.5' Sand, very fine-grained  
17.5'- 37' Clay, brown, fissile, with very fine sand  
37'- 40' Clay, sideritic, with iron nodules and siderite layers  
40'- 44' Clay, brown, with very fine-grained sand  
44'- 70' Clay, brown to light-brown, fissile, with very fine-grained sand  
70'- 72' Sand, very fine-grained  
72'- 73' Clay, gray, with very fine-grained sand  
73'- 84' Clay, brown, with very fine grained sand, @ 84' siderite  
T. D.: 84'

**Drill Hole No. 7.** Elevation 290'  
Location: SE¼, Sec. 17, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: D. W. Lumbert 10/76.

0'- 4' Clay, red to tan,  
4'- 40' Clay, gray to brown, with very fine-grained sand  
40'- 48' Clay, light to dark-brown, with traces of lignite and very fine-grained sand  
48'- 55' Clay, light gray, with very fine-grained sand and traces of glauconite  
55'- 56' Sand, very fine-grained,  
56'- 70' Clay, gray to brown, traces of lignite and thin layers of fine-grained sand  
70'-110' Sand, very fine-grained, with many thin layers of gray to brown, sometimes fissile, clay and traces of lignite  
110'-120' Clay, brown, fissile, pyritic, with very fine-grained sand  
120'-150' Sand, very fine-grained with brown fissile clay and traces of lignite  
T. D.: 150'

\*Electric logs available

**ARKANSAS LIGNITE INVESTIGATIONS**

**Drill Hole No. 8.** Elevation 345'  
 Location: NE¼, Sec. 28, T. 13 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0'- 3' Clay, red to tan, with some fine grained sand
- 3'- 5' Clay, white, with fine-grained sand
- 5'- 10' Clay, dark brown, with fine grained sand
- 10'- 12' Clay, green, glauconitic, mica ceous
- 12'- 12½' Siderite
- 12½'-15' Clay, brown, with layers of glauconitic material
- 15'- 16' Siderite and ironstone
- 16'- 22' Clay, brown, with glauconitic layers
- 22'- 23' Clay, green, very galuconitic
- 23'- 39' Clay, brown to dark brown, with a trace of lignite
- 39'- 40' Sand, very fine grained, with lignite
- 40'- 60' Clay, brown to dark brown, lignitic, with very fine sand
- 60'- 80' Clay, brown, oily, with very fine sand
- 80'- 96' Clay, brown
- 96'-116' Clay, brown, fissile, micaceous, with very fine sand
- 116'-119' Clay, lignitic, with very fine sand
- 119'-121' Lignite, with brown clay
- 121'-129' Clay, lignitic, brown, with some very fine sand
- 129'-130' Siderite
- 130'-148' Clay, brown, lignitic, with very fine sand
- 148'-150' Clay, lignitic, brown, with very fine sand  
 T. D.: 150'

**Drill Hole No. 9.** Elevation 348'  
 Location: SW¼, Sec. 33, T. 13 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0'- 3' Clay, red to tan, with fine grained sand
- 3'- 14' Clay, tan to white, with fine grained sand
- 14'- 17' Clay, dark gray, with trace of lignite and very fine sand
- 17'- 20' Clay, gray, with fine grained sand
- 20'- 37' Clay, gray, silty, with trace of lignite
- 37'- 89' Clay, gray to brown, silty, with traces of lignite and glauconite. Cuttings were oily.
- 89'- 90' Clay, brown, with traces of lignite and very fine sand
- 90'-100' Clay, gray to brown, layered with glauconite and very fine sand
- 100'-103' Sand, very fine, with gray clay
- 103'-110' Clay, gray, with trace of lignite and very fine sand
- 110'-123' Clay, gray,
- 123'-127' Clay, brown, with sand
- 127'-130' Clay, gray, with silt
- 130'-132' Clay, brown, lignitic, with very fine sand
- 132'-138' Clay, gray, with silt
- 138'-140' Sand, very fine, with gray clay and a trace of lignite
- 140'-150' Clay, gray and brown layered, with very fine sand  
 T. D.: 150'

**Drill Hole No. 10.** Elevation 370'  
 Location: SW¼, Sec. 4, T. 14 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0' 6' Clay, red to tan, with fine grained sand
- 6' 20' Clay, brown to gray, with silt
- 20' 48' Clay, gray to dark-gray, silty, with traces of lignitic material
- 48' 54' Clay, gray, silty, with trace of lignite
- 54' 56' Lignite stringers, with very fine sand
- 56' 58' Sand, fine
- 58' 60' Clay, gray, with sand
- 60' 62' Sand, very fine, with gray clay
- 62' 66' Clay, gray, with very fine sand
- 66' 68' Clay, lignitic, with very fine sand
- 68' 70' Clay, gray, with very fine sand
- 70' 105' Clay, gray, glauconitic, silty, with trace of lignite @ 80' and siderite layer @ 85'
- 105' 106' Lignite, with silt
- 106' 125' Clay, gray, silty
- 125' 128' Sand, fine, with lignitic clay
- 128' 130' Clay, lignitic, with very fine sand
- 130' 150' Sand, very fine, with lignite traces  
 T. D.: 150'

**Drill Hole No. 11.** Elevation 365'  
 Location: SE¼, Sec. 8, T. 14 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0' 3' Clay, red to tan, with sand
- 3' 11' Clay, white, with iron stain and fine sand
- 11' 12' Clay, brown, with fine sand
- 12' 19' Clay, gray, with fine sand
- 19' 20' Clay, brown, with fine sand
- 20' 45' Clay, gray, silty, and glauconitic in places
- 45' 46' Sand, fine grained, with gray clay
- 46' 53' Clay, gray, lignitic, silty
- 53' 54' Sand, very fine, with gray clay
- 54' 68' Clay, gray, silty
- 68' 75' Clay, brown, lignitic, silty
- 75' 77' Clay, gray, silty
- 77' 80' Clay, brown, lignitic, with very fine sand
- 80' 90' Sand, very fine, with gray clay
- 90' 110' Clay, gray, silty, with trace of lignite and siderite stringer
- 110' 120' Silt, with gray clay and chunks of lignite
- 120' 137' Clay, gray, with silt and lignite
- 137' 145' Silt, with tan, brittle clay, lignite and glauconite
- 145' 150' Clay, gray, silty  
 T. D.: 150'

**Drill Hole No. 12.** Elevation 320'  
 Location: NE¼, Sec. 17, T. 14 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0' 5' Clay, red to tan, with fine sand
- 5' 17' Clay, white, with very fine sand
- 17' 26' Sand, very fine, clean
- 26' 30' Clay, gray, lignitic, with very fine sand
- 30' 37' Sand, very fine, with silt and clay
- 37' 38' Clay, gray, with silt
- 38' 40' Lignite, with clay

- 40'- 43' Clay, gray, very silty with trace of lignite
- 43'- 43½' Siderite
- 43½'-50' Clay, gray, silty, with layers of siderite and traces of lignite
- 50'- 53' Clay, gray, with silt
- 53'- 57' Clay, dark brown, with trace of lignite
- 57'- 60' Lignite
- 60'- 65' Clay, gray, interbedded with very fine sand
- 65'- 67' Clay, gray, with very fine sand
- 67'- 70' Sand, very fine
- 70'- 73' Clay, brown, lignitic, with very fine sand
- 73'- 88' Sand, very fine, with some gray to brown clay
- 88'- 90' Clay, gray, with trace of lignite
- 90'-107' Clay, gray, with silt
- 107'-110' Clay, gray and brown
- 110'-118' Clay, brown, with trace of lignite and very fine sand
- 118'-124' Clay, gray, with very fine sand
- 124'-125' Clay, brown, with very fine sand
- 125'-130' Clay, gray
- 130'-138' Silt, with gray clay
- 138'-140' Lignite, with brown clay and fine sand
- 140'-150' Clay, gray, with very fine sand and layers of siderite  
 Core Interval 50'-60'  
 Recovered: Lost:  
 6' 4'
- 50' - 56' Clay, brown and gray, silty
- 56' - 60' Lignite showed in cuttings; no recovery  
 T. D.: 150'

**Drill Hole No. 13.** Elevation 330'  
 Location: SE¼, Sec. 20, T. 14 S., R. 21 W.  
 County, Nevada  
 Logged by: D. W. Lambert 10/76.

- 0'- 7' Clay, red to tan, with medium to fine sand
- 7'- 9' Clay, gray to white, with fine sand
- 9'- 10' Sand, fine, with clay, yellow
- 10'- 13' Sand, medium, with small gravel
- 13'- 18' Clay, dark brown, with fine sand and stringer of lignite @ 13'
- 18'- 22' Clay, gray, with fine sand
- 22'- 35' Sand, fine grained, with traces of lignite and gray clay
- 35'- 36' Clay, brown, with fine sand
- 36'- 40' Clay, gray, silty
- 40'- 55' Clay, light-brown to light-gray, with trace of lignite, and fine sand
- 55'- 56' Sand, fine, with thin layer of lignite
- 56'- 68' Clay, gray, with silt
- 68'- 70' Clay, brown, with very fine sand
- 70'- 80' Clay, brown to light-gray, silty, with trace of lignite
- 80'-120' Silt to very fine sand, packed with some gray clay
- 120'-123' Lignite, with brown clay
- 123'-124' Clay, brown, with silt
- 124'-132' Lignite
- 132'-150' Sand, lignitic  
 Core Interval 120'-130'  
 Recovered: Lost:  
 0' 10'
- Note: Core lost due to large quantity of sand and silt. Cuttings indicate lignite at this section was several thin seams within very fine sand.  
 T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 14.** Elevation 360'

Location: SW¼, Sec. 28, T. 14 S., R. 21 W. County, Nevada

Logged by: D. W. Lumbert 10/76.

0'- 3' Silty loam soil  
 3'- 12' Silt, gray, with abundant clay  
 12'- 17' Sand, fine to medium  
 17'- 40' Clay, dark gray, silty, inter bedded with beds of gray silt some slightly lignitic  
 40'- 45' Sand, tan, fine, with silt  
 45'- 48' Sand, packed, tan, fine  
 48'- 51' Clay, gray and brown, silty  
 51'- 54' Lignite, with some silty clay  
 54'- 56' Clay, brown to dark brown, with very fine sand and silt  
 56'- 64' Clay, gray, with silt  
 64'- 67' Sand, fine, packed  
 67'- 73½' Clay, gray to light gray, w/silt  
 73½'-76½' Lignite  
 76½'-80' Lignite, and clay, brown, with very fine sand  
 80'- 83' Very fine sand, silt, w/gray clay  
 83'- 90' Clay, gray, with silt  
 90'-120' Sand, very fine, with silt and gray clay  
 120'-138' Clay, brown to light brown, with silt, very hard  
 138'-150' Clay, gray, with silt  
 Core interval 50'-55'2"  
 Recovered: Lost:  
 3'11" 15"  
 50'50'6" Clay, gray, with very little silt  
 50'6"-51'1" Clay, light brown to gray, with very fine sand  
 51'1"-52' Clay, dark brown, with very fine sand, lignitic  
 52'53'3" Lignite, large cuttings in mud, and broken core indicate 15" of lignite lost at this interval  
 53'3"-54'8" Lignite, hard  
 54'8"-55'2" Clay, dark brown, lignitic, with very fine sand  
 Core interval 70'-80'  
 Recovered: Lost:  
 7'4" 2'8"  
 70'-74'2" Clay, gray  
 74'2"-74'9" Lignite  
 74'9"-75' Sand, fine,  
 75'-77'4" Lignite  
 77'4"-80' Section lost, probably sand  
 T. D.: 150'

**Drill Hole No. 15.** Elevation 375'

Location: SW¼, Sec. 33, T. 14 S., R. 21 W. County, Nevada

Logged by: D. W. Lumbert 10/76.

0'- 5' Clay, red, with fine sand  
 5'- 12' Clay, light gray, w/very fine sand  
 12'- 14' Clay, light brown, with very fine sand  
 14'- 28' Clay, dark gray, with silt  
 28'- 30' Clay, brown, fine sand and siderite layers  
 30'- 45' Clay, dark gray, w/very fine sand  
 45'- 50' Clay, brown and gray layers, with very fine sand and trace of lignite  
 50'- 64' Sand, very fine, with light gray clay and traces of lignite  
 64'- 75' Clay, gray, with very fine sand and trace of lignite  
 @ 64' 2" layer of siderite  
 75'- 81½' Very fine sand and silt, with

gray clay  
 81½'-82' Siderite  
 82'- 92½' Sand, very fine, with gray clay and trace of lignite  
 92½'-94' Lignite and brown clay, with silt  
 94'- 98' Clay, brown, lignitic, with silt  
 98'-100' Clay, light gray, w/very fine sand  
 100'-110' Sand, very fine, and silt, with layers of light-brown and light-gray clay  
 110'-112' Clay, brown to dark brown, with very fine sand  
 112'-115' Lignite and dark brown clay, with very fine sand  
 115'-122' Sand, very fine, with silt and brown clay  
 122'-140' Silt, with very little clay  
 140'-150' Clay, light gray, with silt  
 T. D.: 150'

**Drill Hole No. 16.** Elevation 345'

Location: NW¼, Sec. 9, T. 15 S., R. 21 W. County, Nevada

Logged by: D. W. Lumbert 11/76.

0'- 5' Clay, red and light-gray layers with fine sand  
 5'- 10' Clay, as above  
 10'- 18' Sand, fine, w/trace of lignite  
 18'- 29' Clay, gray, silty, with trace of lignite and glauconite  
 29'- 30' Sand, fine, lignitic  
 30'- 38' Sand, fine, with gray clay @ 34' siderite layer  
 38'- 40' Clay, gray, with fine sand  
 40'- 45' Sand, fine, with gray clay  
 45'- 58' Clay, gray, glauconitic, with fine sand  
 58'- 59' Sandstone or siderite layer  
 59'- 68' Sand, fine, with gray clay  
 68'- 78' Clay, gray, with very fine sand  
 78'- 79' Clay, brown, lignitic, with very fine sand  
 79'- 93' Sand, very fine, with traces of lignite and light-gray clay  
 93'- 98' Clay, light-gray, with lignite stringers  
 98'-100' Sand, very fine, w/trace of lignite  
 100'-110' Clay, gray, with very fine sand  
 110'-114' Sand, very fine, with clay  
 114'-115' Clay, gray, with very fine sand  
 115'-115½' Siderite  
 115½'-120' Clay, gray, with very fine sand  
 120'-130' Sand, very fine, with fissile, gray clay  
 130'-148' Clay, light-gray to gray, with silt  
 148'-151' Lignite, with dark-brown clay, and very fine sand  
 151'-155' Clay, light brown to light gray, with silt  
 T. D.: 155'

**Drill Hole No. 17.** Elevation 400'

Location: SE¼, Sec. 16, T. 15 S., R. 21 W. County, Columbia

Logged by: D. W. Lumbert 11/76.

0'- 4' Clay, red, with fine sand  
 4'- 18' Clay, white to light gray, with fine sand  
 18'- 23' Clay, light to dark brown, with very fine sand  
 23'- 34' Clay, dark-gray, with very fine sand  
 34'- 40' Clay, gray, slightly glauconitic, with very fine sand  
 40'- 46' Clay, gray, with brown lignitic clay, and very fine sand  
 46'- 50' Clay, gray, glauconitic  
 50'- 60' Clay, gray, glauconitic, with very fine sand  
 @ 55' lignite seam  
 60'- 80' Clay, gray, glauconitic, with

very fine sand  
 80'-108' Sand, fine, with gray clay, glauconitic and lignitic  
 108'-116' Clay, light-brown and gray, with very fine sand  
 @ 113' siderite layer  
 116'-120' Sand, very fine, with gray clay  
 120'-130' Clay, gray to light-gray, glauconitic, with very fine sand  
 130'-149' Clay, gray, brown layered, with very fine sand  
 @ 148' siderite layer  
 T. D.: 149'

**Drill Hole No. 18.** Elevation 345'

Location: SW¼, Sec. 21, T. 15 S., R. 21 W. County, Columbia

Logged by: D. W. Lumbert 11/76.

0'- 3' Clay, red and yellow, with fine sand  
 3'- 8' Clay, gray  
 8'- 10' Clay, light brown, with consolidated bed of fine sand  
 10'- 18' Clay, gray to dark gray, lignitic with very fine sand  
 18'- 26' Clay, gray, with beds of very fine sand  
 26'- 30' Clay, gray, lignitic, with very fine sand  
 30'- 34' Clay, gray, with very fine sand  
 34'- 38' Clay, gray, hard  
 38'- 40' Clay, gray, slightly lignitic, with silt  
 40'- 46' Clay, gray, lignitic, glauconitic with very fine sand  
 46'- 47' Sandstone, iron cemented, with pyrite nodules  
 47'- 50' Clay, gray, with lignitic material and fine sand  
 50'- 57' Sand, very fine, with gray clay layers and a trace of lignite  
 57'- 60' Clay, gray to light brown, with very fine sand and trace of lignite  
 60'- 67' Sand, very fine, with gray clay  
 67'- 72' Clay, tan to light brown, with silt  
 72'- 78' Clay, gray, with very fine sand and trace of lignite  
 78'- 87' Clay, light brown, with very fine sand and silt  
 @ 87' lignite stringer  
 87'- 90' Clay, brown to gray, with very fine sand  
 90'-113' Silt, w/very fine sand, and gray clay  
 @ 105½' siderite layer  
 113'-120' Clay, gray, with very fine sand and silt  
 120'-150' Silt, with some very fine sand layers, gray clay, and stringers of siderite  
 T. D.: 150'

**Drill Hole No. 19.** Elevation 365'

Location: NW¼, Sec. 33, T. 15 S., R. 21 W. County, Columbia

Logged by: D. W. Lumbert 11/76.

0'- 8' Clay, red and gray layered, with fine sand  
 8'- 11' Clay, light brown, with very fine sand  
 11'- 16' Clay, dark brown  
 16'- 17' Clay, gray, with silt  
 17'- 20' Clay, gray  
 20'- 24' Clay, gray, glauconitic, w/very fine sand  
 24'- 38' Clay, gray, glauconitic, with very fine sand and trace of lignite  
 38'- 46' Clay, gray to brown, with very

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fine sand  
 46'- 62' Clay, light gray, glauconitic, with very fine sand and silt  
 62'- 70' Clay, gray, glauconitic, with very fine sand, trace of lignite  
 70'- 73' Clay, brown, lignitic, with very fine sand  
 73'- 78' Sand, very fine, with brown and gray layered clay  
 78'-106' Clay, gray, glauconitic, silty, with trace of lignite and some thin siderite beds  
 106'-118' Clay, gray to light brown, with very fine sand  
 118'-120' Silt and very fine sand, packed, with gray clay  
 120'-150' Clay, layered gray and brown, with very fine sand and thin siderite layers  
 T. D.: 150'

**Drill Hole No. 20.** Elevation 380'  
 Location: NE¼, Sec. 5, T. 16 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 4' Clay, red, with very fine sand  
 4'- 6' Clay, yellow, with very fine sand  
 6'- 10' Clay, gray, with silt, banded with red and yellow clay  
 10'- 20' Clay, light gray to white  
 20'- 24' Clay, dark brown to black, very lignitic, with very fine sand  
 24'- 27' Clay, brown to black, lignitic with very fine sand  
 27'- 28' Sand, very fine, with brown clay and a trace of lignite  
 28'- 30' Clay, dark brown, with silt  
 30'- 60' Clay, gray, silty, with trace of lignite  
 60'- 69' Clay, gray, glauconitic, with trace of lignite and very fine sand  
 69'- 70' Lignite, with very fine sand  
 70'- 80' Clay, gray, with very fine sand  
 80'- 87' Sand, fine to very fine, w/gray clay  
 87'-100' Clay, light gray, with bluish tint, silty  
 100'-120' Clay, gray to dark gray, silty  
 120'-140' Clay, gray, with bright green glauconitic sand, very fine  
 140'-150' Clay, gray to dark gray, with very fine sand  
 T. D.: 150'

**Drill Hole No. 21.** Elevation 360'  
 Location: NE¼, Sec. 8, T. 16 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 7' Clay, red to yellow, with very fine sand  
 7'- 14' Clay, light gray to white, with very fine sand  
 14'- 15' Clay, dark brown, lignitic, with very fine sand  
 15'- 27' Clay, blue gray, with very fine sand  
 27'- 29' Clay, dark gray, with very fine sand  
 29'- 29½' Lignite  
 29½'- 30' Siderite layer  
 30'- 43' Clay, gray to dark gray, with very fine sand, slightly lignitic  
 43'- 54' Clay, gray, with very fine sand

54'- 55' Sand, fine, lignitic  
 55'- 68' Clay, bluish-gray, with interbedded, very fine sand  
 68'- 87' Clay, gray to bluish-gray, with layers of very fine sand  
 87'- 87½' Sand, very fine  
 87½'- 90' Clay, gray, with silt  
 90'- 97' Clay, gray, glauconitic, lignitic, with very fine sand  
 97'- 97½' Sand, very fine  
 97½'-106' Clay, gray, glauconitic, with very fine sand  
 106'-110' Silt, with some glauconitic clay  
 110'-120' Clay, gray, fissile, with layers of very fine sand  
 120'-123' Clay, dark gray to green, glauconitic, with very fine sand  
 123'-125' Clay, white  
 125'-129' Clay, gray, glauconitic, with very fine sand  
 129'-129½' Siderite  
 129½'-134' Clay, gray, glauconitic, with very fine sand  
 134'-150' Clay, brown, with very fine sand  
 T. D.: 150'

**Drill Hole No. 22.** Elevation 385'  
 Location: NE¼, Sec. 16, T. 16 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 2' Clay, red, with fine sand and humus  
 2'- 3½' Gravel, iron cemented  
 3½'- 12' Clay, light gray, with very fine sand  
 12'- 16' Clay, brown, lignitic, with very fine sand  
 16'- 26' Clay, gray, with very fine sand  
 26'- 33' Clay, light gray, silty, with trace of lignite  
 33'- 40' Clay, blue green  
 40'- 44' Clay, gray, with very fine sand  
 44'- 47' Sand, fine  
 47'- 50' Clay, gray, with very fine sand  
 50'- 57' Clay, gray to blue, with very fine sand  
 57'- 64' Clay, brown, with very fine sand  
 64'- 79' Clay, blue green, with very fine sand  
 79'- 85' Clay, brown, laminated with very fine sand  
 85'- 90' Clay, gray, with very fine sand  
 90'- 92' Clay, brown, laminated with very fine sand  
 T. D.: 92'

**Drill Hole No. 23.** Elevation 276'  
 Location: SW¼, Sec. 26, T. 16 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 8' Clay, reddish tan, with fine sand  
 8'- 9' Gravel, pea size  
 9'- 10' Clay, grayish pink, with fine sand  
 10'- 14' Clay, white to tan, with very fine sand  
 14'- 16' Clay, brown, with very fine sand  
 16'- 20' Clay, gray to dark gray, slightly lignitic, with very fine sand  
 20'- 30' Clay, gray, with very fine sand and trace of lignite  
 30'- 58' Clay, gray, with very fine sand  
 58'- 70' Clay, blue-gray, with very fine sand  
 70'- 82' Clay, gray, with very fine sand  
 82'- 85' Sand, fine  
 85'- 87' Clay, gray, with very fine sand

87'- 89' Sand, fine, with lignite  
 89'- 90' Clay, gray, with very fine sand  
 90'-100' Sand, fine, interbedded with gray and brown clay, with a trace of lignite  
 100'-116' Clay, gray, silty, glauconitic, with siderite layer at 105'  
 116'-150' Clay, lighter brown to gray, with very fine sand  
 T. D.: 150'

**Drill Hole No. 24.** Elevation 280'  
 Location: SE¼, Sec. 35, T. 16 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 5' Clay, red to tan, with fine sand  
 5'- 6' Gravel, pea-size  
 6'- 8' Clay, white to tan, with fine sand  
 8'- 10' Clay, dark-brown, lignitic, with fine sand  
 10'- 11' Lignite, with some brown clay  
 11'- 20' Clay, gray, with fine sand  
 20'- 28' Clay, gray, with brown layers, fissile, and fine sand  
 28'- 30' Clay, light gray, with very fine sand  
 30'- 45' Clay, gray, glauconitic, with fine sand  
 45'- 50' Clay, light gray with bluish tint  
 50'- 61½' Clay, light gray, with very fine sand, and siderite layer @ 54'  
 61½'- 63' Sand, fine  
 63'- 72' Clay, gray, silty  
 72'- 78' Clay, light brown, with very fine sand  
 78'- 80' Clay, bluish-gray, with very fine sand  
 80'-107' Clay, light bluish-gray, with silt  
 107'-109' Sand, fine, with gray and brown layered clay  
 109'-120' Clay, brown, lignitic, with very fine sand  
 120'-140' Clay, gray, with very fine sand and siderite layer @ 125'  
 140'-150' Clay, brown, silty  
 T. D.: 150'

**Drill Hole No. 25.** Elevation 350'  
 Location: NE¼, Sec. 6, T. 17 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert 11/76.

0'- 8' Clay, red, with fine sand  
 8'- 10' Sand, fine  
 10'- 48' Sand, very fine, with some clay  
 48'- 50' Clay, dark brown, with trace of lignite and very fine sand  
 50'- 63' Sand, very fine, with layers of dark brown clay, and some lignite  
 63'- 64' Lignite, with very fine sand  
 64'- 70' Sand, very fine, with light gray clay  
 70'- 80' Clay, gray to light brown, with very fine sand  
 80'- 90' Clay, brown, with very fine sand  
 90'-100' Clay, dark brown, trace of lignite, and very fine sand  
 100'-107' Clay, blue-green, glauconitic, with very fine sand and siderite layer @ 106'  
 107'-110' Clay, gray, with very fine sand  
 110'-137' Clay, greenish gray, with very fine sand  
 137'-140' Clay, light blue-green  
 140'-150' Clay, gray to light brown, with very fine sand  
 T. D.: 150'

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**Drill Hole No. 26.** Elevation 300'  
Location: NE ¼, Sec. 7, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76.

0' 5' Clay, red to tan, with fine sand and iron concretions  
5' 7' Clay, brown and white layered, very fine sand  
7' 10' Clay, white, with very fine sand  
10' 21' Clay, gray, with fine sand  
21' 23' Lignite, with dark brown clay and fine sand  
23' 28' Clay, gray green, with fine sand  
28' 96' Sand, fine, with thin beds of gray and gray green clay, and a few traces of lignite  
96' 120' Clay, gray with blue tint, silty  
120' 130' Clay, light blue gray, with silt  
130' 140' Sand, fine, with gray clay  
140' 150' Clay, gray, glauconitic, with very fine sand  
T. D.: 150'

**Drill Hole No. 27.** Elevation 280'  
Location: NE ¼, Sec. 18, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76

0' 10' Sand and clay, red to tan  
10' 13' Sand, with gray and white clay layers  
13' 15' Clay, gray, with trace of lignite and fine sand  
15' 20' Sand, fine, with gray clay  
20' 30' Clay, gray, with very fine sand  
30' 38' Clay, gray and brown layered, with very fine sand  
38' 40' Clay, brown, trace of lignite and very fine sand  
40' 56' Clay, gray, silty  
56' 56½' Siderite  
56½' 60' Clay, brown, with very fine sand  
60' 70' Clay, gray and brown, with very fine sand  
70' 106' Clay, gray, with very fine sand  
106' 107' Sand, fine, with gray clay  
107' 115' Clay, gray, with very fine sand  
115' 118' Sand, fine, with brown and gray clay and trace of lignite  
118' 120' Clay, gray, with very fine sand  
120' 130' Sand, fine, with gray clay  
130' 150' Clay, gray, with very fine sand, siderite @ 145'  
T. D.: 150'

**Drill Hole No. 28.** Elevation 273'  
Location: SE ¼, Sec. 24, T. 17 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76

0' 10' Clay, red and tan layers, with fine sand  
10' 30' Gravel, medium, with tan and white clay layers, and fine sand  
30' 40' Sand, fine, with white clay @ 35'  
40' 65' Clay, gray, with very fine sand  
65' 75' Clay, dark brown, with very fine sand and layers of siderite  
75' 95' Clay, bluish gray, with very fine sand, trace of lignite, and siderite layer @ 95'  
95' 107' Clay, light brown, silty  
107' 109' Clay, dark brown, lignitic, with very fine sand  
109' 120' Clay, gray, with layers of brown clay, with very fine sand  
120' 150' Clay, gray, silty, with siderite layer from 134½' - 136½'.  
T. D.: 150'

**Drill Hole No. 29.** Elevation 305'  
Location: NW ¼, Sec. 31, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: J. M. Howard 11/76.

0' 10' Clay, white to gray, silty  
10' 17' Clay, white to gray, silty, with oxidized sandy iron clay balls  
17' 20' Sand, brown, medium, lignitic  
20' 21' Clay, gray, with fine sand and silt  
21' 23½' Sand, gray, with silt  
23½' 31' Clay, gray, with fine sand and silt, and trace of lignite  
31' 56' Sand, gray, fine  
56' 56½' Clay, gray, with fine sand and silt, with trace of lignite  
56½' 60' Sand, gray, fine  
60' 68' Clay, gray, with very fine sand and silt, trace of lignite  
68' 75' Clay, brown, with silt  
75' 80' Clay, brown, silty, interbedded with gray silty clay  
80' 85½' Clay, gray, silty  
85½' 86' Clay, brown, silty, with thin lignite seams  
86' 102' Clay, gray, silty  
102' 106' Clay, brown, silty, with fine sand and siderite @ 105½'  
106' 146' Clay, gray, silty, with very fine sand and thin layer of siderite @ 131'  
146' 150' Clay, brown, silty, with fine sand  
T. D.: 150'

**Drill Hole No. 30.** Elevation 347'  
Location: NE ¼, Sec. 6, T. 18 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76.

0' 4' Clay, red to tan, with fine sand  
4' 11' Clay, white, kaolinite  
11' 12' Clay, as above, with ironstone concretions  
12' 40' Clay, white, with some very fine sand and silt  
40' 55' Clay, white, with very fine sand  
55' 60' Clay, gray, slightly lignitic, with very fine sand  
60' 65' Sand, fine, with gray lignitic clay  
65' 70' Clay, gray, with trace of lignite and very fine sand  
70' 90' Sand, fine, with some thin beds of gray, tan, and white clay and scattering ironstone concretions  
90' 95' Clay, green, glauconitic, with layers of ironstone concretions and very fine sand  
95' 96½' Siderite  
96½' 99' Sand, fine, with some brown to gray clay  
99' 100' Clay, brown, with very fine sand  
100' 120' Clay, gray, with trace of lignite and very fine sand, glauconitic in places  
120' 140' Clay, gray, with very fine sand  
140' 150' Clay, gray, with brown layers, and very fine sand  
T. D.: 150'

**Drill Hole No. 31.** Elevation 280'  
Location: SE ¼, Sec. 7, T. 18 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76.

0' 10' Clay, white, silty  
10' 24' Clay, white to light brown, silty  
24' 26' Clay, brown, with very fine sand and silt

26' 30' Clay, gray, silty  
30' 40' Clay, gray, silty, carbonaceous  
40' 49' Clay, brown, silty  
49' 50' Clay, gray, silty  
50' 70' Clay, gray, with some brown layers, with very fine sand  
70' 80' Clay, brown to gray layers, with very fine sand  
80' 90' Clay, gray, slightly glauconitic with very fine sand  
90' 128' Clay, brown to gray, with very fine sand  
128' 130' Clay, bluish-gray, silty  
130' 148' Clay, gray, silty, with very fine sand  
148' 150' Clay, gray, glauconitic and micaceous, with fine sand  
T. D.: 150'

**Drill Hole No. 32.** Elevation 266'  
Location: SE ¼, Sec. 17, T. 18 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 11/76.

0' 4' Clay, red and tan, with ironstone concretions and fine sand  
4' 5' Gravel, pea-size  
5' 12' Clay, white, silty, with ironstone concretions  
12' 14' Clay, dark-brown, silty  
14' 20' Clay, gray, silty  
20' 30' Clay, bluish-gray, with very fine sand and trace of lignite  
30' 40' Clay, bluish-gray, glauconitic, with very fine sand, and siderite layer  
40' 50' Clay, bluish-green, as above, with beds of brown lignitic clay  
50' 77' Clay, bluish-gray, with very fine sand  
77' 80' Clay, dark brown, lignitic, silty  
80' 86' Clay, dark brown, with fine sand and lignite seam  
86' 110' Clay, gray, with very fine sand  
110' 113' Clay, gray, glauconitic, with very fine sand and siderite layer  
113' 115' Clay, blue-gray, and very fine sand  
115' 118' Sand, very fine, with some lignite  
118' 123' Clay, gray, with very fine sand and siderite layer  
123' 130' Sand, very fine, with glauconitic clay and trace of lignite  
130' 140' Clay, gray, glauconitic, with trace of lignite and very fine sand, and a siderite layer @ 131'  
140' 150' Clay, gray, glauconitic, with trace of lignite and very fine sand, with siderite layer @ 144'  
T. D.: 150'

**Drill Hole No. 33.** Elevation 275'  
Location: NW ¼, Sec. 28, T. 18 S., R. 20 W.  
County, Columbia  
Logged by: J. M. Howard 11/76.

0' 5' Clay, tan, with medium to fine sand and silt  
5' 16' Clay, white to cream, silty  
16' 20' Clay, brown, and silty  
20' 22' Clay, gray, silty  
22' 32½' Clay, gray, silty, interbedded with brown clay, with siderite layer @ 32½'  
32½' 44' Clay, gray, silty, with trace of lignite and brown clay  
44' 46' Clay, gray, silty  
46' 46½' Sandstone, with a brown carbonate cement  
46½' 60' Clay, gray, silty, with fine sand and minor, light-brown, clay stringer

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

60'- 79' Clay, blue gray, silty  
 79'- 80' Clay, light brown, silty  
 80'- 85' Clay, gray, silty, with very fine sand  
 85'- 90' Clay, gray, micaceous, with fine sand and silt  
 90'-100' Silt, gray, with very fine sand and mica  
 100'-105' Clay, gray, silty  
 105'-110' Sand, very fine, gray, with silt  
 110'-125' Clay, gray, silty, with fine sand  
 125'-141' Sand, gray, very fine, with silt  
 141'-150' Sand, glauconitic, fine, with numerous thin siderite seams  
 T. D.: 150'

**Drill Hole No. 34.** Elevation 284'  
 Location: NE¼, Sec. 4, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert 12/76.

0'- 7' Clay, red, tan and brown, with very fine sand  
 7'- 15' Clay, white to light gray, silty  
 15'- 17' Clay, light brown, silty, carbonaceous  
 17'- 26' Clay, light to dark gray, silty  
 26'- 29' Clay, dark gray, with very fine sand and silt  
 29 35' Clay, gray to light tan, with very fine sand and siderite layers  
 35'- 57' Clay, dark gray, with traces of lignite and layers of very fine sand  
 57'- 67' Clay, dark brown, with layers of gray clay and very fine sand  
 67'- 70' Clay, gray, glauconitic, with very fine sand  
 70'- 85' Clay, light gray, silty, slightly lignitic  
 85'- 88' Clay, dark brown, with very fine sand  
 88'- 92' Clay, dark gray, with layers of white clay, and very fine sand  
 92'-110' Sand, very fine, with gray silty clay and traces of lignite  
 110'-130' Clay, gray, with very fine sand  
 130'-140' Sand, very fine, glauconitic, with some gray clay  
 140'-141' Clay, gray, with very fine sand  
 141'-150' Sand, glauconitic  
 T. D.: 150'

**Drill Hole No. 35.** Elevation 310'  
 Location: NW¼, Sec. 10, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert 12/76.

0'- 10' Clay, tan to white, with very fine sand  
 10'- 20' Clay, white, with pink tint, with very fine sand  
 20'- 24' Clay, white, with very fine sand  
 24'- 33' Clay, light brown to gray, with very fine sand  
 33'- 34' Clay, light brown to dark brown, layered with silt  
 34'- 35½' Clay, light gray, silty  
 35½'-40' Lignite, friable, silty, increasingly better lignite from 38' 40'  
 40'- 41½' Lignite, friable  
 41½'-50' Clay, light gray, with light brown layers, silty, and slightly glauconitic  
 50'- 60' Clay, gray, slightly glauconitic, with trace of lignite  
 60'- 80' Clay, bluish gray, silty  
 80'- 90' Clay, bluish gray, glauconitic, silty, with siderite @ 89'  
 90'- 99½' Clay, gray, with very fine sand  
 99½'-100' Lignite

100'-120' Clay, greenish gray, with very fine sand  
 120'-130' Clay, light gray to light-brown, with trace of lignite  
 130'-150' Clay, light blue-green, with silt  
 Core interval 35'-45'  
 Recovered: 8' Lost: 2'  
 35'-36' Clay, gray, silty  
 36'-37' Clay, brown to dark brown, with very fine sand and silt  
 37'-43' Lignite, hard, with conchoidal fracture  
 43'-45' Only 2" of very fine sand with brown lignitic material recovered  
 T. D.: 150'

\* **Drill Hole No. 36.** Elevation 305'  
 Location: SE¼, Sec. 16, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert 12/76.

0'- 5' Clay, light gray, with fine sand  
 5'- 11' Sand, with light gray clay  
 11'- 13' Clay, light-brown, with very fine sand  
 13'- 17' Clay, light gray, with very fine sand  
 17'- 20' Clay, dark brown, with trace of lignite and very fine sand  
 20'- 25' Clay, light gray, layered with light-brown, silty clay  
 25'- 27' Clay, light brown, silty  
 27'- 28' Clay, dark-brown, very lignitic with very fine sand  
 28'- 30' Clay, light gray, with very fine sand  
 30'- 40' Clay, light gray, interbedded with brown, lignitic clay  
 40'- 44½' Clay, gray to light brown, with trace of lignite and very fine sand  
 44½'-48' Lignite, with dark-brown clay, and very fine sand  
 48'- 50' Clay, light brown, with very fine sand and lignitic material  
 50'- 60' Sand, fine, with trace of lignite  
 60'- 100' Clay, light blue-gray, with very fine sand  
 100'-110' Clay, light gray, with trace of lignite and very fine sand  
 110'- 140' Clay, light-gray, slightly glauconitic  
 140'-150' Clay, light blue-gray, with very fine sand  
 Core interval 40'-46'  
 Recovered: 6' Lost: 0'  
 40'-41½' Clay, brown, with very fine sand  
 41½'-45' Lignite  
 45'-46' Clay, brown, and very fine sand  
 T. D.: 150'

**Drill Hole No. 37.** Elevation 300'  
 Location: NW¼, Sec. 27, T. 19 S., R. 20 W. County, Columbia  
 Logged by: J. M. Howard 12/76.

0'- 10' Silt, tan clayey, with gray silty clay interbedded  
 10'- 23' Silt, mottled, tan, gray and pink, with clay  
 23'- 28' Sand, tan, with silt, and trace of lignite  
 28'- 30' Clay, light brown, silty  
 30'- 47½' Sand, tan, fine, with silt  
 47½'- 48' Lignite  
 48'- 59' Sand, tan, fine  
 59'- 60' Clay, gray, with silt

60'- 67' Sand, tan, fine  
 67'- 80' Clay, gray, with silt, and trace of lignite  
 80'- 90' Clay, gray, with thin interlayers of fine gray sand and silt  
 90'-132' Clay, greenish-gray, with lignite flakes on partings, and some fine brown sand  
 132'-146' Clay, light-brown, slightly silty  
 146'-150' Clay, brown, with lignite stringers  
 T. D.: 150'

**Drill Hole No. 38.** Elevation 320'  
 Location: NE¼, Sec. 35, T. 19 S., R. 20 W. County, Columbia  
 Logged by: B. F. Clardy 12/76.

0'- 5' Clay, very silty, mottled red and gray  
 5'- 25' Clay, very silty, light gray  
 25'- 26' Clay, reddish-brown, sandy and glauconitic  
 26'- 55' Clay, gray, silty and sandy, with some glauconitic  
 55'- 77' Clay, gray, very sandy  
 77'- 91' Clay, dark-gray, silty, sandy, with glauconite in places  
 91'-105' Clay, very silty, sandy, brown, lignitic  
 105'-121' Sand, semi-consolidated, blue-green glauconitic, clay interbedded with thin beds of brown lignitic, silty, clay  
 121'-123' Clay, chocolate brown, with lignite stringers  
 123'-137' Clay, blue-gray, silty  
 137'-142' Clay, chocolate brown, lignitic, silty  
 142'-150' Clay, silty, gray, slightly sandy, with trace of lignite  
 T. D.: 150'

**Drill Hole No. 39.** Elevation 140'  
 Location: Sec. 36, T. 19 S., R. 16 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 5' Sand, fine, with red clay binder  
 5'- 16' Sand, fine, with gray clay binder  
 16'- 20' Clay, light-gray to white, silty  
 20'- 56' Sand, very fine, with traces of lignite, and some gray clay  
 56'- 62' Clay, light-gray, with very fine sand and trace of lignite  
 62'- 66' Sand, fine, glauconitic, micaceous, with thin beds of siderite  
 66'- 77' Clay, gray, glauconitic, with very fine sand  
 77'-103' Clay, brown, lignitic, with very fine sand  
 103'-110' Clay, light-gray, slightly glauconitic, with very fine sand  
 110'-120' Clay, gray, silty, micaceous  
 120'-130' Clay, as above, with siderite @ 122½'-123'  
 130'-140' Clay, gray, glauconitic, micaceous  
 140'-150' Clay, gray to brown, with siderite layers  
 T. D.: 150'

**Drill Hole No. 40.** Elevation 190'  
 Location: NW¼, Sec. 19, T. 19 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 22' Sand, very fine, with red clay  
 22'- 52' Sand, very fine, with white, red, and gray clay binder  
 52'- 60' Clay, gray, with very fine sand and trace of lignite

\* Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

60' 79½' Sand, very fine, with gray clay binder  
 79½' 80' Sand, very fine, with lignite  
 80' 83' Lignite  
 83' 90' Sand, very fine, with lignite and brown clay  
 90' 100' Clay, gray, with very fine sand and trace of lignite  
 100' 140' Gray clay, with very fine sand may be packed sand getting very few cuttings  
 140' 150' Sand, very fine, packed, @ 143' 145' lignitic sand  
 T. D.: 150'

**Drill Hole No. 41.** Elevation 180'  
 Location: SE ¼, Sec. 7, T. 19 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 12' Sand, very fine, with gray clay binder and ironstone concretion layer at 7'  
 12' 30½' Clay, light gray to tan, with very fine sand  
 30½' 62' Sand, very fine  
 62' 90' Clay, dark gray, with trace of lignite and very fine sand  
 90' 91½' Siderite  
 91½' 100' Sand, fine, with gray clay, and trace of lignite  
 100' 110' Clay, gray, slightly glauconitic with very fine sand  
 110' 150' Clay, gray to blue gray, glauconitic, micaceous, silty, with very fine sand  
 T. D.: 150'

**Drill Hole No. 42.** Elevation 195'  
 Location: NE ¼, Sec. 5, T. 19 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Clay, gray, silty  
 10' 28' Clay, light gray to tan, silty  
 28' 30' Clay, brown, with very fine sand and trace of lignite  
 30' 40' Clay, light gray with brown clay interbedded with very fine sand  
 40' 46' Clay, light gray, with very fine sand  
 46' 57' Sand, very fine, with iron stained clay  
 57' 60' Clay, light gray, with very fine sand  
 60' 88' Sand, very fine, with stringers of lignite  
 88' 90' Clay, light gray, glauconitic, with very fine sand  
 90' 100' Sand, very fine  
 100' 110' Sand, very fine, interbedded with gray clay, with a trace of lignite  
 110' 127' Sand, very fine  
 127' 130' Clay, gray, slightly glauconitic, with a trace of lignite and very fine sand  
 130' 140' Sand, very fine, interbedded with gray clay  
 140' 150' Sand, very fine  
 T. D.: 150'

**Drill Hole No. 43.** Elevation 262'  
 Location: NE ¼, Sec. 33, T. 18 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Clay, light gray to tan, silty  
 10' 20' Clay, light gray, silty, with some iron stain  
 20' 40' Clay, light gray to tan, silty,

with some sand layers, and iron stone concretion layer @ 33'  
 40' 50' Sand, very fine, with light gray clay  
 50' 80' Sand, very fine, with trace of lignite  
 80' 90' Sand, very fine, with gray clay  
 90' 110' Sand, very fine, with trace of lignite  
 110' 120' Sand, very fine, lignitic  
 120' 147' Sand, very fine  
 147' 150' Lignite and very fine sand  
 150' 160' Clay, gray, slightly glauconitic, with very fine sand  
 T. D.: 160'

**Drill Hole No. 44.** Elevation 232'  
 Location: NE ¼, Sec. 27, T. 18 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Sand, red, with clay binder  
 10' 20' Sand, with interbedded red to tan clay  
 20' 70' Sand, very fine  
 T. D.: 70'

**Drill Hole No. 45.** Elevation 220'  
 Location: SW ¼, Sec. 14, T. 18 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Clay, light gray, with very fine sand  
 10' 20' Clay, light gray, with fine sand and iron layer at 15'  
 20' 60' Sand, very fine, with gray clay  
 60' 70' Sand, very fine, with trace of lignite  
 70' 80' Silt, gray  
 80' 90' Sand, very fine, with trace of lignite  
 90' 110' Sand, very fine, with stringer of lignite  
 T. D.: 110'

**Drill Hole No. 46.** Elevation 235'  
 Location: NE ¼, Sec. 15, T. 18 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 7' Clay, light gray to red, with fine sand  
 7' 10' Sand, fine, with clay, light gray to red  
 10' 20' Clay, light gray to white, silty, interbedded with fine sand  
 20' 25' Clay, white silty  
 25' 30' Sand, very fine, with white clay  
 30' 37' Clay, white, silty  
 37' 40' Sand, very fine, with white and pink clay  
 40' 50' Sand, very fine, interbedded with white clay  
 50' 65' Sand, very fine  
 T. D.: 65'

**Drill Hole No. 47.** Elevation 220'  
 Location: SE ¼, Sec. 3, T. 18 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Sand, very fine, with red clay binder  
 10' 20' Sand, fine, with interbedded light gray clay  
 20' 30' Sand, fine  
 30' 38' Sand, fine, interbedded with light gray clay  
 38' 40' Clay, gray, w/trace of lignite  
 40' 50' Sand, very fine, with interbedded light gray clay  
 50' 60' Sand, very fine, with gray clay, lignitic

60' 70' Sand, very fine, with stringer of lignite  
 70' 90' Sand, very fine, with gray clay  
 90' 100' Clay, gray, with very fine sand  
 100' 110' Clay, gray, slightly glauconitic with trace of lignite  
 110' 120' Clay, gray, with very fine sand  
 120' 132' Clay, gray to brown, with very fine sand  
 132' 140' Sand, gray, very fine, packed, with gray clay  
 140' 150' Clay, gray, silty, micaceous  
 T. D.: 150'

**Drill Hole No. 48.** Elevation 215'  
 Location: Sec. 34, T. 17 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 14' Sand, very fine, with red and tan clay  
 14' 20' Clay, light gray to white, with very fine sand  
 20' 32' Sand, very fine, with white clay  
 32' 50' Clay, light gray to white, with very fine sand  
 50' 64½' Sand, very fine, with tan clay  
 64½' 65' Lignite  
 65' 70' Clay, gray, glauconitic, with very fine sand  
 70' 80' Clay, gray, with trace of lignite and very fine sand  
 80' 100' Clay, gray, glauconitic, with very fine sand  
 100' 110' Clay, gray to brown, with very fine sand  
 110' 120' Clay, gray, glauconitic, with very fine sand  
 120' 144½' Clay, gray, with very fine sand  
 144½' 145' Siderite, with glauconite on top  
 145' 150' Clay, gray, with very fine sand  
 T. D.: 150'

**Drill Hole No. 49.** Elevation 200'  
 Location: NE ¼, Sec. 27, T. 17 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 10' Sand, very fine, with red clay binder  
 10' 20' Sand, very fine, with light gray to white clay  
 20' 30' Sand, very fine, with white to tan clay  
 30' 96' Sand, very fine, with thin beds of tan and white clay  
 96' 100' Clay, gray, with very fine sand and lignite stringer  
 100' 110' Clay, gray, interbedded with fine sand and trace of lignite  
 110' 120' Clay, gray to brown, with fine sand, and trace of lignite  
 120' 130' Clay, gray, with very fine sand and trace of lignite  
 130' 140' Clay, gray, interbedded with very fine sand  
 140' 150' Clay, gray to tan, interbedded with very fine sand and trace of lignite  
 T. D.: 150'

**Drill Hole No. 50.** Elevation 210'  
 Location: NW ¼, Sec. 23, T. 17 S., R. 15 W. County, Union  
 Logged by: D. W. Lumbert 2/77.

0' 30' Sand, very fine, interbedded with tan and gray clay  
 30' 60' Sand, very fine, interbedded with tan and brown clay, with few stringers of lignite  
 60' 70' Sand, very fine  
 T. D.: 70'

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 51.** Elevation 182'  
 Location: Sec. 15, T. 17 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 10' Clay, tan to light brown, with very fine sand  
 10'- 14' Clay, light gray, with very fine sand  
 14'- 25' Sand, yellow, very fine  
 25'- 28' Sand, very fine, with brown clay  
 28'- 29' Lignite, and brown clay  
 29'- 30' Clay, brown, with trace of lignite  
 30'- 46' Clay, brown, with stringers of lignite and very fine sand  
 46'- 54' Clay, blue green, with very fine sand  
 54'- 60' Clay, brown, with very fine sand and trace of lignite  
 60'- 66' Sand, very fine, with brown clay  
 66'- 70' Clay, brown, with very fine sand and trace of lignite  
 70'- 80' Brown clay, and very fine sand, interbedded  
 80'- 90' Clay, brown to gray, very sandy  
 90'-100' Clay, gray, slightly glauconitic, with very fine sand  
 100'-140' Clay, gray, glauconitic, micaceous, with very fine sand and trace of lignite  
 140'-150' Clay, gray, interbedded with very fine sand  
 T. D.: 150'

**Drill Hole No. 52.** Elevation 160'  
 Location: Sec. 9, T. 17 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 10' Sand, very fine, with red clay  
 10'- 20' Sand, very fine, with tan to gray clay  
 20'- 67' Sand, very fine, with stringers of lignite  
 67'- 72' Clay, blue green, with silt  
 72'- 80' Clay, brown, with stringers of lignite  
 80'- 90' Clay, light brown, and very fine sand  
 T. D.: 90'

**Drill Hole No. 53.** Elevation 150'  
 Location: Sec. 4., T. 17 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 10' Sand, very fine, interbedded with gray clay  
 10'- 20' Clay, gray, with very fine sand  
 20'- 30' Clay, blue gray, with very fine sand  
 30'- 40' Clay, blue gray, with very fine sand and trace of lignite  
 40'- 60' Sand, very fine  
 60'- 80' Sand, very fine, with stringers of lignite  
 80'- 82' Sand, very fine  
 82'- 84' Clay, blue gray, with very fine sand  
 84'- 88' Sand, very fine  
 88'- 94' Clay, blue gray, with very fine sand and lignite stringers  
 94'-110' Clay, gray, glauconitic, slightly micaceous, with very fine sand and siderite  
 110'-117' Sand, very fine  
 117'-120' Clay, gray to brown, with very fine sand  
 120'-134' Clay, blue gray, with very fine sand

134' 136½' Lignite  
 135½' 140' Clay, gray, with interbedded very fine sand  
 140' 150' Sand, very fine, with interbedded gray clay and stringers of lignite  
 T. D.: 150'

**Drill Hole No. 54.** Elevation 158'  
 Location: Sec. 32, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 9' Clay, red and light gray, with very fine sand  
 9'- 10' Clay, brown, carbonaceous, with very fine sand and some lignite  
 10'- 17' Lignite  
 17'- 18' Clay, brown, with very fine sand  
 18'- 20' Clay, gray, with very fine sand  
 20'- 27' Clay, brown, with silt  
 27'- 30' Clay, light gray, with very fine sand  
 30'- 39' Sand, very fine  
 39'- 40' Sand, very fine, with lignite stringers and brown clay  
 40'- 50' Sand, very fine, with lignite stringers  
 50'- 100' Sand, fine  
 Core interval 9' - 17'  
 Recovered: 8' Lost: 0'  
 9'- 13'4" Lignite, hard, with conchoidal fracture  
 13'4" - 14' Clay, gray & brown, with lignite partings  
 14'- 17' Clay, gray & brown, with very fine sand  
 T. D.: 100'

**Drill Hole No. 55.** Elevation 180'  
 Location: SW¼, Sec. 29, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 2/77.

0'- 19' Clay, light gray to tan, with very fine sand  
 19'- 20' Clay, light brown, with very fine sand  
 20'- 21½' Clay, dark brown, with very fine sand  
 21½' 24½' Lignite  
 24½' 30' Clay, dark to light brown, with interbedded very fine sand  
 30'- 35' Clay, light brown, with very fine sand  
 35'- 40' Clay, light gray, with very fine sand  
 40'- 44' Clay, gray to brown, with very fine sand  
 44'- 46' Lignite, with very fine sand  
 46'- 55' Sand, very fine, with interbedded light brown clay  
 55'- 60' Clay, gray, with very fine sand  
 60'- 66' Clay, light brown, with very fine sand  
 66'- 70' Clay, blue green, with very fine sand  
 70'- 85' Clay, green to brown, with trace of lignite and interbedded very fine sand  
 85'- 120' Clay, blue green, silty, with trace of lignite at 94'  
 120'- 130' Clay, gray, slightly glauconitic, with interbedded fine sand  
 130'- 150' Sand, very fine, with interbedded gray clay, some glauconite and mica

Core interval 20' - 25'  
 Recovered: 5' Lost: 0'  
 20' - 21'8" Clay, brown, lignitic, sandy  
 21'8" - 24'2" Lignite, hard  
 24'2" - 24'8" Lignite, woody  
 24'8" - 25' Brown, lignitic sand  
 T. D.: 150'

**Drill Hole No. 56.** Elevation 215'  
 Location: SE¼, Sec. 19, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 3/77.

0'- 10' Clay, light gray, w/very fine sand  
 10'- 20' Clay, light gray to light brown, with very fine sand  
 20'- 30' Clay, light brown, with interbedded very fine sand  
 30'- 50' Sand, fine, with interbedded light brown clay  
 50'- 65' Clay, gray, w/very fine sand  
 65'-110' Sand, fine, with gray clay  
 110'-120' Sand, fine, slightly glauconitic  
 120'-130' Sand, fine, slightly glauconitic, with gray clay  
 130'-140' Sand, fine, with lignite stringers  
 140'-150' Clay, gray, glauconitic, with very fine sand  
 T. D.: 150'

**Drill Hole No. 57.** Elevation 195'  
 Location: SW¼, Sec. 18, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: D. W. Lumbert 3/77.

0'- 10' Sand, very fine, with red clay binder  
 10'- 20' Sand, very fine, with light gray and tan clay layers  
 20'- 70' Sand, very fine  
 70'- 73' Clay, brown, with very fine sand and trace of lignite  
 73'- 90' Sand, very fine  
 90'- 96' Clay, gray to brown, with interbedded very fine sand and trace of lignite  
 96'-100' Clay, gray, with very fine sand  
 100'-130' Clay, gray, with interbedded very fine sand and trace of lignite  
 130'-140' Clay, gray, with very fine, packed, sand  
 140'-150' Clay, gray, with very fine sand  
 T. D.: 150'

**Drill Hole No. 58.** Elevation 120'  
 Location: NW¼, Sec. 13, T. 16 S., R. 16 W.  
 County, Union  
 Logged by: D. W. Lumbert 3/77.

0'- 20' Sand, very fine  
 20'- 30' Clay, dark gray, with very fine sand and trace of lignite  
 30'- 50' Clay, blue-gray, with very fine sand  
 50'- 70' Clay, gray, glauconitic, micaceous, with very fine sand  
 70'- 85' Clay, gray to brown, with very fine sand  
 85'- 90' Sand, very fine, with gray to brown clay  
 90'-103' Sand, interbedded with gray clay, and trace of lignite  
 103'-103½' Siderite  
 103½'-120' Clay, gray, slightly glauconitic, with very fine sand  
 120'-130' Clay, green, very glauconitic, with siderite and very fine sand  
 130'-150' Clay, gray to brown, with very fine sand  
 T. D. 150'

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**Drill Hole No. 59.** Elevation 150'

Location: Sec. 11, T. 16. S., R. 16 W. County, Union  
 Logged by: D. W. Lumbert 3/77.

- 0' 13' Clay, red, very sandy
- 13' 20' Clay, light gray, interbedded with fine sand
- 20' 60' Sand, very fine, with light gray clay
- 60' 70' Sand, very fine, packed, with some gray clay
- 70' 80' Clay, gray, interbedded with very fine sand and trace of lignite
- 80' 94' Clay, blue gray, with very fine sand and trace of lignite
- 94' 94½' Siderite
- 94½' 120' Clay, gray, with very fine sand, siderite layer @ 100'
- 120' 140' Clay, gray to dark brown, with very fine sand
- 140' 147' Clay, blue gray, glauconitic, with very fine sand
- 147' Siderite  
 T. D.: 147'

**Drill Hole No. 60 a.** Elevation 160'

Location: Sec. 3, T. 16 S., R. 16 W. County, Union  
 Logged by: D. W. Lumbert 3/77.

- 0' 10' Clay, red, very sandy
- 10' 20' Sand, very fine
- 20' 30' Sand, very fine, with some tan clay
- 30' 43' Sand, very fine, with tan clay
- 43' 43½' Lignite
- 43½' 60' Clay, gray, with interbedded, very fine sand
- 60' 57' Sand, fine, with trace of lignite  
 T. D.: 57'

**Drill Hole 60 b.** Elevation 160'

Location: Sec. 3, T. 16 S., R. 16 W. County, Union  
 Logged by: D. W. Lumbert 3/77.

- 0' 10' Clay, gray, with very fine sand
- 10' 16' Sand, very fine, with gray to white clay
- 16' 26' Clay, dark gray, silty, with very fine sand
- 26' 30' Sand, medium to fine
- 30' 60' Clay, gray, silty, slightly glauconitic, with very fine sand and trace of lignite
- 60' 70' Clay, gray to tan, with very fine sand
- 70' 87' Clay, brown, with very fine sand and trace of lignite
- 87' 90' Clay, gray, with very fine sand
- 90' 110' Clay, gray, slightly glauconitic, with very fine sand, trace of lignite, and siderite layer @ 104'
- 110' 120' Sand, very fine, with interbedded gray green clay and siderite
- 120' 140' Sand, very fine, with gray clay and siderite layer at 137'
- 140' 149' Sand, very fine, interbedded with gray clay and trace of lignite, siderite layer at 149'  
 T. D.: 149'

**Drill Hole No. 61.** Elevation 112'

Location: SE¼, Sec. 32, T. 15 S., R. 16 W. County, Union  
 Logged by: D. W. Lumbert 3/77.

- 0' 10' Sand, medium, with iron cement and red clay

- 10' 20' Sand, medium to fine
- 20' 30' Clay, gray, glauconitic, with interbedded very fine sand
- 30' 33' Siderite layer, with large gravel
- 33' 50' Clay, gray, with very fine sand
- 50' 58' Clay, gray, with fine sand  
 T. D.: 58'

**Drill Hole No. 62.** Elevation 120'

Location: Sec. 30, T. 15 S., R. 16 W. County, Ouachita  
 Logged by: D. W. Lumbert 3/77.

- 0' 7' Clay, gray, with very fine sand
- 7' 8' Ironstone concretion layer
- 8' 10' Clay, gray, with very fine sand
- 10' 15' Gravel, pea size, with coarse sand
- 15' 23' Clay, gray, with fine sand
- 23' 26' Clay, gray to light gray, lignitic with very fine sand
- 26' 28' Clay, brown, with very fine sand
- 28' 35' Clay, gray, with very fine sand
- 35' 38' Clay, light brown, with very fine sand and siderite at 38'
- 38' 40' Clay, brown to gray, with interbedded, very fine sand
- 40' 50' Clay, gray, with very fine sand
- 50' 79' Clay, gray, glauconitic, slightly lignitic, with very fine sand and siderite layers @ 66' and 78'
- 79' 80' Sand, very fine, with gray clay
- 80' 96' Clay, gray, glauconitic, with very fine sand
- 96' 103' Sand, very fine
- 103' 120' Clay, light gray to tan, with trace of lignite and very fine sand
- 120' 130' Sand, very fine, with gray and brown clay
- 130' 140' Clay, brown, with very fine sand
- 140' 150' Clay, blue gray, with brown layers of clay and very fine sand  
 T. D.: 150'

**Drill Hole No. 63.** Elevation 148'

Location: SE¼, Sec. 24, T. 15 S., R. 17 W. County, Ouachita  
 Logged by: D. W. Lumbert 3/77.

- 0' 19' Clay, light gray to white, with very fine sand
- 19' 24' Sand, very fine, with iron stain
- 24' 40' Clay, gray, glauconitic, with very fine sand
- 40' 53' Clay, gray, very glauconitic, with very fine sand and siderite layer @ 53'
- 53' 80' Clay, gray, glauconitic, with very fine sand
- 80' 90' Clay, gray, with very fine sand
- 90' 97' Clay, gray, glauconitic, with very fine sand
- 97' 100' Sand, very fine, with gray glauconitic clay
- 100' 126' Clay, gray, glauconitic, with very fine sand
- 126' 130' Sand, very fine, with gray glauconitic clay
- 130' 140' Clay, gray, glauconitic, with interbedded very fine sand
- 140' 150' Sand, very fine, interbedded with brown lignitic clay
- 150' 151' Lignite, with dark brown clay, and very fine sand
- 151' 160' Clay, gray to brown, with very fine sand  
 T. D.: 160'

**Drill Hole No. 64.** Elevation 165'

Location: Sec. 14, T. 15 S., R. 17 W. County, Ouachita  
 Logged by: D. W. Lumbert 3/77.

- 0' 5' Sand, very fine, with red and tan clay
- 5' 10' Clay, gray, with very fine sand and pea gravel @ 9'
- 10' 20' Sand, very fine, with light gray clay and trace of lignite
- 20' 25' Sand, very fine, with light gray clay
- 25' 50' Sand, very fine, glauconitic with gray clay
- 50' 60' Sand, very fine, with interbedded gray clay, and dark brown clay and lignite
- 60' 62' Clay, dark brown, with lignite
- 62' 90' Sand, very fine, with layers of brown clay and stringers of lignite
- 90' 110' Sand, very fine, with light gray and tan clay
- 110' 114' Clay, light gray to tan, with very fine sand
- 114' 130' Sand, very fine, with light gray to tan clay
- 130' 133' Lignite
- 133' 135' Clay, dark brown to light brown with traces of lignite and very fine sand
- 135' 138' Sand, very fine
- 138' 140' Clay, gray to light gray, with very fine sand
- 140' 150' Clay, blue-gray, with very fine sand  
 T. D.: 150'

**Drill Hole No. 65.** Elevation 234'

Location: NW¼, Sec. 11, T. 15 S., R. 17 W. County, Ouachita  
 Logged by: D. W. Lumbert 3/77.

- 0' 10' Sand, very fine, red, with light gray clay
- 10' 36' Sand, very fine, with white clay
- 36' 50' Sand, very fine
- 50' 70' Sand, very fine, with white clay
- 70' 80' Sand, very fine, with lignite stringer
- 80' 85' Clay, gray, slightly glauconitic with very fine sand
- 85' 90' Sand, very fine
- 90' 97' Clay, gray, with trace of lignite  
 T. D.: 97'

**Drill Hole No. 66.** Elevation 265'

Location: SW¼, Sec. 35, T. 14 S., R. 17 W. County, Ouachita  
 Logged by: D. W. Lumbert 3/77.

- 0' 34' Sand, very fine, with some red clay
- 34' 50' Clay, gray, with very fine sand
- 50' 63' Clay, gray, silty, with traces of lignite
- 63' 70' Sand, very fine, with gray clay
- 70' 80' Sand, very fine
- 80' 100' Sand, very fine, with stringers of lignite
- 100' 110' Sand, very fine, interbedded with gray glauconitic clay and siderite
- 110' 137' Clay, green, glauconitic, with interbedded siderite and very fine sand
- 137' 140' Clay, light gray, with very fine sand and trace of lignite
- 140' 150' Clay, light gray, slightly glauconitic, with very fine sand  
 T. D.: 150'

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**Drill Hole No. 67.** Elevation 235'  
Location: Sec. 27, T. 14 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 10' Sand, fine to very fine  
10'- 14' Sand, very fine  
14'- 14½' Ironstone layer  
14½'- 20' Clay, gray, with very fine sand and trace of lignite  
20'- 30' Clay, gray to brown, with very fine sand silt, @ 23' siderite 3"  
30'- 40' Clay, gray, with very fine sand  
40'- 50' Clay, gray, slightly lignitic, with very fine sand  
50'- 60' Same  
60'- 70' Sand, very fine, glauconitic, mlcaceous  
70'- 80' Sand, very fine, glauconitic, mlcaceous, interbedded with clay, gray  
80'- 90' Clay, white to gray, glauconitic, with interbedded siderite  
90'-100' Sand, very fine, glauconitic, with interbedded siderite  
100'-110' Clay, light gray, with very fine sand  
110'-120' Clay, gray to brown, with very fine sand and trace of lignite @ 115'  
120'-130' Clay, layered gray to brown, with trace of lignite  
130'-150' Clay, gray, with very fine sand  
T. D.: 150'

**Drill Hole No. 68.** Elevation 220'  
Location: NE¼, Sec. 22, T. 14 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 10' Sand, very fine to fine, with iron stain  
10'- 20' Sand, very fine, with clay, light gray to white  
20'- 30' Clay, white to light gray, with very fine sand  
30'- 40' Sand, very fine, with clay, white to light gray  
40'- 44½' Sand, coarse  
44½'- 50' Clay, light gray to white, with very fine sand  
50'- 53' Sand, fine to coarse  
53'- 55' Clay, white to gray, with very fine sand  
55'- 60' Clay, gray to dark gray, with very fine sand  
60'- 70' Clay, gray, with very fine sand  
70'- 89'8" Clay, gray, slightly glauconitic, with very fine sand @ 74½' siderite layer @ 87'8" siderite layer, and @ 89'8" siderite layer  
89'8"-97' Clay, gray, glauconitic, with very fine sand  
97'-104' Sand, very fine @ 98' siderite layer  
104'-110' Clay, gray, glauconitic, with very fine sand  
110'-120' Clay, gray to brown, with trace of lignite  
120'-130' Clay, gray, with tan clay layers and trace of lignite and very fine sand  
130'-139' Clay, light gray, slightly glauconitic with trace of lignite  
139'-140' Siderite  
140'-144½' Clay, light bluish-gray, with very fine sand  
144½'-147' Sand, very fine  
147'-150' Clay, gray, with very fine light gray sand  
T. D.: 150'

**Drill Hole No. 69.** Elevation 165'  
Location: SE¼, Sec. 11, T. 14 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 7' Clay, red, with very fine sand  
7'- 8' Gravel, pea size  
8'- 10' Clay, light gray to white, with very fine sand  
10'- 23' Clay, gray, carbonaceous, with very fine sand  
23'- 23½' Gravel, pea-size  
23½'- 30' Clay, light gray, with iron stain and coarse sand  
30'- 37' Sand, very fine, with stringer of lignite  
37'- 43' Clay, gray to brown, with very fine sand and trace of lignite  
43'- 60' Sand, very fine, with gray-green glauconitic clay  
60'- 70' Clay, gray to brown, glauconitic with interbedded very fine sand  
70'- 80' Sand, very fine, with gray to brown, slightly glauconitic clay  
80'-100' Clay, gray to brown, with sand  
100'- 110' Clay, gray to light brown, with very fine sand and siderite layers  
110'-116½' Sand, very fine, with gray clay  
116½'-120' Clay, dark brown, with lignite and silt  
120'- 130' Sand, very fine  
130'- 140' Sand, very fine, with traces of lignite and silt  
140'- 150' Silt, pecked  
T. D.: 150'

**Drill Hole No. 70.** Elevation 180'  
Location: SE¼, Sec. 2, T. 14 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 7' Clay, tan, with layers of limonite, and very fine sand  
7'- 10' Clay, black to dark brown, very lignitic, with very fine sand  
10'- 37' Clay, chocolate brown, with silt  
37'- 57' Clay, brown to light brown, slightly glauconitic, with very fine sand  
57'- 57½' Lignite, with sand  
57½'- 70' Clay, gray, with very fine sand  
70'- 89' Sand, very fine, with gray clay and tan siderite layers  
89'- 90' Clay, gray, with very fine sand  
90'- 95' Sand, very fine, with siderite  
95'- 100' Clay, white, with silt @ 98' 99' sand, very fine  
100'- 110' Sand, very fine, with silt  
110'- 120' Clay, gray, with traces of lignite and silt  
120'- 140' Clay, light gray to light brown, with very fine sand  
140'- 150' Clay, light gray, with silt  
T. D.: 150'

**Drill Hole No. 71.** Elevation 180'  
Location: SW¼, Sec. 26, T. 13 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 10' Clay, tan, with sand  
10'- 12' Clay, brown, with trace of lignite  
12'- 23' Clay, gray, with very fine sand and trace of lignite @ 12'-14'  
23'- 25' Clay, white, with very fine sand  
25'- 30' Clay, gray brown, with very fine sand  
30'- 40' Clay, gray, glauconitic, with

very fine sand  
40'- 53' Clay, gray, with traces of lignite  
53'- 60' Sand, very fine, with brown clay  
60'- 75' Sand, very fine, interbedded with brown clay and trace of lignite  
75'- 80' Clay, brown, with very fine sand and trace of lignite  
80'- 95' Sand, very fine, with brown clay  
95'- 97½' Clay, dark brown, with very fine sand  
97½'-100' Clay, gray, with very fine sand  
100'-110' Clay, gray, interbedded with very fine sand  
110'-140' Silt, with gray clay @136' trace of lignite  
140'-150' Silt, with traces of lignite  
T. D.: 150'

**Drill Hole No. 72.** Elevation 150'  
Location: SW¼, Sec. 21, T. 13 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 10' Clay, reddish tan to gray, with fine sand  
10'- 27' Clay, light gray to tan, with very fine sand  
27'- 30' Clay, gray to brown, with very fine sand  
30'- 40' Sand, very fine, with clay, brown to gray, and trace of lignite  
40'- 56' Clay, brown, with very fine sand  
56'- 63' Clay, gray, with very fine sand  
63'- 76½' Sand, very fine, with gray clay  
76½'-77' Lignite, with very fine sand  
77'- 80' Clay, gray, with very fine sand  
80'- 86' Clay, light gray to white, with silt  
86'- 90' Clay, gray, interbedded with fine sand  
90'-100' Clay, gray to light gray  
100'-110' Clay, gray to light gray, with interbedded very fine sand  
110'-140' Clay, gray to light gray, with very fine sand  
140'-150' Clay, light gray to brown, with very fine sand  
T. D.: 150'

**Drill Hole No. 73.** Elevation 220'  
Location: NW¼, Sec. 19, T. 13 S., R. 17 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 10' Clay, light gray, with iron stain, and very fine sand  
10'- 20' Clay, gray, with very fine sand  
20'- 30' Clay, gray to brown, with very fine sand  
30'- 40' Clay, gray to brown, carbonaceous, with very fine sand  
40'- 70' Clay, brown, with silt  
70'- 73' Clay, dark brown, with silt  
73'- 76' Clay, light gray, with very fine sand  
76'- 77' Clay, white, with silt  
77'- 90' Clay, gray, with silt  
90'-110' Silt, with gray clay @ 108' trace of lignite  
110'-118' Silt, interbedded with gray clay  
118'-120' Clay, gray, with silt  
120'-140' Sand, very fine, with interbedded gray clay and traces of lignite  
140'-150' Sand, very fine  
T. D.: 150'

## ARKANSAS LIGNITE INVESTIGATIONS

### Drill Hole No. 74. Elevation 308'

Location: SW¼, Sec. 18, T. 13 S., R. 17 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 8" Clay, red, with fine sand  
 8' 10" Clay, green, glauconitic, with fine sand; @ 8' siderite  
 10' 18" Clay, green to gray, with very fine sand  
 18' 20" Clay, red to yellow, with iron concretions and very fine sand  
 20' 25" Sand, very fine, with tan clay  
 25' 28" Clay, gray, with very fine sand  
 28' 30" Clay, tan to white, with silt  
 30' 40" Sand, very fine, with white to tan clay layers  
 40' 50" Silt, with white clay  
 50' 60" Clay, gray to brown, with silt  
 60' 70" Clay, brown, with silt @ 68' 68½" very fine sand and trace of lignite  
 70' 80" Clay, gray, slightly glauconitic @ 78' trace of lignite  
 80' 93" Clay, gray, with silt  
 93' 96" Sand, very fine, with silt  
 96' 100" Clay, gray, with silt  
 100' 110" Clay, gray, slightly glauconitic with silt  
 110' 130" Silt, interbedded with light gray clay, @ 121' siderite  
 130' 132" Clay, gray, with silt  
 132' 137" Silt, with gray clay  
 137' 140" Clay, gray, with silt  
 140' 144" Silt  
 144' 146" Clay, gray to brown, with very fine sand  
 146' 150" Silt, with gray clay T. D.: 150'

### Drill Hole No. 75. Elevation 260'

Location: SW¼, Sec. 12, T. 13 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77

0' 10" Clay, white, with very fine sand and iron concretions  
 10' 37" Clay, gray, with very fine sand, and traces of lignite  
 37' 40" Lignite  
 40' 42" Clay, dark brown, with very fine sand  
 42' 48" Sand, very fine, interbedded with gray clay  
 48' 55½" Clay, gray, and very fine sand  
 55½' 57½" Lignite  
 57½' 60" Clay, gray to brown, with very fine sand  
 60' 68½" Silt  
 68½' 70" Clay, brown, with very fine sand  
 70' 80" Clay, light gray, with silt @ 77' trace of lignite  
 80' 100" Clay, light blue gray, with silt  
 100' 120" Clay, light blue gray, with sand, very fine  
 120' 150" Sand, very fine @ 143' 145" gray clay T. D.: 150'

### Drill Hole No. 76. Elevation 210'

Location: SW¼, Sec. 2, T. 13 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77

0' 10" Sand, very fine, with red to yellow clay, and iron concretions  
 10' 18" Sand, very fine, with kaolin  
 18' 21" Lignite, soft, with silt  
 21' 30" Sand, very fine, with layers of brown clay  
 30' 37½" Clay, gray, with very fine sand layers

37½' 41" Lignite  
 41' 50" Clay, light gray, and chocolate brown interlayered, and very fine sand  
 50' 55" Clay, light blue gray, with silt  
 55' 60" Clay, light gray to gray, with silt  
 60' 80" Clay, blue gray, with silt  
 80' 90" Clay, light gray, glauconitic, with interbedded silt  
 90' 110" Silt, with gray clay  
 110' 130" Sand, very fine  
 130' 140" Sand, very fine, with silt  
 Core interval 18' 28"  
 Recovered: 9'8" Lost: 4"  
 18' 25" Clay, gray to chocolate brown, with very fine sand  
 25' 27'8" Lignite  
 Core Interval 35' 45"  
 Recovered: 10' Lost: 0'  
 35' 43" Clay, gray  
 43' 43'4" Sand, very fine  
 43'4" 45" Lignite  
 T. D.: 140'

### Drill Hole No. 77. Elevation 240'

Location: NW¼, Sec. 3, T. 13 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 6" Clay, red to gray, with very fine sand  
 6' 10" Sand, very fine, with light gray to gray clay  
 10' 20" Clay, light gray to light brown, with very fine sand  
 20' 30" Clay, light gray to brown and blue interlayered, with very fine sand  
 30' 40" Clay, brown and chocolate brown interlayered, with traces of lignite  
 40' 44" Clay, light brown, with interbedded very fine sand  
 44' 50" Sand, very fine  
 50' 57" Sand, very fine, with white to gray clay and trace of lignite  
 57' 60" Clay, light brown to gray, with very fine sand  
 60' 70" Sand, very fine, with light brown to tan clay  
 70' 90" Silt, with interbedded, brown to light brown and gray clay, with trace of lignite  
 90' 100" Sand, very fine, w/light tan clay  
 100' 130" Sand, very fine, with light gray clay, and traces of lignite  
 130' 140" Sand, very fine, with traces of lignite  
 140' 150" Sand, very fine, with gray clay T. D.: 150'

### Drill Hole No. 78. Elevation 245'

Location: SW¼, Sec. 33, T. 12 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 9" Clay, kaolin, with iron staining  
 9' 10" Lignite, with chocolate brown clay, and very fine sand  
 10' 10½" Lignite  
 10½' 12" Clay, kaolin  
 12' 20" Sand, with mottled clay  
 20' 28" Clay, light blue gray  
 28' 30" Clay, chocolate brown, with traces of lignite and silt  
 30' 40" Clay, gray, with silt @ 38' siderite  
 40' 43" Clay, black to dark brown, very lignitic, with silt  
 43' 50" Clay, gray, with silt

50' 60" Sand, very fine, with pink to light tan clay  
 60' 73" Clay, brown to gray, with silt  
 73' 80" Clay, brown, with very fine sand and traces of lignite  
 80' 110" Clay, light brown to brown, interbedded with very fine sand @ 100'-110' traces of lignite  
 110' 120" Sand, very fine, with stringer of lignite at 117' - 118'  
 120' 124" Clay, white to light gray, with very fine sand  
 124' 140" Sand, very fine, with traces of lignite  
 140' 150" Sand, very fine to fine, with traces of lignite T. D.: 150'

### Drill Hole No. 79. Elevation 240'

Location: SE¼, Sec. 29, T. 12 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 10" Sand, very fine to fine, with red clay binder  
 10' 14" Clay, light gray to white, iron stained, with silt  
 14' 17½" Clay, gray, with very fine sand  
 17½' 20" Lignite, with chocolate brown clay, and silt  
 20' 26" Clay, gray, with fine sand  
 26' 30" Sand, fine  
 30' 39" Clay, brown, with silt  
 39' 40" Clay, gray, with silt  
 40' 55" Silt (?) T. D.: 55'

### Drill Hole No. 80. Elevation 250'

Location: NE¼, Sec. 30, T. 12 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 10" Clay, red to light gray, w/silt  
 10' 20" Clay, light gray, iron stained, with silt  
 20' 110" Clay, light gray @ 102' to 103' very fine sand  
 110' 120" Clay, gray, with silt  
 120' 150" Clay, gray T. D.: 150'

### Drill Hole No. 81a. Elevation 250'

Location: NW¼, Sec. 19, T. 12 S., R. 18 W. County, Ouachita

Logged by: D. W. Lumbert 3/77.

0' 10" Clay, kaolin T. D.: 10'

### Drill Hole No. 81b. Elevation 250'

Location: SE¼, Sec. 24, T. 12 S., R. 19 W. County, Ouachita

Logged by: Lonnie Gilbreath 4/77.

0' 6½' Clay, mottled, with silt  
 6½' 7' Sand, tan, very fine, with silt  
 7' 24" Clay, tan and light gray, with silt  
 24' 46" Clay, gray and yellow, with fine sand  
 46' 63" Silt, gray, with clay  
 63' 95" Sand, light gray to tan, very fine with silt  
 95' 106" Sand, light gray to tan, fine to medium, with silt  
 106' 107" Lignite  
 107' 127" Sand, light gray to tan, fine to medium, with gray clay from 117' 120'  
 127' 128" Lignite  
 128' 134" Clay, gray, with silt @ 134' lignite stringer  
 134' 140" Sand, light gray to tan, medium T. D.: 140'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 82.** Elevation 240'  
Location: NW¼, Sec. 13, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 3/77.

0'- 7' Sand, fine to very fine  
7'- 10' Sand, very fine, with white to tan clay  
10'- 20' Sand, medium, with red clay  
20'- 40' Sand, medium to fine  
40'- 60' Sand, fine to very fine  
50'- 60' Clay, gray, with fine sand  
60'- 70' Sand, medium to fine, slightly glauconitic  
70'- 80' Sand, medium to fine, with brown to gray clay  
80'- 100' Sand, fine to very fine @ 97' siderite  
100'-110' Sand, very fine to fine, interbedded with brown clay  
110'-127' Clay, brown, very glauconitic with fine sand  
127'-140' Sand, very fine, with brown glauconitic, micaceous clay  
140'-150' Clay, brown, glauconitic, micaceous interbedded with very fine sand  
T. D.: 150'

**Drill Hole No. 83.** Elevation 290'  
Location: NW¼, Sec. 11, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 3' Clay, white, with silt  
3'- 8' Sand, very fine, with silt  
8'- 10' Clay, white, with silt  
10'- 30' Sand, very fine, with red clay binder  
30'- 70' Sand, medium to fine @ 68' stringer of lignite, with gray clay and coarse sand  
70'- 85' Sand, medium to fine, with dark brown clay  
T. D.: 85'

**Drill Hole No. 84.** Elevation 270'  
Location: NW¼, Sec. 10, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 10' Sand, medium to fine, with red clay  
10'- 30' Sand, fine to very fine  
30'- 45' Sand, coarse to fine, w/gray clay  
45'- 50' Clay, gray, with fine sand  
50'- 63' Sand, coarse to medium  
63'- 66' Clay, brown, with coarse sand  
66'- 69' Sand, coarse to medium  
69'- 70' Siderite, with coarse to medium sand  
70'- 80' Sand, medium, with brown clay @ 73' siderite  
80'- 86' Sand, medium, with interbedded brown to tan clay  
86'- 90' Clay, brown to tan, with medium sand @ 86' siderite  
90'-100' Sand, medium to fine, with brown clay  
100'-110' Clay, brown, with fine to very fine sand  
110'-120' Clay, brown, with silt  
120'-150' Clay, brown, with silt and traces of lignite  
T. D.: 150'

**Drill Hole No. 85.** Elevation 327'  
Location: SW¼, Sec. 4, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 5' Clay, mottled, with silt

5'- 15' Clay, red to orange, with very fine sand  
15'- 20' Silt, with white clay, and trace of lignite  
20'- 30' Silt, with very fine sand @ 25' iron cemented sand  
30'- 60' Silt, with very fine sand, and tan clay  
60'- 70' Silt, with white clay  
70'- 84' Silt, with white to tan, iron stained clay  
84'- 90' Clay, gray to brown, with silt @ 84' ironstone concretions  
90'-106' Sand, fine to very fine, with glauconitic clay  
106'-110' Clay, chocolate brown, with interbedded fine to very fine sand and traces of lignite  
110'-120' Sand, very fine to fine, with interbedded chocolate brown clay  
120'-140' Sand, very fine to fine, with interbedded gray clay  
140'-150' Sand, very fine, with gray to brown clay  
T. D.: 150'

**Drill Hole No. 86.** Elevation 215'  
Location: NE¼, Sec. 5, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 10' Sand, fine, with light gray to white clay  
10'- 23' Sand, fine, with mottled clay  
23'- 30' Clay, brown to gray, w/traces of lignite and very fine sand  
30'- 35' Sand, fine  
35'- 40' Clay, gray to brown, with very fine sand  
40'- 48' Sand, very fine  
48'- 56' Clay, brown to gray, with very fine sand and traces of lignite  
56'- 60' Sand, very fine, with brown clay and trace of lignite  
60'- 77' Clay, brown, w/very fine sand  
77'- 85' Clay, light gray, w/very fine sand  
85'-120' Clay, brown, w/very fine sand  
120'-130' Clay, gray to brown, with very fine sand, @ 123' siderite  
130'-150' Sand, very fine, interbedded with brown clay  
T. D.: 150'

**Drill Hole No. 87.** Elevation 280'  
Location: NW¼, Sec. 31, T. 11 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 7' Clay, red to tan, with fine sand  
7'- 10' Clay, brown, with very fine sand  
10'- 37' Clay, brown, with silt  
37'- 40' Sand, very fine, with brown clay  
40'- 50' Clay, brown, slightly glauconitic with very fine sand @ 49½ siderite  
50'- 55' Clay, brown, slightly glauconitic interbedded with very fine sand and traces of lignite  
55'-110' Clay, brown, with silt  
110'-140' Sand, very fine, with interbedded brown clay @ 117' loose sand  
140'-150' Sand, very fine, with brown clay and trace of lignite  
T. D.: 150'

**Drill Hole No. 88.** Elevation 190'  
Location: NE¼, Sec. 25, T. 11 S., R. 20 W.  
County, Nevada  
Logged by: D. W. Lumbert 4/77.

0'- 10' Clay, gray, with silt

10'- 17' Clay, light gray to tan, with very fine sand  
17'- 26' Sand, very fine to fine, with light gray to gray clay  
26'- 28' Gravel, medium to pea-size  
28'- 30' Lignite  
T. D.: 30'

**Drill Hole No. 89.** Elevation 290'  
Location: SW¼, Sec. 28, T. 11 S., R. 19 W.  
County, Ouachita  
Logged by: D. W. Lumbert 4/77.

0'- 5' Sand, with red clay binder  
5'- 7' Sand, with white clay  
7'- 10' Clay, white to light gray, with very fine sand  
10'- 17' Clay, brown, with very fine sand  
17'- 20' Clay, dark gray, with silt and trace of lignite  
20'- 26' Clay, gray, carbonaceous, with traces of lignite and silt  
26'- 30' Clay, gray, with silt and interbedded very fine sand, containing stringers of lignite  
30'- 40' Clay, gray, with very fine sand  
40'- 50' Clay, gray, micaceous, with pyrite nodules and very fine sand  
50'- 57' Clay, gray, slightly glauconitic with siderite layers, and very fine sand  
57'- 60' Clay, brown, with very fine sand  
60'- 70' Sand, very fine, with brown clay, and trace of lignite  
70'- 80' Sand, very fine, with interbedded gray to brown, glauconitic clay, and traces of lignite  
80'- 90' Clay, chocolate brown, with very fine sand @ 86' lignite stringer  
90'-110' Clay, brown, interbedded with silt  
110'-116' Clay, brown, with silt and traces of lignite  
116'-135' Clay, brown, with interbedded silt  
135'-140' Silt, with brown clay  
140'-150' Clay, brown, with interbedded silt, slightly glauconitic  
T. D.: 150'

**Drill Hole No. 89a.** Elevation 505'  
Location: SE¼, Sec. 18, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: D. W. Lumbert 4/77.

0'- 12' Gravel, medium  
12'- 14' Sand, medium to fine  
14'- 18' Clay, white, with silt  
18'- 41' Clay, blue-gray to gray, with silt  
41'- 41½' Sand, very fine  
41½'- 45' Clay, chocolate brown, with very fine sand  
45'- 50' Clay, dark brown, very lignitic  
50'- 55' Lignite, with chocolate brown clay and very fine sand  
55'- 60' Clay, light gray, with silt  
60'- 61' Gravel, pea-size  
61'- 70' Clay, white kaolin  
70'- 84' Clay, gray, with silt  
84'-120' Clay, chocolate brown, with trace of lignite, and interbedded, very fine sand  
120'-130' Clay, light brown, with very fine sand  
130'-140' Sand, very fine, with light brown clay  
140'-150' Clay, gray, with very fine sand  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 90.** Elevation 420'  
 Location: SE ¼, Sec. 1, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: D. W. Lumbert 4/77

- 0' 5' Gravel
- 5' 7' Sandstone, iron cemented
- 7' 10' Lignite, w/gravel and gray clay
- 10' 20' Sand, fine, with gray clay, and traces of lignite
- 20' 30' Sand, fine, with brown clay, and large flakes of lignite, and pyrite nodules
- 30' 40' Clay, dark brown, fissile, w/very fine to fine sand, and lignite
- 40' 50' Sand, fine, with brown clay, and lignite
- 60' 70' Sand, very fine to fine
- 70' 100' Clay, white, kaolin, w/minor silt
- 100' 106' Clay, white, w/increasing silt
- 106' 110' Clay, chocolate brown, with lignite, and very fine sand
- 110' 115' Sand, very fine, with brown clay and lignite
- 115' 130' Clay, white, with silt @ 126' sand, very fine, with lignite
- 130' 140' Sand, very fine, with white to gray clay
- 140' 150' Sand, medium to very fine T. D.: 150'

**Drill Hole No. 91.** Elevation 333'  
 Location: NW ¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: D. W. Lumbert 4/77

- 0' 6' Clay, light gray to tan, with very fine sand
- 6' 8' Gravel
- 8' 9' Clay, orange, with very fine to fine sand
- 9' 10' Sand, fine
- 10' 16' Clay, light gray, with very fine sand
- 16' 20' Clay, gray to brown, with fine sand and trace of lignite
- 20' 27' Sand, very fine, with gray clay
- 27' 35' Clay, chocolate brown, with traces of lignite and very fine sand
- 35' 38' Clay, light brown, with very fine sand
- 38' 40' Sand, very fine, with light brown clay
- 40' 50' Sand, very fine, with traces of lignite
- 50' 60' Sand, very fine, with gray clay and traces of lignite
- 60' 61' Lignite, with dark brown clay and very fine sand
- 61' 64' Clay, chocolate brown, with very fine sand
- 64' 66' Clay, white, with silt
- 66' 68' Sand, very fine
- 68' 70' Clay, brown, with very fine sand and trace of lignite
- 70' 86' Sand, very fine
- 86' 90' Clay, chocolate brown, fissile, with lignite
- 90' 97' Clay, chocolate brown, very lignitic, with very fine sand
- 97' 127' Sand, very fine
- 127' 130' Siderite  
 T. D.: 130'

**Drill Hole No. 92.** Elevation 280'  
 Location: SW ¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: D. W. Lumbert 4/77

- 0' 10' Sand, very fine to fine, with white clay

- 10' 28' Sand, very fine
- 28' 30' Lignite, with very fine sand
- 30' 37' Clay, black, very lignitic, with very fine sand
- 37' 40' Sand, very fine
- 40' 60' Sand, very fine, with stringers of lignite @ 50' 60' also few stringers of gray clay
- 60' 70' Clay, black, lignitic, with very fine sand
- 70' 80' Clay, brown, interbedded with very fine sand
- 80' 92' Clay, white, with very fine sand
- 92' 102' Sand, very fine, with gray clay
- 102' 110' Clay, gray to brown, fissile, with very fine sand
- 110' 117' Sand, very fine
- 117' 120' Clay, gray to brown, with very fine sand
- 120' 127' Clay, gray, glauconitic, with very fine sand
- 127' 134' Sand, very fine
- 134' 150' Clay, gray, glauconitic, with very fine sand @ 147' siderite  
 Core interval 27' 31' 8"  
 35" inches of lignite for analysis  
 T. D.: 150'

**Drill Hole No. 93.** Elevation 342'  
 Location: SE ¼, Sec. 20, T. 3 S., R. 14 W.  
 County, Grant  
 Logged by: D. W. Lumbert 4/77

- 0' 7' Clay, white to tan, with silt
- 7' 10' Clay, white to tan, with fine to very fine sand
- 10' 16' Clay, tan, with very fine sand
- 16' 19' Sand, very fine
- 19' 20' Clay, white
- 20' 26' Clay, tan, with very fine sand
- 26' 30' Sand, fine
- 30' 36' Clay, white to light tan, with very fine sand
- 36' 40' Sand, very fine, with light tan clay
- 40' 84' Sand, very fine to fine @ 50' 60' minor gray clay
- 84' 85' Clay, light gray, with trace of lignite and very fine sand
- 85' 87' Lignite, with chocolate brown clay and very fine sand
- 87' 90' Clay, brown, with very fine sand
- 90' 100' Sand, very fine, with lignite stringers
- 100' 110' Clay, gray, with thin brown clay layers and traces of woody lignite, with very fine sand
- 110' 114' Clay, black, with lignite and very fine sand
- 114' 115' Clay, brown, to light brown, with very fine sand
- 115' 130' Sand, very fine, with brown clay
- 130' 135' Sand, very fine
- 135' 140' Clay, gray  
 T. D.: 140'

**Drill Hole No. 94.** Elevation 317'  
 Location: NE ¼, Sec. 11, T. 4 S., R. 14 W.  
 County, Grant  
 Logged by: J. M. Howard 5/77

- 0' 9' Clay, mottled, with fine sand
- 9' 14' Clay, tan, with fine sand
- 14' 20' Sand, fine, interbedded with mottled clay
- 20' 24' Sand, fine, tan
- 24' 28' Clay, gray
- 28' 34' Clay, green and brown interbedded
- 34' 37½' Clay, turquoise, interbedded

- with fine green, glauconitic sand and trace of lignite
- 37½' 44' Clay, gray to light gray
- 44' 45' Clay, cream
- 45' 50' Clay, gray and brown interbedded with fine sand and trace of lignite
- 50' 56' Clay, gray and brown interbedded
- 56' 64' Clay, turquoise and brown interbedded
- 64' 66' Clay, brown @ 66' siderite
- 66' 66½' Clay, dark brown, with 2" lignite stringer
- 66½' 70' Clay, gray
- 70' 75' Clay, turquoise and brown interbedded
- 75' 77½' Clay, light gray, with fine green glauconitic sand
- 77½' 81' Clay, light gray to green
- 81' 83' Clay, dark brown, with trace of lignite
- 83' 84' Clay, tan
- 84' 88' Clay, green
- 88' 90' Clay, gray to green, with silt
- 90' 99' Clay, gray
- 99' 100' Clay, cream
- 100' 102' Clay, light brown
- 102' 109' Clay, gray and brown, interbedded with trace of lignite
- 109' 114' Clay, turquoise
- 114' 116' Clay, greenish gray and brown interbedded
- 116' 120' Lignite, thin stringers and dark brown clay
- 120' 122' Clay, turquoise
- 122' 139' Clay, greenish gray, with silt
- 139' 145' Silt
- 145' 150' Clay, light brown  
 T. D.: 150'

**Drill Hole No. 95.** Elevation 350'  
 Location: NW ¼, Sec. 8, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: D. W. Lumbert 4/77

- 0' 10' Clay, light gray to tan, with very fine sand @ 9½' 10' traces of lignite
- 10' 20' Clay, gray, with traces of lignite and very fine sand
- 20' 30' Lignite, with dark brown clay and very fine sand
- 30' 34' Clay, chocolate brown, with very fine sand
- 34' 40' Clay, white to light gray, with interbedded very fine sand
- 40' 45' Lignite, with dark brown clay, and very fine sand
- 45' 50' Sand, very fine, with white to light gray clay
- 50' 54' Clay, white, with very fine sand
- 54' 60' Clay, gray, with very fine sand
- 60' 80' Clay, gray to light gray, glauconitic, with very fine sand
- 80' 85' Sand, very fine, with tan clay
- 85' 86' Siderite  
 Core interval 20' - 30'  
 Recovered: 9' Lost: 1'  
 20' 29' Lignite, with some chocolate brown clay partings  
 Core interval 40' - 50'  
 Recovered: 8' Lost: 2'  
 42' 44' Lignite  
 44' 45½' Sand, with lignite and some brown clay  
 45½' 50' Clay, light gray, with very fine sand  
 T. D.: 86'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 96.** Elevation 301'  
Location: SW¼, Sec. 13, T. 4 S., R. 14 W.  
County, Grant  
Logged by: J. M. Howard 5/77.

0'- 9' Clay, cream to tan, with fine sandy silt  
9'- 12' Clay, light to dark brown  
12'- 16' Lignite, soft  
16'- 17' Clay, dark brown  
17'- 19' Lignite, hard  
19'- 22' Clay, light brown  
22'- 25' Silt, gray, with gray clay  
25'- 32' Clay, gray, with silt  
32'- 34' Clay, gray green  
34'- 40' Clay, gray green, interbedded with medium to dark brown clay, and trace of lignite  
40'- 46½' Sand, gray, medium to fine, with trace of lignite  
46½'- 50' Clay, gray green  
50'- 61½' Clay, light green  
61½'- 64' Sand, fine, green, glauconitic  
64'- 70' Clay, light green  
70'- 72' Clay, light green and light brown interbedded  
72'- 87' Clay, green, with silt  
87'- 88' Clay, green, with fine green glauconitic sand  
88'-115' Sand, fine, green, glauconitic with silt  
@ 115' lignite stringer  
115'-117' Clay, dark green  
117'-139' Sand, fine, green, glauconitic, micaceous  
@ 139' siderite  
139'-150' Clay, green and light brown interbedded  
Core interval 10' 20'  
Recovered: Lost:  
4' 10" 5' 2"  
10' 8" 13' Clay, tan to brown  
13' 15' 6" Lignite clay  
T. D.: 150'

**Drill Hole No. 97a.** Elevation 260'  
Location: NW¼, Sec. 19, T. 4 S., R. 13 W.  
County, Grant  
Logged by: J. D. McFarland 5/77.

0'- 3½' Clay, gray to reddish brown  
3½'- 20' Clay, reddish brown, with fine to coarse sand  
T. D.: 20'

**Drill Hole No. 97b.** Elevation 260'  
Location: SE¼, Sec. 19, T. 4 S., R. 13 W.  
County, Grant  
Logged by: J. D. McFarland 5/77.

0'- 16' Clay, light gray to reddish brown, with very fine to medium sand  
16'- 22' Clay, with very fine to medium sand and few quartz pebbles @ 19' 21' gravel  
22'- 40' Clay, dark gray to gray and brown interbedded, with sand and silt, trace of lignite  
40'- 60' Clay, dark gray to gray and brown, with silt  
60'- 70' Clay, gray, with sand and few sand layers  
70'-107' Sand, very fine to medium, interbedded with clay @ 103½' red clay with sand  
107'-150' Clay, gray, interbedded with sand and red clay  
T. D.: 150'

**Drill Hole No. 98.** Elevation 270'  
Location: SW¼, Sec. 9, T. 17 S., R. 21 W.  
County, Columbia  
Logged by: B. F. Clardy 5/77.

0'- 20' Clay, light brown to buff, with silt  
20'- 30' Clay, gray to brown, with silt  
30'- 40' Clay, gray to green, glauconitic with silt  
40'- 60' Clay, gray, with silt  
60'- 65' Clay, gray to brown  
65'- 80' Clay, gray, with silt  
80'- 85' Clay, with very fine sand and trace of lignite  
85'- 125' Clay, gray, with silt and trace of lignite  
125'- 150' Silt, with gray clay, and very fine sand  
150'- 155' Clay, gray, with silt  
155'- 160' Clay, brown, lignitic  
160'- 180' Sand, very fine, with silt and brown clay and traces of lignite  
180'- 185' Clay, gray, with silt  
185'- 190' Clay, gray, with silt and siderite  
190'- 195' Clay, gray to brown, with trace of lignite  
195'- 199' Clay, gray  
@ 198'-199' siderite  
T. D.: 199'

**Drill Hole No. 99.** Elevation 310'  
Location: NW¼, Sec. 17, T. 17 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 15' Clay, red, with fine sand  
15'- 20' Clay, light gray to tan, with very fine sand  
20'- 45' Clay, light gray, with very fine to fine sand  
45'- 50' Clay, gray, interlayered with brown clay and very fine sand  
50'- 105' Clay, gray, glauconitic, with very fine sand  
@ 80' trace of lignite  
105'- 110' Clay, gray, glauconitic, with siderite and very fine sand  
110'- 150' Clay, gray to dark gray, with traces of lignite and very fine sand  
@ 120' siderite  
150'- 160' Clay, gray to dark gray, glauconitic, with very fine sand  
160'- 170' Clay, gray, and traces of lignite and very fine sand  
170'- 180' Clay, gray to green, glauconitic, with trace of lignite  
180'- 200' Clay, gray, glauconitic, with very fine sand and minor siderite  
T. D.: 200'

**Drill Hole No. 100.** Elevation 275'  
Location: NE¼, Sec. 19, T. 17 S., R. 21 W.  
County, Columbia  
Logged by: B. F. Clardy 5/77.

0'- 20' Sand, fine, red and buff, with light gray clay  
20'- 25' Clay, red and buff, with fine sand  
25'- 45' Clay, gray, with very fine sand and silt  
45'- 50' Clay, gray, with trace of lignite  
50'- 80' Silt, gray, with fine gray sand and gray clay  
80'- 95' Clay, gray, with silt, and traces of lignite  
95'- 115' Clay, gray to green, glauconitic with sand

115'-130' Clay, gray to green, with siderite and sand  
130'-150' Sand, gray, very fine, with siderite and traces of lignite  
150'-155' Clay, gray, with silt  
155'-160' Sand, gray, and siderite  
160'-165' Clay, gray, with sand  
165'-175' Sand, gray, with gray clay  
175'- 200' Clay, gray, with silt  
T. D.: 200'

**Drill Hole No. 101.** Elevation 290'  
Location: NE¼, Sec. 24, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 45' Sand, fine to very fine, with tan to red alternating clays  
45'- 50' Sand, very fine, with tan and gray alternating clays  
50'- 55' Clay, gray, with very fine sand  
55'- 75' Clay, dark gray to dark brown, with lignite and very fine sand  
75'-105' Clay, gray, glauconitic, with very fine sand  
105'-110' Clay, gray, glauconitic, with trace of lignite  
110'-115' Clay, brown, with trace of lignite and very fine sand  
115'-120' Clay, gray, with very fine sand  
120'-150' Clay, gray to brown, with very fine sand  
150'-160' Clay, brown, with trace of lignite  
160'-170' Sand, very fine, with gray clay and traces of lignite  
170'-180' Clay, gray, with very fine sand  
180'-190' Clay, gray, with iron concretions and very fine sand  
190'-198' Clay, gray, with silt  
T. D.: 198'

**Drill Hole No. 102.** Elevation 285'  
Location: NE¼, Sec. 24, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 35' Clay, tan to red, with very fine sand  
35'- 55' Clay, tan to white, with very fine sand  
@ 40'-42' Sand, very fine  
55'- 60' Clay, gray, with very fine sand  
60'- 70' Clay, gray to brown, lignitic with very fine sand and approximately 1' lignite  
70'- 90' Clay, gray, with very fine sand  
90'- 95' Clay, gray, with very fine sand  
95'-130' Clay, gray, minor glauconite, and very fine sand  
@115'-120' trace of lignite  
130'-140' Clay, gray and brown interbedded, and silt  
140'-150' Clay, brown, with silt  
150'-155' Clay, brown, with gray layers, and silt  
155'-160' Clay, gray, with very fine sand and trace of lignite  
160'-168' Clay, gray, glauconitic, with very fine sand  
168'-180' Sand, very fine, with thin lignite layers and brown to gray clay  
180'-185' Clay, gray, glauconitic, micaceous, with very fine sand @ 181' siderite  
185'-190' Sand, very fine, with gray clay  
190'-198' Clay, light gray to gray, glauconitic, micaceous, with very fine sand  
T. D. 198'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 103.** Elevation 290'  
Location: SE ¼, Sec. 24, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, very fine, with light gray clay  
10' 20' Clay, light gray, with tan iron stained, very fine sand @ 15' 20' increase in sand  
20' 25' Clay, light gray, with very fine sand  
25' 30' Clay, yellow, with very fine sand  
30' 35' Sand, very fine  
35' 40' Clay, very fine, with gray clay  
40' 50' Clay, gray to brown, micaceous with very fine sand  
50' 55' Clay, dark gray, micaceous, with very fine sand  
55' 65' Clay, gray to green, glauconitic with very fine sand @ 55' 60' trace of lignite  
65' 70' Sand, very fine, with glauconitic clay and siderite layers  
70' 80' Clay, gray, glauconitic, with very fine sand  
80' 90' Sand, very fine, with gray to green glauconitic clay @ 85' 90' trace of lignite  
90' 95' Sand, very fine, with gray clay  
95' 100' Clay, gray, glauconitic, with very fine sand  
100' 105' Clay, gray to brown, with trace of lignite and very fine sand  
105' 110' Clay, gray, interlayered with white clay and siderite layers  
110' 120' Sand, very fine, with gray glauconitic clay and siderite  
120' 130' Clay, gray, with very fine sand  
130' 140' Clay, gray to brown, with very fine sand  
140' 150' Clay, gray, with layers of lignitic clay and very fine sand  
150' 160' Sand, very fine, with gray to green and brown clay @ 155' 160' traces of lignite  
160' 170' Sand, with gray micaceous clay  
170' 180' Clay, gray, with very fine, slightly glauconitic sand @ 172' siderite  
180' 190' Clay, gray, glauconitic, with interbedded very fine sand traces of lignite in sand  
190' 198' Sand, very fine, with gray clay @ 195' 198' traces of lignite  
T. D.: 198'

**Drill Hole No. 104.** Elevation 280'  
Location: NE ¼, Sec. 26, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, fine, with light gray to tan clay  
10' 20' Sand, fine to very fine, w/light gray clay and iron concretions  
20' 25' Clay, gray to brown, iron stained, with very fine sand  
25' 30' Clay, chocolate brown, with very fine sand  
30' 40' Clay, gray, slightly glauconitic with trace of lignite and very fine sand  
40' 45' Clay, gray, interbedded with brown lignitic material and very fine sand  
45' 55' Clay, gray, glauconitic, with very fine sand @ 51' siderite  
55' 60' Clay, gray, glauconitic, with trace of lignite and very fine sand

60' 70' Clay, brown, glauconitic, with very fine sand @ 65' 70' trace of lignite  
70' 90' Clay, green to blue, very glauconitic, with silt and very fine sand @ 83' siderite  
90' 100' Clay, gray to green, with very fine sand  
100' 110' Sand, very fine, with gray to green clay, and traces of lignite  
110' 120' Sand, very fine, interbedded with gray to brown clay and traces of lignite  
120' 130' Clay, gray, slightly glauconitic with traces of lignite and very fine sand  
130' 140' Clay, gray, slightly glauconitic and very fine sand  
140' 150' Sand, w/gray, glauconitic clay  
150' 160' Clay, gray to green, and sand with traces of lignite  
160' 190' Clay, gray to green, with silt @ 171' siderite  
190' 200' Silt, with gray clay  
T. D.: 200'

**Drill Hole No. 105.** Elevation 280'  
Location: SE ¼, Sec. 26, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 20' Clay, tan to red, with very fine sand  
20' 30' Clay, light gray to tan, with very fine sand  
30' 50' Clay, gray, slightly glauconitic with very fine sand  
50' 65' Clay, gray, glauconitic, with very fine sand and siderite  
65' 95' Clay, gray to blue, with very fine sand increasing to 95'  
95' 100' Clay, gray, glauconitic, fissile, with fine sand  
100' 110' Clay, gray, glauconitic, with traces of lignite  
110' 130' Clay, gray, interbedded with sand  
130' 150' Sand, very fine, interbedded with gray to brown clay  
150' 160' Sand, with gray, glauconitic clay  
160' 170' Clay, gray, with very fine sand  
170' 175' Sand, very fine, with gray to green clay  
175' 200' Sand, very fine, interbedded with gray clay and traces of lignite  
T. D.: 200'

**Drill Hole No. 106.** Elevation 260'  
Location: SE ¼, Sec. 34, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 15' Sand, very fine to fine, with tan clay  
15' 28' Clay, light gray and brown interlayered, and very fine sand  
28' 30' Sand, very fine  
30' 40' Clay, gray, micaceous, with very fine sand  
40' 50' Clay, gray to brown, lignitic, with very fine sand  
50' 55' Clay, dark gray, with thin stringer of lignite, and very fine sand  
55' 75' Clay, gray, slightly glauconitic with very fine sand @ 75' siderite  
75' 90' Clay, dark gray to green, micaceous, with silt

90' 100' Clay, dark gray to green, with traces of siderite  
100' 110' Clay, glauconitic, with traces of lignite @ 110' siderite  
110' 120' Clay, dark gray to gray and green, with traces of lignite  
120' 125' Clay, gray, interlayered with chocolate brown, with lignite and very fine sand  
125' 130' Clay, gray, with very fine sand  
130' 140' Clay, blue-gray, with silt  
140' 150' Clay, gray, slightly glauconitic with very fine sand  
150' 160' Clay, gray, with very fine sand  
160' 170' Clay, blue-gray, with very fine sand and siderite  
170' 180' Clay, gray, glauconitic, with traces of lignite  
180' 190' Clay, gray, with silt  
190' 200' Clay, gray, glauconitic, with interbedded siderite  
T. D.: 200'

**Drill Hole 107.** Elevation 245'  
Location: NE ¼, Sec. 4, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Clay, light gray, iron stained with silt  
10' 20' Clay, light brown to brown, with iron concretions and very fine sand  
20' 25' Clay, gray, with very fine sand  
25' 30' Clay, dark gray, with fine to very fine sand  
30' 50' Clay, gray to dark gray, interlayered and very fine sand  
50' 80' Clay, gray, glauconitic, with very fine sand  
80' 90' Clay, gray @ 89' siderite  
90' 100' Clay, gray, with trace of lignite and interbedded siderite and very fine sand  
100' 115' Clay, gray, very glauconitic with layers of siderite  
115' 120' Sand, very fine, some iron cemented with gray clay  
120' 130' Clay, green to brown, with trace of lignite  
130' 140' Clay, gray to brown, with traces of lignite and very fine sand  
140' 145' Clay, gray, glauconitic, with very fine sand @ 145' iron cemented sand  
T. D.: 145'

**Drill Hole No. 108.** Elevation 225'  
Location: SE ¼, Sec. 5, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, fine, with red clay binder  
10' 40' Clay, tan to red, with very fine sand  
40' 50' Clay, red with gray layers, and very fine sand  
50' 60' Clay, blue-gray, with very fine sand  
60' 65' Sand, coarse, grading to pea gravel, with some gray clay  
65' 70' Clay, gray, with coarse sand  
70' 80' Clay, gray, carbonaceous, with very fine sand increasing to 80'  
80' 90' Clay, gray, with trace of lignite and very fine sand  
90' 100' Clay, gray, glauconitic with very fine sand  
100' 150' Clay, gray, glauconitic with very fine sand



ARKANSAS LIGNITE INVESTIGATIONS

@ 110' 115' trace of lignite  
 @ 115' 150' siderite layers  
 150'-165' Clay, gray, with very fine sand  
 165'-180' Clay, gray, decreasing glauconite with interbedded siderite and very fine sand  
 180'-190' Clay, gray, with very fine sand  
 190'-200' Clay, gray, with silt  
 T. D.: 200'

**Drill Hole No. 109.** Elevation 270'  
 Location: SW¼, Sec. 8, T. 18 S., R. 22 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, red to brown, with fine sand  
 10'- 40' Clay, brown  
 40'- 60' Clay, tan and brown interlayered with silt  
 60'- 65' Clay, light gray, with minor woody lignite, and very fine sand  
 65'- 75' Sand, coarse, with gravel and gray clay  
 75'- 95' Clay, gray, with traces of lignite and silt  
 95'-150' Clay, gray to light gray, glauconitic, with very fine sand and layers of siderite: minor trace of lignite  
 150'-160' Clay, gray, micaceous, with very fine sand  
 160'-180' Clay, gray, glauconitic, micaceous, w/fine to very fine sand  
 180'-200' Clay, gray, with silt  
 T. D.: 200'

**Drill Hole No 110.** Elevation 285'  
 Location: NW¼, Sec. 18, T. 18 S., R. 22 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, tan to light brown, w/silt  
 10'- 50' Clay, red to reddish brown, with silt  
 50'- 65' Clay, red to light tan, interlayered, and very fine sand  
 65'- 85' Sand, coarse, with minor pea gravel and red to gray clay  
 85'- 90' Clay, red to brown, with silt  
 90'-100' Clay, gray to dark gray, micaceous  
 100'-105' Clay, gray, and brown interlayered, and lignitic material and very fine sand  
 105'-115' Clay, gray, micaceous, with very fine sand  
 115'-120' Sand, fine, with iron concretions and gray clay  
 120'-175' Clay, gray, minor glauconite and silt  
 175'-185' Clay, gray, with traces of lignite and very fine sand  
 185'-200' Clay, gray to brown, micaceous, with very fine sand  
 T. D.: 200'

**Drill Hole 111.** Elevation 285'  
 Location: SW¼, Sec. 24, T. 18 S., R. 23 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 20' Clay, red, with fine to very fine sand  
 20'- 30' Sand, very fine, with red clay  
 30'- 35' Clay, red, with very fine sand  
 35'- 40' Sand, very fine, w/red to tan clay  
 40'- 50' Sand, very fine, with red clay and some carbonaceous material  
 50'- 60' Gravel, with red clay  
 60'- 70' Clay, gray, with very fine sand  
 70'- 80' Clay, gray, with limonite layers

80' 90' and very fine to fine sand  
 90' 100' Clay, gray, with very fine sand  
 100' 115' Clay, gray, with very fine sand and traces of lignitic material  
 115' 120' Clay, gray to brown, with traces of lignitic material  
 120' 130' Clay, gray, with very fine sand  
 130' 140' Clay, gray, glauconitic, with very fine sand  
 @125' 130' trace of lignite  
 140' 150' Sand, very fine, with gray clay and lignite flakes  
 150' 160' Clay, gray, glauconitic, micaceous, with traces of lignite and very fine sand  
 160' 175' Clay, gray and brown, interlayered: trace of lignite in brown clay and very fine sand  
 175' 180' Clay, gray, glauconitic, with very fine sand  
 180' 190' Sand, very fine, with gray glauconitic clay and traces of lignite  
 190'-200' Sand, very fine, interbedded with gray clay  
 Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 112.** Elevation 250'  
 Location: NE¼, Sec. 26, T. 18 S., R. 23 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 25' Clay, tan to red, with very fine sand  
 25' 30' Clay, light gray, with very fine sand  
 30' 35' Clay, gray, with silt  
 35' 40' Clay, light gray, glauconitic with very fine sand  
 40' 50' Clay, gray and tan interlayered and very fine sand  
 50' 60' Clay, gray, glauconitic, with very fine sand  
 60' 80' Clay, gray, with minor woody lignite and very fine sand  
 @ 78' 80' woody lignite  
 80' 90' Clay, with lignite flakes, and very fine sand  
 90' 95' Sand, very fine, with gray clay  
 95' 105' Clay, gray, glauconitic, with siderite layers and very fine sand  
 105' 110' Sand, with gray clay, and traces of lignite  
 110' 155' Clay, gray, glauconitic, with very fine sand  
 @ 145' siderite  
 @ 150' 155' traces of woody lignite  
 155' 160' Sand, very fine, with glauconitic clay and traces of woody lignite  
 160' 190' Clay, gray, with very fine sand @ 175' siderite  
 190' 200' Clay, gray, glauconitic, micaceous, with very fine sand  
 T. D.: 200'

**Drill Hole No. 113.** Elevation 250'  
 Location: SW¼, Sec. 35, T. 18 S., R. 23 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Clay, gray to brown, with very fine sand  
 10' 45' Clay, red to yellow, with very fine sand  
 45' 50' Clay, tan, with very fine sand  
 50' 70' Sand, coarse, with pea gravel  
 70' 85' Clay, gray, with very fine sand  
 85' 90' Sand, very fine, with gray clay and trace of lignite  
 90'-120' Clay, gray, glauconitic, with very fine sand  
 @ 100'-110' traces of lignite

120'-145' Clay, gray, glauconitic, micaceous, with traces of lignite and minor siderite  
 145'-150' Sand, very fine, with gray, glauconitic clay  
 150'-155' Clay, gray, glauconitic, with very fine sand  
 155'-160' Sand, very fine, with clay and interbedded siderite  
 160'-170' Clay, gray, glauconitic, with very fine sand  
 170'-180' Sand, very fine, with gray, glauconitic clay and siderite  
 180'-200' Clay, glauconitic, with siderite and very fine sand  
 T. D.: 200'

**Drill Hole No. 114.** Elevation 240'  
 Location: NE¼, Sec. 2, T. 19 S., R. 23 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, fine, with tan clay  
 10'- 20' Clay, tan, with very fine sand  
 20'- 55' Clay, red and tan interlayered, and very fine sand  
 55'- 60' Sand, coarse, with red to brown clay  
 60'- 90' Clay, gray, with very fine sand and minor glauconite  
 90'-100' Clay, gray, with trace of lignite  
 100'-120' Clay, gray, slightly glauconitic with very fine sand  
 120'-130' Clay, gray, glauconitic, with interbedded siderite, and very fine to fine sand  
 130'-150' Clay, green, very glauconitic with increasing stringers of siderite  
 150'-190' Clay, gray to green, with very fine, micaceous sand @ 165' siderite  
 @ 170'-180' trace of lignite  
 190'-200' Clay, gray, glauconitic, micaceous, with trace of lignite and fine sand  
 T. D.: 200'

**Drill Hole No. 115.** Elevation 250'  
 Location: NE¼, Sec. 14, T. 19 S., R. 22 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, fine, with tan to red clay  
 10'- 25' Clay, light gray and red interlayered, and very fine sand  
 25'- 30' Sand, very fine, with red clay  
 30'- 40' Sand, very fine to coarse, with minor red clay  
 40'- 50' Clay, red, w/coarse to fine sand  
 50'- 60' Clay, red, with very fine sand  
 60'- 80' Sand, with pea gravel, increasing to 80'  
 80'- 90' Clay, gray, glauconitic, with coarse sand  
 90'-100' Clay, gray, glauconitic, micaceous, with coarse to fine sand  
 100'-110' Sand, coarse, interbedded with gray clay  
 110'-130' Sand, coarse to fine, with gray glauconitic clay and trace of lignite  
 130'-150' Clay, gray, glauconitic, with fine sand; @ 139' siderite  
 150'-160' Clay, gray, with silt @ 158' sand, fine  
 160'-180' Clay, gray, glauconitic, with very fine sand; @ 174' siderite  
 180'-200' Clay, gray, glauconitic, micaceous, with very fine sand  
 T. D.: 200'

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• **Drill Hole No. 116.** Elevation 250'  
Location: NE ¼, Sec. 23, T. 19 S., R. 23 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 10' Clay, tan, with fine sand
- 10' 55' Clay, red, with tan layers, and very fine sand
- 55' 60' Clay, red with gray layers, and very fine sand
- 60' 65' Clay, tan, with gray layers and silt
- 65' 70' Clay, tan, with fine sand
- 70' 80' Sand, coarse to fine, with iron concretions and tan clay
- 80' 90' Sand, coarse to pea gravel, with gray clay
- 90' 95' Clay, gray, with fine sand
- 95' 100' Sand, fine to medium, with gray clay
- 100' 105' Clay, gray, slightly glauconitic with fine sand
- 105' 110' Sand, fine, with glauconitic clay
- 110' 140' Clay, gray, glauconitic, with very fine sand
- 140' 150' Sand, very fine to fine, with gray clay
- 150' 170' Clay, gray to green, glauconitic with stringers of siderite and very fine sand
- 170' 190' Clay, gray, glauconitic, with very fine sand
- 190' 200' Clay, gray, glauconitic, with siderite layers and very fine sand  
T. D.: 200'

**Drill Hole No. 117.** Elevation 250'  
Location: SE ¼, Sec. 26, T. 19 S., R. 23 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 20' Clay, red
- 20' 30' Clay, red to brown, with silt
- 30' 40' Sand, very fine, with red clay and iron concretions
- 40' 42' Clay, red, with fine sand
- 42' 65' Gravel, pea to medium size
- 65' 80' Clay, gray, glauconitic with very fine sand
- 80' 95' Clay, gray to green glauconitic with very fine sand
- 95' 100' Sand, fine cemented, with glauconite and green clay
- 100' 130' Clay, gray, glauconitic, with stringers of siderite and very fine sand
- 130' 140' Clay, brown with gray layers, and very fine sand
- 140' 190' Clay, gray to green, glauconitic, with very fine sand, some siderite
- 190' 200' Clay, gray, glauconitic, with interbedded siderite and very fine sand  
T. D.: 200'

**Drill Hole No. 118.** Elevation 270'  
Location: NE ¼, Sec. 2, T. 20 S., R. 23 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 25' Clay, red, with sand
- 25' 60' Sand, fine, with minor red clay
- 60' 80' Clay, red, with interbedded fine sand
- 80' 85' Sand, fine, with gray clay
- 85' 90' Gravel, with fine sand
- 90' 100' Sand, fine, with gray glauconitic clay
- 100' 120' Sand, very fine, with gray glauconitic clay and siderite

- 120' 135' Sand, fine, with interbedded gray clay and trace of lignite
- 135' 140' Clay, gray, with glauconitic very fine sand
- 140' 150' Clay, gray, with very fine sand
- 150' 160' Clay, gray, very glauconitic, with very fine sand
- 160' 170' Sand, very fine, with glauconitic clay
- 170' 180' Clay, gray to green, glauconitic with interbedded siderite and sand
- 180' 190' Clay, gray, with very fine sand
- 190' 200' Clay, gray, glauconitic, with very fine sand  
T. D.: 200'

**Drill Hole No. 119.** Elevation 240'  
Location: SE ¼, Sec. 12, T. 19 S., R. 23 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 20' Clay, red, with very fine sand
- 20' 25' Sand, coarse, with pea gravel
- 25' 45' Clay, red, with very fine sand
- 45' 50' Clay, tan, with very fine sand
- 50' 55' Clay, tan to brown, with very fine sand
- 55' 60' Sand, very fine, with tan clay
- 60' 65' Clay, tan, with very fine to fine sand
- 65' 75' Gravel
- 75' 80' Clay, gray, with lignite and very fine sand
- 80' 90' Sand, fine, with gray glauconitic clay
- 90' 100' Clay, gray, glauconitic, with very fine sand
- 100' 105' Clay, gray, with trace of lignite
- 105' 110' Clay, gray, with iron concretions, and very fine to fine sand
- 110' 140' Clay, green, glauconitic, with siderite layers, and very fine sand
- 140' 170' Clay, green, very glauconitic, with very fine sand and trace of lignite @ 155' siderite
- 170' 180' Clay, gray to brown, with very fine sand
- 180' 190' Clay, green, glauconitic, with very fine sand and interbedded siderite
- 190' 200' Clay, gray, glauconitic, with very fine sand  
T. D.: 200'

**Drill Hole No. 120.** Elevation 220'  
Location: NE ¼, Sec. 17, T. 19 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 20' Clay, tan to red, with fine sand
- 20' 100' Sand, fine, grading to coarse
- 100' 105' Clay, reddish brown, with fine sand
- 105' 200' Clay, gray, glauconitic, with fine sand  
T. D.: 200'

**Drill Hole No. 121.** Elevation 220'  
Location: NE ¼, Sec. 16, T. 19 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 10' Clay, light gray, with coarse sand
- 10' 30' Clay, gray to tan, with very fine sand
- 30' 40' Clay, light gray layered with brown, and very fine sand

- 40' 50' Sand, coarse, with pea gravel
- 50' 60' Clay, gray, with interbedded coarse sand
- 60' 75' Clay, gray, glauconitic, with fine sand
- 75' 95' Clay, gray to green, glauconitic with siderite layers and very fine sand
- 95' 100' Clay, gray, lignitic, with fine sand
- 100' 110' Clay, gray, glauconitic, with lignite traces
- 110' 150' Clay, gray to brown, with siderite layers, traces of lignite and very fine sand
- 150' 160' Clay, gray to green, with very fine sand, and interbedded very fine sand
- 160' 190' Clay, gray to green, glauconitic with interbedded siderite and very fine sand
- 190' 200' Clay, gray and brown interbedded, with siderite and very fine sand  
T. D.: 200'

**Drill Hole No. 122.** Elevation 241'  
Location: NE ¼, Sec. 9, T. 19 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 10' Clay, brown to red, with fine sand
- 10' 20' Clay, gray to light gray, with interlayered red and very fine sand
- 20' 30' Clay, gray to red, with traces of oxidized lignite
- 30' 70' Clay, reddish brown, with silt
- 70' 100' Clay, light brown with silt
- 100' 120' Clay, light brown and gray interlayered, and very fine sand
- 120' 130' Clay, gray, with very fine glauconitic sand
- 130' 135' Clay, gray, with lignite and interbedded very fine glauconitic sand
- 135' 150' Clay, gray, glauconitic, with very fine sand
- 150' 170' Clay, gray, with very fine sand
- 170' 180' Clay, gray, glauconitic, with traces of lignite and very fine sand
- 180' 190' Clay, gray, with traces of lignite
- 190' 200' Clay, gray, glauconitic, with very fine sand  
T. D.: 200'

**Drill Hole No. 123.** Elevation 252'  
Location: NW ¼, Sec. 3, T. 19 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

- 0' 10' Clay, red and light gray interlayered, and very fine sand
- 10' 30' Sand, fine to very fine, with red clay
- 30' 50' Clay, reddish brown, with silt
- 50' 70' Clay, light gray and reddish brown interlayered, and very fine sand
- 70' 75' Clay, gray, with very fine sand
- 75' 85' Gravel, pea with coarse sand
- 85' 115' Clay, gray, very glauconitic, with very fine sand
- 115' 120' Sand, fine, with traces of lignite and gray, glauconitic clay
- 120' 135' Clay, green, very glauconitic with very fine sand and siderite
- 135' 150' Clay, gray, glauconitic, with siderite

\*Electric logs available

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150'-160' Clay, gray, glauconitic, mica-  
ceous, with very fine sand  
160'-170' Clay, gray, glauconitic, with  
very fine sand  
170'-190' Clay, gray to green, very glau-  
conitic, with very fine sand  
190'-200' Clay, green, with layers of  
siderite and very fine sand  
T. D.: 200'

**Drill Hole No. 124.** Elevation 270'  
Location: NE¼, Sec. 34, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-20' Clay, tan, with layers of red,  
and very fine sand  
20'-30' Clay, light gray to tan, with  
very fine sand  
@ 25'-30' iron concretions  
30'-35' Clay, gray, with very fine sand  
35'-40' Clay, green, glauconitic, with  
very fine sand  
40'-55' Clay, gray, slightly glauconitic  
with very fine sand  
55'-75' Clay, gray, with trace of lignite  
and very fine sand  
@ 60'-75' glauconitic  
75'-80' Clay, gray, with lignite, and  
very fine sand  
80'-105' Clay, gray, slightly glauconitic  
with very fine sand  
105'-120' Clay, gray, with lignite, and  
very fine sand  
120'-150' Sand, very fine, with gray to  
green, glauconitic clay  
@ 120'-130' lignite stringers  
150'-160' Clay, gray, glauconitic, with  
traces of lignite and very fine  
sand  
160'-190' Sand, very fine, with gray  
glauconitic clay, and traces of  
lignite  
190'-200' Clay, gray, glauconitic, with  
very fine sand  
@ 191' siderite  
T. D.: 200'

**Drill Hole No. 125.** Elevation 288'  
Location: SE¼, Sec. 26, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Clay, red, with sand  
10'-20' Clay, light gray, with iron con-  
cretions and very fine sand  
20'-30' Clay, tan, with very fine sand  
@ 25'-30' iron concretions  
30'-45' Clay, light tan, with very fine  
sand  
45'-50' Clay, gray, with very fine sand  
50'-65' Clay, gray, slightly glauconitic,  
with very fine sand  
65'-75' Clay, gray, slightly glauconitic,  
with traces of lignite  
75'-100' Sand, very fine, with gray,  
glauconitic clay and interbedded  
siderite and trace of lignite  
100'-105' Clay, gray, with very fine sand  
105'-110' Sand, very fine, with traces of  
lignite and gray clay  
110'-130' Sand, very fine, with gray clay  
130'-185' Clay, gray, glauconitic, with  
very fine sand  
@ 145' increase in sand  
185'-200' Clay, gray, glauconitic, with  
interbedded very fine sand  
T. D.: 200'

**Drill Hole No. 126.** Elevation 280'  
Location: NE¼, Sec. 25, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, very fine, with gray to  
tan clay, and minor lignitic  
material  
10'-15' Clay, gray layered with tan,  
and very fine sand  
15'-20' Clay, white to light gray, with  
fine sand  
20'-25' Clay, tan, with minor iron stain  
and very fine sand  
25'-30' Clay, gray layered with tan, and  
iron concretions and very fine  
sand  
30'-40' Clay, gray, glauconitic  
40'-55' Clay, gray, glauconitic, with  
very fine sand  
@ 46' siderite  
55'-70' Clay, gray, glauconitic, with  
trace of lignite, and very fine  
sand  
@ 60'-70' siderite layers  
70'-110' Clay, gray, glauconitic, mica-  
ceous, with very fine sand  
110'-120' Clay, gray to green, with very  
fine sand  
120'-130' Clay, green, with very fine sand  
@ 125' siderite  
130'-160' Clay, gray, minor glauconite  
with very fine sand  
@ 140'-150' trace of lignite  
160'-170' Clay, gray to brown, with very  
fine sand and traces of lignite  
170'-180' Clay, gray, with very fine to fine  
sand  
180'-200' Clay, gray, with interbedded  
very fine sand  
T. D.: 200'

**Drill Hole No. 127.** Elevation 280'  
Location: SW¼, Sec. 19, T. 18 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-35' Sand, very fine, with red clay  
35'-50' Clay, red to tan, with very fine  
sand  
50'-60' Clay, tan, with fine to very fine  
sand  
60'-100' Clay, gray, with very fine sand  
@ 75'-80' trace of lignite  
@ 80'-100' glauconite  
100'-115' Clay, gray to brown, with very  
fine sand  
115'-150' Clay, gray, glauconitic, with  
very fine sand  
@ 120' decrease of glauconite;  
trace of lignite  
150'-165' Clay, gray, glauconitic, with  
thin beds of siderite and very  
fine sand  
165'-200' Sand, very fine, with inter-  
bedded clay and layers of  
siderite  
T. D.: 200'

**Drill Hole No. 128.** Elevation 280'  
Location: NE¼, Sec. 19, T. 18 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-15' Sand, fine, with red clay  
15'-25' Clay, tan to light tan, with  
very fine sand and iron con-  
cretions  
25'-50' Clay, light gray to gray, with  
very fine sand  
50'-70' Clay, gray, with very fine sand  
and silt  
70'-80' Sand, fine, with lignite

80'-90' Clay, gray, with traces of lignite  
90'-100' Clay, gray, glauconitic, with  
very fine sand  
100'-110' Clay, gray, with very fine sand  
110'-150' Clay, gray, glauconitic, with  
very fine sand  
@ 145' increase in sand  
150'-160' Clay, gray, with very fine sand  
and traces of lignite  
160'-180' Clay, gray, with interbedded  
very fine to fine sand  
@ 170'-180' minor glauconite  
180'-190' Clay, gray, slightly glauconitic  
with very fine sand and traces  
of lignite  
190'-200' Clay, gray, slightly glauconitic,  
micaceous, with very fine sand  
T. D.: 200'

\* **Drill Hole No. 129.** Elevation 300'  
Location: SE¼, Sec. 17, T. 18 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Clay, gray, with very fine sand  
and iron concretions  
10'-25' Clay, gray with tan layers,  
and very fine sand  
25'-75' Clay, gray, with very fine sand  
@ 65'-70' trace of lignite  
75'-85' Clay, gray, with lignite stringers  
and very fine sand  
85'-115' Clay, gray, slightly glauconitic  
with very fine sand  
115'-120' Clay, gray, glauconitic, with  
trace of lignite  
120'-130' Clay, gray, glauconitic, with  
some iron staining, and very  
fine sand  
130'-150' Sand, very fine, with thin  
interbedded gray clay, and trace  
of lignite  
150'-160' Clay, gray, with sand and  
trace of lignite  
160'-170' Sand, very fine, with gray,  
slightly micaceous clay, and  
trace of lignite  
170'-180' Clay, gray, with very fine sand  
180'-190' Clay, gray, with silt  
190'-200' Sand, very fine, with gray clay  
T. D.: 200'

**Drill Hole No. 130.** Elevation 235'  
Location: NE¼, Sec. 29, T. 18 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, very fine, with red clay  
10'-20' Clay, gray and red interlayered,  
and very fine sand  
20'-25' Clay, tan, with very fine sand  
25'-30' Clay, light gray to tan, with  
very fine sand  
30'-45' Clay, gray, with very fine sand  
45'-50' Clay, dark gray, with very fine  
sand  
50'-75' Clay, gray, slightly glauconitic  
with very fine sand  
75'-90' Sand, very fine, with gray clay  
and stringers of lignite  
90'-110' Clay, gray to dark gray, with  
very fine sand  
110'-125' Clay, gray, with silt and trace  
of lignite  
125'-130' Sand, very fine, glauconitic,  
with interbedded siderite  
130'-140' Clay, gray, glauconitic, mica-  
ceous, with trace of lignite  
140'-150' Clay, gray, micaceous, with  
very fine sand  
150'-155' Sand, very fine, with gray  
clay and traces of lignite  
155'-165' Clay, gray, with very fine sand

\*Electric logs available

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165' 180' Sand, very fine, with gray, glauconitic clay and traces of lignite  
 180' 195' Clay, gray to dark gray, micaceous, with silt  
 195' 200' Silt, with gray clay  
 T. D.: 200'

**Drill Hole No. 131.** Elevation 230'  
 Location: NE ¼, Sec. 32, T. 18 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 18' Sand, fine  
 18' 20' Clay, gray to tan, and very fine sand  
 20' 45' Clay, light gray, with very fine sand  
 45' 50' Clay, light gray to tan, with iron stain  
 50' 65' Clay, light gray, with very fine sand  
 @ 60' 65' trace of lignite  
 65' 70' Sand, very fine, with tan to red clay  
 70' 100' Clay, gray, glauconitic, with trace of lignite and very fine sand  
 @ 85' 95' increase in sand  
 100' 110' Sand, very fine, with gray clay and trace of lignite  
 110' 120' Clay, gray, with very fine sand and trace of lignite  
 120' 130' Clay, gray to brown, micaceous with very fine sand  
 130' 140' Clay, gray to dark gray and green, very glauconitic, micaceous with very fine sand  
 140' 150' Clay, gray to dark gray, with silt and trace of lignite  
 150' 180' Sand, very fine, interbedded with glauconitic clay and layers of siderite  
 180' 190' Sand, very fine, with gray glauconitic clay and trace of lignite  
 190' 200' Clay, gray, with silt  
 @ 190' siderite  
 T. D.: 200'

**Drill Hole No. 132.** Elevation 225'  
 Location: NW ¼, Sec. 5, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 15' Clay, light gray to light brown, with fine to medium sand  
 15' 35' Sand, coarse, grading to pea gravel  
 35' 40' Clay, gray, with coarse sand  
 40' 50' Clay, dark gray, with very fine sand  
 50' 70' Sand, fine to medium, green, with interbedded siderite  
 @ 55' 60' trace of lignite  
 70' 80' Clay, green, very glauconitic with very fine sand  
 80' 100' Clay, dark gray to green, with very fine sand and siderite layers  
 100' 120' Clay, dark green, micaceous, with very fine sand and siderite layers  
 120' 130' Clay, gray to dark gray, with very fine sand  
 130' 200' Clay, dark gray to green, with very fine sand  
 @ 130' 150' siderite layers  
 @ 160' 180' siderite layers  
 @ 190' 200' trace of lignite  
 T. D.: 200'

**Drill Hole No. 133.** Elevation 300'  
 Location: NW ¼, Sec. 8, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 30' Sand, fine, with interbedded red to tan clay  
 30' 50' Clay, gray, with very fine sand @ 40' increasing sand  
 50' 100' Clay, gray to dark gray, with very fine sand  
 100' 110' Sand, very fine with green clay and interbedded siderite  
 110' 120' Clay, gray, with trace of lignite  
 120' 160' Sand, very fine, with traces of lignite and minor gray to green glauconitic clay  
 @ 150' 160' siderite layers  
 160' 170' Sand, very fine, with brown clay and trace of lignite  
 170' 180' Clay, gray and brown interlayered, and very fine sand and traces of lignite  
 180' 200' Clay, brown, with traces of lignite  
 @ 190' 200' very fine sand  
 T. D.: 200'

**Drill Hole No. 134.** Elevation 300'  
 Location: NW ¼, Sec. 17, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 90' Sand, very fine, alternating with light gray clay  
 @ 50' 60' minor layers of tan clay  
 @ 60' 85' traces of lignite  
 90' 100' Clay, chocolate brown, with very fine sand and lignitic material  
 100' 105' Clay, chocolate brown to gray, with stringers of lignite and very fine sand  
 105' 110' Clay, gray, with very fine sand  
 110' 140' Clay, gray, slightly glauconitic, micaceous, with very fine sand  
 140' 160' Sand, very fine, with gray clay and traces of lignite  
 160' 180' Sand, very fine, with interbedded gray, glauconitic clay and traces of lignite  
 180' 200' Clay, gray, with lignite stringers and very fine sand  
 T. D.: 200'

\* **Drill Hole No. 135.** Elevation 290'  
 Location: SW ¼, Sec. 17, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Clay, light gray to light tan interlayered, w/very fine sand  
 10' 15' Clay, light gray, with silt  
 15' 20' Clay, light gray, iron stained with silt  
 20' 25' Clay, light gray and brown interlayered, and very fine sand  
 25' 35' Clay, chocolate brown, with very fine sand  
 @ 30' 35' traces of lignite  
 35' 50' Clay, gray, slightly glauconitic with interbedded very fine sand  
 50' 65' Clay, gray to dark gray, slightly glauconitic with very fine sand  
 65' 75' Clay, gray, glauconitic, with interbedded siderite and very fine sand  
 75' 85' Clay, brown and gray interbedded, and very fine sand  
 85' 90' Clay, chocolate brown, with traces of lignite and very fine sand

90' 100' Clay, chocolate brown and gray interlayered, and very fine sand  
 100' 120' Clay, greenish gray, with very fine sand  
 120' 135' Clay, gray, w/very fine, slightly micaceous sand  
 135' 160' Clay, gray, with very fine sand @ 135' 140' traces of lignite @ 150' 160' glauconite  
 160' 180' Sand, very fine, with gray glauconitic clay  
 @ 170' 180' traces of lignite  
 180' 200' Silt, with gray to green clay @ 192' siderite  
 T. D.: 200'

**Drill Hole No. 136.** Elevation 315'  
 Location: SW ¼, Sec. 20, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Sand, fine, with red clay  
 10' 25' Clay, light gray, with very fine sand  
 @ 15' 20' minor tan clay layers  
 25' 50' Sand, fine  
 50' 55' Sand, fine, with light tan clay  
 55' 100' Clay, gray to dark gray, with very fine sand  
 @ 80' 85' trace of lignite  
 @ 85' 100' thin stringers of lignite  
 100' 115' Clay, gray, slightly glauconitic, micaceous, with very fine sand  
 115' 130' Clay, gray, glauconitic, with very fine sand and trace of lignite  
 130' 135' Clay, gray to green, very glauconitic with very fine sand  
 135' 160' Clay, gray, with very fine sand  
 160' 200' Sand, very fine, with green to gray clay  
 @ 180' 190' traces of lignite  
 T. D.: 200'

**Drill Hole No. 137.** Elevation 250'  
 Location: SE ¼, Sec. 30, T. 19 S., R. 21 W. County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Sand, with red clay  
 10' 20' Clay, light brown, with very fine sand  
 20' 30' Clay, dark gray, with very fine sand  
 30' 45' Clay, greenish gray, with very fine sand  
 45' 60' Clay, dark gray, with very fine sand  
 60' 65' Clay, gray with thin brown layers, and very fine sand  
 65' 70' Clay, dark gray, with very fine sand  
 70' 90' Clay, bluish green, very glauconitic, with very fine sand @ 80' 90' siderite layers  
 90' 100' Clay, dark gray to green, with very fine sand  
 100' 120' Silt with dark gray to green clay  
 120' 130' Clay, gray to green, with silt  
 130' 140' Clay, gray to green, with interbedded very fine sand  
 140' 150' Clay, dark gray to green, with very fine sand  
 150' 160' Sand, very fine, with green clay and thin siderite layers  
 160' 200' Sand, very fine, with interbedded, gray, dark gray, and green, very glauconitic clay and thin siderite layers  
 T. D.: 200'

\*Electric logs available

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**Drill Hole No. 138.** Elevation 240'  
Location: SE ¼, Sec. 31, T. 19 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 15' Clay, tan to light gray, with very fine sand  
15'- 20' Clay, gray, with very fine sand  
20'- 40' Clay, greenish gray, with slightly glauconitic silt  
40'- 50' Clay, bright green, with very fine sand and interbedded siderite  
50'- 85' Sand, very fine to fine, alternating with gray to green clay  
85'- 90' Clay, green, with siderite layers  
90'-110' Clay, dark gray to green, with very fine sand  
110'-140' Clay, dark gray to green, glauconitic, with very fine sand @ 120' 140' decreasing glauconite  
140'-160' Clay, dark gray to gray, with very fine sand @ 150' 160' increasing glauconite and trace of lignite  
160'-170' Silt, with gray to green clay  
170'-180' Clay, dark gray to green, with very fine sand  
180'-200' Clay, gray, glauconitic, with silt @ 190' 200' increasing silt  
T. D.: 200'

**Drill Hole No. 139.** Elevation 238'  
Location: SE ¼, Sec. 6, T. 20 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 15' Clay, red to tan, with sand  
15'- 20' Sand, with siderite layers  
20'- 35' Clay, gray, with very fine sand  
35'- 40' Clay, black, micaceous, with very fine sand  
40'- 60' Clay, gray, glauconitic, with very fine sand @ 55'-60' siderite layers  
60'- 80' Clay, dark gray to green, with very fine micaceous sand  
80'- 85' Siderite  
T. D.: 85'

**Drill Hole No. 140.** Elevation 310'  
Location: SW ¼, Sec. 9, T. 18 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, light gray to tan, with very fine sand  
10'- 30' Clay, light gray to light brown, with very fine sand  
30'-105' Clay, light gray and tan interlayered, and very fine to fine sand @ 70' 90' trace of lignite @ 90' 100' trace of lignite and siderite  
105'-110' Silt, with gray, glauconitic, micaceous clay  
110'-120' Sand, very fine, with interbedded gray, glauconitic clay  
120'-150' Clay, gray, with very fine sand @ 145' 150' traces of lignite  
150'-165' Clay, gray, slightly glauconitic with very fine sand @ 162' siderite  
165'-170' Silt, with gray, glauconitic clay  
170'-200' Clay, gray, glauconitic, with interbedded very fine sand @ 170'-180' traces of lignite  
T. D.: 200'

**Drill Hole No. 141.** Elevation 285'  
Location: SW ¼, Sec. 9, T. 19 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 20' Clay, light gray, w/very fine sand  
20'- 40' Clay, gray, slightly glauconitic with very fine sand @ 35' 40' stringers of lignite  
40'- 50' Clay, gray, with thin stringers of lignite and very fine sand  
50'- 60' Clay, gray to green, glauconitic with silt  
60'- 70' Clay, gray, glauconitic, with very fine sand @ 65' siderite  
70'- 80' Clay, gray to green, with traces of lignite and very fine sand  
80'- 90' Clay, bluish green to gray, with very fine sand @ 85' 90' traces of lignite  
90'- 120' Clay, gray to green, with very fine sand  
120'- 130' Clay, gray with silt  
130'- 135' Clay, gray, with very fine glauconitic sand  
135'- 150' Sand, very fine, with green clay  
150'-170' Silt, with green to gray clay  
170'-190' Clay, gray to green, with interbedded very fine sand  
190'-200' Clay, gray, with silt  
T. D.: 200'

**Drill Hole No. 142.** Elevation 280'  
Location: NE ¼, Sec. 10, T. 19 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 30' Sand, fine, with minor tan clay  
30'- 35' Clay, light brown, with traces of lignite and very fine sand  
35'- 40' Sand, fine, with traces of lignite  
40'- 50' Sand, fine, with lignite stringers  
50'- 55' Clay, brown, with very fine sand and stringers of lignite  
55'- 60' Sand, fine, with interbedded brown clay and traces of lignite  
60'- 65' Clay, gray, with stringers of lignite and very fine sand  
65'- 85' Clay, gray, with very fine sand  
85'- 90' Sand, very fine, with gray clay  
90'- 100' Clay, gray, with very fine sand and trace of lignite  
100'- 115' Clay, gray, with silt  
115'- 120' Sand, very fine, with gray clay and trace of lignite  
120'- 150' Clay, gray, with interbedded very fine sand  
150'- 180' Sand, fine to very fine, with interbedded gray clay and traces of lignite  
180'- 200' Clay, gray, slightly glauconitic with very fine sand  
T. D.: 200'

**Drill Hole No. 143.** Elevation 290'  
Location: NE ¼, Sec. 11, T. 19 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, light gray to tan, iron stained with very fine sand  
10'- 70' Clay, gray to light gray, with very fine sand @ 40'-50' micaceous @ 50'-65' minor glauconite @ 65'-70' siderite layers  
70'- 80' Clay, gray to dark gray to green, with very fine micaceous sand  
80'- 100' Clay, gray to light gray, with very fine micaceous sand  
100'- 120' Clay, dark gray, micaceous, glauconitic, with very fine sand  
120'-130' Sand, very fine to fine, w/gray to

130'-145' green clay, and traces of lignite  
Clay, gray, glauconitic, with very fine sand  
145'-150' Sand, fine, with gray clay  
150'-170' Sand, fine, with interbedded gray clay and traces of lignite  
170'-180' Clay, gray, with silt  
180'-190' Clay, gray, slightly glauconitic with very fine sand  
190'-200' Clay, gray, glauconitic, with interbedded very fine sand and siderite  
T. D.: 200'

**Drill Hole No. 144.** Elevation 300'  
Location: NE ¼, Sec. 12, T. 19 S., R. 21 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, light gray to light brown, with very fine sand  
10'- 20' Clay, light gray, with very fine sand  
20'- 30' Clay, light brown, with very fine sand  
30'- 40' Clay, bluish gray, with very fine sand  
40'- 65' Clay, gray, slightly glauconitic with very fine sand  
65'- 75' Clay, gray to brown, with very fine sand  
75'- 90' Clay, gray to dark green, with very fine slightly micaceous sand  
90'-100' Clay, brown, with very fine sand  
100'-140' Clay, gray, glauconitic, micaceous, with very fine sand  
140'-150' Clay, bluish gray, with very fine sand  
150'-170' Clay, gray to bright green, with very fine sand @ 160'-170' siderite layers  
170'-190' Sand, fine, with green clay @ 180'-190' siderite layers  
190'-200' Clay, bright green, with interbedded very fine sand and siderite  
T. D.: 200'

**Drill Hole No. 145.** Elevation 290'  
Location: SE ¼, Sec. 8, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 15' Clay, light brown, with very fine sand  
15'- 20' Lignite  
20'- 35' Clay, light to chocolate brown, with very fine sand  
35'- 50' Clay, dark gray to gray, with very fine sand @ 35'-40' trace of lignite  
50'- 65' Clay, dark gray and dark brown interbedded, and very fine sand  
65'-100' Clay, gray, glauconitic, with very fine sand @ 70'-80' siderite layers  
100'-130' Clay, gray to green, with very fine micaceous sand  
130'-140' Sand, very fine, with gray clay and minor siderite  
140'-160' Clay, gray to greenish gray, with very fine sand  
160'-170' Sand, very fine, with green glauconitic clay  
170'-190' Silt, with green glauconitic clay and minor siderite  
190'-200' Clay, green, with silt  
Core interval 12'-20'  
Recovered: Lost:  
0' 8'  
12'-20' no lignite recovered; apparently from 12"-18" thick  
T. D.: 200'

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**Drill Hole No. 146.** Elevation 300'  
 Location: NE ¼, Sec. 17, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Clay, light gray, with very fine sand  
 10' 15' Clay, light gray to white, with very fine sand  
 15' 17' Clay, light gray to white and brown, with very fine sand  
 17' 25' Lignite, with chocolate brown clay and very fine sand  
 25' 30' Clay, gray, with traces of lignite and very fine sand  
 30' 50' Clay, gray to green, with very fine sand  
 50' 75' Clay, light gray to dark gray and green, micaceous, with very fine sand  
 @ 75' siderite  
 75' 90' Clay, dark gray to green, with very fine sand  
 90' 120' Clay, gray, micaceous, with very fine sand  
 120' 145' Clay, gray to dark gray, with very fine, slightly glauconitic sand  
 145' 150' Silt, with gray clay  
 150' 170' Clay, gray, with very fine sand @ 160' 170' micaceous  
 170' 190' Sand, very fine, with gray clay  
 190' 200' Silt, with gray clay  
 Core interval 20' 28'  
 Recovered: 3' Lost: 0'  
 20' 20' 5" lignite with clay  
 20' 5" 21' 4" lignite, soft  
 21' 4" 22' 4" lignite, hard  
 22' 4" 23' lignite, very argillaceous  
 23' 27' silt, brown, lignitic, with sand and clay  
 27' 28' sand, very fine, glauconitic, gray to green  
 T. D.: 200'

**Drill Hole No. 147.** Elevation 290'  
 Location: SW ¼, Sec. 17, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0' 10' Clay, light tan to light brown, with very fine sand  
 10' 20' Clay, light gray, with very fine sand  
 20' 25' Clay, brown, with very fine sand  
 25' 30' Lignite  
 30' 40' Clay, gray, slightly glauconitic, with very fine sand  
 40' 50' Clay, gray to brown, with very fine sand  
 50' 70' Clay, gray, slightly glauconitic with very fine sand  
 @ 66' siderite  
 70' 80' Clay, gray to brown, slightly glauconitic, with very fine sand and siderite layers  
 80' 110' Clay, gray to green to brown, with very fine sand  
 110' 140' Clay, gray, with very fine sand @ 110' 120' micaceous  
 140' 150' Sand, very fine, with gray slightly glauconitic clay  
 150' 170' Silt, with gray, slightly glauconitic clay  
 170' 180' Clay, gray, slightly glauconitic with silt  
 180' 190' Silt, with interbedded gray clay  
 190' 200' Clay, gray, with interbedded very fine sand

Core interval 27' 30'  
 Recovered: 3' Lost: 0'  
 27' 28' lignite, silty  
 28' 29' 1" lignite, hard  
 29' 1" 30' silt, with few lignite stringers  
 T. D.: 200'

**Drill Hole No. Special 1.** Elevation 315'  
 Location: SE ¼, Sec. 9, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: J. M. Howard 5/77.

0' 6' Sand, very fine, with mottled silt  
 6' 17' Sand, very fine, with gray silt and minor gray clay layers  
 17' 27' Sand, very fine, with silt and light brownish gray clay  
 27' 36 ½" Clay, brown  
 36 ½" 45 ½" Clay, gray, with silt and fine sand  
 45 ½" 47' Lignite  
 47' 48 ½" Clay, dark brown  
 48 ½" 51' Clay, gray, with silt and fine sand  
 51' 58' Clay, dark brown, lignitic  
 58' 60' Clay, gray and light brown interlayered  
 60' 64' Clay, brown, lignitic  
 64' 68' Sand, tan, fine, with silt  
 68' 88' Clay, brown, lignitic, with very fine sand  
 88' 100' Clay, brown, with slightly glauconitic fine sand  
 100' 112' Sand, tan, fine, with silt  
 112' 125' Clay, gray, with fine sand and glauconite and trace of lignite  
 125' 129' Sand, fine, glauconitic, with greenish gray clay and trace of lignite  
 129' 148' Clay, gray, with very fine sand and glauconite  
 @ 148' siderite  
 T. D.: 148'

**Drill Hole No. Special 2.** Elevation 302'  
 Location: NE ¼, Sec. 10, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: J. M. Howard 5/77.

0' 5' Sand, very fine, with mottled silt  
 5' 9' Clay, tan, with very fine sand  
 9' 14' Clay, light brown, with fine sand  
 @ 12' 14' trace of lignite in clay  
 14' 16' Sand, fine to very fine, tan, with silt and trace of lignite  
 16' 19' Clay, gray, lignitic, with very fine sand  
 19' 22 ½" Sand, fine, tan, with trace of lignite  
 22 ½" 34' Clay, gray, with silt  
 34' 36' Clay, dark brown  
 @ 35' 35 ½" lignite  
 36' 45' Clay, dark brown, lignitic  
 45' 48' Clay, dark brown, with very fine sand and trace of lignite  
 48' 50' Sand, fine, gray, with brown clay  
 50' 77' Sand, fine, gray, with few lignitic silt and clay stringers  
 @ 74' lignite stringer  
 77' 85' Clay, gray, with silt  
 85' 88 ½" Clay, gray, with sand and trace of lignite  
 88 ½" 89' Siderite  
 89' 106' Silt, gray, with very fine micaceous sand  
 @ 100' 106' trace of lignite

106' 116' Clay, gray, with silt and fine sand  
 @ 116' siderite  
 116' 120' Clay, gray, with silt and very fine sand  
 120' 126' Silt, grayish brown, lignitic, micaceous, with fine gray sand  
 126' 140' Clay, gray, with silt and fine sand  
 @ 130' 140' trace of lignite  
 140' 144' Clay, gray, with silt  
 144' 147' Clay, brown  
 147' 150' Silt, gray, with fine sand  
 T. D.: 150'

**Drill Hole No. Special 3.** Elevation 315'  
 Location: NE ¼, Sec. 11, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: J. M. Howard 5/77.

0' 6' Silt, mottled, with clay and fine sand  
 6' 16' Sand, fine, tan, with silt  
 16' 23' Clay, light brown, with trace of lignite  
 23' 25' Clay, gray  
 25' 28' Clay, brown  
 28' 30' Lignite  
 30' 34' Lignite, with thin interbeds of dark brown clay  
 34' 40' Sand, fine, tan, with silt and clay  
 40' 49' Sand, fine, gray, with silt  
 49' 66' Clay, gray, with very fine sand and silt  
 @ 60' 65' traces of lignite  
 66' 68' Sand, fine, gray, with trace of lignite  
 68' 83' Clay, gray, with silt and very fine sand  
 @ 80' 83' trace of glauconite  
 @ 83' siderite  
 83' 90' Clay, gray, with fine sand and glauconite  
 90' 100' Clay, brown, with silt and fine sand  
 100' 105' Silt, brown, with very fine sand  
 105' 110' Clay, gray, with silt and very fine sand  
 110' 120' Silt, gray, with very fine sand and clay  
 120' 137' Clay, gray, with silt  
 @ 137' siderite  
 137' 143' Sand, very fine, gray with silt  
 143' 147' Clay, gray, with silt and very fine sand  
 @ 147' siderite  
 Core interval 27' 35' 5"  
 Recovered: 8' 5" Lost: 0'  
 27' 28' clay, dark brown to chocolate brown, micaceous, lignitic, with very fine sand  
 28' 30' lignite, friable  
 30' 30' 8" lignite, hard, very compact  
 30' 8" 35' 5" lignite, hard, slightly friable  
 T. D.: 147'

**Drill Hole No. Atlanta 1.** Elevation 310'  
 Location: SE ¼, Sec. 9, T. 19 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 6/77.

0' 10' Sand, fine to very fine, with brown to light brown clay  
 10' 15' Clay, light tan to brown, with very fine sand  
 15' 20' Clay, light tan to brown, with red clay and iron stained very fine sand

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20'- 30' Clay, gray, with very fine sand and trace of carbonaceous material, silt, mica  
 30'- 35' Clay, brown to gray, with very fine sand, silt, mica and interbedded sand  
 35'- 40' Clay, gray to brown, with very fine to fine sand, mica  
 40'- 55' Clay, gray, with interbedded sand, very fine, silt, mica  
 55'- 58' Clay, gray, with lignite stringer and interbedded sand  
 58'- 60' Clay, gray, with very fine sand, silt, mica and trace of lignite  
 60'- 70' Sand, very fine to fine, hard packed, with clay, gray, silt and mica  
 70'- 77' Clay, gray, with interbedded sand and lignite  
 77'- 80' Lignite  
 80'- 83' Lignite, with sand and clay  
 83'-100' Sand, very fine, with trace of lignite  
 100'-108' Sand, very fine, with silt  
 108'-130' Clay, brown, with very fine sand, silt and mica  
 130'-135' Clay, brown, with some very fine sand and lignite stringers  
 135'-140' Clay, brown, with very fine sand  
 140'-150' Clay, dark brown, lignitic, with very fine sand and lignite stringers  
 Core Interval 76'-86'  
 Recovered: 5'                      Lost: 5'

76'-80'2" lignite, fairly hard, compact and friable, some conchoidal fracture, usually no visible sign between hard and softer portions, although top portion is more compact  
 80'2"-81' sand, very fine to fine, with slightly micaceous brown clay  
 81'-86' washed out drilled like sand  
 T. D.: 150'

**Drill Hole No. Atlanta 2.** Elevation 290'  
 Location: SE¼, Sec. 9, T. 19 S., R. 19 W. County, Columbia  
 Logged by: G. L. Delavan                      6/77.

0'- 10' Clay, light tan to brown, with very fine sand  
 10'- 20' Clay, tan to white, with very fine sand, silt and mica  
 20'- 30' Sand, fine, with clay, light tan to brown  
 30'- 40' Sand, fine, with interbedded clay, light tan, and iron concretions  
 40'- 50' Sand, fine, with clay, chocolate brown, with iron concretions and trace of lignite  
 50'- 60' Sand, fine, with clay, light gray, and iron concretions  
 60'- 70' Sand, fine, with clay binder, gray, and trace of lignite  
 70'- 75' Sand, fine, trace of lignite  
 T. D.: 75'

**Drill Hole No. 148.** Elevation 293'  
 Location: NW¼, Sec. 20, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert                      5/77.

0'- 20' Clay, light gray to tan, with very fine sand  
 20'- 30' Clay, gray, with very fine sand  
 30'- 40' Clay, gray to brown, with very fine sand

40'- 45' Lignite  
 45'- 50' Clay, chocolate brown, with lignite and very fine sand  
 50'- 55' Sand, very fine, with clay, brown  
 55'- 70' Clay, gray, slightly glauconitic, with very fine sand  
 70'- 80' Clay, gray, carbonaceous, with trace of lignite and very fine sand  
 80'-100' Clay, gray to brown layers, with very fine sand  
 100'-120' Clay, gray to green, with very fine sand interbedded @ 115'-120' siderite  
 120'-165' Clay, gray, slightly glauconitic, micaceous, with very fine sand @ 150'-165' interbedded siderite  
 165'-170' Sand, very fine, clay, gray  
 170'-175' Clay, gray, with very fine sand  
 175'-180' Sand, very fine, with clay, gray  
 180'-200' Silt, with interbedded clay, gray, slightly glauconitic  
 Core interval 37'-45'  
 Recovered: 2'7"                      Lost: 5'5"  
 30" lignite recovered, possibly from more than one bed separated by sand. Core showed no interbedded sand, but driller thought sand may have washed. 1" sand at base of core barrel  
 T. D.: 200'

**Drill Hole No. 149.** Elevation 270'  
 Location: SE¼, Sec. 19, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert                      5/77.

0'- 10' Clay, light gray to tan, with very fine sand  
 10'- 25' Clay, chocolate brown, with very fine sand  
 25'- 30' Silt, with clay, brown, and trace of lignite  
 30'- 35' Clay, brown, with very fine sand  
 35'- 40' Silt, with minor clay, brown  
 40'- 50' Sand, fine to very fine, with lignite  
 50'- 60' Sand, fine  
 60'- 70' Sand, fine, with stringers of lignite  
 70'- 80' Sand, very fine, with silt  
 80'-100' Clay, gray to brown, with very fine sand  
 100'-115' Clay, gray, slightly glauconitic with very fine sand  
 115'-120' Sand, very fine, with clay, gray, and trace of lignite  
 120'-130' Clay, gray, with very fine sand  
 130'-150' Clay, brown to dark brown, with trace of lignite and very fine sand  
 150'-160' Clay, light brown, with sand, very fine  
 160'-170' Clay, gray, with very fine sand  
 170'-180' Clay, layered gray to brown, with traces of lignite and very fine sand  
 180'-190' Clay, brown, w/very fine sand  
 190'-200' Clay, brown, with interbedded sand, very fine, and trace of lignite and sand  
 T. D.: 200'

**Drill Hole No. 150.** Elevation 280'  
 Location: NE¼, Sec. 30, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert                      5/77.

0'- 10' Sand, fine, with clay, white to light gray

10'- 15' Gravel  
 15'- 50' Clay, gray, with very fine sand  
 50'- 75' Clay, gray, slightly glauconitic with very fine sand  
 75'- 90' Sand, very fine, silt, w/clay, gray  
 90'-110' Clay, gray, with very fine sand @ 100'-110' trace of lignite  
 110'-180' Clay, gray, with carbonaceous layers and very fine sand @ 120'-180' trace of lignite  
 180'-190' Clay, gray, micaceous, with very fine sand  
 190'-200' Clay, gray to brown, micaceous with very fine sand  
 T. D.: 200'

**Drill Hole No. 151.** Elevation 320'  
 Location: NE¼, Sec. 8, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert                      5/77.

0'- 10' Clay, gray to tan, with very fine to fine sand  
 10'- 20' Clay, light gray, interbedded with clay, chocolate brown, and very fine sand  
 20'- 30' Clay, gray, with layers of brown, and very fine sand  
 30'- 70' Clay, gray, with very fine sand @ 50'-60' micaceous @ 60'-70' minor glauconite  
 70'- 80' Clay, gray, with silt  
 80'- 90' Clay, gray, slightly glauconitic with very fine sand  
 90'-100' Clay, greenish gray, with silt  
 100'-150' Clay, gray, with very fine sand, slightly glauconitic, and silt interbedded with clay, gray to green @ 120'-125' minor glauconite  
 150'-190' Clay, gray, slightly glauconitic, w/very fine sand, micaceous, and silt, interbedded with gray clay  
 190'-200' Clay, gray, with interbedded silt and siderite  
 T. D.: 200'

**Drill Hole No. 152.** Elevation 290'  
 Location: NE¼, Sec. 11, T. 19 S., R. 20 W. County, Columbia  
 Logged by: D. W. Lumbert                      5/77.

0'- 10' Sand, fine, with clay, light gray to white  
 10'- 20' Clay, brown, with fine sand  
 20'- 30' Clay, gray to brown, with very fine sand  
 30'- 40' Clay, gray, with very fine sand  
 40'- 50' Clay, slightly glauconitic, with very fine sand @ 48' less than 1' siderite  
 50'- 70' Clay, gray, slightly micaceous with very fine sand  
 70'- 90' Clay, gray, glauconitic, with very fine sand  
 90'- 120' Clay, gray, slightly glauconitic with very fine sand @ 100'-120' minor glauconite  
 120'-140' Clay, gray with brown layers @ 128' less than 1' siderite  
 140'-155' Clay, gray, with very fine sand  
 155'-160' Silt, with very fine sand and gray clay  
 160'-165' Clay, gray, with very fine sand  
 165'-170' Silt, with clay, gray, micaceous  
 170'-200' Clay, gray, with silt and very fine sand @ 180'-190' micaceous @ 190'-200' slightly glauconitic and trace of siderite  
 T. D.: 200'

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**Drill Hole No. 153.** Elevation 323'  
Location: SE ¼, Sec. 16, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Clay, light gray, with fine sand  
10' 15' Clay, bluish gray, with very fine sand  
15' 20' Clay, brown, with very fine sand  
20' 30' Clay, light blue to gray, with very fine sand  
30' 100' Clay, gray, w/fine sand and silt  
@ 50' 60' minor green clay  
@ 70' 90' minor glauconite  
@ 80' 100' trace of lignite  
100' 200' Clay, gray, glauconitic, with very fine sand and silt  
@ 117' less than 1' siderite  
@ 130' 140' micaceous sand  
T. D.: 200'

**Drill Hole No. 154.** Elevation 320'  
Location: NW ¼, Sec. 15, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77

0' 10' Clay, light gray to white, with very fine sand  
10' 25' Clay, light gray to gray, with very fine sand  
25' 30' Clay, gray, with interbedded sand, very fine to fine  
30' 67' Clay, gray, with very fine sand  
@ 40' 50' trace of lignite  
@ 50' 67' fine sand increase  
67' 69' Lignite  
69' 100' Clay, gray, carbonaceous, with very fine sand  
100' 130' Clay, gray, slightly glauconitic, micaceous, with very fine sand  
130' 135' Sand, very fine to fine, with clay, gray  
135' 200' Clay, gray, with very fine sand  
@ 150' 200' minor glauconite  
@ 170' 180' siderite layers  
T. D.: 200'

**Drill Hole No. 155.** Elevation 330'  
Location: NE ¼, Sec. 15, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 60' Clay, light gray to gray, with very fine sand  
@ 30' 60' minor mica in sand  
60' 70' Clay, gray, with interbedded brown clay, and very fine sand  
70' 80' Lignite bearing section  
80' 85' Clay, chocolate brown, with very fine sand  
85' 90' Clay, chocolate brown, with thin stringers of lignite and very fine sand  
90' 100' Clay, gray to brown, with very fine sand  
100' 120' Clay, gray, with very fine sand  
120' 150' Clay, gray, micaceous, carbonaceous, with very fine sand  
150' 160' Silt, with clay, gray, and trace of lignite  
160' 180' Clay, gray, with very fine sand, slightly micaceous  
180' 190' Clay, gray and brown interbedded, and very fine sand  
190' 200' Clay, gray, slightly glauconitic, with very fine sand and traces of siderite  
T. D.: 200'

**Drill Hole No. 156.** Elevation 350'  
Location: NE ¼, Sec. 14, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, very fine  
10' 35' Clay, light gray to gray, with very fine sand  
35' 40' Lignite bearing section  
40' 45' Clay, brown, w/very fine sand  
45' 50' Clay, brown, carbonaceous, with very fine sand  
50' 55' Clay, chocolate brown, with very fine sand  
55' 70' Clay, gray, with very fine sand  
70' 100' Clay, brown, micaceous, with very fine sand  
100' 110' Lignite, with very fine sand, and clay, brown  
110' 120' Sand, very fine, with traces of lignite  
120' 150' Clay, gray to brown, with interbedded very fine sand and trace of lignite  
150' 160' Sand, very fine, with clay, gray to brown  
160' 190' Clay, gray to brown, with interbedded very fine sand  
190' 200' Silt, with clay, brown  
T. D.: 200'

**Drill Hole No. 157.** Not drilled.

**Drill Hole No. 158.** Elevation 320'  
Location: SE ¼, Sec. 1, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, fine, with clay, white  
10' 20' Clay, white, with silt  
20' 33' Clay, light gray to gray, w/silt  
33' 40' Lignite bearing section  
40' 50' Sand, very fine, w/clay, chocolate brown, and traces of lignite  
50' 60' Sand, very fine, with clay, gray to brown, and trace of lignite  
60' 70' Clay, gray, micaceous, with very fine sand  
70' 80' Clay, gray w/brown interbedded layers, and very fine sand  
80' 90' Clay, brown, slightly glauconitic w/very fine sand and traces of siderite  
90' 120' Clay, gray to brown, with very fine sand  
120' 130' Clay, gray to brown, with increasing very fine sand  
130' 140' Clay, gray, with very fine sand  
140' 150' Clay, bluish gray, w/very fine sand  
150' 190' Clay, brown, w/very fine sand  
@ 160' 190' minor mica & sand  
190' 200' Clay, bluish gray, with very fine sand  
Core interval 27' 32'  
Recovered: 5' Lost: 0'  
27' 31'6" friable lignite  
31'6" 31'8" sand, lignitic  
31'8" 32' lignite, sandy  
61" total core  
59" saved for analysis  
T. D.: 200'

**Drill Hole No. 159.** Elevation 320'  
Location: NE ¼, Sec. 6, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Clay, red with sand  
10' 25' Sand, very fine to fine, with clay, light gray to white  
25' 30' Sand, fine, with clay, chocolate

brown, and trace of lignite  
30' 35' Lignite with clay, chocolate brown, and very fine sand  
35' 65' Clay, gray, with very fine sand @ 50' 65' minor carbonaceous material  
65' 70' Clay, gray, with stringers of lignite, and very fine sand  
70' 80' Clay, gray, with trace of lignite and very fine sand  
80' 90' Clay, gray, with very fine sand  
90' 100' Clay, gray to olive green, with very fine sand  
100' 110' Clay, gray, with bright green glauconite and very fine sand @ 102' siderite  
110' 120' Clay, gray, slightly glauconitic with increasing very fine sand  
120' 140' Clay, gray, glauconitic with interbedded siderite and very fine sand  
140' 150' Clay, gray, with increasing sand, very fine  
150' 170' Clay, gray, slightly glauconitic with very fine sand  
170' 180' Sand, very fine, with clay, gray  
180' 200' Clay, gray, slightly micaceous, with very fine sand  
Core interval 36'4"-40'3"  
Recovered: 3'11" Lost: 0'  
36'4"-40'3" hard lignite, with conchoidal fracture  
47" saved for analysis  
T. D.: 200'

**Drill Hole No. 160.** Elevation 310'  
Location: NE ¼, Sec. 5, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0' 10' Sand, fine, with clay, red  
10' 20' Sand, fine to very fine, with clay, white to light gray  
20' 30' Sand, fine to very fine, with iron stained, white clay  
30' 36' Sand, very fine, with clay, gray and trace of lignite  
36' 40' Lignite  
40' 50' Sand, very fine, clay, gray, trace of lignite  
50' 70' Clay, gray to brown, with very fine sand  
@ 60'-70' slightly micaceous  
70' 80' Clay, bluish gray, with silt, micaceous  
80' 90' Clay, gray, with very fine sand, slightly micaceous  
90' 100' Clay, gray to brown, slightly glauconitic, with very fine sand @ 90' siderite 1'  
100' 130' Clay, bluish gray, with very fine sand  
@ 120' 130' increased glauconite and siderite layers  
130' 140' Clay, bluish gray, with very fine sand, slightly micaceous  
140' 150' Clay, gray, with interbedded very fine sand and siderite layers  
150' 170' Clay, gray, with very fine sand, slightly micaceous  
@ 160'-170' increasing very fine sand  
170' 200' Clay, gray, with very fine sand @ 190'-200' slightly micaceous  
Core interval 34'-37'10"  
Recovered: 3'10" Lost: 0'  
34' 37'10" hard lignite  
43" saved for analysis  
T. D.: 200'

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 161.** Elevation 290'  
Location: NW¼, Sec. 4, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, medium to coarse  
10'- 30' Clay, light brown, with very fine sand  
30'- 40' Clay, chocolate brown, with very fine sand  
40'- 50' Sand, very fine, with brown clay and lignite stringers  
50'- 65' Clay, brown to light brown, with very fine sand and lignite stringers  
65'- 75' Sand, very fine, with brown clay and trace of lignite  
75'- 85' Clay, gray, with very fine sand  
85'-100' Clay, gray, w/interbedded very fine sand and trace of lignite  
100'-120' Clay, gray, slightly glauconitic, slightly micaceous, with very fine sand  
@ 110'-120' siderite layers  
120'-135' Clay, gray, slightly micaceous with trace of lignite and very fine sand  
135'-140' Sand, very fine, with gray clay and stringers of lignite  
140'-150' Clay, gray, w/interbedded very fine sand and trace of lignite  
150'-165' Clay, gray, with very fine sand  
165'-170' Sand, very fine, with gray clay  
170'-190' Clay, gray, with interbedded very fine sand  
190'-200' Clay, gray, with slightly micaceous very fine sand  
Core interval 30'-50'  
Recovered: Lost:  
20' 0'  
30'-40' sand, gray, fine  
40'-50' sand, gray, fine, lignitic with silt  
T. D.: 200'

**Drill Hole No. 162.** Elevation 280'  
Location: NE¼, Sec. 4, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, red with white and gray stringers, and very fine sand  
10'- 20' Clay, light tan, iron stained, with very fine sand  
20'- 30' Clay, light tan, w/very fine sand  
30'- 40' Clay, light gray, with very fine sand and silt  
40'- 43' Clay, gray, micaceous, with very fine sand  
43'- 46' Lignite  
46'- 50' Clay, gray, slightly micaceous with very fine sand  
50'- 70' Clay, brown to gray, carbonaceous with very fine sand  
70'- 80' Clay, brown to gray, slightly micaceous with very fine sand  
80'- 90' Clay, brown, with very fine sand  
90'-100' Clay, brown, with interbedded very fine sand and stringer of lignite  
100'-120' Clay, brown, fissile, with very fine sand and stringers of lignite  
120'-150' Clay, brown, with very fine slightly micaceous sand and trace of lignite  
150'-160' Clay, bluish gray, with very fine sand  
160'-200' Clay, gray to brown, with very fine sand  
@ 180'-200' slightly micaceous  
Core interval 42'-49'10''

Recovered: Lost  
7'10" 0'  
42'-47'5" lignite, hard, black, with conchoidal fracture  
47'5"-49'10" sand, fine, light gray, micaceous  
T. D.: 200'

**Drill Hole No. 163.** Elevation 275'  
Location: NE¼, Sec. 3, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, light tan to light gray, with very fine sand  
10'- 15' Clay, light tan, with iron concretions and very fine sand  
15'- 23' Clay, gray, with traces of lignite and very fine sand  
23'- 30' Lignite bearing section  
30'- 35' Lignite with brown to gray clay and very fine sand  
35'- 50' Clay, gray and brown inter-layered, and very fine sand  
50'- 70' Clay, gray to brown, slightly micaceous, with very fine sand  
70'- 80' Clay, bluish gray, with slightly micaceous very fine sand  
80'- 95' Clay, gray to brown, with silt  
95'-100' Clay, chocolate brown, with very fine sand  
100'-120' Clay, chocolate brown and gray interlayered, and very fine sand @ 110'-120' traces of lignite  
120'-130' Clay, gray and brown inter-layered, and very fine sand  
130'-140' Clay, gray, with very fine sand and trace of lignite  
140'-150' Clay, gray, slightly glauconitic with minor siderite and very fine sand  
150'-180' Clay, gray and brown inter-layered, and very fine sand @ 160'-180' sand increase  
180'-190' Sand, very fine, with brown clay and traces of lignite  
190'-200' Clay, chocolate brown, with very fine sand and traces of lignite  
Core interval 30'-40'  
Recovered: Lost:  
10' 0'  
30'-35'9" lignite, hard, black  
35'9"-36" lignite, brown, micaceous with sand  
36'-40' clay, gray, slightly lignitic with sand  
72" lignite saved for analysis  
T. D.: 200'

**Drill Hole No. 164.** Elevation 285'  
Location: NE¼, Sec. 3, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, fine, with light gray to white iron stained clay  
10'- 20' Clay, light tan, with very fine sand  
20'- 25' Clay, light tan and red inter-layered, and very fine sand  
25'- 30' Sand, fine, with tan clay  
30'- 40' Clay, tan, with iron concretions and very fine sand  
40'- 60' Clay, tan to light brown, with very fine sand  
60'- 70' Clay, light tan, with very fine sand  
70'- 80' Clay, gray, with very fine sand @ 75'-80' thin stringers of lignite  
80'- 90' Clay, bluish gray, with traces of

lignite and very fine sand  
90'-100' Sand, very fine, with bluish gray clay  
100'-110' Clay, gray to brown, slightly glauconitic with very fine sand  
110'-125' Clay, brown, carbonaceous with very fine sand  
125'-130' Sand, very fine, with brown clay and trace of lignite  
130'-140' Clay, bluish gray, with silt  
140'-160' Clay, brown, with very fine sand @ 150'-160' slightly micaceous  
160'-170' Clay, gray to green, slightly glauconitic, with very fine sand  
170'-180' Clay, brown, slightly micaceous with very fine sand  
180'-190' Sand, very fine, with brown to gray clay  
190'-200' Clay, gray to brown, with silt  
T. D.: 200'

\* **Drill Hole No. 165.** Elevation 240'  
Location: NE¼, Sec. 2, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 30' Clay, gray and red interlayered, and very fine sand  
@ 25'-27' sand, very fine  
30'- 50' Clay, gray, slightly carbonaceous, with very fine sand  
50'- 80' Sand, very fine, with gray clay @ 50'-55' lignite stringers @ 55'-80' traces of lignite  
80'- 90' Sand, very fine, with gray clay  
90'-190' Clay, gray, with very fine sand @ 100'-190' slightly micaceous @ 150'-190' trace of lignite @ 180'-190' sand increase  
190'-200' Clay, chocolate brown, with very fine sand and silt  
T. D.: 200'

**Drill Hole No. 166.** Elevation 250'  
Location: NW¼, Sec. 1, T. 19 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, fine with tan clay  
10'- 25' Clay, tan, with very fine to fine sand  
25'- 35' Sand, very fine, with tan clay  
35'- 45' Clay, gray, with very fine sand  
45'- 50' Sand, fine to very fine, with tan clay  
50'- 60' Clay, light tan, with interbedded very fine sand  
60'- 80' Silt, with light tan clay  
80'- 90' Silt, with interbedded light tan clay  
90'-100' Silt, with minor tan clay  
100'-115' Silt  
115'-120' Silt, with gray clay  
120'-130' Clay, gray, with silt  
130'-140' Clay, brown, slightly micaceous with very fine sand and silt  
T. D.: 140'

**Drill Hole No. 167.** Elevation 250'  
Location: SW¼, Sec. 6, T. 19, S. R. 18 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'- 10' Sand, very fine, with gray to red clay  
10'- 30' Clay, gray, iron stained with very fine sand  
30'- 40' Clay, light gray, with very fine sand  
40'- 70' Clay, light gray, with interbedded silt  
70'-100' Silt  
T. D.: 100'

\* Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 168.** Elevation 230'  
Location: SE¼, Sec. 7, T. 18 S., R. 18 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, very fine, with gray to red clay  
10'-20' Silt, with light gray clay  
20'-25' Clay, gray to tan, with very fine sand  
25'-60' Clay, gray, with very fine sand @ 50'-60' lignite stringers  
60'-80' Sand, very fine, with traces of lignite  
80'-90' Lignite, with interbedded very fine sand  
90'-100' Clay, gray, with very fine sand  
100'-110' Clay, gray to brown, with very fine sand  
110'-160' Clay, gray, slightly glauconitic with very fine sand @ 111' siderite @ 130'-140' traces of lignite  
160'-200' Clay, gray to brown, with very fine sand  
T. D.: 200'

**Drill Hole No. 169.** Elevation 170'  
Location: NE¼, Sec. 19, T. 19 S., R. 18 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, fine, with gray clay  
10'-15' Clay, gray to brown, with very fine sand  
15'-30' Clay, gray to tan, with very fine sand  
30'-35' Sand, coarse, with gravel  
35'-40' Sand, medium  
40'-75' Clay, gray, with very fine sand @ 50'-75' slightly micaceous  
75'-100' Clay, gray to brown, with very fine sand  
100'-115' Clay, gray, slightly micaceous, slightly glauconitic, with very fine sand  
115'-135' Clay, gray, with interbedded fine sand  
135'-140' Clay, gray, slightly glauconitic with interbedded glauconite and minor siderite  
140'-145' Clay, gray to brown, with slightly micaceous very fine sand  
145'-150' Clay, gray, with interbedded very fine sand and trace of lignite  
150'-165' Clay, gray, slightly micaceous with very fine sand  
165'-200' Clay, gray, slightly glauconitic with interbedded thin siderite layers  
T. D.: 200'

**Drill Hole No. 170.** Elevation 223'  
Location: NE¼, Sec. 30, T. 19 S., R. 18 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, fine, with gray to red clay  
10'-45' Silt, with minor tan clay  
45'-50' Sand, medium  
50'-55' Clay, tan to gray, with very fine sand  
55'-65' Clay, gray, with very fine sand  
65'-80' Clay, gray, with slightly micaceous silt  
80'-90' Clay, gray, slightly micaceous, with very fine sand  
90'-110' Clay, gray, slightly glauconitic with very fine sand @ 90'-100' slightly micaceous @ 105'-110' interbedded siderite  
110'-140' Clay, gray, slightly glauconitic,

slightly micaceous, with silt  
140'-160' Clay, glauconitic, green, with very fine sand  
160'-175' Clay, gray, glauconitic, with interbedded siderite and very fine sand  
175'-200' Clay, gray, slightly glauconitic, slightly micaceous, with interbedded silt  
T. D.: 200'

**Drill No. 171.** Elevation 215'  
Location: NW¼, Sec. 35, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-8' Sand, fine, with tan to light gray clay  
8'-20' Clay, light gray to tan, with very fine sand  
20'-60' Clay, gray, with very fine sand @ 30'-40' lignitic clay @ 50'-60' slightly micaceous  
60'-100' Clay, gray, slightly glauconitic, slightly micaceous, with very fine sand and silt  
100'-140' Clay, gray to brown, slightly micaceous, with silt  
140'-160' Clay, gray, slightly micaceous with very fine sand  
160'-170' Clay, gray to brown, with traces of lignite and very fine sand  
170'-180' Clay, brown, with lignite stringers and very fine sand  
180'-200' Clay, brown, with interbedded very fine sand and traces of lignite @ 190'-200' slightly glauconitic  
T. D.: 200'

**Drill Hole No. 172.** Elevation 197'  
Location: NW¼, Sec. 26, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-10' Sand, fine, with tan clay  
10'-30' Sand, fine to coarse, with gray clay @ 25'-30' pea gravel  
30'-50' Clay, gray, slightly micaceous with very fine sand  
50'-60' Sand, fine, with interbedded gray clay  
60'-80' Clay, gray, slightly micaceous, slightly glauconitic, with very fine sand  
80'-150' Sand, very fine to fine, with interbedded gray, slightly micaceous, slightly glauconitic clay @ 100'-150' traces of lignite and thin siderite layers  
150'-180' Sand, very fine, with glauconitic clay and siderite  
180'-200' Silt to very fine sand with glauconitic, micaceous clay and minor thin siderite layers  
T. D.: 200'

**Drill Hole No. 173.** Elevation 255'  
Location: SE¼, Sec. 22, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-20' Clay, light tan, with very fine sand  
20'-25' Clay, brown, with very fine sand  
25'-30' Clay, brown to gray, with very fine sand and trace of lignite  
30'-40' Clay, brown to gray, with interbedded very fine sand and trace of lignite

40'-55' Clay, brown, with very fine sand  
55'-65' Clay, gray to brown, slightly micaceous, slightly glauconitic with very fine sand  
65'-90' Clay, light gray, slightly micaceous, with very fine sand  
90'-100' Clay, gray, with slightly micaceous very fine sand  
100'-110' Clay, gray to brown, with slightly micaceous very fine sand  
110'-130' Clay, gray, slightly micaceous with very fine sand  
130'-140' Clay, gray to light gray, slightly micaceous with very fine sand  
140'-150' Clay, gray, with very fine sand  
150'-160' Silt, with glauconitic clay and minor siderite  
160'-200' Silt, with minor gray, slightly glauconitic clay @ 170'-200' slightly micaceous  
T. D.: 200'

**Drill Hole No. 174.** Elevation 235'  
Location: NE¼, Sec. 15, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: D. W. Lumbert 5/77.

0'-25' Clay, gray, with very fine sand @ 0'-10' iron concretions  
25'-30' Sand, fine, iron cemented, with tan clay  
30'-40' Clay, gray, slightly micaceous with traces of lignite and silt  
40'-50' Clay, brown, slightly micaceous with very fine sand  
50'-60' Clay, gray, slightly glauconitic, slightly micaceous, with silt  
60'-85' Clay, slightly micaceous, alternating gray and brown layers and silt  
85'-95' Clay, brown, with interbedded silt  
95'-100' Clay, gray, with micaceous very fine sand  
100'-120' Clay, gray to brown, slightly micaceous, with very fine sand  
120'-140' Clay, gray, slightly glauconitic with interbedded silt  
140'-150' Clay, gray to brown, with silt  
150'-170' Clay, brown, with very fine sand  
170'-175' Clay, gray, slightly micaceous with very fine sand  
175'-180' Silt, with interbedded brown, slightly micaceous clay @ 180' siderite layer  
T. D.: 180'

**Drill Hole No. 175.** Elevation 240'  
Location: NW¼, Sec. 10, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: G. L. Delavan 5/77.

0'-5' Clay, light brown to tan, with iron concretions and very fine sand  
5'-50' Clay, gray, with silt @ 10'-50' slightly micaceous  
50'-65' Clay, gray, slightly micaceous  
65'-75' Clay, brown  
75'-80' Clay, light gray  
80'-100' Clay, gray, with very fine sand  
100'-105' Clay, brown, with very fine sand  
105'-140' Clay, gray to brown, with micaceous very fine sand  
140'-145' Sand, very fine, with gray clay  
145'-155' Clay, gray, with interbedded very fine sand  
155'-165' Clay, brown, micaceous, with very fine sand  
165'-170' Clay, gray, glauconitic, with interbedded siderite and very fine sand

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170'-180' Clay, gray to brown, with very fine sand  
 180'-185' Clay, brown  
 185'-197' Clay, gray  
 @ 197' siderite layer  
 T. D.: 197'

**Drill Hole No. 176.** Elevation 215'  
 Location: NE¼, Sec. 3, T. 18 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 5' Clay, brown, with iron concretions and fine sand  
 5'- 15' Clay, light brown to tan, with very fine sand  
 @ 10'-15' iron concretions  
 15'- 35' Clay, dark brown, micaceous, with very fine sand  
 @ 25'-30' interbedded siderite  
 @ 30'-35' glauconite  
 35'- 45' Clay, gray, slightly glauconitic with traces of lignite  
 45'- 50' Clay, gray, micaceous, with very fine sand  
 50'- 55' Clay, light gray  
 55'- 60' Clay, gray to brown, micaceous  
 60'- 75' Clay, gray  
 75'- 80' Clay, with interbedded fine sand  
 80'- 85' Clay, gray to brown, slightly micaceous  
 85'-100' Clay, gray, with very fine sand  
 100'-125' Clay, gray, slightly micaceous with very fine sand  
 @ 110'-125' increase in sand  
 125'-140' Sand, very fine, with gray clay and minor siderite  
 140'-150' Clay, gray to brown, with very fine sand  
 150'-165' Clay, brown, with very fine sand  
 165'-190' Sand, very fine, with interbedded gray clay  
 190'-200' Clay, gray, micaceous, with very fine sand  
 T. D.: 200'

**Drill Hole No. 177.** Elevation 210'  
 Location: NW¼, Sec. 2, T. 18 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 10' Clay, light brown  
 10'- 20' Clay, light brown to tan, with interbedded very fine sand  
 20'- 25' Clay, tan, with iron concretions and very fine sand  
 25'- 30' Clay, light gray, slightly micaceous, with very fine sand  
 30'- 45' Clay, brown, slightly micaceous  
 45'- 50' Clay, brown, carbonaceous, with trace of lignite  
 50'- 65' Clay, gray to brown, slightly micaceous, with very fine sand  
 65'- 70' Clay, brown, with trace of lignite  
 70'- 85' Clay, lignitic, with silt  
 85'-130' Clay, brown and gray interbedded, and very fine sand  
 130'-135' Clay, gray to brown, slightly micaceous  
 135'-150' Sand, fine, with interbedded brown to gray silt  
 150'-160' Sand, with minor gray clay  
 160'-170' Clay, gray, glauconitic  
 170'-180' Clay, gray to brown, with very fine sand  
 180'-195' Clay, gray to brown  
 @ 180'-190' micaceous  
 195'-198' Clay, gray to brown, with trace of lignite and very fine sand  
 Core Interval 70'-72'10"  
 Recovered: 2'10" Lost: 0"  
 70'-72' lignite, soft, black  
 72'-72'10" lignite, soft, dark

brown, micaceous, with silt  
 T. D.: 198'

**Drill Hole No. 178.** Elevation 280'  
 Location: NE¼, Sec. 35, T. 17 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 20' Clay, light brown to tan, with very fine to fine sand  
 20'- 30' Sand, fine, with trace of light brown lignite  
 30'- 35' Clay, gray, with very fine, slightly micaceous sand  
 35'- 40' Clay, light brown, with iron concretions and trace of lignite  
 40'- 65' Clay, brown, slightly micaceous @ 50'-65' very fine sand  
 65'- 75' Clay, with light brown slightly micaceous sand  
 75'- 80' Clay, dark brown, slightly micaceous with very fine sand  
 80'- 85' Clay, dark brown, slightly micaceous with trace of lignite  
 85'- 100' Clay, dark brown, slightly micaceous with very fine sand  
 100'-105' Clay, gray to brown, with sand and trace of lignite  
 105'- 120' Clay, gray to brown, slightly micaceous with very fine sand  
 120'- 130' Sand, with brown clay and trace of lignite  
 130'-150' Clay, dark brown to gray, slightly micaceous with trace of lignite and very fine sand  
 150'-180' Clay, gray to brown, slightly micaceous, with very fine sand  
 180'- 198' Clay, gray to brown, slightly micaceous, with sand  
 T. D.: 198'

**Drill Hole No. 179.** Elevation 240'  
 Location: NW¼, Sec. 26, T. 17 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 15' Clay, tan to light brown, with silt  
 15'- 25' Clay, gray to brown, carbonaceous, with very fine sand  
 25'- 35' Clay, gray, slightly micaceous, with very fine sand  
 @ 30'-35' increase in sand  
 35'- 50' Sand, very fine with gray clay  
 50'- 60' Clay, gray to brown, with very fine sand  
 60'- 65' Clay, gray, glauconitic, slightly micaceous with very fine sand  
 65'- 70' Sand, with gray clay and trace of lignite  
 70'- 90' Clay, gray, slightly micaceous with very fine sand  
 90'- 110' Clay, brown, with interbedded silt  
 110'-125' Clay, gray, with very fine sand  
 125'-135' Clay, glauconitic, slightly micaceous with very fine sand  
 135'- 180' Sand, very fine and silt, gray with slightly glauconitic clay and interbedded siderite  
 180'-185' Clay, gray, slightly micaceous with very fine sand  
 185'-190' Silt, with fine sand and minor siderite layers  
 190'-200' Silt, with interbedded siderite  
 T. D.: 200'

**Drill Hole No. 180.** Elevation 300'  
 Location: NW¼, Sec. 23, T. 17 S., R. 19 W.  
 County, Columbia  
 Logged by: D. W. Lumbert 5/77.

0'- 10' Clay, gray to red, with very fine sand  
 10'- 20' Clay, tan to light gray, with

very fine sand  
 20'- 40' Clay, gray, with very fine sand @ 30'-40' slightly micaceous  
 40'- 50' Clay, brown, slightly micaceous, slightly carbonaceous, with interbedded very fine sand  
 50'- 70' Clay, gray, slightly micaceous with very fine sand  
 @ 50'-65' slightly glauconitic  
 70'- 80' Sand, very fine, with slightly glauconitic clay and traces of lignite  
 80'-135' Clay, gray, slightly micaceous with very fine sand  
 @ 95'-100' minor siderite  
 @ 100'-110' interbedded silt  
 135'-170' Silt, with green, very glauconitic clay, and minor siderite  
 @ 150'-170' increase in siderite layers  
 170'-175' Clay, brown, with very fine, slightly micaceous sand  
 175'-180' Clay, brown, with interbedded silt  
 180'-200' Clay, gray, with interbedded silt @ 180'-190' glauconite  
 T. D.: 200'

**Drill Hole No. 181.** Elevation 250'  
 Location: NE¼, Sec. 23, T. 17 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 10' Clay, light brown to tan  
 10'- 15' Clay, gray, with very fine sand  
 15'- 20' Clay, gray to brown, with very fine sand  
 20'- 40' Clay, brown, with very fine sand  
 40'- 50' Clay, gray, slightly micaceous  
 50'- 65' Clay, brown to gray, slightly micaceous  
 65'- 70' Clay, gray, with trace of lignite and very fine sand  
 70'- 85' Clay, gray, slightly micaceous  
 85'-100' Clay, gray to brown, with very fine sand  
 100'-105' Clay, brown, with very fine sand  
 105'-125' Clay, gray, with very fine sand  
 125'-135' Clay, gray, slightly glauconitic, slightly micaceous, with silt  
 135'-155' Sand, fine, with green very glauconitic clay and interbedded siderite  
 155'-165' Clay, gray, slightly glauconitic with very fine sand  
 165'-175' Sand, very fine, with glauconitic clay  
 175'-180' Clay, brown, slightly micaceous with very fine sand  
 180'-190' Clay, brown, with interbedded silt  
 190'-195' Clay, gray to brown, slightly micaceous  
 195'-200' Silt and very fine sand, with gray slightly glauconitic clay and trace of siderite  
 T. D.: 200'

**Drill Hole No. 182.** Elevation 270'  
 Location: NE¼, Sec. 24, T. 17 S., R. 19 W.  
 County, Columbia  
 Logged by: G. L. Delavan 5/77.

0'- 15' Sand, with light brown clay  
 15'- 25' Sand, very fine, with light gray iron stained clay  
 25'- 30' Sand, fine, with light gray clay  
 30'- 35' Sand, medium  
 35'- 40' Sand, fine, with white to tan clay  
 40'- 45' Sand, with brown clay  
 45'- 70' Sand, medium to coarse  
 70'-100' Sand, fine to medium, with slightly glauconitic clay and trace of lignite

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100'-135' Sand, medium  
 135'-150' Sand, medium to fine, with interbedded gray, slightly glauconitic clay  
 150'-165' Clay, micaceous  
 165'-170' Sand, fine, with gray fissile clay  
 170'-185' Clay, light brown, with very fine to fine sand  
 185'-190' Sand, fine  
 190'-195' Clay, brown, slightly micaceous with very fine sand  
 195'-200' Sand, fine to very fine  
 T. D.: 200'

**Drill Hole No. 183.** Elevation 265'

Location: NE ¼, Sec. 19, T. 17 S., R. 18 W. County, Columbia

Logged by: G. L. Delavan 5/77.

0'-30' Clay, light brown to tan  
 30'-50' Clay, gray, with very fine sand  
 50'-55' Clay, gray to brown  
 55'-60' Sand, very fine, with brown clay and lignite stringers  
 60'-70' Clay, brown  
 70'-80' Clay, lignitic, with very fine slightly micaceous sand  
 80'-90' Sand, very fine, with lignitic clay  
 90'-100' Clay, gray, with very fine sand and trace of lignite  
 100'-120' Clay, gray, with trace of lignite  
 120'-130' Clay, gray, with very fine sand @ 125'-130' trace of lignite  
 130'-135' Silt, with very fine sand and gray clay  
 135'-140' Clay, brown, with very fine sand  
 140'-155' Clay, gray to brown, micaceous  
 155'-180' Silt, with glauconitic clay and interbedded siderite  
 180'-200' Clay, gray to brown, with very fine sand  
 T. D.: 200'

**Drill Hole No. 184.** Elevation 270'

Location: NE ¼, Sec. 20, T. 17 S., R. 18 W. County, Columbia

Logged by: G. L. Delavan 5/77.

0'-10' Clay, light gray to tan, with very fine sand  
 10'-20' Clay, gray to light brown iron stained  
 20'-30' Clay, light brown to brown, with very fine sand  
 30'-40' Clay, gray, slightly glauconitic with very fine sand  
 40'-45' Clay, light tan, with silt  
 45'-50' Clay, light brown, with very fine sand  
 50'-60' Sand, very fine, with light brown clay  
 60'-65' Sand, fine to medium, with gray clay  
 65'-110' Sand, very fine to fine, with traces of lignite  
 110'-175' Clay, gray, slightly carbonaceous  
 175'-200' Silt, with gray, glauconitic clay and interbedded siderite  
 T. D.: 200'

**Drill Hole No. 185.** Elevation 240'

Location: SE ¼, Sec. 21, T. 17 S., R. 18 W. County, Union

Logged by: G. L. Delavan 5/77.

0'-10' Clay, light brown to tan, with very fine iron stained sand  
 10'-15' Clay, light gray, with very fine sand

15'-20' Sand, fine to very fine, with gray clay  
 20'-40' Clay, gray, slightly micaceous with very fine sand  
 40'-55' Clay, gray @ 40'-50' very fine sand  
 55'-60' Sand, fine to very fine, with gray, slightly carbonaceous clay  
 60'-80' Sand, fine, with silt and trace of lignite  
 80'-85' Clay, gray, slightly micaceous with very fine sand  
 85'-95' Clay, gray to brown, slightly micaceous with fine sand  
 95'-100' Clay, gray to brown, micaceous with very fine sand  
 100'-110' Clay, gray to brown, with trace of lignite  
 110'-150' Clay, brown, slightly micaceous with very fine sand and silt  
 150'-165' Clay, brown, with very fine sand  
 165'-175' Clay, brown, with very fine slightly micaceous sand  
 175'-190' Sand, fine to very fine, with brown, slightly micaceous clay and interbedded siderite  
 190'-200' Clay, brown, with very fine sand @ 195'-200' slightly micaceous and interbedded siderite  
 T. D.: 200'

**Drill Hole No. 186.** Elevation 280'

Location: NW ¼, Sec. 27, T. 17 S., R. 18 W. County, Union

Logged by: G. L. Delavan 5/77.

0'-10' Clay, tan to red, with very fine sand  
 10'-20' Clay, light gray, with interbedded very fine sand  
 20'-25' Clay, chocolate brown, with very fine sand  
 25'-30' Clay, gray, with very fine sand  
 30'-40' Clay, brown, lignitic, with very fine sand  
 40'-65' Clay, light gray, with very fine sand @ 60'-65' slightly carbonaceous  
 65'-80' Silt, with gray clay  
 80'-85' Silt, with brown clay  
 85'-100' Silt, with gray clay and traces of lignite  
 100'-105' Clay, gray to brown, fissile, slightly glauconitic  
 105'-140' Silt, with very fine sand and gray, slightly glauconitic clay and interbedded siderite and traces of lignite  
 140'-160' Silt, with brown clay @ 150'-160' trace of lignite  
 160'-200' Silt, with gray to brown clay @ 170'-190' traces of lignite @ 190'-200' lignite stringer less than 1'  
 T. D.: 200'

**Drill Hole No. 187.** Elevation 340'

Location: SW ¼, Sec. 26, T. 17 S., R. 18 W. County, Union

Logged by: D. W. Lumbert 5/77.

0'-10' Sand, fine, with red clay  
 10'-30' Sand, fine, with light tan clay @ 20'-30' carbonaceous  
 30'-35' Sand, fine, with tan to red clay  
 35'-40' Sand, fine to medium, w/lignite  
 40'-75' Clay, light bluish gray, with silt  
 75'-80' Clay, chocolate brown, with very carbonaceous silt  
 80'-90' Lignite bearing section  
 90'-95' Clay, gray to olive green, with silt  
 95'-100' Clay, blue, with very fine sand

100'-115' Clay, gray to brown, with very fine sand  
 115'-120' Clay, gray, slightly glauconitic with very fine sand  
 120'-125' Sand, very fine, with gray to green clay and trace of lignite  
 125'-130' Sand, very fine, with lignite  
 130'-150' Clay, brown, with very fine sand @ 140'-150' trace of lignite  
 150'-160' Clay, brown, with lignite stringers and very fine slightly glauconitic sand @ 160' siderite layer  
 160'-170' Clay, brown, with very fine sand  
 170'-180' Sand, very fine, with interbedded gray to brown clay  
 180'-200' Clay, brown, with interbedded very fine sand  
 Core interval 70'-80'  
 Recovered: 10'  
 Lost: 0'  
 70'-76'10" clay, dark gray, slightly lignitic  
 76'10"-80' lignite, hard, black with conchoidal fractures  
 T. D.: 200'

**Drill Hole No. 188.** Elevation 350'

Location: NE ¼, Sec. 36, T. 17 S., R. 18 W. County, Union

Logged by: D. W. Lumbert 6/77.

0'-10' Sand, fine, with red clay  
 10'-20' Sand, fine, with light tan clay  
 20'-30' Sand, fine  
 30'-40' Lignite, with chocolate brown clay and very fine sand  
 40'-50' Clay, gray to brown, with very fine sand  
 50'-90' Clay, gray, with very fine sand @ 70'-80' slightly micaceous and trace of lignite  
 90'-100' Clay, gray, slightly glauconitic with trace of lignite and very fine sand  
 100'-110' Clay, gray to brown, with very fine sand  
 110'-125' Clay, brown, with very fine sand  
 125'-130' Clay, bluish gray, with very fine sand  
 130'-150' Clay, gray, with very fine sand  
 150'-155' Clay, brown, with very fine sand  
 155'-160' Lignite, with brown clay and very fine sand  
 160'-180' Clay, brown, with interbedded very fine sand  
 180'-200' Clay, gray to brown, with interbedded very fine sand  
 Core interval 28'-32'11"  
 Recovered: 4'1"  
 Lost: 0'  
 28'-32'11" lignite, dark brown to black, soft  
 T. D.: 200'

**Drill Hole No. 189.** Elevation 278'

Location: SE ¼, Sec. 30, T. 17 S., R. 17 W. County, Union

Logged by: D. W. Lumbert 6/77.

0'-10' Clay, red to tan  
 10'-30' Clay, light tan, with very fine sand  
 30'-35' Clay, brown, with very fine sand  
 35'-70' Clay, gray, slightly glauconitic, with interbedded very fine sand  
 70'-110' Clay, gray, slightly glauconitic, slightly micaceous, with interbedded very fine sand  
 110'-120' Clay, gray, with very fine, slightly glauconitic sand

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120'-140' Sand, very fine and silt, with interbedded gray, slightly glauconitic clay  
 140'-150' Silt, with minor gray slightly glauconitic clay  
 150'-160' Clay, gray, slightly glauconitic, slightly micaceous, with silt  
 160'-165' Silt, with gray clay  
 165'-170' Clay, gray, slightly glauconitic with very fine sand  
 170'-180' Clay, gray to brown, with very fine sand  
 180'-200' Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 190.** Elevation 263'  
 Location: SW¼, Sec. 29, T. 17 S., R. 17 W. County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 10' Clay, light brown to tan, slightly micaceous, with very fine sand and silt  
 10'- 25' Clay, light brown  
 25'- 70' Clay, gray, with very fine sand @ 60'-70' interbedded sand  
 70'-110' Sand, fine to medium @ 100'-110' minor clay and glauconite  
 110'-150' Sand, fine to medium, with interbedded glauconitic clay  
 150'-170' Clay, gray, slightly glauconitic with very fine sand  
 170'-180' Clay, brown, slightly micaceous  
 180'-185' Sand, very fine, with brown clay  
 185'-200' Clay, brown to gray, with very fine sand and silt  
 T. D.: 200'

**Drill Hole No. 191.** Elevation 280'  
 Location: NW¼, Sec. 28, T. 17 S., R. 17 W. County, Union  
 Logged by: G. L. Delavan 6/77.

0'- 15' Clay, light brown to tan, w/silt  
 15'- 20' Clay, tan  
 20'- 25' Clay, light brown, with very fine sand  
 25'- 30' Clay, brown, with very fine sand, slightly micaceous  
 30'- 35' Clay, chocolate brown, lignitic  
 35'- 40' Clay, brown  
 40'- 60' Clay, gray to brown, with very fine sand and silt @ 40'-45' slightly micaceous  
 60'- 65' Clay, brown, with very fine sand and trace of lignite  
 65'- 75' Clay, gray to brown, with very fine, slightly micaceous sand  
 75'- 85' Clay, brown, with fine sand  
 85'-100' Clay, brown, with very fine sand  
 100'-185' Clay, brown, with very fine sand and silt @ 100'-105' slightly micaceous  
 185'-195' Silt, brown, with brown fissile clay and trace of lignite  
 195'-200' Clay, brown, with very fine to fine, slightly micaceous sand  
 T. D.: 200'

**Drill Hole No. 192.** Elevation 270'  
 Location: SW¼, Sec. 27, T. 17 S., R. 17 W. County, Union  
 Logged by: G. L. Delavan 6/77.

0'- 25' Clay, light brown to tan, slightly micaceous, with very fine sand  
 25'- 50' Clay, gray to brown, with very fine, slightly micaceous sand  
 50'- 55' Clay, gray to brown, with lignite stringers  
 55'-160' Clay, brown, with fine to very fine sand

@ 55'-65' trace of lignite  
 @ 65'-70' slightly micaceous  
 @ 75'-80' increase in sand  
 @ 150'-160' slightly micaceous  
 @ 155'-160' trace of lignite  
 160'-170' Clay, brown, with fine, slightly micaceous sand  
 170'-180' Clay, brown, with very fine sand  
 180'-200' Clay, brown, with fine sand  
 T. D.: 200'

**Drill Hole No. 193.** Elevation 225'  
 Location: SE¼, Sec. 26, T. 17 S., R. 17 W. County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 15' Clay, light brown to tan, with very fine sand  
 15'- 20' Clay, tan, slightly micaceous, with very fine sand  
 20'- 30' Clay, light brown, with very fine to fine sand  
 30'- 40' Clay, rust brown, with very fine to fine sand  
 40'- 60' Sand, gray, very fine with silt @ 50'-60' trace of lignite  
 60'- 85' Sand, gray to brown, very fine with brown to gray clay and traces of lignite  
 85'-100' Sand, gray to brown, very fine with trace of lignite and clay  
 100'-105' Clay, brown, with very fine sand  
 105'-130' Sand, gray to brown, very fine w/brown clay & trace of lignite  
 130'-150' Clay, gray, slightly lignitic  
 150'-175' Clay, gray, slightly micaceous with very fine sand  
 175'-180' Clay, gray, with silt and minor siderite  
 180'-185' Clay, gray to brown, with very fine sand  
 185'-200' Sand, very fine, with silt and gray clay  
 T. D.: 200'

**Drill Hole No. 194.** Elevation 240'  
 Location: SE¼, Sec. 25, T. 17 S., R. 17 W. County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 10' Clay, light gray to brown, with very fine sand  
 10'- 40' Clay, tan to light brown, with very fine sand  
 40'- 50' Clay, gray, with very fine, slightly micaceous sand  
 50'- 80' Clay, gray, w/very fine sand and glauconite, and trace of siderite  
 80'- 90' Clay, gray, with fine to very fine sand and friable lignite  
 90'-100' Sand, with lignitic clay  
 100'-110' Clay, gray, with fine to medium lignitic sand  
 110'-120' Sand, fine to very fine, with lignitic stringers  
 120'-150' Sand, medium to fine, with trace of lignite  
 150'-165' Clay, gray to brown, with very fine sand  
 165'-190' Clay, brown, with very fine, slightly micaceous sand  
 190'-200' Clay, gray to brown, with very fine, slightly micaceous sand  
 T. D.: 200'

\* **Drill Hole No. 195.** Elevation 215'  
 Location: SE¼, Sec. 30, T. 17 S., R. 16 W. County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 20' Clay, light gray, w/very fine sand

20'- 35' Clay, gray, slightly glauconitic, slightly carbonaceous, with very fine sand  
 35'- 55' Clay, gray to brown, slightly carbonaceous, w/very fine sand  
 55'- 95' Clay, brown, with very fine sand and trace of lignite  
 95'-120' Sand, very fine, with silt and minor lignitic clay  
 120'-125' Clay, brown, with very fine sand  
 125'-130' Clay, chocolate brown, lignitic with very fine sand  
 130'-190' Clay, brown, slightly micaceous with very fine sand @ 175'-190' trace of lignite  
 190'-195' Silt, brown, with very fine lignitic sand  
 195'-200' Clay, brown, with very fine sand and trace of lignite  
 T. D.: 200'

**Drill Hole No. 196.** Elevation 180'  
 Location: SE¼, Sec. 27, T. 17 S., R. 16 W., County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 20' Clay, light brown to tan, with very fine sand  
 20'- 50' Clay, gray to brown, slightly micaceous, with very fine, slightly glauconitic sand  
 50'-115' Clay, brown, slightly micaceous with very fine sand  
 115'-160' Clay, brown, with very fine sand @ 115'-120' minor glauconite and siderite @ 125'-135' slightly micaceous with trace of siderite  
 160'-180' Clay, with lignitic silt  
 180'-200' Clay, brown, with very fine sand  
 T. D.: 200'

**Drill Hole No. 197.** Elevation 170'  
 Location: NW¼, Sec. 26, T. 17 S., R. 16 W. County, Union  
 Logged by: G. L. Delavan 5/77.

0'- 20' Clay, light brown to tan, with silt  
 20'- 25' Clay, gray to brown, slightly micaceous, with very fine sand  
 25'- 30' Lignite, with chocolate brown clay  
 30'- 40' Clay, brown, with very fine, slightly carbonaceous sand  
 40'- 45' Clay, chocolate brown, with very fine, slightly micaceous sand  
 45'- 50' Clay, brown to chocolate brown, with very fine sand  
 50'- 85' Clay, brown, with very fine, slightly micaceous sand  
 85'- 90' Clay, gray to brown, slightly glauconitic with silt  
 90'-125' Clay, brown, with very fine, slightly micaceous sand  
 125'-150' Clay, with very fine to fine sand, and trace of lignite  
 150'-165' Clay, brown, with interbedded very fine to fine sand  
 165'-190' Sand, fine, with thin lignite stringers  
 190'-200' Clay, brown to light brown, with very fine sand  
 Core interval 35'-40'  
 Recovered: Lost:  
 4'-10" 2"  
 35'-38'-10" lignite, brown, soft, slightly micaceous, with silt  
 38'-10"-39'-10" sand, fine, gray with silt  
 T. D.: 200'

\*Electric logs available

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**Drill Hole No. 198.** Elevation 140'  
Location: SW¼, Sec. 23, T. 17 S., R. 16 W.  
County, Union  
Logged by: G. L. Delavan 5/77.

0' 60' Clay, light brown to tan, with very fine sand and silt  
60' 80' Clay, gray to brown, slightly micaceous, slightly glauconitic with very fine sand  
80' 90' Clay, brown to light brown, slightly carbonaceous with very fine sand  
90' 120' Clay, gray to brown, with very fine sand  
@ 90' 100' slightly glauconitic  
@ 100' 120' carbonaceous  
120' 145' Clay, gray to brown, iron stained with carbonaceous material  
145' 160' Clay, brown, with sand  
160' 175' Clay, brown, with silt and very fine sand  
175' 190' Sand, very fine, slightly lignitic with trace of siderite  
190' 200' Clay, with very fine sand and minor interbedded siderite  
T. D.: 200'

**Drill Hole No. 199.** Elevation 220'  
Location: SW¼, Sec. 14, T. 17 S., R. 16 W.  
County, Union  
Logged by: G. L. Delavan 5/77.

0' 10' Sand, very fine, with light brown to tan clay  
10' 20' Clay, light brown to tan, with very fine sand  
20' 35' Clay, brown, with very fine, slightly micaceous sand  
35' 50' Clay, light brown to tan, with very fine, slightly carbonaceous sand  
@ 45' 50' increase in sand  
50' 70' Sand, medium to fine, with light brown clay  
@ 65' 70' decrease in clay  
70' 90' Sand, gray, fine to very fine, with slightly lignitic stringers  
90' 100' Sand, light brown, very fine, with trace of lignite  
100' 150' Sand, very fine, and chocolate brown to brown silt with interbedded lignite  
150' 165' Clay, brown, with very fine sand  
165' 190' Sand, very fine, gray, with gray clay and trace of lignite  
@ 175' 190' increase of clay and decrease of lignite  
190' 200' Clay, light brown, with very fine sand and lignite traces  
T. D.: 200'

**Drill Hole No. 200.** Elevation 185'  
Location: SE¼, Sec. 11, T. 17 S., R. 16 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0' 10' Sand, reddish brown, fine to very fine, slightly carbonaceous  
10' 20' Clay, light tan to brown, with interbedded very fine iron stained sand  
20' 40' Clay, light tan to brown, with very fine sand  
40' 45' No sample  
45' 55' Sand, very fine to fine, light brown  
@ 50' 55' trace of lignite  
55' 60' Lignite, with sand and lignitic clay

60' 65' Sand, with lignite stringers  
65' 90' Sand, fine to very fine  
@ 65' 70' trace of lignite  
@ 70' 90' minor clay stringers  
90' 115' Clay, brown, with sand and very fine sand stringers  
115' 150' Sand, fine to very fine, with thin lignite stringers  
150' 155' Sand, fine to very fine, with brown, slightly carbonaceous clay  
155' 160' Sand, fine to very fine, slightly carbonaceous  
160' 170' Sand, fine to very fine, with brown clay  
170' 180' Clay, brown, with very fine sand  
180' 195' Sand, very fine to fine, with brown clay and trace of lignite  
195' 200' Sand, fine to very fine, with lignitic stringers  
T. D.: 200'

**Drill Hole No. 201.** Elevation 210'  
Location: NW¼, Sec. 6, T. 17 S., R. 15 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0' 10' Clay, brown, with very fine sand  
10' 25' Clay, light brown to tan, slightly micaceous, with very fine sand  
25' 40' Clay, light brown to tan, with interbedded very fine sand  
40' 45' Clay, gray to brown, with trace of lignite  
45' 55' Lignite, with gray clay and very fine sand  
55' 65' Clay, gray to brown, with lignitic stringers and very fine sand  
65' 70' Sand, very fine, with lignite stringers  
70' 75' Lignite, with interbedded gray clay and very fine sand  
75' 80' Lignite, with very fine sand  
80' 95' Clay, gray to brown, with very fine sand and lignite stringers  
95' 100' Clay, gray to brown, w/very fine sand and interbedded lignite  
100' 110' Sand, very fine, gray, with lignite  
110' 125' Clay, gray to brown, with very fine sand and lignite stringers  
125' 150' Sand, fine to very fine, with interbedded lignite and minor clay  
150' 160' Sand, very fine, with silt and traces of lignite  
160' 170' Clay, gray to brown, with very fine sand  
170' 180' Silt, gray, with very fine sand and trace of lignite  
180' 185' Silt, gray, with brown clay and trace of lignite  
185' 190' Silt, with very fine sand and lignite stringers  
190' 200' Clay, gray to brown, with very fine sand and trace of lignite  
T. D.: 200'

**Drill Hole No. 202.** Elevation 175'  
Location: SW¼, Sec. 32, T. 16 S., R. 15 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0' 10' Clay, light brown, iron stained  
10' 25' Clay, gray to brown, with very fine sand  
25' 30' Lignite, with gray to brown clay  
30' 35' Clay, gray to brown, with lignite stringers  
35' 45' Clay, brown, with very fine sand

45' 50' Lignite, with very fine to fine sand and minor clay  
50' 65' Clay, brown, with very fine sand and lignite stringers  
65' 70' Lignite, with very fine sand and silt  
70' 95' Clay, gray to brown, with very fine sand and lignitic stringers  
95' 100' Clay, brown to gray, with very fine sand and trace of lignite  
100' 115' Clay, brown, with silt and traces of lignite  
115' 125' Clay, brown, with very fine sand and trace of lignite  
125' 130' Silt, brown, with very fine sand and lignite stringers  
130' 140' Clay, brown, with trace of lignite  
140' 150' Sand, very fine with lignite  
150' 160' Clay, brown, with very fine sand  
160' 165' Clay, brown, with very fine sand and trace of lignite  
165' 170' Sand, very fine, brown, with lignitic stringers  
170' 175' Clay, brown, with fine to very fine sand  
175' 200' Silt, with very fine sand and trace of lignite and interbedded siderite  
Core interval 27'-37'  
Recovered: Lost:  
10' 0'  
27'-28' lignite  
28'-28'6" clay, chocolate brown, lignitic, with very fine sand  
28'6"-32'8" sand, very fine, carbonaceous, with lignitic clay stringers and lignite stringers less than 1" thick  
32'8"-37' sand, very fine, with increased carbonaceous material and minor lignitic clay stringers; also few lignite stringers less than 1" thick  
T. D.: 200'

\* **Drill Hole No. 203.** Elevation 130'  
Location: NE¼, Sec. 32, T. 16 S., R. 15 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0' 10' Sand, very fine, with light gray clay  
10' 15' Clay, light gray, with very fine sand  
15' 30' Sand, fine, with light gray clay  
30' 40' Sand, fine  
40' 50' Clay, gray, with very fine sand  
50' 65' Clay, gray, with interbedded very fine sand and trace of lignite  
65' 70' Sand, very fine, with gray clay  
70' 100' Clay, gray, with interbedded very fine sand  
100' 110' Clay, gray to light gray, with very fine sand  
110' 115' Sand, fine to very fine, with gray clay  
115' 140' Clay, gray, with very fine sand  
140' 145' Sand, very fine, with interbedded siderite and trace of lignite  
145' 155' Clay, gray, with very fine sand  
155' 165' Clay, gray, with interbedded very fine sand  
165' 185' Sand, very fine, with silt and minor gray clay  
@ 175' 185' thin siderite layers  
185' 200' Sand, very fine, with gray silt  
T. D.: 200'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 204.** Elevation 120'  
Location: NW¼, Sec. 34, T. 16 S., R. 15 W.  
County, Union  
Logged by: T. Suen 6/77.

0'- 5' Gravel, pea, with light gray clay  
5'- 10' Clay, gray, iron stained, with minor gravel  
10'- 20' Sand, gray, very fine @ 15'-20' traces of lignite and gray clay  
20'- 25' Sand, gray, with silt and clay and trace of lignite  
25'- 30' Clay, dark gray to light green, slightly glauconitic  
30'- 35' Clay, light brown and dark gray  
35'- 40' Clay, light green, with minor iron concretions  
40'- 45' Clay, dark green to gray, with very fine sand  
45'- 50' Clay, light brown to gray, with very fine sand  
50'- 55' Clay, gray to green, with very fine sand  
55'- 70' Clay, dark gray, with very fine sand @ 60'-70' trace of lignite  
70'- 75' Clay, light gray, with very fine sand and lignite stringers  
75'- 85' Clay, light gray to gray, with very fine sand and traces of lignite  
85'- 90' Clay, greenish gray, with silt and traces of lignite  
90'-100' Clay, gray, with very fine sand and silt @ 95'-100' soft brown lignite stringers  
100'-105' Clay, greenish gray, with very fine sand and traces of lignite  
105'-110' Clay, gray, with silt and trace of brown lignitic clay  
110'-120' Clay, dark gray, with silt and traces of lignite  
120'-125' Clay, light brown, with silt and traces of lignite  
125'-130' Clay, light brown to dark gray, with silt and traces of lignite  
130'-145' Clay, dark gray, with very fine sand and silt and traces of lignite @ 135'-140' slightly glauconitic  
145'-150' Clay, light gray, with silt and trace of lignite  
T. D.: 150'

**Drill Hole No. 205.** Elevation 130'  
Location: SE¼, Sec. 27, T. 16 S., R. 15 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0'- 10' Sand, very fine, with silt, light brown and brown to tan clay  
10'- 25' Clay, light brown to tan, with very fine sand  
25'- 40' Clay, gray, with interbedded very fine sand  
40'- 75' Clay, gray, with very fine sand @ 55'-60' trace of siderite  
75'- 90' Sand, very fine, with gray clay and trace of lignite  
90'- 95' Clay, gray to brown, with very fine sand  
95'-110' Silt, brown, with trace of lignite  
110'-130' Clay, brown, slightly micaceous with very fine sand  
130'-135' Silt, brown, with very fine sand  
135'-140' Clay, brown, with very fine sand  
140'-160' Silt, brown, with clay and very fine sand  
160'-170' Silt, brown, with interbedded siderite and very fine sand

170'-190' Sand, very fine, with clay and interbedded siderite  
190'-200' Clay, brown, with very fine sand  
T. D.: 200'

**Drill Hole No. 206.** Elevation 108'  
Location: NW¼, Sec. 26, T. 16 S., R. 15 W.  
County, Union  
Logged by: D. W. Lumbert 6/77.

0'- 10' Sand, fine, with red clay  
10'- 35' Sand, very fine, with interbedded gray clay  
35'- 50' Clay, gray, with very fine sand  
50'- 65' Clay, gray to light gray, with very fine sand  
65'- 75' Clay, gray to brown, with very fine sand  
75'- 80' Clay, gray, with interbedded very fine sand  
80'-115' Clay, gray, with very fine sand @ 100'-115' slightly glauconitic  
115'-140' Silt, with gray, glauconitic clay and interbedded siderite  
140'-155' Clay, gray, with very fine sand @ 150'-155' slight glauconite and slightly micaceous  
155'-160' Silt, with gray, slightly glauconitic clay and trace of siderite  
160'-165' Clay, gray, slightly glauconitic with very fine sand  
165'-170' Silt, with very fine sand and gray, slightly glauconitic clay  
170'-175' Clay, gray to brown, with very fine sand  
175'-200' Silt, with very fine sand and interbedded gray, slightly glauconitic, slightly micaceous clay  
T. D.: 200'

**Drill Hole No. 207.** Elevation 150'  
Location: SW¼, Sec. 25, T. 16 S., R. 15 W.  
County, Union  
Logged by: D. W. Lumbert 6/77.

0'- 10' Sand, fine, with red clay  
10'- 15' Clay, red, with very fine sand  
15'- 50' Sand, very fine to fine, with minor red to tan clay  
50'- 55' Clay, gray to brown, with lignite stringers and very fine sand  
55'- 80' Clay, gray to brown, with very fine sand @ 70'-80' slightly micaceous  
80'- 100' Clay, gray, with very fine sand @ 90'- 100' slightly glauconitic  
100'- 120' Clay, gray to brown, carbonaceous with very fine sand  
120'- 130' Clay, brown, with very fine sand  
130'-140' Clay, gray, with very fine, slightly micaceous sand  
140'-150' No sample  
T. D.: 150'

**Drill Hole No. 208.** Elevation 195'  
Location: NE¼, Sec. 36, T. 16 S., R. 15 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0'- 10' Clay, red, with fine sand  
10'- 20' Clay, light tan, with very fine sand  
20'- 35' Sand, very fine, with light brown to tan clay  
35'- 40' Clay, chocolate brown to tan, with very fine sand  
40'- 50' Sand, very fine, with gray clay and lignite stringers  
50'- 60' Sand, very fine, with yellow clay and minor lignitic clay  
60'-150' Clay, brown, with fine to very fine sand @ 70'-100' slightly micaceous

@ 100'-130' trace of siderite  
150'-170' Sand, very fine, with silt and gray to brown, slightly micaceous clay  
170'-180' Sand, very fine, with brown, slightly micaceous clay  
180'-200' Silt, brown, with brown clay  
T. D.: 200'

**Drill Hole No. 209.** Elevation 195'  
Location: NW¼, Sec. 30, T. 16 S., R. 14 W.  
County, Union  
Logged by: G. L. Delavan 6/77.

0'- 20' Clay, light gray, with very fine sand and silt  
20'- 30' Clay, light tan to gray, with very fine sand  
30'- 55' Clay, light gray, with very fine sand @ 40'-50' iron concretions  
55'- 60' Sand, very fine, with gray iron stained clay  
60'- 70' Clay, gray and brown inter-layered  
70'-120' Clay, gray, with interbedded fine to very fine sand and trace of lignite  
120'-135' Sand, very fine, with gray clay  
135'-150' Clay, gray, with interbedded very fine sand @ 140'-150' minor glauconite and trace of siderite  
150'-170' Clay, gray, carbonaceous with very fine sand  
170'-180' Clay, brown, with silt  
180'-200' Clay, gray, slightly micaceous with silt  
T. D.: 200'

**Drill Hole No. 210.** Elevation 300'  
Location: SW¼, Sec. 14, T. 16 S., R. 28 W.  
County, Miller  
Logged by: G. L. Delavan 6/77.

0'- 10' Clay, red to brown, with very fine sand  
10'- 15' Sand, red to brown, coarse to fine, with minor clay  
15'- 30' Sand, coarse to medium, with pea gravel  
30'- 40' Gravel, coarse to pea  
40'- 46' Clay, gray, with interbedded siderite  
46'- 50' Clay, gray, with lignite stringers and very fine sand  
50'- 56' Lignite, black, hard  
56'- 58' Clay, gray, with stringers of black, hard, lignite and trace of siderite  
58'- 60' Clay, gray, with silt, and trace of siderite  
60'- 72' Silt, with gray clay  
72'- 76' Lignite, black, hard, with minor gray clay  
76'- 80' Silt, with gray to chocolate brown clay, and trace of lignite  
80'- 90' Sand, coarse, with pea gravel and minor gray to dark brown clay  
90'- 95' Sand, with pea gravel  
95'-100' Silt, with gray clay and minor siderite  
100'-105' No sample  
105'-110' Clay, gray  
110'-118' Clay, gray to chocolate brown  
118'-120' Lignite, black, soft, with dark brown clay  
120'-140' Clay, dark brown to dark gray, with silt and lignite stringers  
140'-150' Clay, dark brown, with silt and trace of lignite  
T. D.: 150'

## ARKANSAS LIGNITE INVESTIGATIONS

### Drill Hole No. 211. Elevation 305'

Location: SW $\frac{1}{4}$ , Sec. 14, T. 16 S., R. 28 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 10' Clay, light tan to brown, with very fine sand and minor gravel  
 10' 20' Sand, red to brown, coarse to medium, poorly sorted and minor gravel  
 20' 25' Sand, red to brown, coarse to medium, with minor pebbles  
 25' 30' Sand, fine to very fine, with pea gravel  
 30' 35' Sand, medium to fine, with minor pea gravel  
 35' 40' Gravel, pea, with sand  
 40' 45' Sand, coarse to fine, with pea gravel  
 45' 50' Gravel, pea  
 T. D.: 50'

### Drill Hole No. 212. Elevation 263'

Location: NE $\frac{1}{4}$ , Sec. 23, T. 16 S., R. 28 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 30' Sand and gravel  
 T. D.: 30'

### Drill Hole No. 213. Elevation 332'

Location: NW $\frac{1}{4}$ , Sec. 31, T. 16 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 10' Clay, red to brown, with very fine sand  
 10' 15' Sand, very fine, with white to light tan clay  
 15' 30' Sand, very fine, with minor light brown clay  
 30' 35' Gravel, pea, with coarse sand  
 35' 40' Gravel, with coarse sand  
 40' 48' Gravel, coarse to pebble, with minor light tan clay  
 48' 50' Clay, dark chocolate brown, slightly micaceous with very fine sand  
 T. D.: 50'

### Drill Hole No. 214. Elevation 290'

Location: SW $\frac{1}{4}$ , Sec. 9, T. 17 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 58' Clay, brown to reddish brown, with very fine sand alternating with fine to very fine sand layers  
 58' 63' Gravel, pea, with minor, very coarse sand  
 63' 70' Gravel, with coarse sand and minor gray to brown clay  
 70' 80' Sand, fine to very fine  
 @ 75' 80' minor brown clay and trace of lignite  
 80' 100' Sand, very fine, with dark brown, micaceous clay  
 100' 110' Sand, very fine, with chocolate brown, micaceous clay  
 110' 135' Sand, very fine, with chocolate brown clay and silt  
 135' 140' Sand, very fine, with clay and trace of lignite  
 140' 143' Sand, very fine, with cemented sand stringers  
 T. D.: 143'

### Drill Hole No. 215. Elevation 260'

Location: NW $\frac{1}{4}$ , Sec. 27, T. 17 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 25' Clay, brown to light tan, with fine to very fine sand  
 25' 30' Gravel, with coarse sand and light tan clay  
 30' 35' Sand, coarse, with pea gravel  
 35' 40' Sand, coarse to very coarse  
 40' 50' Clay, dark to chocolate brown, micaceous, with very fine sand  
 50' 60' Clay, chocolate brown, slightly micaceous, with very fine sand and trace of black lignite  
 60' 73' Sand, very fine, with chocolate brown clay and trace of lignite  
 73' 80' Sand, very fine, w/chocolate to light brown clay  
 @ 73' sandstone layer  
 80' 90' Sand, very fine, with clay and trace of lignite  
 90' 95' Clay, light tan and dark brown interlayered, and very fine sand  
 95' 100' Clay, dark brown, with very fine sand  
 100' 110' Sand, very fine, with dark brown and light tan slightly micaceous clay  
 110' 140' Sand, very fine, with dark brown clay and silt  
 @ 110' 120' slightly micaceous and trace of lignite  
 140' 150' Sand, very fine, with silt and minor dark brown, slightly micaceous clay  
 T. D.: 150'

### Drill Hole No. 216. Elevation 255'

Location: NW $\frac{1}{4}$ , Sec. 3, T. 18 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 10' Clay, light brown to gray  
 10' 55' Clay, brown  
 @ 10' 15' minor carbonaceous material  
 @ 20' 30' slightly micaceous  
 55' 68' Sand, very fine, with silt and minor clay  
 68' 70' Gravel, pea, with minor coarse sand and trace of lignite  
 70' 77' Gravel, pea  
 77' 80' Clay, brown, with gravel  
 T. D.: 80'

### Drill Hole No. 217. Elevation 253'

Location: SE $\frac{1}{4}$ , Sec. 15, T. 18 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 40' Clay, light brown to reddish brown, with silt, interbedded with very fine sand  
 40' 50' Clay, gray to brown, with silt  
 50' 60' Clay, gray, with silt  
 60' 74' Clay, gray to bluish gray, with very fine sand  
 74' 100' Sand, very fine, with gray clay and silt  
 @ 80' 100' trace of lignite  
 100' 110' Sand, very fine, with gray clay  
 110' 120' Sand, very fine, with minor clay and trace of lignite  
 120' 130' Silt, with blue, carbonaceous clay  
 130' 135' Clay, bluish gray, with silt and very fine sand  
 T. D.: 135'

### Drill Hole 218. Elevation 212'

Location: SW $\frac{1}{4}$ , Sec. 34, T. 18 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 20' Clay, brown  
 20' 40' Clay, brown, with very fine sand and silt  
 40' 60' Clay, gray, with fine sand  
 60' 70' Clay, gray to brown, slightly micaceous, with coarse sand and trace of lignite  
 70' 75' Clay, gray to brown, with coarse to fine sand  
 75' 80' Clay, gray, with fine sand  
 80' 85' Clay, gray to brown, slightly micaceous, with fine to very fine sand  
 85' 90' Clay, dark gray, with very fine sand and minor pea gravel  
 90' 95' Silt, with very fine sand and gray clay, and trace of lignite  
 95' 100' Clay, gray to brown, with very fine sand and trace of lignite  
 100' 110' Clay, gray to brown, and fine sand with white clay  
 110' 130' Clay, dark brown, with very fine sand  
 @ 110' 120' slightly micaceous  
 @ 120' 130' silt and trace of lignite  
 130' 147' Silt, with dark brown clay  
 147' 150' Sand, very fine  
 T. D.: 150'

### Drill Hole No. 219. Elevation 250'

Location: SW $\frac{1}{4}$ , Sec. 15, T. 19 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 20' Clay, light gray to reddish brown with very fine sand  
 20' 25' Clay, reddish brown, with very fine sand  
 25' 30' Gravel, pea, with coarse sand and iron concretions  
 30' 35' Clay, gray  
 35' 40' Clay, gray, slightly micaceous with very fine sand  
 40' 50' Clay, gray, with very fine carbonaceous sand and minor iron cemented sand layers  
 50' 60' Clay, gray to brown, with very fine sand and minor iron cemented sand layers  
 60' 70' Sand, very fine, with gray to brown clay and trace of lignite  
 70' 75' Clay, gray, with very fine sand and trace of lignite  
 75' 80' Clay, gray, slightly micaceous with very fine sand  
 80' 90' Sand, very fine, with gray clay  
 90' 114' Clay, gray to brown, slightly micaceous, with very fine sand @ 105' 114' trace of lignite  
 114' 130' Sand, very fine, with gray to brown, slightly micaceous clay and trace of lignite  
 130' 150' Clay, gray, slightly micaceous with very fine sand and trace of lignite  
 T. D.: 150'

### Drill Hole No. 220. Elevation 332'

Location: NW $\frac{1}{4}$ , Sec. 10, T. 19 S., R. 27 W. County, Miller

Logged by: G. L. Delavan 6/77.

0' 23' Clay, light tan to reddish brown, slightly micaceous, with very fine sand  
 @ 10' 23' minor iron cemented sand



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23'- 50' Clay, gray to brown, slightly micaceous with very fine sand  
 50'- 55' Clay, gray to brown, with very fine sand  
 55'- 65' Clay, dark gray, slightly micaceous with very fine sand  
 65'- 70' Clay, gray to brown, with very fine sand  
 70'- 80' Clay, gray, with very fine sand and silt  
 80'-110' Sand, very fine  
 @ 90'-100' minor dark gray clay  
 @100'-110' trace of lignite  
 110'-123' Sand, very fine, with silt and gray clay and trace of lignite  
 123'-130' Clay, dark gray to chocolate brown, lignitic, w/very fine sand  
 130'-140' Clay, dark gray, with trace of lignite and very fine sand  
 140'-150' Clay, dark gray, slightly micaceous with very fine sand  
 @ 140'-150' trace of lignite  
 T. D.: 150'

**Drill Hole No. 221.** Elevation 220'  
 Location: NE¼, Sec. 21, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0'- 5' Clay, brown, with very fine sand  
 5'- 10' Clay, gray to reddish brown, with very fine sand  
 10'- 30' Sand, fine to very fine, with pea gravel  
 30'- 96' Sand, gray, fine to very fine @ 40'-70' trace of lignite and iron cemented sand  
 @ 70'-96' thin lignite stringers  
 96'- 98' Lignite, black, firm, with sand  
 98'-100' Clay, gray to brown, with very fine sand and silt  
 100'-105' Silt, gray to brown  
 105'-110' Clay, gray to brown, slightly micaceous  
 110'-130' Sand, very fine  
 130'-150' Sand, fine to very fine, with black, firm lignite  
 @ 140'-150' thin lignite stringers  
 T. D.: 150'

**Drill Hole No. 221a.** Elevation 219'  
 Location: SE¼, Sec. 21, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Sand, very fine, light gray, with gray clay  
 10'- 20' Sand, very fine, light brown  
 20'-150' Sand, very fine, light gray @ 20'-40' pea gravel  
 @ 20'-50' limonite  
 @ 60'-150' thin lignite stringers  
 @ 70'-150' minor thin gray and brown clay layers  
 150'-162' Sand, light gray, very fine to fine, with black lignite  
 162'-170' Clay, dark brown, with trace of lignite  
 170'-180' Clay, dark brown and light brown interlayered, slightly glauconitic  
 180'-200' Clay, dark brown, slightly lignitic, slightly micaceous  
 @ 194'-200' silt  
 T. D.: 200'

**Drill Hole No. 222.** Elevation 237'  
 Location: NE¼, Sec. 28, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0'- 10' Wash out  
 T. D.: 10'

**Drill Hole No. 222a.** Elevation 232'  
 Location: NE¼, Sec. 28, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Sand, reddish brown, very fine with silt and clay  
 10'- 25' Sand, coarse to very fine, reddish brown, with dark brown clay and small gravel  
 25'- 30' Gravel, pea, with coarse sand and white to brown clay  
 30'- 44' Sand, fine to very fine, with white to gray clay  
 @ 30'-40' small gravel  
 44'- 50' Clay, slightly micaceous, gray to brown, with very fine sand  
 50'- 60' Clay, gray to brown, with trace of lignite  
 @ 55'-60' thin lignite stringers  
 60'- 70' Clay, gray, slightly glauconitic with silt  
 70'- 80' Clay, gray, slightly micaceous  
 80'- 90' Clay, gray, slightly micaceous with light gray, very fine sand  
 90'-100' Silt, gray, with gray clay  
 100'-130' Clay, gray, slightly micaceous with very fine sand and silt  
 130'-150' Silt, gray, with trace of lignite @ 130'-140' lignitic clay  
 150'-200' Silt, gray, with trace of lignite @ 160'-200' lignite stringers, black, firm  
 T. D.: 200'

**Drill Hole No. 223.** Elevation 230'  
 Location: NW¼, Sec. 34, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0'- 10' Clay, light tan to reddish brown, with very fine sand  
 10'- 20' Clay, light reddish brown, with very fine sand  
 20'- 30' Clay, dark gray to light brown, with very fine sand  
 30'- 40' Sand, very fine, with gray clay  
 40'- 80' Clay, gray, with very fine sand and silt  
 80'- 90' Sand, very fine, with silt and gray clay  
 90'-120' Clay, gray to brown, with very fine sand and silt  
 @ 100'-115' slightly micaceous  
 @ 115'-120' interbedded very fine sand  
 120'-125' Sand, very fine  
 125'-150' Clay, gray, slightly micaceous with very fine sand  
 @ 130'-140' interbedded very fine sand  
 @ 140'-150' trace of lignite  
 T. D.: 150'

**Drill Hole No. 224.** Elevation 235'  
 Location: NW¼, Sec. 10, T. 20 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0'- 10' Sand, fine to very fine, with light gray clay  
 10'- 15' Clay, reddish brown to light tan, with very fine sand  
 15'- 20' Clay, brown, slightly micaceous with very fine sand and silt  
 20'- 25' Clay, brown, with very fine sand  
 25'- 35' No sample  
 35'- 60' Sand, very fine, with silt and brown clay  
 @ 35'-45' slightly micaceous  
 @ 45'-60' trace of lignite  
 60'- 70' Sand, very fine, with slightly lignitic, brown to dark brown clay and trace of lignite

70'- 95' Sand, very fine, with brown clay and trace of lignite  
 @ 75'-85' slightly micaceous  
 @ 90'-95' slightly micaceous  
 95'-105' Clay, brown to grayish brown, with very fine sand and silt  
 105'-110' Clay, brown to dark brown, with very fine sand and silt  
 110'-125' Clay, brown, with very fine sand  
 @ 110'-120' slightly micaceous  
 125'-140' Sand, very fine, with silt and trace of lignite  
 @ 125'-130' trace lignitic clay  
 140'-150' Clay, brown, with very fine sand and trace of lignite  
 T. D.: 150'

**Drill Hole No. 225.** Elevation 345'  
 Location: NW¼, Sec. 23, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0'- 5' Clay, reddish brown, with fine sand and limonite  
 5'- 10' Clay, light tan, slightly micaceous, with very fine sand  
 10'- 15' Clay, light tan to reddish brown, slightly micaceous, with very fine sand  
 15'- 35' Clay, dark gray, slightly micaceous, w/very fine sand and silt  
 35'- 52' Clay, dark gray, w/very fine sand  
 52'- 60' Clay, dark gray, slightly micaceous, w/very fine sand and silt  
 60'- 65' Clay, gray, with very fine sand and thin stringers of cemented sand and silt  
 65'- 70' Sand, very fine, w/gray, slightly micaceous clay & trace of lignite  
 70'- 80' Sand, very fine, with silt and gray, slightly micaceous clay  
 80'- 85' Sand, very fine, with silt and trace of lignite  
 85'- 90' Sand, very fine, w/silt and clay  
 90'-100' Sand, very fine, with silt and gray clay; also lignitic clay and trace of lignite  
 100'-110' Sand, very fine, with silt and gray, slightly micaceous clay and trace of lignite  
 110'-130' Sand, very fine, with gray clay  
 130'-140' Clay, gray, micaceous, with trace of lignitic material  
 T. D.: 140'

**Drill Hole No. 225a.** Elevation 328'  
 Location: NW¼, Sec. 23, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Clay, light tan, with silt and fine sand  
 10'- 15' Clay, light tan, iron stained with fine sand  
 15'- 19' Clay, mottled  
 19'- 30' Clay, dark gray, slightly micaceous, glauconitic, with very fine sand  
 @ 20'-30' silt  
 30'- 50' Clay, dark gray, slightly micaceous, slightly glauconitic, and light tan clay interlayered, and very fine sand and silt  
 50'- 60' Clay, dark gray, slightly micaceous, w/very fine sand and silt & thin stringers of black lignite  
 60'- 68' Clay, dark gray, slightly micaceous, slightly glauconitic, with very fine sand and silt and lignitic clay and trace of lignite  
 68'- 78' Silt, brown, slightly micaceous @ 78' siderite layer  
 78'- 80' Silt, brown, with trace of lignite

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80' 90' Silt, brown, with lignitic clay and siderite layer @ 80'  
 90' 107' Silt, brown, with trace of lignite  
 107' 111' Lignite, black, soft  
 111' 120' Silt, brown, with lignite stringer and very fine sand  
 120' 160' Silt, brown, with very fine sand and trace of lignite  
 160' 170' Silt, brown, with very fine sand and trace of pyrite  
 170' 183' Silt, brown, with brown clay  
 183' 200' Silt, brown, with clay and trace of lignite  
 T. D.: 200'

**Drill Hole No. 226.** Elevation 227'  
 Location: NW¼, Sec. 22, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0' 10' Sand, fine to very fine, reddish brown  
 10' 20' Clay, gray brown to light tan, with very fine sand and trace of lignite  
 20' 40' No sample  
 40' 55' Clay, gray, with very fine sand and silt, micaceous  
 55' 60' Clay, gray, fissile, with very fine sand  
 60' 70' Sand, very fine, with gray clay  
 70' 80' Sand, very fine, with gray to brown clay, and trace of lignite  
 80' 90' Sand, very fine, with gray to brown, fissile clay  
 90' 96' Sand, very fine, silty, with gray clay  
 96' 108' Lignite, black, firm  
 108' 120' Clay, gray to brown, with very fine sand, slightly micaceous  
 120' 130' Clay, gray to brown  
 130' 135' Clay, gray, silty  
 135' 143' Clay, gray  
 143' 150' Sand, very fine, with gray brown clay  
 T. D.: 150'

**Drill Hole No. 226a.** Elevation 228'  
 Location: NW¼, Sec. 22, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 10' Sand, very fine, with reddish brown clay and small gravel  
 10' 15' Sand, very fine, with light tan clay  
 15' 20' Gravel, pea size, with light tan clay  
 20' 25' Clay, gray, with silt  
 25' 48' Clay, gray, brown, silty, slightly micaceous  
 48' 50' Silt, gray, with gray clay and trace of lignite  
 50' 59' Silt, gray, with gray clay and very fine sand  
 59' 75' Silt, gray, interbedded with fine sand and trace of lignite  
 75' 96' Sand, fine to very fine, light gray, with silt and traces of lignite  
 96' 107' Lignite, black, hard, conchoidal fracture  
 107' 126' Sand, light gray  
 126' 130' Sand, light brown to gray, with silt, clay and trace of lignite  
 130' 150' Silt, light brown, with very fine sand and clay, with trace of lignite

Core interval No. 1: 96' 106'  
 Recovered: Lost:  
 4' 10" 5' 2"

96' 101' 2" washed out  
 101' 2" 105' 2" compacted, lignitic sand, with lignite stringers  
 105' 2" 106' lignite, black, hard with conchoidal fracture

Core interval No. 2: 106' 116'  
 Recovered: Lost:  
 10' 0'

106' 107' 2" lignite, black, firm, silty  
 107' 2" 107' 4" sand, with small stringers of lignite  
 107' 4" 107' 9" lignite, black, firm, with uneven fracture  
 107' 9" 116' sand and clay  
 T. D.: 150'

**Drill Hole No. 226b.** Elevation 318'  
 Location: NW¼, Sec. 22, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 10' Sand, light tan to brown, very fine with tan clay  
 10' 25' Sand, very fine, light tan to reddish brown, with tan clay and red iron cemented sand layers  
 25' 62' Clay, gray brown, slightly micaceous, with very fine sand  
 62' 83' Sand, very fine, brown  
 83' 94' Silt, gray, with trace of lignite  
 94' 100' Sand, very fine, with gray clay  
 100' 113' Silt, gray, with trace of lignite  
 113' 135' Clay, brown, silty  
 135' 140' Clay, brown, with very fine sand and trace of lignite  
 140' 160' Silt, brown, with brown clay and traces of lignite  
 160' 188' Silt and very fine sand, with numerous thin beds and stringers of lignite. Lignite beds up to 3" thick. Drilled fast.  
 188' 200' Silt, brown, with very fine sand and trace of lignite  
 T. D.: 200'

**Drill Hole No. 227.** Elevation 320'  
 Location: SW¼, Sec. 24, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0' 12' Clay, gray brown to reddish brown, with some limonite  
 12' 20' Clay, dark gray, silty, micaceous and slightly glauconitic  
 20' 38' Sand, very fine, with silt and gray clay  
 38' 40' Lignite, black, soft, with some lignitic clay  
 40' 50' Sand, fine to very fine, gray-brown  
 50' 60' Sand, fine to very fine, with gray clay and lignitic clay  
 60' 70' Sand, very fine with gray clay and silt  
 70' 80' Sand, very fine, with gray-brown clay, slightly lignitic  
 80' 92' Silt, with gray brown clay  
 92' 100' Sand, very fine, with gray clay  
 100' 120' Clay, gray brown, slightly micaceous and glauconitic  
 120' 130' Clay, gray brown, with very fine sand  
 130' 150' Clay, gray brown, silty, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 228.** Elevation 321'  
 Location: SW¼, Sec. 17, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 6/77.

0' 20' Clay, light tan to red, silty, with some limonite  
 20' 45' Clay, dark gray, silty, glauconitic, micaceous  
 45' 50' Clay, dark gray, silty  
 50' 50' Clay, dark gray, micaceous, glauconitic, with very fine sand  
 60' 70' Clay, brown, silty, micaceous with very fine sand  
 70' 110' Clay, brown, fissile, silty and micaceous  
 110' 120' Clay, dark brown, with very fine sand and trace of lignite  
 120' 130' Sand, very fine, with brown clay  
 130' 140' Silt, with brown clay layers and trace of lignite  
 140' 150' Silt, with trace of lignite and lignitic clay  
 T. D.: 150'

**Drill Hole No. 229.** Elevation 363'  
 Location: NW¼, Sec. 18, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 15' Clay, reddish brown to light tan, with very fine sand  
 15' 20' Sand, very fine, with reddish brown clay and some limonite  
 20' 30' Clay, dark gray, silty, micaceous  
 30' 35' Clay, dark gray, with very fine sand and trace of lignite  
 35' 40' Sand, very fine, with dark gray clay  
 40' 45' Sand, very fine, with silt  
 45' 50' Silt, with some gray clay  
 50' 55' Clay, dark gray to brown, silty, micaceous  
 55' 65' Clay, dark gray, silty, micaceous with trace of siderite  
 65' 70' Clay, dark gray to brown, silty, with iron cemented red sandstone concretions  
 70' 75' Clay, brown, micaceous, with very fine sand  
 75' 80' Clay, brown, with very fine sand and some lignitic clay  
 80' 95' Sand, very fine, with some dark gray clay  
 95' 120' Sand, fine to very fine, light brown  
 120' 130' Sand, fine to very fine, with lignite stringers  
 130' 150' Sand, fine to very fine  
 T. D.: 150'

**Drill Hole No. 230.** Elevation 311'  
 Location: NE¼, Sec. 4, T. 19 S., R. 27 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 18' Sand, medium to fine, with light tan clay  
 18' 20' Clay, gray to brown, with fine sand  
 20' 30' Clay, dark gray, slightly micaceous, with fine to very fine sand  
 30' 40' Clay, dark gray, slightly lignitic with very fine sand  
 40' 50' Clay, dark gray, slightly micaceous, silty and glauconitic  
 50' 60' Clay, dark gray, with very fine sand, micaceous  
 60' 70' Clay, light gray to brown, micaceous, with very fine sand  
 70' 80' Clay, brown, slightly micaceous with very fine sand

ARKANSAS LIGNITE INVESTIGATIONS

80'- 90' Sand, fine to very fine, with light brown clay  
 90'-100' Sand, fine to very fine, lignitic with brown clay  
 100'-120' Sand, fine to very fine, with light brown, silty, micaceous clay and trace of lignite  
 120'-130' Sand, very fine, light brown  
 130'-150' Silt, with lignitic clay and trace of lignite  
 T. D.: 150'

**Drill Hole No. 231.** Elevation 335'  
 Location: SW¼, Sec. 11, T. 19 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 13' Sand, fine, with light tan and red iron stained clay  
 13'- 20' Clay, dark gray, silty, micaceous, with very fine sand  
 20'- 30' Clay, dark gray to brown, micaceous, with iron stained clay and limonite  
 30'- 50' Clay, dark gray-brown, slightly micaceous, with very fine sand  
 50'- 53' Sand, very fine to fine, with gray-brown clay  
 53'- 60' Sand, very fine, with gray-brown clay and lignite stringers  
 60'- 65' Sand, gray brown, very fine, silty, with gray clay  
 65'- 70' Clay, gray-brown, with very fine sand  
 70'- 75' Clay, brown, micaceous, with very fine sand and trace of lignite  
 75'- 90' Clay, brown, slightly micaceous with very fine sand  
 90'- 93' Clay, brown, slightly micaceous with cemented silt and sand layers and trace of limonite  
 93'-120' Clay, brown, slightly micaceous, with very fine sand and silt  
 120'-148' Clay, brown, slightly micaceous, fissile, with very fine sand  
 148'-150' Clay, gray-brown, slightly micaceous, with very fine sand and silt  
 T. D.: 150'

**Drill Hole No. 232.** Elevation 385'  
 Location: NE¼, Sec. 4, T. 19 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Sand, medium to fine, iron stained and cemented in places with light tan to reddish brown clay  
 10'- 15' Clay, light tan to reddish brown, with very fine sand  
 15'- 20' Clay, light tan and gray brown, some iron stain, with very fine sand and silt  
 20'- 30' Clay, gray-brown, slightly micaceous, with very fine sand and silt  
 30'- 35' Clay, gray-brown, slightly micaceous, with very fine sand and traces of lignite and limonite  
 35'- 40' Clay, brown, slightly micaceous and lignitic, with very fine sand  
 40'- 50' Clay, brown, slightly micaceous, fissile, with very fine sand and silt  
 50'- 55' Clay, brown, with very fine sand and silt  
 55'- 58' Clay, brown, slightly micaceous, with very fine sand and silt

58'- 64' Sand, very fine, with clay and silt binder  
 64'- 70' Clay, brown, slightly micaceous, with very fine sand and silt  
 70'- 80' Sand, very fine, with silt and gray-brown clay binder  
 80'- 85' Clay, light gray to brown, micaceous, with very fine sand  
 85'- 90' Clay, brown, with very fine sand and silt  
 90'-100' Clay, brown, silty, with very fine sand and trace of lignite  
 100'-110' Clay, brown to dark brown, silty, with very fine sand and trace of lignite  
 110'-150' Clay, dark brown, silty, with very fine sand and traces of lignite  
 T. D.: 150'

**Drill Hole No. 233.** Elevation 233'  
 Location: SE¼, Sec. 10, T. 19 S., R. 28 W. County, Miller  
 Logged by: J. M. Howard 7/77.

0'- 15' Clay, gray, mottled, with fine sand  
 15'- 27' Clay, gray, with silt  
 27'- 33' Silt, gray, with gray clay, and fine micaceous sand  
 Siderite layer @ 27'  
 33'- 50' Clay, gray, with silt  
 50'- 60' Clay, gray, with fine sand and iron concretions @ 50'  
 60'- 70' Clay, gray, with trace of carbonaceous material  
 70'- 75' Clay, gray, with trace of lignite  
 75'- 80' Silt, gray, with clay  
 80'- 90' Silt, light gray, with gray clay  
 90'- 95' Clay, gray, with very fine sand and silt  
 95'-100' Sand, very fine, with gray clay  
 100'-110' Sand, very fine, with silt and dark brown clay  
 110'-120' Silt, with dark brown, micaceous clay  
 120'-150' Clay, dark brown, with silt  
 T. D.: 150'

**Drill Hole No. 234.** Elevation 305'  
 Location: NE¼, Sec. 33, T. 18 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Clay, mottled, with fine to medium sand  
 10' 20' Sand, very fine, with light tan, silty clay  
 20' 30' Sand, fine, with interbedded, light tan clay  
 30'- 35' Silt, gray, with gray clay  
 35'- 45' Silt, dark gray, slightly micaceous, with clay binder and trace of lignite @ 40'  
 45'- 55' Silt, gray brown, with trace of lignite  
 55'- 70' Silt, gray brown, with clay and some lignitic clay  
 70'- 80' Clay, gray brown, silty, slightly micaceous  
 80'- 85' Silt, dark brown, slightly lignitic and micaceous  
 85'- 90' Clay, dark brown, micaceous  
 90'-100' Clay, brown, silty, micaceous  
 100'-110' Silt, dark brown, micaceous  
 110'-116' Sand, very fine, silty  
 116'-116½' Siderite, brown, conchoidal fracture  
 116½'-120' Clay, dark brown, silty, with trace of siderite  
 120'-130' Clay, dark brown, slightly glauconitic and micaceous, with very fine sand and silt

130'-140' Silt, dark brown, micaceous, with very fine sand  
 140'-150' Clay, gray-brown, micaceous  
 T. D.: 150'

**Drill Hole No. 235.** Elevation 318'  
 Location: NW¼, Sec. 6, T. 19 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Sand, tan, very fine, with some clay  
 10'- 30' Sand, light tan, very fine  
 30'- 50' Clay, dark gray, micaceous, with very fine sand and silt  
 50'- 70' Clay, dark gray to brown, silty, slightly micaceous, with very fine sand and glauconite @ 60' siderite layer  
 70'-102' Clay, dark gray to brown, silty, micaceous  
 102'-115' Sand, very fine, silty, with dark brown clay  
 115'-120' Clay, dark brown  
 120'-126' Clay, dark brown, with silt  
 126'-140' Silt, dark brown  
 T. D.: 140'

**Drill Hole No. 236.** Elevation 230'  
 Location: SW¼, Sec. 21, T. 18 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 20' Sand, very fine, micaceous, with brown clay binder  
 20'- 30' Silt, brown, micaceous, with some clay  
 30'- 36' Silt, brown, sandy  
 36'- 38' Lignite, silty and sandy, black  
 38'- 40' Clay, brown, micaceous, with very fine sand and silt  
 40'- 55' Silt, brown, with very fine sand and brown clay  
 55'- 70' Silt, brown, micaceous, with very fine sand  
 70'- 80' Silt, brown, micaceous, with very fine sand and trace of carbonaceous material  
 80'- 86' Sand, silty, brown, very fine, micaceous  
 86'- 90' Sand, very fine, silty, with stringers of lignite  
 90'-100' Silt, brown, micaceous, with very fine sand  
 100'-115' Sand, very fine, silty, brown, micaceous  
 115'-120' Sand, very fine, brown, micaceous, with clay  
 120'-134' Clay, brown, silty, micaceous  
 134'-135' Siderite, light tan  
 T. D.: 135'

**Drill Hole No. 237.** Elevation 245'  
 Location: SE¼, Sec. 17, T. 18 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0'- 10' Clay, light tan, with very fine sand  
 10'- 15' Clay, light tan to brown, with very fine to coarse sand  
 15'- 20' Sand, very fine, with light tan clay binder  
 20'- 30' Clay, dark brown, micaceous with lignite stringers  
 30'- 40' Sand, light brown, with dark brown clay binder  
 40'- 50' Sand, brown, fine to very fine, micaceous and silty  
 50'- 60' Clay, brown, micaceous, with very fine sand and silt  
 60'- 70' Sand, very fine, micaceous, with dark brown clay and silt

ARKANSAS LIGNITE INVESTIGATIONS

70' 75' Silt, brown, with very fine sand  
 75' 80' Silt, brown, with cemented sand stringers  
 80' 85' Silt, dark brown, with siderite  
 85'-100' Silt, dark brown, micaceous, with very fine sand and trace of lignite  
 100' 102' Silt, dark brown, micaceous  
 102' 110' Silt, dark brown, micaceous with clay  
 110' 125' Clay, brown, with very fine sand and silt  
 125' 128' Silt, dark brown, slightly micaceous  
 128' 150' Silt, brown, slightly micaceous with some very fine sand  
 T. D.: 150'

**Drill Hole No. 238.** Elevation 265'  
 Location: NE ¼, Sec. 17, T. 18 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 10' Sand, light tan, very fine, micaceous  
 10' 20' Sand, tan, fine to very fine with clay  
 20' 40' Sand, tan, fine to very fine with a trace of clay  
 40' 50' Sand, gray brown, very fine, silty, micaceous  
 50' 60' Sand and silt, micaceous, with a trace of lignite  
 60' 70' Sand, very fine, silty, micaceous  
 70' 80' Silt, brown, micaceous, with trace of lignite  
 80' 90' Silt, brown, lignitic, with very fine sand  
 90' 105' Silt, brown, with very fine sand and trace of lignite  
 105' 116' Silt, dark brown, micaceous with very fine sand, trace of lignite and clay  
 115' 120' Silt, dark brown, micaceous with very fine sand  
 120' 145' Silt, brown to dark brown, micaceous, with very fine sand and trace of lignite  
 145' 150' Silt, brown to dark brown, micaceous with very fine sand  
 T. D.: 150'

**Drill Hole No. 239.** Elevation 278'  
 Location: SW ¼, Sec. 5, T. 18 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 10' Clay, light tan to reddish brown, with very fine sand  
 10' 20' Sand, fine to very fine, reddish brown, iron cemented in places  
 20' 34' Sand, very fine, iron cemented in places, with some clay and silt  
 34' 46' Sand, very fine, micaceous and lignitic  
 46' 50' Clay, brown, micaceous, with lignite stringers  
 50' 60' Clay, brown, with very fine sand  
 60' 65' Silt, brown, slightly micaceous  
 65' 70' Clay, brown, silty, micaceous  
 70' 75' Silt, with very fine sand and dark brown clay  
 75' 95' Clay, dark brown, slightly lignitic and micaceous  
 95' 104' Silt, dark brown, lignitic, with trace of lignite and very fine sand  
 104' 110' Clay, brown, slightly micaceous and lignitic

110' 120' Clay, dark brown, slightly micaceous, lignitic, with very fine sand  
 120' 133' Clay, dark brown, slightly micaceous, with very fine sand and silt  
 133' 150' Silt, brown, with brown clay  
 T. D.: 150'

**Drill Hole No. 240.** Elevation 312'  
 Location: SE ¼, Sec. 33, T. 17 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 15' Sand, reddish brown, very fine  
 15' 20' Sand, reddish brown, very fine silty  
 20' 30' Sand, light brown, very fine, silty  
 30' 40' Sand, very fine, silty, with brown clay  
 40' 45' Sand, fine to very fine, reddish brown  
 45' 50' Sand and gravel  
 50' 56' Sand, fine, with some pea-sized gravel and light tan clay  
 56' 66' Sand, brown to dark brown, with lignitic clay binder and traces of lignite  
 66' 67' Lignite, black, hard  
 67' 80' Sand, dark brown to brown, fine to very fine, with traces of lignite and siderite @ 73'  
 80' 90' Sand, very fine, brown, silty, micaceous  
 90' 95' Silt, brown to dark brown, with very fine sand  
 95' 100' Clay, brown, micaceous, with very fine sand  
 100' 130' Silt, dark chocolate brown, with very fine sand and traces of lignite  
 130' 150' Silt, chocolate brown, with traces of lignite and very fine sand  
 T. D.: 150'

**\*Drill Hole No. 241.** Elevation 213'  
 Location: NW ¼, Sec. 22, T. 17 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 16' Clay, light tan to reddish brown with very fine sand, iron stained  
 16' 17' Gravel, pea size  
 17' 20' Sand, reddish brown, fine to very fine, micaceous, some iron cemented  
 20' 30' Sand, reddish brown, fine to very fine, with some iron cemented and traces of limonite  
 30' 37' Sand, light tan to red brown, fine to very fine, with tan clay binder  
 37' 40' Sand, dark brown, fine to very fine, micaceous, lignitic, with dark brown clay  
 40' 50' Sand, dark brown, very fine, micaceous with dark brown clay  
 50' 60' Silt, dark brown, micaceous, with dark brown clay  
 60' 75' Clay, dark brown, silty, micaceous  
 75' 82' Sand, very fine, dark brown, micaceous, w/dark brown clay  
 82' 85' Silt, dark brown  
 85' 87' Sand and silt, very fine, dark brown, micaceous  
 87' 90' Clay, dark brown, silty and micaceous  
 90' 115' Silt, dark brown, micaceous with very fine sand and dark brown clay and siderite layer @ 115'

115'-125' Silt and sand, dark brown, very fine, micaceous, with dark brown clay  
 125'-130' Silt, dark brown, micaceous, with clay and very fine sand  
 130'-150' Silt, brown, micaceous, with brown clay and siderite layer @ 139'  
 T. D.: 150'

**Drill Hole No. 242.** Elevation 245'  
 Location: SW ¼, Sec. 10, T. 17 S., R. 28 W. County, Miller  
 Logged by: G. L. Delavan 7/77.

0' 15' Sand, fine to very fine, brown  
 15' 20' Clay, light reddish brown, micaceous, with very fine sand  
 20' 30' Sand, fine to very fine, reddish brown, micaceous and glauconitic, with some gravel near 25'  
 30' 50' Sand, brown, very fine, micaceous, silty, with thin iron cemented beds  
 50' 55' Silt, dark brown, micaceous with clay  
 55' 100' Clay, dark brown, micaceous, silty, with siderite @ 68'  
 T. D.: 100'

**\* Drill Hole No. 243.** Elevation 373'  
 Location: SW ¼, Sec. 9, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 20' Sand, fine to very fine, light brown, micaceous  
 20' 25' Sand, fine to very fine, with light tan to reddish brown clay  
 25' 28' Sand and clay, light tan to reddish brown  
 28' 110' Clay, dark gray, slightly micaceous and silty  
 110' 120' Clay, dark gray, slightly micaceous, fissile  
 120' 150' Clay, dark gray, slightly micaceous and silty  
 T. D.: 150'

**Drill Hole No. 244.** Elevation 365'  
 Location: SE ¼, Sec. 17, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 50' Sand, reddish brown, fine to very fine, slightly micaceous  
 50' 100' Clay, dark gray, slightly micaceous  
 T. D.: 100'

**\* Drill Hole No. 245.** Elevation 396'  
 Location: SW ¼, Sec. 32, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 14' Sand, tan to reddish brown, fine to very fine, with light tan clay  
 14' 20' Clay, dark gray, micaceous  
 20' 22' Clay, dark gray to brown  
 22' 24' Lignite, black, firm  
 24' 30' Clay, gray to brown, silty, micaceous, with very fine sand  
 30' 37' Clay, brown, slightly micaceous  
 37' 40' Lignite, black, soft, with some lignitic clay  
 40' 55' Silt, light brown, with some interbedded lignitic clay and trace of lignite

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

55' 60' Clay, brown, slightly micaceous, silty, with trace of lignite  
 60' 72' Clay, brown, slightly micaceous  
 72' 75' Lignite, black, very soft  
 75' 79' Clay, brown, slightly micaceous  
 79' 81' Lignite, black, very soft  
 81' 90' Clay, brown, micaceous  
 90' 93' Silt, brown, with trace of lignite  
 93' 97' Clay, brown, with trace of lignite  
 97' 110' Lignitic clay, dark brown to black, with stringers of lignite  
 110' 117' Silt, brown, with very fine sand and trace of lignite  
 117' 120' Clay, gray brown, silty, with siderite at 117'  
 120' 127' Silt, gray brown, with trace of lignite  
 127' 130' Silt, lignitic, dark brown, with stringers of lignite  
 130' 140' Silt, light brown, with trace of lignite

Core interval No. 1: 20' 25'  
 Recovered: Lost:  
 2' 3'  
 10" lignite recovered with brown lignitic clay on top and bottom of lignite

Core interval No. 2: 36' 41'  
 Recovered: Lost:  
 4' 4" 8"  
 36' 37' 10" clay, gray brown, silty and micaceous  
 37' 10" 40' 4" lignite, black, with uneven fracture  
 40' 4" 41' clay, gray brown, silty

Core interval No. 3: 40' 50'  
 Recovered: Lost:  
 1' 9'  
 No lignite recovered. Problems with core barrel; only clay recovered.

Core interval No. 4: 70' 79' 4"  
 Recovered: Lost:  
 9' 4" 0'  
 70' 71' 3" clay, gray, silty, micaceous  
 71' 3" 73' 1" lignite  
 73' 1" 79' 4" clay, gray to brown, very fine sand and silt

Core interval No. 5: 79' 4" 89'  
 Recovered: Lost:  
 9' 8" 0'  
 79' 4" 81' 8" lignite  
 81' 5" 81' 10" lignitic clay, with stringers of lignite  
 81' 10" 87' 11" clay, gray, silty, micaceous, with very fine sand  
 87' 11" 88' 10" sandstone, fine, light gray, with hackley fracture  
 88' 10" 89' sand, fine, light gray, slightly micaceous  
 T. D.: 140'

**Drill Hole No. 246.** Elevation 355'  
 Location: SW 1/4, Sec. 20, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 6' Sand, fine to very fine, red brown  
 6' 9' Clay, light gray, with very fine sand  
 9' 35' Sand, fine, light brown  
 35' 40' Clay, light brown, slightly micaceous  
 40' 77' Sand, fine, gray, with trace of carbonaceous material

77' 87' Sand, fine, gray, with gray clay interbedded  
 87' 100' Clay, dark gray, silty, micaceous  
 T. D.: 100'

**Drill Hole No. 247.** Elevation 375'  
 Location: NE 1/4, Sec. 29, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 10' Clay, mottled, gray brown and red, with very fine sand  
 10' 27' Clay, light tan, with very fine sand  
 27' 30' Clay, dark brown, slightly micaceous, lignitic  
 30' 39' Clay, lignitic, micaceous, with lignite stringers  
 39' 48' Clay, gray brown, slightly micaceous  
 48' 50' Lignite  
 50' 57' Clay, dark brown, lignitic, slightly micaceous  
 57' 72' Clay, gray brown, slightly micaceous, with very fine sand  
 72' 110' Silt, gray to light brown, slightly micaceous  
 110' 146' Sand, very fine, gray brown, slightly micaceous  
 146' 150' Lignite, soft, black, sandy  
 T. D.: 150'

**Drill Hole No. 248.** Elevation 358'  
 Location: SE 1/4, Sec. 30, T. 13 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 10' Clay, red brown, slightly micaceous, with very fine sand  
 10' 20' Sand, fine, red brown to dark brown, slightly micaceous, with trace of lignite  
 20' 39' Lignite, brown to gray brown, slightly micaceous  
 39' 60' Sand, very fine, dark gray, micaceous, with dark gray clay  
 60' 77' Clay, dark gray brown, slightly micaceous, with very fine sand  
 77' 136' Sand, very fine, dark gray, slightly micaceous, with thin beds of dark gray clay  
 136' 150' Silt, brown, with very fine sand  
 T. D.: 150'

**Drill Hole No. 249.** Elevation 338'  
 Location: SW 1/4, Sec. 25, T. 13 S., R. 25 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 6' Sand, very fine, red brown  
 6' 19' Clay, light tan to red brown  
 19' 21' Clay, black, lignitic, slightly micaceous  
 21' 26' Lignite, black, with uneven fracture  
 26' 31' Clay, gray brown  
 31' 37' Sand, very fine, gray-brown  
 37' 50' Clay, brown, slightly micaceous, with very fine sand and trace of lignite @ 48'  
 50' 68' Clay, brown, slightly micaceous, with very fine sand  
 68' 70' Clay, dark gray, with lignitic clay and lignite stringers  
 70' 72' Clay, dark gray, and very fine sand  
 72' 110' Clay, blue gray, with very fine sand

Core interval 18' 26'  
 Recovered: Lost:  
 5' 4" 2' 8"  
 18' 19' 2" washed out

19' 2"-19' 10" clay, black, very lignitic  
 19' 10"-21' 6" clay, brown, slightly lignitic  
 21' 6"-22' clay, black, lignitic  
 22' 22' 8" lignite, black, soft  
 22' 8"-24' 2" washed out  
 24' 2"-26' lignite, black, hard, conchoidal fracture  
 T. D.: 110'

**Drill Hole No. 250.** Elevation 348'  
 Location: NE 1/4, Sec. 35, T. 13 S., R. 25 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 10' Sand, very fine, red-brown, slightly micaceous, with interbedded clay and 1' of gravel @ 8'  
 10' 17' Sand, very fine, red-brown, slightly micaceous  
 17' 40' Sand, very fine, red-brown  
 T. D.: 40'

**Drill Hole No. 251.** Elevation 398'  
 Location: SW 1/4, Sec. 35, T. 13 S., R. 25 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 5' Sand, very fine, red-brown, with interbedded brown clay  
 5' 26' Clay, white to light tan, slightly micaceous  
 26' 30' Clay, gray-brown, slightly micaceous  
 30' 46' Clay, gray-brown, slightly micaceous, with very fine sand and interbedded red-brown clay  
 46' 111' Sand, fine, brown, trace of carbonaceous material, with brown clay  
 111' 114' Lignite, black, hard, with conchoidal fracture  
 114' 115' Clay, lignitic black  
 115' 117' Clay, brown, with interbedded black, lignitic clay  
 117' 122' Clay, brown, slightly micaceous, with very fine sand  
 122' 124' Clay, brown, with very fine sand and lignite stringers  
 124' 125' Lignite, black and hard  
 125' 128' Clay, brown, with very fine sand and lignite stringers  
 128' 130' Clay, brown, slightly micaceous  
 130' 139' Clay, brown, slightly micaceous, with trace of lignite  
 139' 140' Lignite, black, hard  
 140' 160' Clay, brown, slightly micaceous, with very fine sand and trace of lignite  
 T. D.: 160'

**Drill Hole No. 252.** Elevation 365'  
 Location: SE 1/4, Sec. 3, T. 14 S., R. 25 W. County, Hempstead  
 Logged by: G. L. Delavan 8/77.

0' 9' Sand, very fine, light red-brown, micaceous  
 9' 23' Clay, light tan, slightly micaceous, with very fine sand  
 23' 30' Clay, light tan to light brown, with very fine sand and dark brown, iron cemented sandstone layers  
 30' 30' 6" Lignite, black, hard  
 30' 6"-39' Clay, gray, with very fine sand and trace of lignite  
 39' 52' Clay, dark gray to brown, lignitic, micaceous, with very fine sand and lignite stringers  
 52' 66' Silt, dark gray, slightly micaceous, with siderite @ 56'

## ARKANSAS LIGNITE INVESTIGATIONS

66'- 77' Clay, gray brown, slightly micaceous, with very fine sand  
 77'- 84' Lignite, with some black lignitic clay  
 84'- 90' Clay, dark brown, silty and lignitic  
 90'-110' Clay, brown, silty, with very fine sand  
 110'-130' Sand, dark brown, silty, slightly micaceous, with brown clay  
 130'-160' Silt, brown, with very fine sand

Core interval 76'-86'

Recovered:                      Lost:  
 8'8"                                      1'4"  
 76' 77'5" clay, dark brown, very lignitic, waxy and slightly micaceous  
 77'5" 79'7" lignite, black, hard  
 79'7" 81'2" lignite, black, soft and friable  
 81'2" 82'1" lignite and clay interbedded, dark brown to black, with very fine sand  
 82'1" 83'9" clay, dark brown, very lignitic  
 83'9" 84'8" lignite and clay interbedded, hard, dark brown to black  
 84'8" 86' no recovery;  
 bottom of core barrel spread  
 45" inches lignite for analysis  
 from 77'5" 81'2"  
 T. D.: 150'

**Drill Hole No. 253.** Elevation 381'  
 Location: SW¼, Sec. 5, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 59' Sand, very fine, reddish brown, with some clay  
 59' 60' Lignite, black, soft, with some clay  
 60' 79' Silt, gray brown, slightly micaceous, with thin lignite stringers  
 79' 81' Lignite, black, hard  
 81' 84' Clay, dark brown, silty, micaceous  
 84' 88' Clay and silt, gray brown, slightly micaceous  
 88' 102' Sand, very fine, gray brown, slightly micaceous  
 102' 150' Clay, gray brown, slightly micaceous, with very fine sand and traces of lignite  
 T. D.: 150'

**Drill Hole No. 254.** Elevation 330'  
 Location: SW¼, Sec. 8, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 17' Sand, fine, gray brown, glauconitic  
 17' 31' Clay, gray brown, silty, slightly micaceous  
 31' 40' Clay, light tan, slightly micaceous, with trace of black lignitic clay  
 40' 46' Sand, very fine, light reddish brown  
 46' 102' Sand, fine, gray brown, glauconitic  
 102' 117' Silt, gray brown, micaceous, with very fine sand and trace of lignite @ 107'  
 117' 150' Clay, gray brown, silty, micaceous, with very fine sand and trace of lignite  
 T. D.: 150'

**Drill Hole No. 255.** Elevation 339'  
 Location: NW¼, Sec. 20, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 8' Clay, dark reddish brown, with very fine cemented sandstone  
 8' 25' Clay, light tan, slightly micaceous, with very fine sand  
 25' 40' Clay, dark brown, silty, slightly micaceous  
 40' 47' Clay, dark brown, with very fine sand  
 47' 62' Sand, very fine, brown, slightly micaceous, with brown clay  
 62' 90' Clay, dark brown, silty, slightly micaceous  
 90' 98' Clay, dark brown, silty, slightly micaceous, with very fine sand  
 98' 120' Clay, gray, slightly micaceous, with very fine sand and trace of lignite @ 119'  
 120' 150' Clay, gray, slightly micaceous, with very fine sand and stringers of lignite up to 1"  
 T. D.: 150'

**Drill Hole No. 256.** Elevation 345'  
 Location: NW¼, Sec. 29, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 8' Clay, reddish brown, with very fine sand  
 8' 18' Clay, tan, slightly micaceous with very fine sand  
 18' 30' Clay, very dark brown, lignitic, slightly micaceous, with very fine sand  
 30' 62' Clay, dark brown, slightly micaceous, with very fine sand  
 62' 70' Sand, very fine, brown, with dark brown clay  
 70' 79' Clay, dark brown, slightly micaceous, with very fine sand and 8" siderite @ 73"  
 79' 116' Sand, brown, very fine, with 14" siderite @ 85"  
 116' 140' Clay, brown, slightly micaceous with very fine sand  
 140' 146' Clay, brown, slightly micaceous with very fine sand and trace of lignite  
 146' 150' Clay, gray, silty, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 257.** Elevation 320'  
 Location: SW¼, Sec. 31, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 4' Sand, very fine, reddish brown  
 4' 12' Clay, brown, slightly micaceous with sand and 18" pea gravel  
 12' 23' Sand, brown, very fine, with clay binder  
 23' 50' Clay, very dark brown, slightly micaceous, silty, with very fine sand  
 50' 66' Clay, dark brown, silty, micaceous, with very fine sand and siderite layers  
 66' 90' Sand and silt, very fine, dark brown, slightly micaceous, with dark brown cemented sandstone layers and trace of lignite  
 90' 98' Sand and silt, very fine, dark brown, slightly micaceous  
 98' 117' Clay, dark brown, slightly micaceous, with very fine sand  
 117' 130' Sand, very fine, brown, micaceous, with siderite layer

130'-150' Sand, very fine, brown, slightly micaceous, w/dark brown clay  
 150'-160' Silt, dark brown, with very fine sand and clay  
 T. D.: 160'

**Drill Hole No. 258.** Elevation 298'  
 Location: SE¼, Sec. 6, T. 15 S., R. 24 W. County, Lafayette  
 Logged by: G. L. Delavan                      8/77.

0' 14' Silt, reddish brown, with very fine sand  
 14' 22' Sand, very fine, reddish brown, with clay binder  
 22' 29' Clay, light brown, slightly micaceous, with trace of iron cemented sand  
 29' 34' Sand, very fine, brown, slightly glauconitic, with brown clay binder  
 34' 44' Clay, dark brown, silty, micaceous, with siderite layer  
 44' 53' Clay, dark brown, silty, micaceous, with very fine sand  
 53' 70' Sand, very fine, dark brown, silty, micaceous  
 70' 80' Sand, very fine, dark brown, silty, micaceous, with interbeds of dark brown iron cemented sandstone  
 80' 100' Sand, very fine, brown, with siderite layers  
 100'-130' Sand, very fine, brown, with traces of lignite  
 130'-150' Sand, very fine, brown, with dark brown, micaceous clay  
 T. D.: 150'

**\* Drill Hole No. 259.** Elevation 275'  
 Location: SW¼, Sec. 8, T. 15 S., R. 24 W. County, Lafayette  
 Logged by: G. L. Delavan                      8/77.

0' 6' Sand, very fine, light tan  
 6' 10' Sand, very fine, light tan, w/clay  
 10' 18' Sand, very fine, brown, with pea gravel  
 18' 30' Sand, very fine, dark brown, silty  
 30' 85' Clay, dark brown, slightly micaceous, with very fine sand  
 85'-150' Silt, brown, with very fine sand and a few layers of dark brown clay and siderite  
 T. D.: 150'

**Drill Hole No. 260.** Elevation 287'  
 Location: SW¼, Sec. 21, T. 14 S., R. 24 W. County, Hempstead  
 Logged by: G. L. Delavan                      8/77.

0' 10' Sand, very fine, reddish brown, with brown clay  
 10' 72' Sand, very fine, brown, slightly micaceous  
 72' 80' Sand, very fine, brown, slightly micaceous, w/dark brown clay  
 80' 85' Sand, fine to very fine, light brown, slightly micaceous  
 85' 89' Clay, dark brown to black, with lignite stringers up to 7" thick  
 89' 94' Clay, dark brown, slightly lignitic and micaceous  
 94' 105' Clay, light gray to brown, micaceous, slightly glauconitic, with very fine sand  
 105'-128' Sand, very fine, silty, gray, slightly micaceous and glauconitic  
 128'-150' Clay, gray-brown, silty, with traces of lignite  
 T. D.: 150'

\* Electric logs available

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**Drill Hole No. 261.** Elevation 328'  
 Location: SW¼, Sec. 22, T. 14 S., R. 24 W.  
 County, Hempstead  
 Logged by: G. L. Delavan 8/77.

- 0'-18' Sand, very fine, silty, reddish brown
- 18'-38' Sand, very fine, dark brown, slightly micaceous with trace of lignite
- 38'-50' Clay, gray to brown, silty, sandy and slightly micaceous
- 50'-92' Clay, brown, slightly micaceous with very fine sand
- 92'-150' Silt, brown, with very fine sand and brown clay and trace of lignite  
 T. D.: 150'

\* **Drill Hole No. 262.** Elevation 335'  
 Location: SE¼, Sec. 23, T. 14 S., R. 24 W.  
 County, Hempstead  
 Logged by: G. L. Delavan 8/77.

- 0'-17' Sand, reddish brown, very fine
- 17'-25' Clay, brown, silty, slightly micaceous
- 25'-30' Clay, brown, sandy, glauconitic
- 30'-40' Clay, brown, sandy
- 40'-72' Clay, brown to dark brown, silty, sandy, slightly micaceous, with siderite at 66' and 71'
- 72'-81' Sand, dark brown, very fine, with dark brown clay, slightly micaceous
- 81'-114' Sand, gray brown, very fine, slightly micaceous, with gray brown clay binder
- 114'-140' Clay, gray to dark brown, sandy, silty, slightly micaceous
- 140'-150' Clay, dark brown, sandy, silty, slightly micaceous, with trace of lignite  
 T. D.: 150'

\* **Drill Hole No. 263.** Elevation 321'  
 Location: SE¼, Sec. 17, T. 15 S., R. 24 W.  
 County, Lafayette  
 Logged by: G. L. Delavan 9/77.

- 0'-4' Sand, very fine, orange
- 4'-25' Sand, very fine, orange, with orange to reddish brown clay
- 25'-41' Sand, very fine, tan to reddish brown with clay binder
- 41'-52' Clay, dark brown, silty, slightly micaceous
- 52'-58' Clay, dark brown, sandy, with trace of lignite
- 58'-67' Sand, very fine, dark brown, slightly micaceous, with trace of lignite
- 67'-80' Sand, very fine, dark brown, with dark brown clay and trace of lignite
- 80'-91' Clay, dark brown, silty, micaceous with dark brown sand
- 91'-100' Sand, very fine, dark brown, lignitic, with dark brown clay binder
- 100'-109' Clay, dark brown, silty, slightly micaceous
- 109'-120' Sand, dark brown, very fine, silty, slightly micaceous
- 120'-130' Clay, dark brown, with dark brown, very fine sand interbedded with fissile, sandy clay
- 130'-150' Sand, dark brown, very fine, silty, with stringers of dark brown, slightly micaceous clay  
 T. D.: 150'

\*Electric logs available

**Drill Hole No. 264.** Elevation 310'  
 Location: SE¼, Sec. 21, T. 15 S., R. 24 W.  
 County, Lafayette  
 Logged by: G. L. Delavan 9/77.

- 0'-5' Sand, very fine, brown, silty
- 5'-11' Sand, very fine, brown, silty with clay
- 11'-15' Clay, light tan to dark brown mottled, with iron stained sand
- 15'-25' Clay, gray brown, sandy, slightly micaceous
- 25'-43' Clay, brown, slightly micaceous, with very fine, brown sand
- 43'-52' Silt, brown, sandy, slightly micaceous with brown clay and trace of lignite
- 52'-130' Sand, very fine, brown, slightly micaceous, with brown clay
- 130'-150' Sand and silt, brown, micaceous with brown clay and trace of lignite  
 T. D.: 150'

**Drill Hole No. 265.** Elevation 375'  
 Location: NW¼, Sec. 27, T. 15 S., R. 24 W.  
 County, Lafayette  
 Logged by: G. L. Delavan 9/77.

- 0'-4' Sand, very fine, dark reddish brown
- 4'-6' Sand and gravel, coarse sand, with large pea sized gravel
- 6'-20' Sand, coarse, reddish brown, with pea gravel  
 T. D.: 20'

**Drill Hole No. 266.** Elevation 290'  
 Location: NE¼, Sec. 1, T. 10 S., R. 20 W.  
 County, Clark  
 Logged by: G. L. Delavan 9/77.

- 0'-13' Clay, tan, slightly micaceous, with trace of black lignitic clay
- 13'-19' Clay, dark brown to black, slightly lignitic
- 19'-28' Clay, dark brown to black, very lignitic, with stringers of lignite
- 28'-30' Lignite, soft, black, interbedded with black clay
- 30'-31' Clay, black, lignitic
- 31'-36' Lignite, black, firm
- 36'-44' Clay, dark gray to brown, slightly micaceous
- 44'-57' Clay, gray, silty, slightly micaceous with thin lignite stringers
- 57'-80' Silt, gray, with trace of lignite and siderite

Core Interval 30'-36½'  
 Recovered 6½' Lost: 0'

- 30' to 31'5" clay, gray, slightly micaceous
- 31'5" to 32'6" lignite, black, firm
- 32'6" 32'8" clay, dark brown, lignitic
- 32'8" 34'5" lignite, black, soft, friable
- 34'5" 34'10" clay, dark brown, lignitic, micaceous
- 34'10" 36'6" clay, gray, micaceous  
 T. D.: 80'

**Drill Hole No. 267.** Elevation 250'  
 Location: NE¼, Sec. 6, T. 10 S., R. 19 W.  
 County, Clark  
 Logged by: G. L. Delavan 9/77.

- 0'-9' Clay, reddish brown, silty,

- 9'-27' slightly micaceous Sand, very fine, reddish brown, slightly micaceous
- 27'-37' Clay, light brown, slightly micaceous, sandy
- 37'-45' Clay, gray, silty, micaceous
- 45'-46' Lignite, black, firm
- 46'-62' Clay, gray, silty, micaceous, with trace of siderite
- 62'-63' Lignite, black, firm
- 63'-65' Clay, light tan to gray
- 65'-100' Clay, dark blue-gray  
 T. D.: 100'

**Drill Hole No. 268.** Elevation 235'  
 Location: NE¼, Sec. 2, T. 10 S., R. 20 W.  
 County, Clark  
 Logged by: G. L. Delavan 9/77.

- 0'-2' Sand, very fine, light tan to brown
- 2'-28' Clay, light brown, silty, slightly micaceous
- 28'-35' Clay, dark blue-gray, with silty brown clay
- 35'-70' Clay, dark blue-gray  
 T. D.: 70'

**Drill Hole No. 269.** Elevation 271'  
 Location: NW¼, Sec. 6, T. 10 S., R. 19 W.  
 County, Clark  
 Logged by: G. L. Delavan 9/77.

- 0'-2' Sand, light reddish brown, very fine
- 2'-18' Clay, light tan
- 18'-18½' Clay, black, very lignitic
- 18½'-20' Clay, tan to dark brown
- 20'-27' Clay, tan
- 27'-30' Clay, light brown, with trace of very fine sand
- 30'-35' Sand, very fine, brown
- 35'-36' Clay, dark gray to brown
- 36'-39' Lignite, black, soft, friable
- 39'-54' Clay, gray-brown, silty, slightly micaceous
- 54'-56' Clay, gray-brown, silty, with thin stringers of lignite
- 56'-72' Clay, gray-brown, with very fine sand, slightly micaceous
- 72'-75' Clay, grav, slightly micaceous, with trace of white clay
- 75'-100' Clay, dark blue-gray

Core Interval: 24'6"-29'9"

Recovered: 4'9" Lost: 6"

- 24'6"-25' washed out
- 25'-27' lignite, black, hard
- 27'-27'11" clay, very dark brown, with thin stringers of soft brown lignite
- 27'11"-29'2" clay, dark brown, sandy
- 29'2"-29'9" clay, brown, sandy, slightly micaceous  
 T. D.: 100'

**Drill Hole No. 270.** Elevation 225'  
 Location: SW¼, Sec. 32, T. 9 S., R. 19 W.  
 County, Clark  
 Logged by: G. L. Delavan 9/77.

- 0'-8' Sand, very fine, light brown, slightly carbonaceous with siderite bed @ 6'
- 8'-14' Clay, light brown, sandy, micaceous and carbonaceous
- 14'-15' Sand, very fine, brown
- 15'-28' Lignite, black, firm
- 28'-35' Clay, light brown

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35'- 38' Lignite, black, firm  
 38'- 44' Clay, gray and white interbedded  
 44'- 49' Clay, gray, silty, slightly micaceous, with very fine sand  
 49'- 51' Lignite  
 51'- 66' Clay and silt, gray, slightly micaceous  
 66'- 80' Clay, dark blue gray

Note: Lignite came up drill hole in 2" 3" chunks with sand and clay. After drilling hole No. 270 A, it was determined that the bit encountered several lignite logs in the sands and clays in Drill Hole No. 270. T. D.: 80'

**Drill Hole No. 270-A.** Elevation 225'  
 Location: SW¼, Sec. 32, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 9/77.

0'- 2' Sand, very fine, light brown  
 2'- 6' Clay, light brown, with very fine sand  
 6'- 10' Clay, light tan, with very fine sand, with iron concretions  
 10'- 16' Sand, very fine, light brown, with light tan clay  
 16'- 19' Clay, light tan and light brown, slightly micaceous  
 19'- 20' Clay, dark brown, with very fine sand and trace of lignite  
 20'- 30' Clay, gray brown, with very fine sand and trace of lignitic clay  
 30'- 40' Clay, gray brown, with interbedded dark brown clay  
 40'- 50' Clay, gray-brown, with very fine sand, slightly micaceous  
 50'- 63' Clay, gray brown, with very fine sand and silt  
 63'- 70' Clay, dark blue gray  
 T. D.: 70'

**Drill Hole No. 271.** Elevation 235'  
 Location: SW¼, Sec. 33, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 9/77.

0'- 2' Clay, reddish brown, slightly micaceous  
 2'- 10' Clay, tan and reddish brown, with very fine sand  
 10'- 33' Clay, brown to reddish brown, with very fine sand  
 33'- 40' Clay, gray brown, slightly micaceous, with very fine sand  
 40'- 52' Clay, dark gray, with very fine sand  
 52'- 61' Clay, dark gray, with gray very fine sand  
 61'- 93' Sand, very fine, dark gray, with dark gray silt and clay  
 93'-100' Clay, dark blue gray  
 T. D.: 100'

**Drill Hole No. 272.** Elevation 150'  
 Location: NE¼, Sec. 33, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 9/77.

0'- 10' Clay, light brown, slightly micaceous  
 10'- 63' Sand, fine to very fine, with gray and white clay  
 63'- 70' Clay, dark blue gray  
 T. D.: 70'

**Drill Hole No. 273.** Elevation 200'  
 Location: NE¼, Sec. 27, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 9/77.

0'- 2' Sand and clay, red to brown, with some gravel  
 2'- 10' Clay, cream color, slightly micaceous, with trace of gravel at the top  
 10'- 19' Clay, light brown, slightly micaceous, with very fine sand and siderite layer  
 19'- 20' Clay, gray brown, slightly micaceous  
 20'- 21' Clay, dark brown, slightly micaceous  
 21'- 23' Clay, very dark brown to black, lignitic  
 23'- 30' Clay, light brown, slightly micaceous, with very fine sand  
 30'- 50' Clay, gray to brown, slightly micaceous, with silt and very fine sand and trace of lignite  
 50'- 53' Clay, very dark brown, trace of lignite  
 53'- 60' Clay, gray-brown, slightly micaceous, trace of lignite  
 60'- 61.5' Lignite  
 61.5'- 63' Clay, gray brown  
 63'- 80' Clay, dark blue gray  
 T. D.: 80'

\* **Drill Hole No. 274.** Elevation 180'  
 Location: SE¼, Sec. 26, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 9/77.

0'- 2' Sand, very fine, light brown, trace of gravel  
 2'- 12' Clay, light brown to gray, with very fine iron-stained sand  
 12'- 25' Clay, light tan, slightly micaceous  
 25'- 27' Lignite, black and hard  
 27'- 34' Clay, gray brown, slightly micaceous  
 34'- 39' Clay, gray, slightly micaceous with very fine sand  
 39'- 44' Clay, gray brown, slightly micaceous  
 44'- 45' Lignite, black, soft  
 45'- 49' Clay, gray brown  
 49'- 53' Clay, gray, slightly micaceous, with very fine sand  
 53'- 63' Clay, gray, with interbedded very fine sand and siderite layer  
 63'- 67' Clay, dark brown, lignitic, with lignite stringer  
 67'- 87' Clay, gray brown, slightly micaceous, with very fine sand  
 87'- 94' Clay, gray brown, slightly micaceous, with very fine sand and lignitic clay  
 94'-107' Clay, gray, with interbedded, very fine sand  
 107'-117' Clay, light blue gray, with white sandy clay  
 117'-123' Clay, white, sandy, slightly micaceous  
 123'-130' Clay, dark blue gray  
 T. D.: 130'

**Drill Hole No. 275.** Elevation 276'  
 Location: SE¼, Sec. 25, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 10/77.

0'- 20' Sand, very fine, reddish brown, silty, with traces of iron cemented sand, and white clay

20'- 33' Sand, very fine, light brown, silty, with thin beds of white clay  
 33'- 36' Clay, orange, slightly micaceous  
 36'- 56' Clay, gray, slightly micaceous with very fine sand and silt  
 56'- 59' Clay, dark brown and black, lignitic  
 59'- 62' Lignite, black and soft  
 62'- 64' Clay, dark brown  
 64'-100' Clay, gray-brown, slightly micaceous, with very fine sand and thin layers of siderite  
 100'-130' Clay, gray-brown, slightly micaceous, with very fine sand, traces of lignite and siderite  
 130'-150' Clay, gray-brown, slightly micaceous, with very fine sand and siderite

Core Interval 58'-66'

Recovered: 8' Lost: 0'

58'-59'11" lignite, black, hard, waxy  
 59'11" - 62'2" lignite, black, soft, friable  
 62'2" - 62'4" clay, dark brown, lignitic, with very fine sand  
 62'4"-65'1" clay, gray-brown, slightly micaceous, with very fine sand  
 65'1"-66" sand, gray, fine-grained, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 276.** Elevation 247'  
 Location: SW¼, Sec. 29, T. 9 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 10/77.

0'- 28' Sand, light reddish brown, fine to very fine  
 28'- 36' Sand, fine to very fine, tan, with trace of lignite and brown clay  
 36'- 44' Clay, brown, slightly micaceous with very fine sand  
 44'- 51' Clay, gray, slightly micaceous, with very fine sand and trace of light blue clay  
 51'- 57' Sand, gray, fine to very fine, slightly micaceous and lignitic  
 57'- 64' Clay, gray-brown, silty, slightly micaceous  
 64'- 65' Clay, dark brown, lignitic  
 65'- 69' Lignite, black, firm  
 69'- 86' Clay, gray-brown, silty, slightly micaceous, with very fine sand and trace of lignite  
 86'- 95' Clay, gray, slightly micaceous, silty  
 95'-106' Clay, gray-brown, silty, slightly micaceous  
 106'-109' Lignite, black, soft  
 109'-112' Clay, brown, slightly micaceous, with very fine sand  
 112'-124' Silt, brown, slightly micaceous  
 124'-131' Sand, gray, very fine, silty, with gray clay binder  
 131'-150' Clay, gray-brown, silty, slightly micaceous, with trace of lignite

Core Interval 63' - 70'

Recovered: 5'7" Lost: 1'5"

45" lignite recovered  
 T. D.: 150'

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 277.** Elevation 235'  
Location: NW¼, Sec. 32, T. 9 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 8' Sand, very fine, silty, reddish brown  
8' 27' Clay, dark brown, with very fine sand and trace of lignite  
27' 70' Sand, fine to very fine, light brown  
70' 100' Sand, fine to very fine, light gray, with trace of lignite  
T. D.: 100'

**Drill Hole No. 278.** Elevation 230'  
Location: NW¼, Sec. 4, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 11' Sand and clay, light brown, slightly micaceous  
11' 30' Clay, very dark brown, slightly micaceous and lignitic, with very fine sand  
30' 60' Clay, dark brown, slightly micaceous, silty  
60' 80' Silt, brown, with clay and very fine sand  
80' 101' Silt, brown, sandy, with trace of lignite  
101' 135' Sand, fine to very fine, light gray, micaceous, with gray clay binder  
135' 150' Clay, gray, slightly micaceous, with very fine sand and trace of lignite  
T. D.: 150'

**Drill Hole No. 279.** Elevation 196'  
Location: SW¼, Sec. 33, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 14' Sand, very fine, light brown, slightly micaceous  
14' 18' Gravel, small cobble to large pea size  
18' 27' Sand, light orange brown, very fine, with trace of pea gravel and coarse sand  
27' 36' Clay, dark brown, micaceous and lignitic  
36' 69.5' Clay, gray, silty, slightly micaceous  
69.5' 74' Lignite, black, firm  
74' 109.5' Clay, gray brown, slightly micaceous  
109.5' 113' Lignite, black, soft  
113' 150' Clay, gray brown, slightly micaceous  
T. D.: 150'

**Drill Hole No. 280.** Elevation 177'  
Location: SW¼, Sec. 3, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 6' Sand, very fine, light orange with orange clay  
6' 16' Sand, very fine, light brown, slightly micaceous, with brown clay  
16' 36' Clay, dark brown, slightly lignitic and micaceous, with very fine sand and traces of lignite and pyrite  
36' 38' Lignite, black, firm  
38' 45' Clay, gray brown, silty, micaceous

45' 49' Clay, gray brown and dark brown, silty and micaceous  
49' 55' Clay, light gray  
55' 76' Clay, gray, silty  
76' 79' Siltstone, blue gray, with calcareous cement  
79' 90' Clay, gray, slightly micaceous, with trace of very fine sand  
90' 94' Clay, blue gray, slightly micaceous, with very fine sand  
94' 105' Clay, gray brown, slightly micaceous, with silt and trace of lignite  
105' 107' Clay, blue gray, silty, micaceous, with very fine sand  
107' 109' Clay, dark brown, with trace of lignite  
109' 115' Clay, brown, silty  
115' 115.5' Lignite, black, soft  
115.5' 150' Clay, brown, silty, micaceous  
T. D.: 150'

\* **Drill Hole No. 281.** Elevation 222'  
Location: NE¼, Sec. 10, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 27' Sand, very fine, light brown, micaceous, w/trace of tan clay  
27' 40' Clay, dark brown, micaceous, with trace of lignite  
40' 55' Clay, dark brown, with interbedded, very fine brown sand  
55' 105' Clay, brown and dark brown, silty, micaceous, with very fine sand  
105' 124' Clay and sand, brown, micaceous, with traces of lignite and lignitic clay  
124' 140' Clay, gray, silty, micaceous  
140' 150' Clay and sand, light gray, micaceous, with trace of lignite  
T. D.: 150'

**Drill Hole No. 282.** Elevation 150'  
Location: SW¼, Sec. 11, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 7' Sand, very fine, reddish brown  
7' 9' Clay, brown to light brown, fissile, with silt partings  
9' 31' Clay, dark brown, micaceous, silty, with trace of lignite  
31' 37' Sand, fine, dark brown, with thin, sandy lignite stringers  
37' 53' Clay and sand, brown, micaceous, with trace of sandy lignite  
53' 64' Clay, brown, silty, micaceous  
64' 92' Clay, gray, micaceous  
92' 96' Clay, dark brown to black, lignitic  
96' 102' Clay, gray brown, micaceous  
102' 110' Clay, gray, with dark brown to black clay, and trace of lignite  
110' 122' Clay, gray, silty, with trace of siderite  
122' 128' Clay, brown, with very fine sand and trace of lignite  
128' 140' Clay, gray, micaceous, with very fine sand  
140' 150' Clay, gray, with thin stringers of lignite  
T. D.: 150'

**Drill Hole No. 283.** Elevation 134'  
Location: SW¼, Sec. 16, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 9' Clay, tan, micaceous with very fine sand

9' 12' Sand, tan, very fine  
12' 14' Gravel  
14' 18' Clay, brown, with very fine sand  
18' 22' Clay, tan, micaceous  
22' 33' Clay, light blue to light brown, micaceous  
33' 46' Clay, gray-brown, silty, micaceous  
46' 47' Clay, dark brown  
47' 48' Lignite, black, soft  
48' 50' Clay, gray-brown, with trace of lignite  
50' 117' Clay, gray, silty, micaceous, with very fine sand  
117' 119' Siltstone, dark gray  
119' 150' Silt, gray-brown, with gray clay, very fine sand, and trace of lignite  
T. D.: 150'

**Drill Hole No. 284.** Elevation 172'  
Location: NE¼, Sec. 2, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 3' Sand, very fine, light brown  
3' 32' Clay, light tan, micaceous, with very fine sand and ironstone concretions  
32' 45' Clay, blue gray, silty, micaceous  
45' 51' Clay, brown to dark brown  
51' 52' Lignite, black, soft  
52' 54' Clay, brown  
54' 62' Clay, light blue-gray, micaceous  
62' 78.5' Clay, gray-brown, silty, micaceous  
78.5' 79.5' Lignite, black, soft  
79.5' 95' Sand, fine to very fine, gray-brown, with gray-brown, micaceous clay  
95' 97' Clay, dark brown, with very fine sand and traces of lignite  
97' 112' Clay, light brown, silty, micaceous, with interbedded very fine sand  
112' 138' Clay, gray-brown, sandy, micaceous, with stringer of siderite  
138' 150' Clay, dark blue-gray  
T. D.: 150'

\* **Drill Hole No. 285.** Elevation 190'  
Location: NW¼, Sec. 36, T. 9 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 10/77.

0' 32' Clay, gray to brown, micaceous  
32' 35' Lignite, black, firm  
35' 38' Sand, fine, with gray clay binder  
38' 56' Clay, gray-brown, with very fine sand and traces of lignite  
56' 62' Clay, gray-green, silty, micaceous  
62' 63' Clay, brown, micaceous  
63' 79' Clay, gray-green, micaceous, with very fine sand and trace of lignite  
79' 92' Clay, brown, micaceous  
92' 101' Clay, gray, micaceous, with very fine sand  
101' 108' Sand, gray, fine to very fine, micaceous, with gray clay binder  
108' 120' Clay, gray, micaceous, with very fine sand and trace of lignite  
120' 138' Clay, gray-brown, silty  
138' 144' Sand, fine to very fine, gray, micaceous, with gray clay binder  
144' 150' Clay, gray, micaceous, with very fine sand and trace of siderite

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

Core Interval 31' - 37'

Recovered: 6' Lost: 0'  
 31' - 33'7" sand, very fine, gray, with gray clay binder  
 33'7" - 33'11" clay, gray brown, with very fine sand and stringer of lignite  
 33'11" - 34'1" clay, black, lignitic  
 34'1" - 34'4" lignite and clay, black and friable  
 34'4" - 37' lignite, black, firm  
 T. D.: 150'

**Drill Hole No. 286.** Elevation 220'  
 Location: NW¼, Sec. 25, T. 9 S., R. 19 W. County, Clark  
 Logged by: G. L. Delevan 10/77.

0' - 18' Sand, fine to very fine, red and brown, with clay and iron cemented sand  
 18' - 27' Clay, gray, silty and micaceous  
 27' - 29' Lignite, black, soft to firm  
 29' - 31' Clay, gray, with very fine sand  
 31' - 33' Lignite, black, hard  
 33' - 75' Clay, gray, silty, micaceous  
 75' - 82' Clay, gray brown, silty, micaceous  
 82' - 90' Silt and clay, with stringers of very fine sand, lignite, lignitic clay and siderite  
 90' - 110' Silt and very fine sand, with trace of brown clay  
 110' - 150' Clay, gray, micaceous, with very fine sand

Core Interval 26'6" - 34'8"  
 Recovered: 8'2" Lost: 0'  
 26'6" - 28'2" clay, gray brown, micaceous, silty  
 28'2" - 28'3" clay, dark brown, lignitic  
 28'3" - 32'9" lignite, black, firm to friable  
 32'9" - 33'7" clay, gray brown, silty  
 33'7" - 34'4" lignite, black, soft and friable  
 34'4" - 34'8" lignite, black, hard  
 T. D.: 150'

\* **Drill Hole No. 287.** Elevation 210'  
 Location: SW¼, Sec. 20, T. 9 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 10/77.

0' - 2' Sand, very fine, light brown  
 2' - 12' Clay, light brown, micaceous, with very fine sand  
 12' - 32' Clay, gray, micaceous, silty  
 32' - 34' Lignite, black, hard  
 34' - 38' Clay, gray, with lignite stringers up to 6" thick  
 38' - 40' Lignite, black, soft  
 40' - 53' Clay, light brown, silty  
 53' - 66' Clay, gray, silty, micaceous  
 66' - 82' Clay, grey brown, micaceous, silty, with trace of lignite  
 82' - 91' Clay, gray, silty and micaceous  
 91' - 97' Clay, gray, silty, with dark brown clay  
 97' - 102' Clay, gray, with interbedded lignite stringers  
 102' - 114' Clay, brown, with trace of lignite

\* Electric logs available

114' - 119' Clay, gray, silty, with trace of dark brown clay  
 119' - 120' Siltstone, dark gray, hard  
 120' - 134' Clay, light gray, micaceous  
 134' - 137' Clay, dark brown, micaceous, with trace of lignite and very fine sand  
 137' - 150' Clay, gray-brown, silty, with traces of dark brown clay  
 T. D.: 150'

**Drill Hole No. 288.** Elevation 265'  
 Location: NW¼, Sec. 29, T. 9 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 22' Clay, light tan, with interbedded very fine sand  
 22' - 32' Clay, brown, silty and micaceous  
 32' - 47' Sand, very fine, brown, with brown clay binder and trace of lignite  
 47' - 64' Clay, brown, with interbedded very fine sand and trace of lignite  
 64' - 77' Sand, fine to very fine, light gray, micaceous, with gray clay binder  
 77' - 86' Clay, brown, with fine to very sand  
 86' - 88' Lignite, black, soft to firm  
 88' - 106' Sand, fine to very fine, gray, micaceous  
 106' - 111' Clay, gray-brown, micaceous  
 111' - 116' Lignite, black, soft, friable  
 116' - 130' Clay, brown, silty  
 T. D.: 130'

**Drill Hole No. 289.** Elevation 155'  
 Location: SE¼, Sec. 17, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 9' Clay, gray, with very fine sand  
 9' - 15' Gravel  
 15' - 20' Sand and gravel, with very fine sand  
 20' - 21' Lignite, black, soft  
 21' - 26' Clay, gray brown, with very fine sand and trace of lignite  
 26' - 28' Lignite, black, hard  
 28' - 29' Siderite  
 29' - 35' Clay, gray, silty  
 35' - 41' Lignite, soft, friable  
 41' - 48' Clay, gray, silty  
 48' - 60' Silt, brown  
 60' - 70' Sand and silt, very fine, brown  
 70' - 95' Clay, gray, silty, with very fine sand, trace of lignite and brown clay  
 95' - 100' Clay, gray, silty  
 100' - 120' Clay, gray brown, with very fine sand  
 T. D.: 120'

**Drill Hole No. 290.** Elevation 165'  
 Location: NW¼, Sec. 20, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 14' Clay, light tan to light orange, micaceous  
 14' - 36' Gravel  
 36' - 41' Lignite, black, firm  
 41' - 65' Sand, very fine, brown, silty, with traces of siderite  
 65' - 100' Sand and silt, very fine  
 100' - 110' Silt, brown, with trace of light brown clay  
 110' - 120' Sand and silt, brown

Core Interval 31' - 38'

Recovered: 3'5" Lost: 3'7"  
 31' - 31'11" clay, black, very lignitic  
 31'11" - 32'5" clay and lignite, black  
 32'5" - 34'5" lignite, black, hard  
 T. D.: 120'

**Drill Hole No. 291.** Elevation 156'  
 Location: NW¼, Sec. 28, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 26' Clay, tan to light brown, micaceous, with some iron stain  
 26' - 26'3" Gravel  
 T. D.: 26'3"

**Drill Hole No. 292.** Elevation 135'  
 Location: NE¼, Sec. 16, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 10' Clay and sand, light brown  
 10' - 18' Sand, medium, gray, with trace of gravel  
 18' - 38' Gravel, with traces of lignite  
 38' - 50' Sand, coarse, and gravel  
 50' - 62' Sand and silt, brown, with trace of brown clay  
 62' - 65' Lignite, soft, black, with some very fine brown sand  
 65' - 87' Sand, fine to very fine, brown with thin stringers of lignite  
 87' - 106' Sand, very fine, and silt, brown  
 106' - 150' Sand, fine to coarse, and gravel  
 T. D.: 150'

**Drill Hole No. 293.** Elevation 136'  
 Location: NW¼, Sec. 13, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 14' Clay, light orange, with reddish brown very fine sand  
 14' - 20' Sand, medium, light red-brown  
 20' - 30' Gravel  
 30' - 42' Clay, brown, micaceous, sandy  
 42' - 60' Sand, fine to very fine, brown, with dark brown clay binder  
 60' - 70' Clay, brown, with fine sand  
 70' - 102' Clay and silt, brown, with traces of lignite  
 102' - 103' Lignite, black, soft to firm  
 103' - 120' Clay, light gray, sandy  
 120' - 132' Sand, very fine and light gray clay  
 132' - 135' Lignite, black, soft, friable  
 135' - 147' Clay, gray, with trace of siderite  
 147' - 150' Clay, gray  
 T. D.: 150'

**Drill Hole No. 294.** Elevation 150'  
 Location: SE¼, Sec. 20, T. 10 S., R. 18 W. County, Clark  
 Logged by: G. L. Delevan 11/77.

0' - 18' Sand, very fine to fine, light brown  
 18' - 27' Gravel  
 T. D.: 27'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 295.** Elevation 137'  
Location NW¼, Sec. 27, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 11/77.

0' 15' Clay, light gray, with very fine sand  
15' 24' Gravel  
24' 25' Clay, orange, iron stained  
25' 31' Sand, medium to fine, brown, with trace of gravel  
31' 40' Clay, brown, silty  
40' 57' Silt, brown, with trace of sand  
57' 80' Sand, fine to very fine, with trace of brown clay  
T. D.: 80'

**Drill Hole No. 296.** Elevation 135'  
Location SE¼, Sec. 13, T. 10 S., R. 18 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 17' Clay, brown, with very fine sand  
17' 18' Sand, medium to fine, brown with trace of gravel  
18' 34' Gravel  
34' 37' Clay, dark brown, micaceous  
37' 45' Clay, dark brown, fissile, micaceous, lignitic  
45' 49' Sand, medium to fine, dark brown  
49' 60' Clay, dark brown, micaceous  
60' 108' Clay, dark brown, micaceous, with very fine sand and stringers of siderite  
108' 120' Clay, dark brown, micaceous, sandy  
120' 133' Clay, dark brown, with very fine sand and trace of lignite  
133' 142' Clay, light gray, with trace of very fine sand and siderite  
142' 150' Silt, light gray, with very fine sand  
T. D.: 150'

\* **Drill Hole No. 297.** Elevation 190'  
Location SW¼, Sec. 13, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 14' Sand, fine, mottled red and brown, with iron cemented silty sand  
14' 20' Clay, white, sandy  
20' 27' Clay and very fine sand, white  
27' 39' Clay, light gray, with fine sand  
39' 47' Clay, light gray, with very fine sand  
47' 48' Clay, brown, with very fine sand  
48' 51' Clay, dark brown  
51' 55' Lignite, black, firm, with some lignitic clay  
55' 56' Clay, dark brown  
56' 60' Clay, dark gray  
60' 68' Clay, light gray, with very fine sand and trace of lignite  
68' 75' Clay, gray, with lignite stringers  
75' 95' Clay, gray brown, micaceous, with trace of lignite

95' 101' Clay, brown, silty  
101' 102' Siltstone, gray  
102' 120' Clay, gray brown, micaceous, silty  
120' 125' Clay, gray brown, micaceous

Core Interval 50' 60'

Recovered: 10' Lost: 0'

50' 50'10" clay, gray to brown, micaceous and lignitic  
50'10" 55'4" lignite, black, firm, with a 3" black lignitic clay stringer  
55'4" 55'6" dark brown clay and very fine sand  
55'6" 58'1" sand, light brown, very fine  
58'1" 60' sand, brown, interbedded with gray clay  
T. D.: 125'

**Drill Hole No. 298.** Elevation 229'  
Location NW¼, Sec. 13, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 6' Sand, very fine, and dark reddish brown clay  
6' 13' Gravel with fine sand  
13' 18' Clay, dark gray brown, micaceous, with very fine sand  
18' 22' Lignite, black, hard  
22' 24' Clay and very fine gray sand  
24' 30' Sand and gray clay  
30' 39' Clay, gray, micaceous  
39' 48' Clay, greenish gray, trace of lignite  
48' 54' Clay, gray brown, micaceous, with very fine sand  
54' 69' Clay, dark gray to brown, with very fine sand and trace of lignite  
69' 70' Clay, brown, and lignite  
70' 83' Clay, gray brown  
83' 85'6" Lignite, black, hard  
85'6" 102' Clay, gray, micaceous, with very fine sand and stringers of siderite and lignite  
102' 107' Clay, greenish gray  
107' 114' Clay, brown, micaceous, with very fine sand  
114' 130' Clay, greenish gray  
130' 150' Clay, gray to brown

Core Interval 18'6" 23'

Recovered 4'6" Lost: 0'

18'6" 22'4" lignite, soft to hard, with silt partings  
22'4" 23' clay, dark brown, with very fine sand  
T. D.: 150'

**Drill Hole No. 299.** Elevation 246'  
Location SE¼, Sec. 15, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 11' Clay, tan, with iron stained sandstone  
11' 19' Gravel  
19' 20' Clay, dark brown, very lignitic

20' 26' Lignite, soft, friable, with interbedded lignitic clay  
26' 32' Clay, gray to brown  
32' 35' Clay, orange  
35' 40' Clay, gray to brown, micaceous  
40' 60' Clay, gray, silty, micaceous, with traces of lignite and siderite  
60' 70' Clay, light gray, silty, with stringers of lignite  
70' 80' Clay, gray to brown, with stringers of lignite  
80' 100' Clay, brown, silty, with trace of lignite and siderite  
100' 110' Clay, brown  
T. D.: 110'

**Drill Hole No. 300.** Elevation 240'  
Location NW¼, Sec. 22, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 13' Sand and clay, reddish brown  
13' 24' Clay, gray to tan, mottled, with very fine sand  
24' 29' Gravel  
29' 30' Clay, brown to dark brown  
30' 33' Lignite, black, soft  
33' 45' Clay, gray to brown, with very fine sand  
T. D.: 45'

**Drill Hole No. 301.** Elevation 255'  
Location NE¼, Sec. 18, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 16' Sand, fine to very fine, reddish brown, with brown clay binder  
16' 23' Sand and clay, light tan to orange brown mottled, with iron cemented sand  
23' 26' Clay, orange and gray, micaceous, with very fine sand  
26' 39' Clay, gray, micaceous, with very fine sand  
39' 52' Clay, gray, silty, micaceous, with trace of lignite  
52' 66' Clay, gray, silty  
66' 67'6" Lignite, black, firm  
67'6" 80' Clay, gray, with very fine sand and trace of lignite  
80' 115' Clay, gray to brown, micaceous, silty with very fine sand  
T. D.: 115'

**Drill Hole No. 302.** Elevation 255'  
Location NE¼, Sec. 20, T. 10 S., R. 19 W.  
County, Clark  
Logged by: G. L. Delevan 12/77.

0' 25' Clay, light brown to gray, trace of gravel  
25' 50' Clay, dark gray to gray, silty, with very fine sand  
50' 70' Clay, dark gray, silty  
70' 80' Sand, fine to very fine, gray, with gray clay binder  
80' 100' Sand, fine to very fine, and gray clay  
100' 120' Sand, fine to very fine, with gray clay and trace of lignite  
T. D.: 120'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 303.** Elevation 360'  
Location: SW¼, Sec. 7, T. 13 S., R. 23 W.  
County: Hempstead  
Logged by: G. L. Delavan 2/78.

- 0'- 17' Clay, tan and reddish brown, silty
- 17'- 32' Clay, gray brown, carbonaceous, slightly micaceous, with very fine sand
- 32'- 38' Clay, gray brown, carbonaceous, fissile, with very fine sand
- 38'- 43' Clay, gray brown, and very fine sand
- 43'- 70' Clay, gray brown, slightly micaceous, fissile, with very fine sand
- 70'- 75' Clay, slightly micaceous, gray brown, with very fine sand
- 75'- 100' Clay, dark gray  
T. D.: 100'

**Drill Hole No. 304.** Elevation 288'  
Location: NE¼, Sec. 33, T. 13 S., R. 23 W.  
County: Hempstead  
Logged by: G. L. Delavan 3/78.

- 0'- 8' Clay, gray, with very fine sand
- 8'- 23' Clay, gray, slightly micaceous with very fine sand and trace of lignite
- 23'- 25' Clay, gray and brown
- 25'- 27½' Clay, dark brown
- 27½'- 29' Lignite, black, firm
- 29'- 32' Clay, gray brown
- 32'- 34½' Lignite, black, soft to firm
- 34½'- 37' Clay, gray brown, slightly micaceous with very fine sand
- 37'- 60' Clay, gray brown
- 60'- 67' Clay, gray brown, with interbedded very fine sand
- 67'- 70' Clay, gray, with very fine sand
- 70'- 90' Clay, gray brown, slightly micaceous with very fine sand
- 90'- 97' Clay, gray brown
- 97'- 101' Clay, brown to dark brown, with trace of lignite and siderite
- 101'- 105' Clay, gray, with interbedded very fine sand
- 105'- 120' Clay, gray, with trace of lignite
- 120'- 130' Clay, gray, with very fine sand
- 130'- 150' Clay, gray brown, slightly sandy with trace of lignite

Core Interval 27'6" 37'6"  
Recovered: 5'3" Lost: 4'9"

27'6" 32'3" no recovery  
32'3" 33'9" clay, gray, slightly micaceous  
33'9" 33'11" gray clay and fine sand  
33'11" 34'2" clay, dark brown, and lignite stringers  
34'2" 36'9" lignite, black, firm to soft, slightly silty  
36'9" 37'6" sand, fine, gray, slightly micaceous  
T. D.: 150'

**Drill Hole No. 305.** Elevation 320'  
Location: SE¼, Sec. 29, T. 13 S., R. 23 W.  
County: Hempstead  
Logged by: G. L. Delavan 3/78.

- 0'- 11' Sand and clay, light orange to red brown, fine to very fine
- 11'- 17' Clay, tan, with iron stain

- 17'- 19½' Clay, dark brown to black, lignitic
- 19½'- 20' Lignite, black
- 20'- 21½' Clay, dark brown
- 21½'- 24' Lignite, black, firm
- 24'- 28' Clay, dark brown to brown
- 28'- 35' Clay, gray brown
- 35'- 43' Clay, gray brown, with interbedded fine gray, micaceous sand
- 43'- 69' Clay, gray, with trace of brown clay
- 69'- 72' Clay, dark brown to black
- 72'- 72½' Lignite
- 72½'- 77' Sand, gray, with gray clay
- 77'- 93' Clay, gray-brown, with traces of gray sand
- 93'- 113½' Sand and gray clay
- 113½'- 115' Lignite, black, soft
- 115'- 130' Clay, gray brown
- 130'- 130½' Lignite, black, soft
- 130½'- 135' Clay, gray brown
- 135'- 147' Clay, white to blue-gray
- 147'- 150' Clay, blue gray

Core Interval: 20' - 27'3"

Recovered: 7'3" Lost: 0

20' 20'5" lignite, black, firm  
20'5" 20'7" clay, dark brown  
20'7" 21'4" clay, gray-brown  
21'4" 21'7" clay, dark brown to black  
21'7" 23'9" lignite  
23'9" 23'11" clay, dark brown to black  
23'11" 24'3" clay, gray-brown  
24'3" 26'4" clay, brown to dark brown with very fine sand  
26'4" 27'3" sand and clay, gray-brown, very fine  
T. D.: 150'

**Drill Hole No. 306.** Elevation 375'  
Location: SE¼, Sec. 18, T. 13 S., R. 23 W.  
County: Hempstead  
Logged by: G. L. Delavan 3/78.

- 0'- 6' Clay, reddish brown, with very fine sand
- 6'- 15' Clay, white to tan
- 15'- 27' Clay, gray brown, slightly micaceous, silty
- 27'- 28' Clay, dark brown, lignitic
- 28'- 29' Lignite, black, firm
- 29'- 29½' Clay, dark brown
- 29½'- 34' Clay, gray
- 34'- 41' Clay, gray brown
- 41'- 60' Clay, gray, with very fine sand
- 60'- 64' Sand, gray, very fine
- 64'- 90' Clay, gray brown, with very fine sand and traces of siderite
- 90'- 101' Clay, gray, with fine sand
- 101'- 110' Clay, dark blue gray  
T. D.: 110'

**Drill Hole No. 307.** Elevation 325'  
Location: SE¼, Sec. 19, T. 13 S., R. 23 W.  
County: Hempstead  
Logged by: G. L. Delavan 3/78.

- 0'- 17' Clay, reddish brown
- 17'- 21' Clay, dark brown
- 21'- 21½' Lignite
- 21½'- 28' Clay, dark brown, with trace of lignite
- 28'- 33½' Sand, fine to very fine, with gray-brown clay stringers
- 33½'- 34½' Lignite, black, firm

- 34½'- 36' Clay, gray-brown, with lignite stringers
- 36'- 47' Clay, gray-brown, with very fine sand
- 47'- 55' Sand, very fine, gray, slightly micaceous, with trace of siderite
- 55'- 73' Clay, gray-brown, silty
- 73'- 74½' Lignite, black, firm
- 74½'- 82' Clay, dark gray-brown
- 82'- 95' Clay, light gray and greenish-gray
- 95'- 110' Clay, dark blue-gray  
T. D.: 110'

**Drill Hole No. 308.** Elevation 388'  
Location: NW¼, Sec. 35, T. 13 S., R. 23 W.  
County: Nevada  
Logged by: G. L. Delavan 3/78.

- 0'- 9' Sand and clay, reddish brown, fine, iron stained
- 9'- 15' Clay, light tan, slightly micaceous, with very fine sand
- 15'- 27' Clay, dark brown, micaceous, with very fine sand
- 27'- 40' Clay, brown, with trace of siderite
- 40'- 43' Clay and sand, very fine, dark brown, slightly micaceous
- 43'- 60' Clay, brown, silty, micaceous
- 60'- 73' Sand, very fine, brown, with interbedded dark brown clay
- 73'- 81' Clay, brown, micaceous, with very fine sand
- 81'- 89' Sand, fine, brown, micaceous, with trace of brown clay
- 89'- 114' Clay, brown, silty, micaceous
- 114'- 146' Sand, fine, brown, micaceous with trace of lignite
- 146'- 150' Clay, tan, with fine sand  
T. D.: 150'

\* **Drill Hole No. 309.** Elevation 300'  
Location: NE¼, Sec. 1, T. 14 S., R. 23 W.  
County: Nevada  
Logged by: G. L. Delavan 3/78.

- 0'- 9' Clay, reddish brown, with fine sand
- 9'- 19' Clay, light brown, micaceous with fine sand
- 19'- 20' Clay, dark brown to black, with dark brown iron stained sand
- 20'- 85' Sand, fine to very fine, brown, micaceous, with traces of clay and stringers of siderite
- 85'- 97' Clay, dark brown, with very fine sand
- 97'- 130' Clay, brown, silty, micaceous
- 130'- 150' Clay and sand, brown, very fine interbedded  
T. D.: 150'

**Drill Hole No. 310.** Elevation 310'  
Location: SE¼, Sec. 35, T. 13 S., R. 23 W.  
County: Nevada  
Logged by: G. L. Delavan 3/78.

- 0'- 5' Clay and sand, reddish brown
- 5'- 12' Clay, white, micaceous, with fine sand
- 12'- 18' Clay, dark brown, slightly micaceous, with very fine sand
- 18'- 22' Clay, brown
- 22'- 36' Clay, dark brown, silty, micaceous
- 36'- 88' Sand, fine to very fine, light brown, slightly micaceous, with thin stringers of carbonaceous clay and lignite

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

88'-90' Clay and sand, brown  
 90'-92½' Lignite, black, firm  
 92½'-94' Clay, dark brown to black with very fine sand  
 94'-117' Clay, brown, slightly micaceous with fine sand  
 117'-150' Sand, fine, greenish-gray, slightly micaceous, glauconitic  
 T. D.: 150'

• **Drill Hole No. 311.** Elevation 345'  
 Location: SE¼, Sec. 6, T. 14 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-4' Clay, reddish brown  
 4'-12' Clay, tan, with very fine sand  
 12'-65' Clay, brown to dark brown, silty, micaceous, with very fine sand  
 65'-73' Clay, brown, silty, micaceous  
 73'-83' Clay, dark brown, with very fine sand  
 83'-92' Sand, fine, dark brown, micaceous and carbonaceous  
 92'-139' Clay, dark brown, with very fine sand, slightly micaceous and trace of siderite  
 139'-150' Sand, dark brown, fine, micaceous  
 T. D.: 150'

• **Drill Hole No. 312.** Elevation 330'  
 Location: SE¼, Sec. 32, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-23' Clay, tan to reddish brown, with very fine sand  
 23'-45' Clay, brown to dark brown, lignitic, micaceous, with very fine sand  
 45'-78' Sand, fine to very fine, brown, clay and sand, fine to very fine, dark brown, micaceous  
 78'-130' Sand, very fine, brown, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 313.** Elevation 360'  
 Location: NW¼, Sec. 33, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-8' Clay, light gray, with very fine sand  
 8'-15' Sand, very fine, light brown, slightly micaceous  
 15'-60' Clay, dark brown, slightly micaceous with very fine sand and traces of lignite  
 60'-72' Clay, dark brown, with very fine sand and stringer of siderite  
 72'-93' Sand, very fine, dark brown, carbonaceous, micaceous, with stringer of siderite  
 93'-110' Clay, dark brown, silty, micaceous  
 110'-132' Sand and clay, very fine, brown, slightly micaceous  
 132'-150' Clay, brown, with very fine sand  
 T. D.: 150'

**Drill Hole No. 314.** Elevation 400'  
 Location: SW¼, Sec. 27, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-10' Sand, medium to fine, reddish brown  
 10'-21' Sand, very fine, reddish brown, with tan clay  
 21'-40' Clay, brown to dark brown, micaceous with very fine sand  
 40'-64' Clay, brown, micaceous, with very fine sand  
 64'-67' Clay, gray and brown, micaceous  
 67'-110' Clay, brown, slightly micaceous with very fine sand  
 110'-120' Clay and sand, very fine, brown, micaceous  
 120'-130' Clay, brown, micaceous, with very fine sand  
 130'-150' Sand, very fine, brown, micaceous, with brown clay  
 T. D.: 150'

• **Drill Hole No. 315.** Elevation 326'  
 Location: SW¼, Sec. 22, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-30' Sand, fine to very fine, micaceous, brown  
 30'-35' Sand and clay, gray-brown, very fine, micaceous  
 35'-45' Clay, dark brown, with very fine sand  
 45'-60' Clay, dark brown, micaceous  
 60'-100' Clay, brown to dark brown, micaceous, with very fine sand  
 100'-150' Sand, fine to very fine, brown, slightly micaceous, with traces of brown clay  
 T. D.: 150'

**Drill Hole No. 316.** Elevation 340'  
 Location: SE¼, Sec. 16, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-25' Sand, reddish brown, very fine, micaceous, with stringers of brown clay  
 25'-37' Sand, light brown, very fine micaceous  
 37'-48' Clay, gray brown, micaceous  
 48'-125' Clay, brown, slightly micaceous with very fine sand and silt  
 125'-135' Clay, brown, slightly micaceous, silty  
 135'-150' Sand, fine to very fine, slightly micaceous with trace of brown clay  
 T. D.: 150'

**Drill Hole No. 317.** Elevation 326'  
 Location: NE¼, Sec. 17, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-22' Sand, fine to very fine, orange-brown, with stringers of tan clay  
 22'-25' Clay, gray brown  
 25'-58' Sand, fine, light gray, with gray clay binder and trace of lignite  
 58'-60½' Lignite, black and hard  
 60½'-64' Clay, gray-brown, with very fine sand  
 64'-67' Lignite, black, soft  
 67'-68' Clay, gray-brown  
 68'-71' Lignite, black, firm  
 71'-73' Clay, dark brown  
 73'-79' Sand, fine, light brown, with trace of brown micaceous clay

79'-100' Clay, brown, micaceous, with very fine sand and trace of siderite

100'-100½' Lignite, soft  
 100½'-127' Clay, dark brown, and gray fine sand  
 127'-130' Clay, dark brown  
 130'-150' Clay, gray-brown, slightly micaceous

Core Interval 58' - 66'

Recovered: 4'11" Lost: 3'1"

58' - 58'4" lignite, black, hard  
 53'4" - 61'5" lignite, black, soft  
 61'5" - 62'1" clay, brown, with very fine sand  
 62'1" - 62'11" lignite, black, soft  
 62'11" - 66' no recovery  
 Core barrel spread, drill seemed to be in lignite at bottom.

Core Interval 66' - 74'

Recovered: 5' Lost: 3'

66' - 66'4" clay, brown to dark brown, slightly micaceous  
 66'4" - 67'4" lignite, black, hard  
 67'4" - 70'7" lignite, black, soft  
 70'7" - 71' clay, dark brown  
 71' - 74' no recovery, probably sand. Core barrel did not jam.  
 T. D.: 150'

**Drill Hole No. 318.** Elevation 360'  
 Location: SW¼, Sec. 8, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-17' Clay, tan, slightly micaceous, with interbedded very fine sand  
 17'-41' Clay, gray-brown, slightly micaceous, with trace of fine sand  
 41'-42½' Lignite, black firm  
 42½'-65' Clay, light gray-brown, micaceous, with trace of fine sand  
 Lignite, black, firm  
 65'-66' Clay, light gray-brown, micaceous, with siderite stringer  
 66'-72' Clay, light gray-brown, micaceous, with very fine sand and stringers of lignite and siderite  
 72'-110' Clay, light brown, slightly micaceous, with very fine sand and stringers of lignite and siderite  
 110'-125' Clay, gray-brown, silty, micaceous  
 125'-130' Clay, light blue-gray, micaceous  
 130'-150' Clay, gray-brown, silty, micaceous, with siderite stringer  
 T. D.: 150'

**Drill Hole No. 319.** Elevation 380'  
 Location: SW¼, Sec. 12, T. 13 S., R. 23 W.  
 County: Nevada  
 Logged by: G. L. Delevan 3/78.

0'-8' Clay, reddish orange, with very fine sand  
 8'-13' Clay, buff, with iron stain and very fine sand  
 13'-21' Clay, buff, micaceous, with very fine sand  
 21'-46' Sand, light reddish brown, very fine, micaceous, with gray-brown clay  
 46'-69' Clay, gray, micaceous, with very fine sand

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

69'-73' Clay, brown to dark brown  
 73'-83' Clay, gray, with trace of lignite  
 83'-89' Sand, very fine, gray, micaceous carbonaceous, with gray clay binder  
 89'-95' Clay, dark brown to brown, with trace of lignite  
 95'-102' Sand, very fine, gray, micaceous  
 102'-116' Clay and sand, very fine, gray, slightly micaceous  
 116'-118½' Lignite, black, firm  
 118½'-130' Clay, gray-brown, with very fine sand  
 130'-134' Clay and sand, very fine, micaceous, gray  
 134'-138' Clay, gray  
 138'-140' Clay, dark brown to black  
 140'-142' Lignite, black, soft  
 142'-150' Clay, dark gray brown, micaceous  
 T. D.: 150'

**Drill Hole No. 320.** Elevation 362'  
 Location: NW¼, Sec. 11, T. 13 S., R. 23 W.  
 County: Nevada  
 Logged by: G. L. Delavan 3/78.

0'-38' Sand, reddish brown  
 38'-42' Lignite, black, soft, with black clay  
 42'-52' Clay, brown to dark brown  
 52'-53' Lignite, black, firm  
 53'-58' Clay, white  
 58'-60' Clay, dark blue-gray  
 60'-80' Clay, dark blue-gray, with siderite stringers  
  
 Core Interval 35' 43'  
  
 Recovered: 7'6" Lost: 7"  
  
 35' 38½' lignite  
 38½' 42'5" clay, gray, waxy, with scattered chunks of lignite  
 42'5" 43' no recovery  
 T. D.: 80'

**Drill Hole No. 321.** Elevation 341'  
 Location: SW¼, Sec. 3, T. 13 S., R. 23 W.  
 County: Nevada  
 Logged by: G. L. Delavan 3/78.

0'-13' Clay, gray brown, with iron stain  
 13'-17' Clay, buff to light brown  
 17'-23' Clay, dark gray  
 23'-50' Clay, dark blue gray  
 T. D.: 50'

**Drill Hole No. 322.** Elevation 319'  
 Location: SW¼, Sec. 7, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: G. L. Delavan 3/78.

0'-11' Sand, fine, light brown, with traces of brown clay and lignite  
 11'-24' Clay, light brown to buff  
 24'-33' Clay, gray, slightly micaceous with very fine sand and siderite stringers  
 33'-34' Lignite, black, firm  
 34'-37' Clay, dark brown  
 37'-70' Clay, gray, micaceous, with very fine sand and siderite stringers

70'-82' Clay, gray  
 82'-82½' Lignite  
 82½'-89' Clay, brown, silty and micaceous  
 89'-93' Sand, very fine, gray  
 93'-102' Clay, brown, micaceous, silty  
 102'-107' Clay, black, lignitic  
 107'-127' Clay, brown, with trace of siderite  
 127'-150' Clay, dark blue-gray, with stringers of siderite  
 T. D. 150'

**Drill Hole No. 323.** Elevation 405'  
 Location: NW¼, Sec. 23, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-5' Sand and clay, white  
 5'-20' Sand, fine, brown, with red clay  
 20'-70' Sand, brown, fine, with dark gray clay  
 70'-104' Clay, brown to dark gray, plastic  
 104'-120' Sand, very fine, dark gray, with lignite streaks  
 120'-140' Clay, gray, brown, stiff  
 140'-150' Clay, brown, sandy, with lignite fragments in clay  
 T. D.: 150'

**Drill Hole No. 324.** Elevation 390'  
 Location: SW¼, Sec. 24, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-5' Sand and clay, white  
 5'-25' Clay, dark gray, waxy  
 25'-35' Clay, white, silty, with fine sand  
 35'-40' Lignite and clay  
 40'-100' Clay, dark gray, waxy  
 100'-150' Clay and sand, gray, very fine, glauconitic

Core Interval 35' 45'

Recovered: 3' Lost: 7'

35'-45' recovered 1½' gray clay and 1½' gray sand with clay partings  
 T. D.: 150'

**Drill Hole No. 325.** Elevation 395'  
 Location: SE¼, Sec. 24, T. 13 S., R. 22 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-10' Sand and clay, white, plastic  
 10'-20' Clay, white, plastic  
 20'-30' Clay, brown, stiff  
 30'-40' Clay, brown, stiff, with sand  
 40'-70' Fine sand and brown clay interbedded  
 70'-85' Sand, fine, brown  
 85'-110' Clay, brown, with lignite partings  
 110'-115' Sand, brown, fine  
 115'-130' Clay, brown, with fine sand and lignite partings  
 130'-150' Sand, brown, fine, with clay partings  
 T. D.: 150'

**Drill Hole No. 326.** Elevation 370'  
 Location: SE¼, Sec. 19, T. 13 S., R. 21 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-5' Surface clay and ironstone  
 5'-25' Clay, green  
 25'-45' Clay, green, sandy  
 45'-85' Clay, dark brown  
 85'-110' Clay, green, with lignite partings  
 110'-150' Clay, green, with trace of sand  
 T. D.: 150'

**Drill Hole No. 327.** Elevation 390'  
 Location: SE¼, Sec. 20, T. 13 S., R. 21 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-10' Surface clay and sand  
 10'-50' Clay, brown, stiff  
 50'-75' Clay, brown, w/lignite partings  
 75'-100' Clay, gray-brown, plastic  
 100'-135' Clay, brown, plastic  
 135'-150' Clay, brown, with trace of sand  
 T. D.: 150'

**Drill Hole No. 328.** Elevation 350'  
 Location: NE¼, Sec. 28, T. 13 S., R. 21 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-5' Surface clay, white  
 5'-15' Clay, black, stiff  
 15'-25' Clay, black, plastic  
 25'-50' Clay, black, sandy, plastic  
 50'-65' Clay, greenish black, sandy, plastic  
 65'-90' Clay, brown, plastic  
 90'-125' Clay, black, plastic  
 125'-150' Sand, fine, glauconitic, with black plastic clay  
 T. D.: 150'

**Drill Hole No. 329.** Elevation 330'  
 Location: SW¼, Sec. 26, T. 13 S., R. 21 W.  
 County: Nevada  
 Logged by: O. A. Wise 3/78.

0'-10' Surface clay, white  
 10'-20' Clay, light gray, stiff  
 20'-30' Sand, fine, with gray clay  
 30'-40' Clay, black, stiff  
 40'-75' Sand, fine, with green clay and trace of lignite  
 75'-95' Clay, green, stiff, glauconitic, silty  
 95'-110' Sand, very fine, green, with green plastic clay  
 110'-135' Clay, green, plastic, glauconitic  
 135'-136' Siderite  
 T. D.: 136'

**Drill Hole No. 330.** Elevation 300'  
 Location: SW¼, Sec. 25, T. 13 S., R. 21 W.  
 County: Nevada  
 Logged by: G. L. Delavan 4/78.

0'-5' Clay, reddish brown, w/fine sand  
 5'-45' Sand, very fine, white to light tan, with traces of brown and white clay  
 45'-53' Sand, fine, gray, with traces of brown clay  
 53'-60' Clay, gray-brown, micaceous with very fine sand  
 60'-90' Sand, very fine, light gray, with trace of brown clay  
 90'-105' Sand and clay, light brown, micaceous  
 105'-150' Clay, brown, silty, micaceous, with very fine sand  
 T. D.: 150'

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**Drill Hole No. 331.** Elevation 245'  
Location: SE ¼, Sec. 30, T. 13 S., R. 20 W.  
County: Nevada  
Logged by: G. L. Delevan 4/78.

- 0' 25' Sand and clay, light reddish brown, fine to very fine, slightly micaceous
- 25' 55' Clay and sand, gray brown, slightly silty, micaceous
- 55' 65' Sand, light gray brown, fine to very fine, slightly micaceous
- 65' 116' Sand, gray, fine, slightly micaceous
- 116' 150' Sand and clay, gray to brown, fine to very fine, slightly micaceous.  
T. D.: 150'

**Drill Hole No. 332.** Elevation 320'  
Location: SE ¼, Sec. 29, T. 13 S., R. 20 W.  
County: Nevada  
Logged by: G. L. Delevan 4/78.

- 0' 24' Sand, light reddish brown, fine, slightly micaceous with thin stringers of tan clay
- 24' 28' Clay, light tan, with trace of very fine sand
- 28' 32' Clay, gray brown, very fine sand, slightly micaceous
- 32' 45' Clay, brown, slightly carbonaceous, slightly micaceous
- 45' 61' Clay, gray brown, with very fine sand, slightly micaceous
- 61' 76' Clay, brown, with very fine sand, slightly micaceous
- 76' 88' Clay, gray brown, with trace of very fine sand and silt
- 88' 93' Clay, brown, very fine sand and silt, slightly micaceous
- 93' 110' Clay, gray brown, very fine sand and silt, slightly micaceous
- 110' 135' Clay, gray, slightly micaceous, slightly silty
- 135' 150' Sand, gray, very fine, slightly micaceous, with trace of lignite  
T. D.: 150'

**Drill Hole No. 333.** Elevation 348'  
Location: NE ¼, Sec. 33, T. 13 S., R. 20 W.  
County: Nevada  
Logged by: G. L. Delevan 4/78.

- 0' 25' Sand, light reddish brown, very fine, clay
- 25' 42' Sand, light brown, very fine with trace of tan clay
- 42' 57' Clay, gray brown, very fine sand, silty, slightly micaceous and carbonaceous
- 57' 62' Clay, brown, slightly micaceous
- 62' 88' Clay, gray brown, very fine slightly micaceous
- 88' 102' Clay, brown, silty, slightly micaceous
- 102' 120' Clay, gray brown, slightly micaceous
- 120' 125' Clay, brown, very fine sand and silt, slightly micaceous
- 125' 150' Clay, gray brown  
T. D.: 150'

**Drill Hole No. 334.** Elevation 323'  
Location: NW ¼, Sec. 3, T. 14 S., R. 20 W.  
County: Nevada  
Logged by: G. L. Delevan 4/78.

- 0' 12' Clay, light brown to brown, with very fine sand

- 12' 33' Clay, gray brown, very fine, slightly micaceous
- 33' 41' Clay, brown, with very fine sand, slightly carbonaceous and micaceous
- 41' 51' Clay and sand, gray, very fine, slightly micaceous
- 51' 70' Clay, brown, very fine sand and silt, slightly micaceous
- 70' 77' Clay, gray, slightly micaceous
- 77' 120' Sand, gray brown, very fine, silty, slightly micaceous, very slight trace of lignite
- 120' 150' Sand, gray brown, very fine, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 335.** Elevation 310'  
Location: SE ¼, Sec. 35, T. 13 S., R. 20 W.  
County: Nevada  
Logged by: G. L. Delevan 4/78.

- 0' 2' Sand, light brown, very fine
- 2' 10' Clay, light brown to tan
- 10' 43' Clay, gray to gray-brown
- 43' 49' Sand, gray, fine to very fine, with trace of lignite
- 49' 55' Clay and sand, gray
- 55' 55' 61' Lignite, black, soft to firm
- 55' 61' 61' Clay, brown
- 61' 78' Clay, gray brown, very fine sand and silt, slightly micaceous
- 78' 150' Sand, light gray, medium, with trace of gray clay  
T. D.: 150'

**Drill Hole No. 336.** Elevation 355'  
Location: SW ¼, Sec. 31, T. 13 S., R. 19 W.  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 24' Sand, orange, medium to fine
- 24' 32' Clay, brown, very fine sand and silt, slightly micaceous
- 32' 50' Clay, gray brown, silty, very slightly micaceous
- 50' 61' Clay, gray, very fine sand and silty, slightly micaceous
- 61' 73' Sand, light gray brown, very fine
- 73' 85' Sand and clay, light gray-brown slightly micaceous
- 85' 87' Lignite and clay, dark brown to black, soft
- 87' 95' Sand, light brown, fine to very fine, slightly micaceous
- 95' 101' Sand and clay, light brown, very fine, slightly micaceous
- 101' 150' Clay, light gray brown, silty, slightly micaceous with slight trace of lignite  
T. D.: 150'

**Drill Hole No. 337.** Elevation 298'  
Location: NW ¼, Sec. 5, T. 14 S., R. 19 W.  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 12' Sand, red to brown, very fine with trace of tan clay
- 12' 25' Clay, brown, very fine sand
- 25' 34' 6" Clay, gray, very fine sand
- 34' 6" 35' 6" Lignite, black, firm
- 35' 6" 43' Clay, gray
- 43' 61' Sand, light brown, fine
- 61' 80' Clay, brown, very fine sand, silty, slightly micaceous
- 80' 108' Clay, gray brown, very fine sand, slightly micaceous
- 108' 112' Sand, light brown, very fine
- 112' 117' Sand and clay, gray brown, fine
- 117' 125' Clay, gray brown

- 125'-128' Sand, reddish-brown, fine to very fine
- 128'-150' Sand and clay, gray-brown, very fine, slightly micaceous  
T. D.: 150'

**Drill Hole No. 338.** Elevation 297'  
Location: SE ¼, Sec. 4, T. 14 S., R. 19 W.  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 12' Sand, reddish brown, very fine
- 12' 41' Clay, brown, very fine sand, silty, slightly micaceous
- 41' 45' Clay, gray
- 45' 46' Lignite and clay, black, soft
- 46' 67' Clay, gray, with sand, fine and trace of siderite
- 67' 75' Sand and clay, gray, very fine
- 75' 150' Clay, gray, very fine sand, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 339.** Elevation 339'  
Location: NE ¼, Sec. 3, T. 14 S., R. 19 W.  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 25' Sand, reddish-brown, fine, with trace of white clay
- 25' 46' Clay, gray, with very fine sand, slightly micaceous
- 46' 47' Lignite and clay, black, soft
- 47' 60' Clay, gray, with interbedded dark brown clay, slightly micaceous
- 60' 135' Clay, gray, very fine sand, silty, with trace of lignite and siderite  
T. D.: 135'

**Drill Hole No. 340.** Elevation 250'  
Location: SW ¼, Sec. 36, T. 13 S., R. 19 W.  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 5' Sand, reddish brown, fine, iron cemented
- 5' 8' Clay, tan, very fine
- 8' 26' Clay, gray-brown, very fine slightly micaceous
- 26' 35' Clay, gray, with very fine sand, slightly micaceous
- 35' 45' Sand, gray, fine
- 45' 54' Clay, gray-brown, with trace of dark brown clay
- 54' 55' Lignite and clay, black, soft
- 55' 68' Clay and sand, gray-brown, fine
- 68' 80' Clay, gray-brown, silty
- 80' 80' 8" Lignite and clay, black to dark brown
- 80' 8" 95' Clay, gray brown
- 95' 96' 6" Lignite and clay, black
- 96' 6" 145' silty, Clay, light gray-brown, firm, with trace of siderite  
T. D.: 145'

**Drill Hole No. 341.** Elevation 259'  
Location: NE ¼, Sec. 31, T. 13 S., R. 18 W.,  
County: Ouachita  
Logged by: G. L. Delevan 4/78.

- 0' 6' Sand, reddish brown, fine, iron cemented
- 6' 16' Clay, tan, with very fine sand
- 16' 40' Clay, gray, very fine sand, silty
- 40' 60' Clay, light gray, with trace of dark brown clay and lignite

ARKANSAS LIGNITE INVESTIGATIONS

60' 72' Clay and sand, gray, very fine  
 72' 80' Clay, gray brown, slightly micaceous  
 80' 87' Sand, gray, fine, with trace of lignite  
 87' 89'6" Lignite, black, soft  
 89'6" 105' Clay, gray to light gray  
 105' 107' Lignite and clay, black, soft  
 107' 118' Clay, gray  
 118' 120' Lignite, black, soft, clayey  
 120' 150' Sand, gray, very fine  
 T.D.: 150'

\* Drill Hole No. 342. Elevation 240'  
 Location: SE ¼, Sec. 32, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 5' Clay, reddish brown, very fine sand  
 5' 17' Clay, white to tan, very fine sand, silt  
 17' 24' Clay and sand, gray, very fine  
 24' 30' Clay, gray brown, very fine sand, slightly micaceous  
 30' 41' Clay and sand, gray, very fine  
 41' 48' Clay, light gray brown  
 48' 50'6" Lignite, black, firm  
 50'6" 60' Clay, brown, w/very fine sand  
 60' 70' Clay, light gray brown  
 70' 71' Lignite, black, firm  
 71' 80' Clay, gray brown  
 80' 137' Clay, light gray, silty  
 137' 150' Sand, light gray, very fine

Core Interval 50' 55'

Recovered: 46" Lost: 14"

50' 52'3" lignite, black, firm, with few silt partings  
 52'3" 52'7" lignite and clay, black to dark brown  
 52'7" 53'10" clay, gray to brown, with very fine sand, slightly micaceous and carbonaceous  
 53'10" 55' no recovery  
 T. D.: 150'

Drill Hole No. 343. Elevation 288'  
 Location: SE ¼, Sec. 33, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 15' Sand, reddish brown, fine, slightly iron cemented  
 15' 24' Clay, gray, with very fine sand, slightly micaceous  
 24' 31' Clay, gray, silty  
 31' 36' Clay, gray brown, and dark brown interbedded  
 36' 80' Clay, light gray, very fine sand, silt, slightly micaceous  
 80' 116' Sand and silt, light gray, very fine  
 116' 150' Clay, gray brown, with trace very fine sand, silt, slightly micaceous  
 T. D.: 150'

Drill Hole No. 344. Elevation 197'  
 Location: NW ¼, Sec. 35, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 4' Sand, reddish brown, very fine  
 4' 12' Clay, tan, iron stained, with very fine sand

12' 20' Clay, tan  
 20' 35' Clay, gray  
 35' 36' Clay, black, lignitic  
 36' 38'6" Lignite, black, soft, clayey  
 38'6" 53' Sand, light gray brown, fine, slightly micaceous  
 53' 72' Clay, gray, very fine sand and silt, slightly micaceous with 2" siderite @ 57'  
 72' 83' Sand, light gray, very fine, w/gray clay, slightly micaceous  
 83' 125' Clay, gray, silty, with trace of lignite and brown clay  
 125' 150' Sand, gray, very fine, slightly silty with trace of gray clay  
 T. D.: 150'

\* Drill Hole 345. Elevation 141'  
 Location: NW ¼, Sec. 36, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 6' Clay and sand, reddish brown, very fine  
 6' 17' Clay, tan, very fine sand, slightly iron stained  
 17' 24' Clay and sand, gray, very fine, slightly silty  
 24' 37' Clay, light gray brown, very fine sand and silt, slightly micaceous  
 37' 80' Sand, light gray, fine  
 T. D.: 80'

Drill Hole No. 346. Elevation 145'  
 Location: NE ¼, Sec. 25, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 23' Sand and clay, light reddish brown, very fine  
 23' 27' Sand and clay, very fine, with trace of dark brown clay and iron cemented sand  
 27' 94' Sand, light brown to brown, fine to very fine, with trace of lignitic clay and lignite stringers  
 94' 107' Clay, brown to dark brown, very fine sand, with lignite stringers  
 107' 135' Clay, gray brown, with very fine sand and silt  
 135' 140' Sand, brown, very fine, with trace of brown clay  
 140' 150' Clay, gray brown  
 T. D.: 150'

Drill Hole No. 347. Elevation 138'  
 Location: SE ¼, Sec. 36, T. 13 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 4' Clay, light reddish brown, very fine sand, slightly micaceous  
 4' 18' Clay, light brown to tan, very fine sand, slightly micaceous  
 18' 25' Clay, gray, very fine sand and silty, slightly micaceous  
 25' 37' Sand, gray, very fine, with trace of gray clay  
 37' 65' Clay, gray brown, very fine sand, slightly micaceous  
 65' 77' Sand, gray, very fine, with trace of gray brown clay  
 77' 95' Clay, brown to dark brown, slightly lignitic, with trace of lignite @ 80'  
 95' 103' Clay, gray brown  
 103' 104' Lignite and lignitic clay, black  
 104' 136' Clay, gray brown, very fine sand and silt, slight trace of lignite

136' 138'6" Lignite and clay, black, soft  
 138'6" 150' Clay, white, with very fine sand and silt  
 T. D.: 150'

Drill Hole No. 348. Elevation 187'  
 Location: SE ¼, Sec. 1, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 3' Clay, reddish-brown and tan, very fine sand and silt  
 3' 8' Clay, tan, iron stained, very fine sand  
 8' 25' Clay, gray-brown, very fine sand and silt, slightly micaceous  
 25' 40' Sand, light gray to brown, fine to very fine, slightly micaceous with trace of gray-brown clay  
 40' 56' Clay, gray-brown, very fine, slightly micaceous  
 56' 62' Sand, light brown, very fine  
 62' 130' Clay, gray-brown, with very fine sand and silt  
 130' 150' Silt, brown, with trace of very fine sand and clay  
 T. D.: 150'

Drill Hole No. 349. Elevation 180'  
 Location: NE ¼, Sec. 11, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 12' Clay, reddish-brown, very fine sand, slightly micaceous  
 12' 50' Sand, light brown to tan, very fine, with trace of brown clay, slightly micaceous  
 50' 75' Sand and clay, brown, very fine, slightly micaceous  
 75' 102' Clay, gray-brown, very fine sand and silt, slightly micaceous, slightly carbonaceous  
 102' 140' Sand, light brown, very fine, with trace of lignite stringers  
 140' 142' Lignite, black, firm  
 142' 150' Clay, brown, silty, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 350. Elevation 230'  
 Location: NW ¼, Sec. 14, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 6' Clay, reddish brown, very fine sand, iron stained  
 6' 13' Clay, tan, very fine sand, iron stained  
 13' 17' Clay, gray-brown, slightly micaceous  
 17' 40' Clay, brown, very fine sand, slightly micaceous  
 40' 50' Sand, gray-brown, very fine  
 50' 60' Clay, brown, very fine sand and silt, slightly micaceous  
 60' 70' Clay, dark gray-brown, very fine sand and silt, slightly micaceous  
 70' 87' Clay and sand, brown, fine  
 87' 120' Clay, brown, silty  
 120' 150' Clay, gray-brown to brown  
 T. D.: 150'

Drill Hole No. 351. Elevation 248'  
 Location: SW ¼, Sec. 23, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 6' Sand and clay, light reddish-brown, very fine, slightly micaceous

\* Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

6' 11' Clay, tan, slightly micaceous with very fine sand  
 11' 26' Clay, gray brown, with very fine sand, slightly micaceous  
 26' 30' Sand, gray to brown, very fine  
 30' 80' Clay, brown, with very fine sand, slightly micaceous  
 80' 150' Clay, gray brown, very fine sand and silt, slightly micaceous with a trace of siderite  
 T. D.: 150'

• **Drill Hole No. 352.** Elevation 285'  
 Location: NW¼, Sec. 27, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 5' Clay, light brown, with very fine sand, slightly micaceous  
 5' 12' Clay, gray brown, with very fine sand, slightly micaceous  
 12' 20' Clay, gray brown, silty  
 20' 40' Clay, light gray brown, with very fine sand and silt  
 40' 70' Clay and sand, gray, very fine slightly micaceous  
 70' 90' Clay, gray brown  
 90' 94' Clay and sand, gray brown, slightly micaceous  
 94' 128' Clay, dark gray brown, with very fine sand, slightly micaceous  
 128' 140' Sand, gray, very fine, with a trace of siderite  
 140' 150' Clay, brown, with very fine sand, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 353.** Elevation 270'  
 Location: SE¼, Sec. 29, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 13' Clay, light brown, with very fine sand, slightly micaceous  
 13' 30' Clay, gray brown, with very fine sand, slightly micaceous  
 30' 38' Clay, light gray brown, very fine sand, slightly micaceous  
 38' 45' Clay, brown, with very fine sand, slightly micaceous  
 45' 54' Clay and sand, brown, with very fine sand and silt, slightly micaceous  
 54' 120' Clay, brown, with very fine sand and silt, slightly micaceous, with a trace of siderite  
 120' 140' Silt, brown  
 T. D.: 140'

• **Drill Hole No. 354.** Elevation 267'  
 Location: NE¼, Sec. 31, T. 14 S., R. 18 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 8' Clay, tan, with very fine sand, iron stained  
 8' 30' Clay, brown, with very fine sand and silt, slightly micaceous  
 30' 50' Clay, dark gray brown, with very fine sand  
 50' 62' Clay and sand, gray-brown, very fine  
 62' 92' Clay, gray brown, with very fine sand and silt  
 92' 142' Sand, light brown, with very fine sand and silt  
 142' 150' Clay, gray brown to dark brown with very fine sand, slightly micaceous  
 T. D.: 150'

• **Drill Hole No. 355.** Elevation 220'  
 Location: SE¼, Sec. 36, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 9' Sand, reddish brown, fine  
 9' 13' Clay and sand, tan, very fine  
 13' 20' Sand, gray, very fine  
 20' 30' Sand and clay, gray brown, very fine, slightly micaceous  
 30' 45' Clay, brown, with very fine sand slightly micaceous, with a trace of lignite  
 45' 51' Clay, gray brown  
 51' 51' 6" Lignite, black, soft  
 51' 6" 55' Clay, brown, slightly micaceous  
 55' 70' Clay, gray brown, with very fine sand, slightly micaceous  
 70' 78' Clay, dark brown, silt, slightly micaceous  
 78' 83' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 83' 84' Lignite, black, firm  
 84' 97' Clay, gray brown  
 97' 97' 6" Lignite, black, soft  
 97' 106' Clay, brown to gray brown, with very fine sand and silt, slightly micaceous  
 106' 106' 8" Lignite, black, firm  
 106' 8" 135' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 135' 150' Sand, light brown, very fine  
 T. D.: 150'

**Drill Hole No. 356.** Elevation 250'  
 Location: SW¼, Sec. 1, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 6' Sand and clay, tan  
 6' 17' Clay, dark gray-brown, with very fine sand, slightly micaceous  
 17' 27' Clay, brown, with very fine sand and silt, slightly micaceous, slightly lignitic  
 27' 42' Sand, light brown, fine, with a trace of gray brown clay  
 42' 51' Clay, light brown, with very fine sand, slightly micaceous  
 51' 87' Clay and sand, gray-brown, very fine  
 87' 150' Sand, light gray, silty, very fine  
 T. D.: 150'

• **Drill Hole No. 357.** Elevation 218'  
 Location: NW¼, Sec. 11, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 80' Clay, brown, with very fine sand and silt, slightly micaceous  
 80' 90' Clay and sand, gray to brown, fine, slightly micaceous  
 90' 150' Sand, light gray brown, fine, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 358.** Elevation 287'  
 Location: SE¼, Sec. 16, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 12' Clay, tan, with very fine sand and silt, slightly micaceous, iron stained  
 12' 21' Clay, gray brown, silty, slightly micaceous  
 21' 33' Clay, tan, with fine sand  
 33' 56' Clay, gray brown, with very fine sand and silt, slightly micaceous

56' 62' Clay, tan to light brown, with very fine sand  
 62' 98' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 98' 104' Sand, gray, fine, slightly micaceous  
 104' 150' Clay and sand, brown, fine to very fine, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 359.** Elevation 248'  
 Location: SW¼, Sec. 9, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 22' Clay, light brown, with very fine sand and silt, slightly micaceous  
 22' 40' Clay, gray, with very fine sand and silt, with a trace of brown clay  
 40' 51' Clay and sand, gray, fine  
 51' 65' Sand and clay, gray, fine, slightly carbonaceous  
 65' 70' Sand and clay, gray-brown, fine, with a trace of lignite  
 70' 100' Clay and sand, gray-brown, with very fine sand, slightly micaceous  
 100' 125' Sand and clay, gray-brown, very fine  
 125' 150' Clay, brown, silty, slightly micaceous with 3" of siderite at 128'  
 T. D.: 150'

• **Drill Hole No. 360.** Elevation 218'  
 Location: NW¼, Sec. 4, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 15' Sand, light gray, fine, slightly micaceous with a trace of tan clay  
 15' 19' Clay, light brown to tan, with very fine sand, slightly micaceous, with a trace of lignite  
 19' 33' Sand and clay, gray-brown, very fine, with a trace of siderite  
 33' 90' Clay and sand, gray-brown, very fine, interbedded, with a trace of siderite  
 90' 110' Clay, light brown, with very fine sand and silt  
 110' 150' Sand, light gray, fine, slightly micaceous  
 T. D.: 150'

• **Drill Hole No. 361.** Elevation 252'  
 Location: NE¼, Sec. 32, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 28' Sand, light reddish brown, fine  
 28' 33' Clay, tan, very fine  
 33' 59' Clay, brown, with very fine sand and silt, with a trace of lignite  
 59' 62' Lignite, black, firm  
 62' 66' Clay, brown, with very fine sand and silt, slightly micaceous  
 66' 92' Clay, light gray-brown, with a trace of lignite  
 92' 109' Sand, light brown, fine, with a trace of light gray-brown clay  
 109' 132' Clay, light gray, with very fine sand, slightly micaceous  
 132' 150' Sand, light gray-brown, fine

Core Interval 59'-66'

Recovered: 6' 10"  
 Lost: 2"

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

59' 59'7" clay, gray brown, with very fine sand and silt  
 59'7" 62'3" lignite, black, hard, with a few silt partings  
 62'3" 62'9" clay, dark brown to black, waxy, with very fine sand and silt  
 62'9" 65'10" sand, gray brown, fine to very fine, with clay binder, slightly carbonaceous  
 T. D.: 150'

**Drill Hole No. 362.** Elevation 318'  
 Location: NE¼, Sec. 29, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 3' Sand, tan to light brown, very fine, iron stained  
 3' 17' Clay, gray, with a trace of very fine sand  
 17' 27' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 27' 33' Clay, tan, slightly micaceous  
 33' 46' Clay, gray brown, with very fine sand and a trace of lignite  
 46' 72' Clay and sand, gray brown, very fine, slightly micaceous  
 72' 78' Clay, gray, with very fine sand  
 78' 78'4" Lignite, black, soft, clayey  
 78'4" 115' Clay and sand, gray brown, silty, slightly micaceous with a trace of lignite  
 115' 150' Clay, light gray brown, silty, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 363.** Elevation 285'  
 Location: SE¼, Sec. 17, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 4/78.

0' 12' Sand, light brown, fine, with light reddish brown clay  
 12' 47' Clay, gray, with very fine sand, slightly micaceous  
 47' 90' Sand and clay, gray, very fine, slightly carbonaceous  
 90' 150' Sand, gray, very fine, slightly carbonaceous, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 364.** Elevation 296'  
 Location: SE¼, Sec. 8, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 8' Clay, tan, with very fine sand, slightly micaceous  
 8' 26' Clay, gray brown, with very fine sand, slightly micaceous, slightly carbonaceous  
 26' 31' Sand, brown, very fine, with brown clay, slightly micaceous  
 31' 45' Clay, dark brown, with very fine sand and silt, slightly micaceous  
 45' 64' Sand and clay, brown, very fine, slightly carbonaceous  
 64' 100' Clay and sand, brown, very fine, slightly micaceous  
 100' 117' Clay and sand, dark gray brown, with very fine sand, slightly micaceous, with 1½ feet of siderite @ 113'  
 117' 150' Clay, brown, with very fine sand, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 365.** Elevation 302'  
 Location: SW¼, Sec. 33, T. 13 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 17' Sand, light reddish brown, fine, with a trace of tan clay  
 17' 22' Clay, light reddish brown, very fine sand, slightly micaceous  
 22' 30' Sand and clay, gray-brown, very fine, slightly micaceous  
 30' 35' Clay, brown, with very fine sand and silt, slightly micaceous  
 35' 53' Clay and sand, brown, very fine, slightly micaceous  
 53' 58' Sand, brown, very fine, silty with a trace of brown clay, slightly micaceous  
 58' 84' Clay, light gray brown, w/very fine sand, and a trace of lignite  
 84' 103'6" Clay, gray, with very fine sand, slightly micaceous  
 103'6" 105' Lignite, black, soft  
 105' 106' Clay, lignitic, dark brown  
 106' 125' Sand, light gray brown, very fine, silty, with a trace of gray brown clay  
 125' 137' Sand and clay, light brown, very fine, silty  
 137' 150' Clay, brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 366.** Elevation 237'  
 Location: SW¼, Sec. 28, T. 13 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 6' Clay, mottled, reddish brown to light tan, with very fine sand  
 6' 20' Clay, gray brown, with very fine sand, slightly micaceous  
 20' 80' Sand, buff, fine, with a trace of lignite  
 80' 139' Sand, light gray, fine to very fine, with a trace of lignite  
 139' 150' Clay, gray, with very fine sand, and a trace of lignite  
 T. D.: 150'

**Drill Hole No. 367.** Elevation 263'  
 Location: NW¼, Sec. 21, T. 13 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 6' Clay, light tan, slightly iron stained, with very fine sand  
 6' 10' Clay, light gray brown  
 10' 17' Clay, light tan, w/very fine sand  
 17' 23' Sand, brown, with a trace of clay and lignite  
 23' 32' Clay, gray brown, with very fine sand and silt  
 32' 41' Clay, brown, with very fine sand, slightly micaceous  
 41' 80' Clay, gray brown, with very fine sand and silt, and a trace of lignite  
 80' 100' Silt, gray brown, with a trace of clay and very fine sand  
 T. D.: 100'

**Drill Hole No. 368.** Elevation 218'  
 Location: NE¼, Sec. 16, T. 13 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 17' Sand, light reddish brown, with very fine sand and silt  
 17' 18' Clay, gray,  
 18' 24' Clay, light gray  
 24' 30' Clay, dark brown, with very fine sand and silt, slightly micaceous,

and a trace of lignite  
 30' 40' Clay, light gray, with interbedded dark brown clay, and a trace of lignite  
 40' 77' Sand, light brown, very fine, with interbedded sandy brown clay  
 77' 93' Clay, brown, with very fine sand and silt, slightly micaceous  
 93' 120' Sand and clay, light brown, very fine, slightly micaceous  
 120' 137' Sand, light brown, fine to very fine, with a trace of lignite throughout  
 137' 150' Clay, brown, with very fine sand, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 369.** Elevation 295'  
 Location: NW¼, Sec. 3, T. 13 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 18' Sand, light reddish brown, very fine  
 18' 30' Clay, gray, with very fine sand  
 30' 64' Clay, light tan, with very fine sand, slightly micaceous, with a trace of gray clay  
 64' 100' Sand and clay, light tan, very fine  
 100' 150' Sand, light tan, very fine, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 370.** Elevation 312'  
 Location: SE¼, Sec. 28, T. 12 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 41' Sand, light tan, fine  
 41' 45' Clay, light blue-gray, very fine, slightly micaceous  
 45' 48' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 48' 86' Sand and clay, mottled tan, very fine, slightly micaceous  
 86' 120' Clay and sand, gray-brown, very fine, silty, slightly micaceous  
 120' 144' Sand, light gray-brown, fine, with a trace of gray-brown clay  
 144' 150' Clay, gray-brown, with interbedded fine sand  
 T. D.: 150'

**Drill Hole No. 371.** Elevation 290'  
 Location: NE¼, Sec. 22, T. 12 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 6' Sand, mottled, light orange to light brown, very fine  
 6' 8' Clay, tan, iron stained, with very fine sand  
 8' 65' Sand, light orange to brown, fine to very fine, slightly micaceous  
 T. D.: 65'

**Drill Hole No. 372.** Elevation 360'  
 Location: NW¼, Sec. 14, T. 12 S., R. 19 W.  
 County: Ouachita  
 Logged by: G. L. Delevan 5/78.

0' 55' Sand, light orange to brown, very fine, with a trace of white clay  
 55' 72' Clay and sand, light tan to orange, very fine  
 72' 93' Clay, tan, with very fine sand and silt, slightly micaceous  
 93' 98' Clay and sand, tan, very fine, slightly micaceous

## ARKANSAS LIGNITE INVESTIGATIONS

- 98'-150' Sand, light orangish brown, with very fine sand and silt  
T. D.: 150'
- **Drill Hole No. 373.** Elevation 145'  
Location: SW¼, Sec. 27, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 3' Sand, light reddish brown, very fine  
3'- 18' Clay, light brown, with trace of gravel  
18'- 36' Clay, gray  
36'- 80' Clay, gray, slightly glauconitic with very fine sand, slightly micaceous  
80'- 98' Clay, gray brown, with very fine sand and silt, slightly micaceous  
98'-122' Clay, gray, with very fine sand and silt, slightly micaceous  
122'-123' Lignite and clay, dark brown to black, soft  
123'-135' Clay, gray brown, with very fine sand, slightly micaceous  
135'-136' Lignite and clay, dark brown to black  
136'-139' Clay, light brown, with very fine sand and silt  
139'-150' Clay, brown  
T. D.: 150'
- **Drill Hole No. 374.** Elevation 220'  
Location: NW¼, Sec. 23, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 7' Sand, dark reddish brown, very fine  
7'- 9' Clay, tan, slightly micaceous  
9'- 28' Clay, light gray, slightly micaceous  
28'- 40' Clay, light blue gray, with very fine sand and silt, slightly micaceous with a trace of siderite  
40'- 56' Clay and sand, light blue gray, with very fine sand and silt, slightly micaceous  
56'- 87' Clay, light blue gray, slightly glauconitic, with very fine sand and silt  
87'-121' Clay, gray, slightly glauconitic with very fine sand and silt with a trace of siderite  
121'-138' Clay and sand, gray, very fine, slightly micaceous  
138'-150' Clay, brown, with very fine sand, slightly micaceous  
T. D.: 150'
- **Drill Hole No. 375.** Elevation 188'  
Location: NW¼, Sec. 14, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 2' Sand, reddish brown, very fine  
2'- 19' Clay, gray to tan, with very fine sand and silt  
19'- 38' Clay, light blue gray, with a trace of very fine sand, slightly micaceous  
38'- 52' Clay, gray, with very fine sand and silt, slightly micaceous with a trace of siderite  
52'- 82' Clay, gray brown, slightly micaceous  
82'-108' Clay, gray, slightly micaceous with a trace of siderite
- 108'- 150' Clay and sand, gray, very fine, silty, slightly glauconitic  
T. D.: 150'
- **Drill Hole No. 376.** Elevation 241'  
Location: NE¼, Sec. 11, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 28' Clay, light brown, with very fine sand, slightly micaceous  
28'- 48' Clay, dark blue gray, with very fine sand and silt, slightly micaceous  
48'- 60' Clay, gray brown, slightly micaceous  
60'- 95' Clay, light gray brown, slightly micaceous, with a trace of fossiliferous limestone  
95'- 150' Silt and clay, gray-brown, slightly micaceous with a trace of limestone  
T. D.: 150'
- **Drill Hole No. 377.** Elevation 198'  
Location: NW¼, Sec. 1, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 8' Clay, light brown to tan, with very fine sand and silt  
8'- 32' Clay, buff, with very fine sand and silt, slightly micaceous  
32'- 58' Clay, gray, with very fine sand and silt, slightly micaceous, with a trace of lignite  
58'- 70' Clay, gray brown, slightly micaceous  
70'- 101' Clay, gray, with very fine sand and silt with a trace of fossiliferous limestone  
101'- 120' Sand and clay, gray, silty, very fine, fossiliferous  
T. D.: 120'
- **Drill Hole No. 378.** Elevation 242'  
Location: NW¼, Sec. 35, T. 8 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 7' Sand and clay, light reddish brown, with very fine sand  
7'- 27' Clay, light tan to buff, slightly micaceous  
27'- 65' Clay, gray, slightly glauconitic and slightly micaceous, slightly fossiliferous  
65'- 75' Sand, dark gray, very fine, silty, glauconitic, slightly fossiliferous  
75'- 94' Clay, gray, silty, slightly micaceous  
94'- 132' Clay, gray brown, slightly micaceous  
132'- 147' Clay, gray, with very fine sand and silt, slightly micaceous, and fossiliferous  
147'- 150' Sand, silty, very fine, slightly micaceous  
T. D.: 150'
- Drill Hole No. 379.** Elevation 255'  
Location: NE¼, Sec. 27, T. 8 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 18' Clay, buff, silty, slightly micaceous  
18'- 29' Clay, light brown, silty, slightly micaceous  
29'- 50' Clay, gray to gray-brown, slightly micaceous
- 50'- 64' Clay, gray, silty, with a trace of fossiliferous limestone  
64'- 73' Clay, gray-brown, silty  
73'- 84' Sand, dark gray, very fine, silty, glauconitic, slightly micaceous  
84'- 88' Clay, dark gray, with very fine sand and silt, slightly glauconitic and slightly micaceous  
88'- 93' Clay, gray, silty, slightly glauconitic and micaceous  
93'-110' Clay, gray-brown, silty, slightly micaceous  
110'-150' Clay, light gray-brown, slightly micaceous  
T. D.: 150'
- Drill Hole No. 380.** Elevation 232'  
Location: SE¼, Sec. 15, T. 8 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 4' Clay and sand, gray-brown, with very fine sand and silt, slightly micaceous  
4'- 20' Clay, light brown to buff, with interbedded very fine sand, slightly micaceous  
20'- 27' Clay, light gray-brown, slightly micaceous  
27'- 51' Clay, gray, glauconitic, silty, with very fine sand, slightly micaceous  
51'- 63' Sand, dark gray-green, silty, very fine, glauconitic  
63'- 66' Clay and sand, dark gray, silty, glauconitic, very fine, slightly micaceous  
66'- 82' Clay, dark gray, glauconitic with a trace of very fine sand, slightly micaceous  
82'-125' Clay, gray-brown, slightly micaceous  
125'-150' Clay, gray, with very fine sand and silt, slightly fossiliferous and micaceous  
T. D.: 150'
- Drill Hole No. 381.** Elevation 282'  
Location: NE¼, Sec. 10, T. 8 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 12' Clay, light brown to buff, slightly micaceous  
12'- 40' Clay, gray, slightly micaceous  
40'- 55' Sand and clay, dark gray-green, glauconitic, slightly micaceous with a trace of siderite  
55'- 72' Clay, gray, with very fine sand and silt, slightly glauconitic and micaceous  
72'- 83' Clay, light gray-brown, slightly glauconitic  
83'- 88' Clay, gray, silty, slightly glauconitic  
88'-103' Clay, light gray-brown  
103'-128' Sand, dark gray, very fine, slightly glauconitic and micaceous  
128'- 150' Clay, gray, with very fine sand, slightly fossiliferous  
T. D.: 150'
- Drill Hole No. 382.** Elevation 262'  
Location: NW¼, Sec. 2, T. 8 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.
- 0'- 12' Clay, light brown, silty, slightly micaceous

\*Electric logs available

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12'-40' Clay, gray, slightly glauconitic, silty, slightly micaceous  
 40'-63' Clay, gray  
 63'-73' Sand, dark gray green, glauconitic, silty, very fine  
 73'-102' Clay, gray, with very fine sand and silt, slightly micaceous  
 102'-150' Clay, light gray brown, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 383. Elevation 250'  
 Location: NW¼, Sec. 7, T. 9 S., R. 10 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-6' Clay, light reddish brown, with trace of very fine sand  
 6'-24' Clay, light tan to buff, with very fine sand  
 24'-33' Clay, light brown, with very fine sand, slightly micaceous  
 33'-42' Clay, gray, with very fine sand and silt, slightly micaceous  
 42'-53' Clay, gray brown  
 53'-76' Clay, gray, with very fine sand and silt, fossiliferous, slightly glauconitic, slightly micaceous  
 76'-142' Clay, gray, with very fine sand and silt, slightly fossiliferous, slightly micaceous  
 142'-150' Sand and clay, gray, silty, very fine  
 T. D.: 150'

Drill Hole No. 384. Elevation 230'  
 Location: NE¼, Sec. 3, T. 9 S., R. 11 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-4' Clay, reddish brown, with very fine sand  
 4'-13' Clay, tan to light brown, with a trace of very fine sand  
 13'-70' Clay, gray to gray brown, slightly micaceous  
 70'-88' Clay, gray brown, with very fine sand and silt, fossiliferous, slightly micaceous  
 88'-102' Sand, gray, silty, very fine, slightly micaceous, slightly fossiliferous  
 102'-114' Clay, gray, with very fine sand and silt, slightly micaceous  
 114'-150' Clay, gray to gray brown, slightly glauconitic, slightly micaceous, with a trace of siderite  
 T. D.: 150'

\* Drill Hole No. 385. Elevation 235'  
 Location: SW¼, Sec. 17, T. 9 S., R. 10 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-5' Clay, reddish brown, with very fine sand  
 5'-12' Clay, mottled tan, with very fine sand  
 12'-23' Clay, tan to buff, slightly micaceous  
 23'-32' Clay, reddish brown, with very fine sand, slightly micaceous  
 32'-52' Clay, gray brown, silty, slightly micaceous  
 52'-58' Clay, gray, with very fine sand, slightly micaceous  
 58'-105' Clay, gray brown, silty, slightly micaceous  
 105'-112' Clay, gray brown, with very fine sand, slightly micaceous

112'-144' Clay and sand, gray, very fine slightly micaceous, slightly fossiliferous  
 144'-150' Clay, gray-brown, silty, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 386. Elevation 220'  
 Location: SE¼, Sec. 20, T. 9 S., R. 10 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-14' Clay, mottled tan  
 14'-18' Clay, gray, with very fine sand and silt  
 18'-22' Sand, greenish-gray, very fine, silty, glauconitic, slightly micaceous  
 22'-103' Clay, gray-brown, silty, slightly micaceous with a trace of siderite  
 103'-113' Clay, gray brown, with very fine sand, fossiliferous  
 113'-150' Clay, gray-brown, silty, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 387. Elevation 223'  
 Location: NW¼, Sec. 16, T. 9 S., R. 10 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-9' Clay, light reddish brown, with very fine sand  
 9'-38' Clay, tan to light brown, slightly micaceous  
 38'-46' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 46'-51' Sand, gray-green, glauconitic, silty, very fine, slightly micaceous  
 51'-63' Clay and sand, gray-brown, silty, very fine, slightly glauconitic  
 63'-112' Clay, gray brown, silty  
 112'-120' Sand and clay, gray-brown, silty, very fine, slightly micaceous  
 120'-150' Clay, gray brown, with a trace of very fine sand and silt, slightly micaceous  
 T. D.: 150'

Drill Hole No. 388. Elevation 147'  
 Location: NE¼, Sec. 33, T. 9 S., R. 11 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-27' Sand, light brown, fine, with some pea gravel  
 27'-53' Clay, gray brown, with very fine sand and silt, slightly micaceous and slightly carbonaceous  
 53'-55' Clay, brown, with very fine sand, slightly micaceous, with a trace of lignite  
 55'-61' Clay, gray, with very fine sand, slightly micaceous  
 61'-71' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 71'-72' Clay, brown, with very fine sand  
 72'-77' Clay, gray and brown, with very fine sand and a trace of lignite  
 77'-86' Sand, gray brown, very fine, silty, with interbedded gray-brown clay  
 86'-93' Clay, gray-brown, with very fine sand and silt  
 93'-96' Lignite and lignitic clay, dark brown to black, soft  
 96'-114' Clay, gray, with very fine sand,

slightly micaceous with a trace of lignite  
 114'-116' Clay, brown to dark brown, with very fine sand and a trace of lignite  
 116'-136' Sand and silt, dark brown, very fine and a trace of lignite  
 136'-150' Clay, light gray-brown  
 T. D.: 150'

Drill Hole No. 389. Elevation 160'  
 Location: NE¼, Sec. 5, T. 10 S., R. 11 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-12' Sand, light brown, fine, slightly micaceous  
 12'-15' Clay, gray-brown, with very fine sand  
 15'-28' Sand, fine to very fine, with pea gravel  
 28'-47' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 47'-48' Lignite and clay, dark brown to black, soft  
 48'-88' Clay, gray-brown, with very fine sand and silt, slightly micaceous and a trace of lignite  
 88'-91' Clay, lignitic, black, with lignite, black, firm  
 91'-132' Clay, light gray-brown, silty, with very fine sand, slightly micaceous and a trace of lignite  
 132'-150' Clay, gray, with very fine sand, slightly micaceous  
 T. D.: 150'

Drill Hole No. 390. Elevation 172'  
 Location: SE¼, Sec. 6, T. 10 S., R. 11 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 5/78.

0'-22' Sand, light brown, fine, slightly micaceous  
 22'-38' Sand, light gray, medium to fine, slightly micaceous, with a trace of gray clay  
 38'-41' Lignite, black, firm to soft  
 41'-57' Clay, gray, silty, slightly micaceous  
 57'-59' Clay, gray, with interbedded dark brown clay, slightly micaceous  
 59'-107' Clay, light gray, slightly silty, slightly micaceous  
 107'-138' Clay, light gray-brown, with very fine sand and silt, slightly micaceous  
 138'-150' Clay and sand, light gray-brown, very fine, slightly micaceous

Core Interval 37'6" - 42'6"  
 Recovered: 4'10" Lost: 8"

37'6" - 38' clay, gray, silty, with gravel  
 38' - 38'2" lignite, black, friable  
 38'2" - 39'5" lignite, black, firm to friable  
 39'5" - 40'7" lignite, black, friable  
 40'7" - 41'0" lignite, with black to dark brown clay, and silt partings  
 41'0" - 41'5" clay, gray-brown, with a trace of lignite and lignitic clay  
 41'5" - 41'10" clay, gray-brown, silty, slightly micaceous  
 T. D.: 150'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

\* **Drill Hole No. 391.** Elevation 198'  
Location: NE¼, Sec. 12, T. 10 S., R. 12 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.

- 0' 19' Clay, light tan to buff, with very fine sand, slightly micaceous
- 19' 27' Clay, gray brown, with very fine sand and silt, slightly micaceous
- 27' 34' Sand, light gray, very fine
- 34' 54' Sand, very fine, silty, slightly glauconitic, slightly micaceous
- 54' 54' 6" Lignite, black, firm
- 54' 6" 57' Clay, black, lignitic
- 57' 58' Clay, brown, with very fine sand and silt, slightly micaceous
- 58' 100' Clay, gray, silty, slightly micaceous
- 100' 131' Clay, gray, with very fine sand and silt, slightly micaceous
- 131' 136' Clay, dark brown to black, lignitic
- 136' 138' Clay, gray, with very fine sand and silt
- 138' 140' Clay, brown to dark brown, with a trace of lignite
- 140' 150' Clay, gray, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 392.** Elevation 240'  
Location: NW¼, Sec. 11, T. 10 S., R. 12 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.

- 0' 4' Sand and clay, light reddish brown, very fine
- 4' 15' Clay, tan, with very fine sand, slightly micaceous
- 15' 32' Sand, light gray brown, fine to very fine
- 32' 48' Clay, light gray brown, with very fine sand, slightly micaceous, with a trace of lignite
- 48' 58' Sand, gray, very fine, with light gray clay binder, slightly micaceous
- 58' 64' Clay and sand, light gray brown, very fine, slightly micaceous
- 64' 74' Clay, light gray brown, silty
- 74' 74' 6" Lignite, black, firm
- 74' 6" 120' Clay and sand, gray, very fine, slightly micaceous
- 120' 127' Sand, very fine, with gray clay and a trace of siderite
- 127' 144' Clay, brown, with very fine sand and interbedded black and dark brown clay, and a trace of lignite
- 144' 150' Sand and clay, light gray, very fine, slightly micaceous  
T. D.: 150'

**Drill Hole 393.** Elevation 251'  
Location: NW¼, Sec. 10, T. 10 S., R. 12 W.  
County: Cleveland  
Logged by: G. L. Delevan 5/78.

- 0' 3' Sand, light brown, very fine
- 3' 15' Clay, light tan to buff, with very fine sand and silt, slightly micaceous
- 15' 17' Clay and sand, light reddish brown, very fine, slightly micaceous
- 17' 26' Clay, gray to gray brown, silty, slightly micaceous
- 26' 39' Sand, light gray, fine to very

- 39' 62' fine, with light gray clay binder, slightly micaceous
- Clay and sand, gray, very fine, with silty clay and a slight trace of lignite
- 62' 63' Lignite, black, firm
- 63' 90' Clay, gray to gray brown, with very fine sand and silt, slightly micaceous and slightly carbonaceous and a trace of lignite
- 90' 115' Sand and clay, gray brown, very fine, with a trace of siderite
- 115' 150' Clay, gray brown, with interbedded dark brown clay, slightly micaceous  
T. D.: 150'

**Drill Hole No. 394.** Elevation 180'  
Location: NE¼, Sec. 17, T. 10 S., R. 12 W.  
County: Dallas  
Logged by: G. L. Delevan 5/78.

- 0' 7' Clay and sand, gray, fine, slightly micaceous
- 7' 37' Sand, light gray, medium to fine, with a trace of gravel
- 37' 65' Clay, light gray brown, with fine sand, slightly micaceous, silty, and a trace of gravel
- 65' 80' Clay, brown, with interbedded dark brown clay and a trace of lignite
- 80' 150' Clay, gray, with very fine sand and silt, slightly micaceous  
T. D.: 150'

**Drill Hole No. 395.** Elevation 197'  
Location: SW¼, Sec. 17, T. 10 S., R. 12 W.  
County: Dallas  
Logged by: G. L. Delevan 5/78.

- 0' 9' Clay and sand, gray to gray brown, fine, slightly micaceous
- 9' 20' Clay, gray, with very fine sand
- 20' 33' Sand, light gray-brown, fine, slightly micaceous
- 33' 42' Clay, gray, with very fine sand, slightly micaceous
- 42' 48' Sand, fine, with gray clay binder, slightly micaceous and slightly carbonaceous
- 48' 70' Clay, gray, with very fine sand and silt, with interbedded dark brown clay, slightly micaceous, and a trace of lignite
- 70' 150' Silt, gray brown, with very fine sand, slightly micaceous with a trace of lignite  
T. D.: 150'

**Drill Hole No. 396.** Elevation 236'  
Location: NW¼, Sec. 24, T. 10 S., R. 13 W.  
County: Dallas  
Logged by: G. L. Delevan 5/78.

- 0' 22' Sand, light brown, very fine, slightly micaceous, with a trace of tan clay
- 22' 28' Clay, gray brown, slightly silty and slightly micaceous
- 28' 30' 6" Clay, dark brown to black, lignitic, with a trace of black soft lignite
- 30' 6" 38' Clay, light gray, with very fine sand and silt, slightly micaceous
- 38' 48' Clay, gray brown, silty
- 48' 51' Clay, brown, with very fine sand and silt, slightly micaceous
- 51' 87' Clay, light gray brown, silty
- 87' 102' Clay, light gray, slightly silty and slightly micaceous

- 102' 130' Clay, brown, with very fine sand and silt, slightly micaceous, interbedded dark brown clay and a trace of lignite
- 130' 150' Clay, gray to brown, with very fine sand, slightly micaceous  
T. D.: 150'

\* **Drill Hole No. 397.** Elevation 252'  
Location: SW¼, Sec. 23, T. 10 S., R. 13 W.  
County: Dallas  
Logged by: G. L. Delevan 6/78.

- 0' 18' Clay, light brown to brown, with fine sand, slightly micaceous
- 18' 33' Sand and clay, brown, fine to very fine, slightly micaceous, with silty clay
- 33' 46' Clay, gray-brown, slightly micaceous, with a trace of siderite
- 46' 48' Lignite and clay, black, firm
- 48' 56' Clay, gray-brown, silty
- 56' 62' Clay, light gray, with silt, slightly micaceous
- 62' 75' Clay, gray-brown, with very fine sand and silt, slightly micaceous with a trace of siderite
- 75' 81' Clay, dark brown, lignitic, silty, slightly micaceous
- 81' 86' Clay, light gray-brown, with very fine sand, slightly micaceous
- 86' 94' Sand, brown, very fine, silty
- 94' 101' Clay, gray-brown, with very fine sand and silt, slightly micaceous
- 101' 107' Clay, light gray, with very fine sand and silt, slightly micaceous
- 107' 113' Sand and clay, light gray, very fine
- 113' 128' Clay, gray-brown, with very fine sand and silt, slightly micaceous
- 128' 136' Clay, light gray, slightly silty
- 136' 140' Clay, brown to light brown, with very fine sand and silt, slightly micaceous, slightly carbonaceous
- 140' 150' Clay, gray-brown, silty  
T. D.: 150'

\* **Drill Hole No. 398.** Elevation 248'  
Location: SE¼, Sec. 31, T. 10 S., R. 12 W.  
County: Dallas  
Logged by: G. L. Delevan 6/78.

- 0' 3' Sand and clay, reddish brown, with very fine sand
- 3' 20' Clay, light tan to buff, slightly micaceous, with a trace of lignite and brown clay
- 20' 27' Clay, light gray-brown, silty, slightly micaceous
- 27' 48' Clay, gray to gray-green, with very fine sand and silt, slightly micaceous and slightly carbonaceous
- 48' 52' Lignite, black, firm
- 52' 53' Clay, black to dark brown, lignitic
- 53' 63' Sand, gray, very fine, with clay binder, slightly micaceous
- 63' 70' Clay, gray-brown, silty, slightly micaceous
- 70' 82' Clay and sand, brown to dark brown, with very fine sand, slightly micaceous
- 82' 93' Clay, gray-brown, slightly micaceous
- 93' 97' Clay, gray, with very fine sand and silt, slightly micaceous, with a trace of siderite

\* Electric logs available

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97' 107' Clay and sand, gray, very fine slightly micaceous, slightly carbonaceous  
 107' 119' Sand, light brown, fine, slightly micaceous, slightly carbonaceous  
 119'-150' Clay, light gray to gray, with very fine sand and silt, slightly micaceous, with interbedded gray brown clay  
 Core Interval 43'7" 48'7"  
 Recovered: 10' Lost: 0'  
 43'7" 44'1" clay, gray brown with very fine sand and slightly micaceous  
 44'1" 44'10" lignite and clay, black, friable, with silty clay  
 44'10" 47'10" lignite, black, hard, waxy, with a few silt partings  
 47'10" 48'2" clay, black, lignitic, with very fine sand and silt  
 48'2" 48'7" clay, brown, with very fine sand, slightly micaceous, carbonaceous, with pyrite inclusions  
 T. D.: 150'

**Drill Hole No. 399.** Elevation 90'  
 Location: NE 1/4, Sec. 2b, T. 1b S., R. 14 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0' 10' Clay, light gray, with silt  
 10' 20' Clay, light gray, with silt, iron stained  
 20' 30' Sand, light gray, very fine, with clay  
 30' 35' Clay, gray to light gray, with very fine sand  
 35' 70' Gravel, pea to large pebble  
 70'-100' Clay, gray to dark gray, with very fine sand, micaceous  
 100'-115' Clay, gray, with very fine sand and silt, with a trace of lignite  
 115' 120' Clay, gray to light brown, with a trace of pea gravel  
 120' 150' Clay, gray, with very fine sand and silt, with a trace of lignite and a trace of siderite  
 T. D.: 150'

**Drill Hole No. 400.** Elevation 106'  
 Location: SE 1/4, Sec. 18, T. 1b S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 5' Clay, mottled, silty  
 5' 20' Clay, cream to tan, silty, with very fine sand  
 20' 70' Sand, cream, coarse to fine, with pea gravel  
 70' 80' Clay, gray, silty, micaceous  
 80' 100' Silt, gray brown, with clay and a trace of lignite  
 100' 105' Clay, gray, silty, micaceous  
 105' 110' Silt, brown, with clay, micaceous  
 110' 115' Clay, gray brown, with fine sand  
 115' 150' Silt, brown, micaceous, with fine sand and a trace of lignite  
 150' 165' Silt, gray, micaceous, with fine sand and a trace of siderite  
 165' 175' Clay, brown, with silt  
 175' 179' Silt, gray, with fine sand and siderite  
 T. D.: 179'

**Drill Hole No. 401.** Elevation 110'  
 Location: SE 1/4, Sec. 7, T. 15 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0' 10' Clay, light brown, with very fine sand  
 10' 25' Clay, light gray, with very fine sand and silt  
 25' 50' Gravel, large to medium  
 50' 65' Clay, gray to light gray, with very fine sand  
 65' 75' Clay, gray to dark gray, with very fine sand and a trace of lignite  
 75' 90' Clay, gray, with interbedded pea gravel, very fine sand and a trace of lignite  
 90' 100' Sand, very fine, with black clay, carbonaceous, with a trace of lignite  
 100' 120' Sand, very fine, with gray clay and a trace of lignite  
 120' 125' Sand, very fine, glauconitic  
 125' 164' Clay, gray, with very fine sand, slightly glauconitic  
 164' 185' Sand, very fine, glauconitic, with some gray clay  
 185' 195' Clay, gray, with very fine sand, with a trace of siderite  
 T. D.: 195'

**Drill Hole No. 402.** Elevation 120'  
 Location: SE 1/4, Sec. 6, T. 15 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 5' Clay, orange  
 5' 25' Sand, fine, with orange clay and silt binder  
 25' 40' Sand, medium to coarse, with pea gravel  
 40' 62' Gravel, with medium sand  
 62' 92' Clay, gray, with silt and a trace of lignite  
 92' 100' Sand, fine  
 100' 125' Silt, gray, with very fine sand and clay binder, with a trace of lignite  
 125' 150' Silt, brown, micaceous, with fine sand  
 150' 200' Silt, gray, with clay binder and a trace of fine sand  
 T. D.: 200'

**Drill Hole No. 403.** Elevation 120'  
 Location: NE 1/4, Sec. 31, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0' 10' Sand, very fine to fine, with interbedded light gray to white clay  
 10' 80' Gravel, pea, with coarse to fine sand  
 80' 90' Clay, gray, slightly glauconitic with very fine sand  
 90' 145' Clay, gray, with fine to large sand, with a trace of lignite  
 145' 170' Clay, brown and gray interbedded, with very fine sand  
 170' 180' Clay, gray, slightly glauconitic with very fine sand  
 180' 185' Lignite, thin bedded, with fine sand  
 185' 200' Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 404.** Elevation 165'  
 Location: SE 1/4, Sec. 19, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 10' Clay, orange and white, with

fine sand  
 10' 35' Sand, with orange clay binder  
 35' 55' Sand, medium to coarse, with gravel  
 55' 60' Clay, brown, with interbedded brown silt, and a trace of lignite  
 60' 70' Clay, gray, silty, with a trace of lignite  
 70' 80' Silt, gray, with clay and very fine sand  
 80' 90' Silt, dark brown, with a trace of lignite  
 90'-105' Silt, gray, with a trace of lignite and a trace of clay binder  
 105'-135' Clay, gray, silty, with a trace of lignite  
 135'-140' Clay, brown  
 140'-145' Silt, gray, with very fine sand  
 145'-150' Clay, gray, with silt  
 150'-155' Clay, light gray, with silt  
 155'-160' Silt, gray, with a trace of lignite  
 160'-200' Clay, gray, silty, with a trace of lignite  
 T. D.: 200'

**Drill Hole No. 405.** Elevation 160'  
 Location: SE 1/4, Sec. 18, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0' 10' Clay, light gray to tan, with very fine sand  
 10' 55' Gravel, with sand, coarse to fine  
 55' 68' Clay, gray, with very fine sand  
 68' 75' Lignite, with chocolate brown clay and very fine sand  
 75' 80' Sand, very fine to fine, with interbedded gray clay  
 80' 85' Sand, fine, with lignite stringers and some gray clay  
 85'-100' Sand, coarse, with gray clay stringers  
 100' 105' Clay, light brown to gray, with very fine sand  
 105' 120' Clay, light gray, slightly glauconitic, with very fine sand  
 120'-130' Clay, light gray to light blue, with interbedded very fine sand, silty  
 130'-135' Clay, gray to light brown, with very fine sand  
 135' 155' Clay, gray, with very fine sand  
 155'-170' Clay, light brown, with very fine sand and a trace of lignite  
 170'-180' Sand, very fine, with gray to light brown clay  
 180' 190' Clay, light gray, with interbedded very fine sand  
 190' 200' Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 406.** Elevation 165'  
 Location: NE 1/4, Sec. 7, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 19' Sand, coarse, with pea gravel  
 19' 40' Silt, gray to brown, with a trace of lignite  
 40' 53' Clay, light brown, silty, with a trace of lignite  
 53' 95' Clay, gray, silty, with a trace of lignite and siderite  
 95'-100' Silt, gray, with clay binder  
 100'-140' Clay, gray, with silt  
 140'-195' Silt, brownish gray, with very fine sand and a trace of lignite and siderite  
 T. D.: 195'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 407.** Elevation 150'  
Location: NW¼, Sec. 6, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78

0' 10' Sand, medium to coarse, with gravel  
10' 25' Silt, gray, with clay binder  
25' 70' Clay, gray, with silt and a trace of lignite  
70' 75' Silt, brown and gray  
75' 90' Clay, brownish gray, with silt and a trace of lignite  
90' 120' Clay, gray, with silt and a trace of lignite  
120' 165' Clay, gray, with silt  
165' 175' Silt, brown and gray, micaceous with gray clay  
175' 190' Clay, gray, silty, with a trace of lignite  
190' 200' Clay, grayish brown, with a trace of lignite  
T. D.: 200'

\* **Drill Hole No. 408.** Elevation 150'  
Location: NW¼, Sec. 2, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78

0' 5' Clay, gray, with fine sand  
5' 15' Gravel  
15' 20' Clay, lignitic, with very fine sand  
20' 40' Clay, chocolate brown, interbedded with gray clay and very fine sand  
40' 70' Clay, gray, with very fine sand, slightly glauconitic  
70' 90' Clay, light gray to light brown, with very fine sand  
90' 110' Clay, gray, with very fine sand and a trace of siderite  
110' 120' Clay, light gray, slightly glauconitic, with very fine sand  
120' 130' Sand, very fine, with gray clay  
130' 192' Clay, gray, with very fine sand, with a trace of lignite and siderite  
T. D.: 192'

**Drill Hole No. 409.** Elevation 169'  
Location: NW¼, Sec. 3, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78

0' 10' Sand, medium, mottled, with orange clay binder  
10' 20' Sand, medium to coarse, with pea gravel  
20' 32' Gravel, with sand, medium to coarse  
32' 45' Silt, dark brown, with a trace of lignite and gray clay  
45' 50' Clay, brown, with brown silt stringers  
50' 60' Sand, gray, fine, with silt  
60' 75' Clay, brown, with very fine sand  
75' 125' Clay, gray, with silt and a trace of siderite  
125' 185' Clay, brownish gray, silty  
185' 190' Silt, brownish gray, with clay binder  
190' 200' Clay, brownish gray  
T. D.: 200'

**Drill Hole No. 410.** Elevation 175'  
Location: NW¼, Sec. 4, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78,

0' 15' Clay, light tan, with very fine sand  
15' 20' Clay, white, with very fine sand  
20' 25' Clay, white, interbedded with chocolate brown clay and lignite  
25' 30' Clay, chocolate brown, with gravel and a trace of lignite  
30' 35' Lignite  
35' 45' Clay, gray, with very fine sand  
45' 90' Clay, brown, with very fine sand

Core Interval 30' - 40'

Recovered: 19" Lost 101"

Top of core  
6½" lignite, black, hard  
4½" sand, very fine, light gray, micaceous  
7" lignite, black, hard  
1" clay, dark brown, lignitic

Core Interval 31' - 36'

Recovered: 32" Lost: 28"

Top of core  
2" clay, gray, sandy  
1" lignite, hard, fragments  
2" clay, lignitic  
27" clay, gray  
T. D.: 90'

**Drill Hole No. 411.** Elevation 175'  
Location: NE¼, Sec. 5, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78,

0' 8' Sand, very fine, with light tan clay  
8' 45' Gravel  
45' 50' Clay, light brown, with very fine sand  
50' 60' Clay, gray, with very fine sand  
60' 70' Sand, fine, with gray clay  
70' 120' Clay, gray, with fine to very fine sand  
120' 123' Siderite  
123' 140' Clay, light gray, glauconitic with very fine sand  
140' 150' Clay, light gray, slightly micaceous, with very fine sand  
T. D.: 150'

\* **Drill Hole No. 412.** Elevation 176'  
Location: NW¼, Sec. 6, T. 14 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78,

0' 5' Silt, with iron sand concretions  
5' 25' Sand, medium, with orange clay  
25' 30' Sand, medium to coarse, with pea gravel  
30' 100' Gravel, with medium to coarse sand and thin cream clay stringers  
100' 120' Silt, dark brown, with lignite stringers  
120' 150' Clay, gray, with silt  
150' 160' Silt and very fine sand, brownish gray  
160' 170' Silt, gray, with very fine sand  
170' 175' Clay, gray, with silt

175' 186' Silt, gray, with very fine sand and clay binder  
186' 189' Siderite  
T. D.: 189'

**Drill Hole No. 413.** Elevation 155'  
Location: SW¼, Sec. 36, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 5' Clay, light tan to brown, with fine sand  
5' 15' Clay, light gray, with very fine sand  
15' 50' Gravel with coarse sand  
50' 85' Sand, coarse, with gravel  
85' 100' Clay, gray, with very fine sand, slightly micaceous  
100' 105' Clay, gray, glauconitic, with siderite @ 105'  
T. D.: 105'

**Drill Hole No. 414.** Elevation 155'  
Location: NW¼, Sec. 35, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 10' Clay, silty, mottled  
10' 15' Gravel, with coarse sand  
15' 90' Gravel, with a few light tan, sandy clay stringers  
90' 90' 6" Siderite  
90' 6" 100' Clay, brown, micaceous, silty  
100' 200' Clay, gray, silty, with a trace of siderite  
T. D.: 200'

\* **Drill Hole No. 415.** Elevation 150'  
Location: NE¼, Sec. 33, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 5' Sand, fine to medium, with red clay  
5' 20' Clay, red, with fine sand  
20' 40' Gravel  
40' 50' Clay, gray, with very fine sand and a trace of lignite  
50' 110' Clay, gray, slightly glauconitic, with interbedded very fine sand and a trace of lignite  
110' 115' Sand, fine  
115' 150' Clay, gray, with very fine sand and silt, and a trace of siderite  
150' 180' Clay, gray, slightly glauconitic with very fine sand and silt  
180' 200' Clay, gray, with very fine sand and silt  
T. D.: 200'

**Drill Hole No. 416.** Elevation 124'  
Location: NW¼, Sec. 32, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 5' Silt, cream, with fine sand  
5' 22' Gravel  
22' 25' Clay, brownish gray, with silt  
25' 45' Clay, gray, silty, with a trace of lignite and siderite  
45' 50' Silt, gray-brown  
50' 200' Clay, gray, silty, with very fine to fine sand and a trace of lignite  
T. D.: 200'

**Drill Hole No. 417.** Elevation 124'  
Location: SW¼, Sec. 30, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 10' Silt, mottled, with very fine sand

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

10'- 65' Gravel with coarse sand  
65'-132' Clay, brownish gray, silty, with a trace of lignite  
132'-200' Sand, tan, fine to medium, silty, with a trace of lignite and siderite  
T. D.: 200'

**Drill Hole No. 418.** Elevation 125'  
Location: SW¼, Sec. 24, T. 13 S., R. 16 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 5' Clay, light tan, with fine sand  
5'- 25' Clay, light gray, with interbedded tan clay, very fine sand  
25'- 40' Gravel  
40'- 80' Clay, gray, with very fine sand, slightly micaceous  
80'- 150' Clay, gray, slightly glauconitic, with very fine sand and a trace of lignite and siderite  
150'-160' Sand, fine, with gray clay  
160'- 180' Clay, gray, with very fine sand  
180'-182' Siderite  
T. D.: 182'

**Drill Hole No. 419.** Elevation 125'  
Location: SW¼, Sec. 2, T. 13 S., R. 16 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Silt, mottled, with medium sand  
5'- 10' Clay, gray, with silt  
10'- 20' Silt, tan, with tan clay binder  
20'- 45' Gravel with medium sand  
45'- 55' Sand, gray, very fine, with silt and a trace of lignite  
55'- 70' Clay, gray, with very fine sand and a trace of lignite  
70'- 75' Clay, gray, silty  
75'- 80' Clay, brownish gray, silty and a trace of lignite  
80'- 85' Clay, gray, silty, with lignitic partings  
85'- 100' Silt, gray, glauconitic, with gray clay and fine lignitic sand interbedded  
100'- 115' Silt, brown, micaceous, with very fine sand  
115'- 165' Clay, brown, micaceous, silty, with a trace of lignite  
165'- 185' Clay, gray brown, with fine sand and silt  
185'-200' Clay, gray, silty, and a trace of lignite  
T. D.: 200'

**Drill Hole No. 420.** Elevation 135'  
Location: NW¼, Sec. 7, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 5' Clay, tan to red, with medium sand  
5'- 10' Clay, red to white, with very fine sand  
10'- 80' Pea gravel with coarse sand  
80'- 100' Clay, gray, with medium sand and a trace of lignite  
100'- 120' Clay, gray to chocolate brown, with very fine sand, glauconitic, and a trace of lignite  
120'-125' Clay, chocolate brown to gray  
125'- 130' Lignite  
130'- 135' Clay, brown, with lignite and very fine sand  
135'- 160' Clay, gray, slightly micaceous and glauconitic, with very fine sand  
160'- 170' Clay, gray green, with very fine

sand and a trace of siderite  
170'- 175' Sand, fine, with gray clay  
175'- 200' Clay, gray, glauconitic, with very fine sand  
T. D.: 200'

\* **Drill Hole No. 421.** Elevation 150'  
Location: SE¼, Sec. 8, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Gravel and sand  
5'- 10' Silt, gray  
10'- 15' Silt, mottled  
15'- 20' Silt, light gray  
20'- 30' Gravel  
30'- 45' Clay, gray, silty, with a trace of lignite  
45'- 60' Silt, dark gray, with very fine sand, micaceous, with trace of siderite  
60'- 65' Silt, brown, with very fine sand, micaceous  
65'- 75' Clay, grayish brown, silty, and a trace of lignite  
75'- 95' Silt, grayish brown, with sand  
95'- 110' Clay, grayish brown, silty, and a trace of lignite  
110'- 175' Sand, gray, very fine, silty, and a trace of lignite  
175'- 185' Sand, gray, very fine  
185'- 190' Lignite 3½' 4" in sand  
190'- 200' Sand, gray, very fine, silty  
T. D.: 200'

**Drill Hole No. 422.** Elevation 165'  
Location: NE¼, Sec. 9, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 10' Clay, tan, with very fine sand  
10'- 25' Pea gravel  
25'- 100' Clay, gray, with very fine sand, slightly micaceous  
100'- 130' Clay, gray, with very fine sand and a trace of lignite  
130'- 200' Clay, gray, slightly glauconitic, slightly micaceous, with very fine sand and a trace of siderite  
T. D.: 200'

**Drill Hole No. 423.** Elevation 180'  
Location: NE¼, Sec. 10, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Sand, coarse, with gravel  
5'- 20' Gravel, with tan to cream clay stringers  
20'- 30' Clay, gray, with silt  
30'- 40' Clay, gray brown, silty, with very fine sand  
40'- 55' Silt, gray, with very fine sand and a trace of lignite  
55'- 60' Clay, gray, silty  
60'- 70' Silt, gray, micaceous, with interbedded brown lignitic silt  
70'- 80' Silty, brown, micaceous  
80'- 105' Sand, gray, very fine, silty, with gray clay binder  
105'- 115' Silt, gray, with gray clay binder  
115'- 130' Sand, gray, very fine with silt  
130'- 133' Siderite  
133'- 200' Clay, gray, silty, with a trace of siderite  
T. D.: 200'

**Drill Hole No. 424.** Elevation 200'  
Location: NE¼, Sec. 11, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 10' Clay, red to tan, with fine sand

10'- 15' Clay, red, with interbedded gravel  
15'- 50' Gravel, with interbedded tan clay and coarse sand  
50'- 60' Clay, gray, with very fine sand  
60'-130' Clay, gray, glauconitic, slightly micaceous, with very fine sand and a trace of siderite  
130'-160' Clay, gray, with very fine sand, slightly micaceous, and a trace of lignite  
160'-180' Clay, gray to brown, with very fine sand and a trace of lignite  
180'-200' Clay, gray, with interbedded fine sand  
T. D.: 200'

**Drill Hole No. 425.** Elevation 140'  
Location: NE¼, Sec. 12, T. 13 S., R. 15 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 5' Sand, fine to medium, with tan clay  
5'- 25' Clay, gray, with fine to very fine sand  
25'- 40' Gravel with coarse sand  
40'- 50' Clay, gray, with interbedded medium sand  
50'- 80' Clay, gray, slightly glauconitic and micaceous, with very fine sand and a trace of lignite  
80'- 90' Clay, gray, slightly micaceous, with very fine sand  
90'- 100' Clay, gray, with a trace of lignite  
100'- 140' Clay, gray, slightly micaceous, with interbedded chocolate brown clay, very fine sand and a trace of lignite  
140'- 160' Clay, gray-brown, very fine sand  
160'- 180' Clay, gray, very fine sand, and a trace of lignite  
180'- 200' Clay, gray-brown, with very fine sand  
T. D.: 200'

**Drill Hole No. 426.** Elevation 199'  
Location: NW¼, Sec. 8, T. 13 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Sand, fine, silty, mottled  
5'- 10' Gravel, with white sandy clay stringers  
10'- 40' Gravel with medium sand  
40'-200' Sand, tan, medium, with a trace of lignite  
T. D.: 200'

\* **Drill Hole No. 427.** Elevation 219'  
Location: NW¼, Sec. 9, T. 13 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 8' Silt, mottled, with clay binder  
8'- 45' Gravel, with white sandy clay stringers  
45'- 50' Clay, gray, silty, with very fine sand  
50'- 80' Silt, gray, with very fine sand, carbonaceous  
80'- 85' Clay, gray, silty, with very fine sand  
85'-100' Silt, gray, with very fine sand  
100'-125' Clay, gray, silty, with carbonaceous and sandy interbeds  
125'-170' Sand, gray, fine to very fine, silty, with a trace of lignite  
170'-175' Clay, gray, silty, with very fine sand  
175'-200' Silt, gray, with very fine sand  
T. D.: 200'

\* Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

\* **Drill Hole No. 428.** Elevation 210'  
Location: NW¼, Sec. 10, T. 13 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 5' Sand, coarse, with red clay  
5' 15' Sand, coarse, with gravel  
15' 20' Sand, coarse, with a trace of brown clay and lignite  
20' 30' Clay, gray, with interbedded brown clay, very fine sand and a trace of lignite  
30' 50' Clay, gray, with very fine sand, slightly micaceous, and a trace of lignite  
50' 140' Clay, gray, with very fine sand, glauconitic, and a trace of siderite  
140' 150' Sand, very fine, with gray clay and a trace of lignite  
150' 160' Clay, gray, with interbedded brown clay, very fine sand, and a trace of lignite  
160' 185' Clay, gray, with interbedded fine to medium glauconitic sand and a trace of siderite and lignite  
185' 190' Clay, brown, with very fine sand and a trace of lignite  
190' 200' Clay, gray, with interbedded brown clay and very fine sand  
T. D.: 200'

\* **Drill Hole No. 429.** Elevation 224'  
Location: NW¼, Sec. 11, T. 13 S., R. 14 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78

0' 10' Clay, mottled, with fine sand  
10' 33' Pea gravel with medium sand  
33' 37' Clay, brown, with sand  
37' 50' Clay, gray, silty, micaceous with very fine sand  
60' 100' Silt, gray, with very fine sand and interbedded brown clay, and a trace of lignite  
100' 105' Clay, gray, silty, and a trace of lignite  
105' 120' Sand, very fine, silty  
120' 140' Silt, gray, with very fine sand and gray clay binder  
140' 145' Clay, brown, silty, with very fine sand  
145' 200' Silt, gray, with very fine sand and a trace of lignite  
T. D.: 200'

\* **Drill Hole No. 430.** Elevation 230'  
Location: NE¼, Sec. 12, T. 13 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78

0' 5' Clay, tan to red, with fine sand  
5' 10' Clay, tan to gray, with fine to very fine sand  
10' 20' Clay, gray, with tan clay interbeds and very fine sand  
20' 25' Clay, tan, with medium to coarse sand  
25' 40' Gravel

40' 50' Clay, brown to chocolate brown, with very fine sand and a trace of lignite  
50' 55' Clay, white to tan, with fine sand  
55' 60' Clay, gray, with interbedded chocolate brown clay and a trace of lignite  
60' 80' Clay, gray, with a trace of lignite and brown clay and very fine sand  
80' 130' Clay, gray, with very fine sand and interbedded chocolate brown clay with a trace of lignite  
130' 140' Clay, gray, with sand, very fine, glauconitic  
140' 150' Clay, gray, with interbedded chocolate brown clay, very fine, sand and a trace of lignite  
150' 170' Clay, gray, slightly glauconitic with very fine sand  
170' 190' Clay, gray, slightly lignitic with fine to very fine sand  
190' 200' Clay, gray, slightly glauconitic with very fine sand  
T. D.: 200'

**Drill Hole No. 431.** Elevation 255'  
Location: SE¼, Sec. 6, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 10' Clay, light gray, with very fine sand  
10' 15' Clay, light gray, with very fine sand and interbedded tan clay  
15' 20' Clay, tan, with interbedded very fine sand  
20' 30' Clay, light gray, with very fine sand  
30' 40' Clay, light gray, with thin interbeds of ironstone  
40' 48' Clay, light gray, with very fine sand and interbedded brown clay  
48' 55' Lignite  
55' 60' Clay, light gray, with very fine sand  
60' 80' Clay, light gray to light blue, with very fine sand and silt and a trace of lignite  
80' 100' Clay, light gray to blue, with very fine sand and silt  
100' 120' Clay, gray, slightly glauconitic with interbedded chocolate brown clay and a trace of lignite  
120' 130' Clay, gray, glauconitic, with very fine sand and a trace of siderite  
130' 150' Clay, gray, with very fine sand and interbedded chocolate brown clay  
150' 160' Clay, gray, with very fine sand  
160' 170' Clay, gray, slightly glauconitic with very fine sand and a trace of siderite  
170' 190' Clay, gray, with fine sand, with interbedded lignite and chocolate brown clay  
190' 200' Clay, brown, with very fine sand and a trace of lignite

Core interval 143' - 151'

Recovered: 8' Lost: 0'

43' - 45'3" Lignite, black, firm to soft, with silt partings  
45'3" - 49'8" Lignite, hard to firm, waxy, with a few silt partings  
49'8" - 51' dark brown to black clay, with very fine sand, slightly micaceous

Core Interval 151' - 157'

Recovered: 5' Lost: 1'

151'-156' Clay, gray, with very fine sand and silt, slightly micaceous  
156' - 157' not recovered

T. D.: 200'

**Drill Hole No. 432.** Elevation 228'  
Location: NE¼, Sec. 18, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 15' Sand, medium, mottled, with clay binder  
15' 33' Pea gravel  
33' 50' Clay, gray, micaceous, silty  
50' 60' Clay, gray, silty, with interbedded brown clay and a trace of lignite and glauconite  
60' 80' Clay, gray and brown interbedded, and a trace of lignite  
80' 110' Clay, gray, with very fine sand and a trace of lignite  
110' 120' Silt, gray, with a trace of gray clay stringers  
120' 125' Clay, gray, silty, with very fine sand  
125' 130' Sand, gray, fine, with gray clay  
130' 140' No sample  
140' 170' Clay, gray, silty, micaceous, with a trace of lignite  
T. D. 170'

**Drill Hole No. 433.** Elevation 220'  
Location: NE¼, Sec. 19, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 10' Clay, white to tan, with fine sand  
10' 15' Clay, light gray to tan, with very fine sand  
15' 50' Gravel  
50' 55' Gravel, with gray clay interbeds  
55' 65' Clay, gray, with very fine sand  
65' 70' Clay, gray, slightly glauconitic with very fine sand  
70' 80' Clay, gray, slightly glauconitic, with very fine sand  
80' 90' Clay, gray-brown, with very fine sand and a trace of lignite

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

90'-110' Lignite and lignitic brown clay with very fine sand  
 110'-120' Clay, gray, with fine sand, slightly glauconitic and micaceous  
 120'-140' Clay, gray, slightly glauconitic with very fine sand  
 140'-145' Clay, gray, with lignitic clay stringers and very fine sand  
 145'-160' Clay, gray, glauconitic, with very fine sand  
 160'-165' Siderite

Core Interval 84' - 94'

Recovered: 7'                      Lost: 3'

84' - 87' not recovered  
 87' - 87'8" clay, light gray brown, with very fine sand  
 87'8" - 91'4" Lignite, black, soft  
 91'4" - 92'9" Lignite, black, hard  
 92'9" - 93'7" Lignite, dark brown to black  
 93'7" - 93'9" Clay, dark brown, lignitic, with lignite stringers  
 93'9" - 94' Clay, dark gray brown, with a trace of lignite stringers  
 T. D.: 165'

**Drill Hole No. 434.** Elevation 160'  
 Location: SW¼, Sec. 29, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard                      6/78.

0' - 5' Clay, light gray, with silt  
 5' - 15' Pea gravel  
 15' - 50' Silt, brownish gray, with gray clay binder and very fine sand with a trace of lignite  
 50' - 60' Silt, light brown, with clay binder and very fine sand  
 60' - 200' Silt, light brown, with fine sand and a trace of lignite  
 T. D.: 200'

**Drill Hole No. 435.** Elevation 203'  
 Location: SW¼, Sec. 30, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard                      6/78.

0' - 5' Silt, brown, with medium sand  
 5' - 35' Gravel  
 35' - 90' Clay, cream, with white silty interbeds  
 90' - 165' Clay, cream, with silt and very fine sand  
 165' - 200' Sand, fine, with a trace of lignite  
 T. D.: 200'

**Drill Hole No. 436.** Elevation 205'  
 Location: NW¼, Sec. 25, T. 13 S., R. 14 W.  
 County: Calhoun  
 Logged by: Dave Lumbert                      6/78.

0' - 20' Clay, white to light gray, with fine sand  
 20' - 45' Gravel, with some light gray clay partings  
 45' - 60' Clay, gray to light gray, with iron stain and very fine sand  
 60' - 80' Clay, gray to light gray, with very fine sand

80' - 90' Clay, gray, with fine sand and a trace of lignite  
 90' - 100' Clay, gray brown, with very fine sand  
 100' - 120' Clay, gray brown and red, with medium to coarse sand and a trace of lignite  
 120' - 130' Sand, fine, with gray clay  
 130' - 140' Clay, gray, with interbedded fine to very fine sand  
 140' - 175' Sand, fine, with gray to light gray clay  
 175' - 190' Clay, gray brown, with very fine sand  
 190' - 200' Clay, gray, with very fine sand  
 T. D.: 200'

\* **Drill Hole No. 437.** Elevation 205'  
 Location: NW¼, Sec. 23, T. 13 S., R. 14 W.  
 County: Calhoun  
 Logged by: J. M. Howard                      6/78.

0' - 10' Sand, mottled, with clay binder  
 10' - 19' Gravel  
 19' - 19'6" Lignite  
 19'6" - 30' Clay, brownish gray, with fine sand and silt  
 30' - 40' Clay, dark brown, with a trace of lignite  
 40' - 55' Clay, grayish brown, with silt and a trace of lignite  
 55' - 65' Silt, grayish brown, with clay binder  
 65' - 70' Clay, gray, with silt  
 70' - 75' Lignite stringers 2' - 3' in gray silty clay  
 75' - 80' Clay, brown, with silt  
 80' - 85' Clay, gray, with silt  
 85' - 92' Clay, brown, with lignite stringers approximately 1'6"  
 92' - 115' Clay, light gray, silty  
 115' - 130' Clay, gray, with silt  
 130' - 150' Clay, brownish gray, silty, with very fine sand and a trace of lignite  
 150' - 160' Clay, gray, with silt and a trace of lignite  
 160' - 200' Sand, fine to very fine, silty, with thin lignite stringers  
 T. D.: 200'

**Drill Hole No. 438.** Elevation 200'  
 Location: NW¼, Sec. 15, T. 13 S., R. 14 W.  
 County: Calhoun  
 Logged by: Dave Lumbert                      6/78.

0' - 5' Clay, tan, with fine sand  
 5' - 15' Gravel  
 15' - 20' Clay, gray to tan, with interbedded chocolate brown clay and a trace of lignite  
 20' - 25' Clay, gray brown, with very fine sand and a trace of lignite  
 25' - 30' Clay, gray, with very fine sand and a trace of lignite  
 30' - 40' Clay, gray, with very fine sand  
 40' - 45' Clay, gray to light gray, with very fine sand  
 45' - 50' Clay, light gray, silty  
 50' - 80' Clay, gray, with very fine sand, slightly micaceous  
 80' - 90' Clay, gray, with very fine sand, slightly glauconitic  
 90' - 120' Clay, gray, with very fine sand  
 120' - 140' Clay, gray, slightly glauconitic, micaceous, with very fine sand and a trace of siderite  
 140' - 150' Clay, gray, with very fine sand  
 150' - 170' Clay, gray to dark gray, with very fine sand  
 T. D.: 170'

**Drill Hole No. 439.** Elevation 210'  
 Location: NW¼, Sec. 29, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. V. Bush                      6/78.

0' - 5' Sand, fine  
 5' - 50' Gravel, with tan clay and fine to very fine sand  
 50' - 55' Clay, gray, slightly micaceous  
 55' - 65' Clay, gray, slightly lignitic  
 65' - 70' Clay, gray, with very fine sand, glauconitic  
 70' - 72' Clay, gray  
 72' - 75' Lignite  
 75' - 80' Clay, gray, lignitic  
 80' - 85' Clay, gray, micaceous  
 85' - 100' Clay, dark gray, with very fine sand  
 100' - 125' Clay, dark gray to blue, with a trace of lignite  
 125' - 200' Clay, gray, micaceous, with a trace of siderite and lignite  
 T. D.: 200'

**Drill Hole No. 440.** Elevation 200'  
 Location: NW¼, Sec. 4, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard                      6/78.

0' - 5' Sand, mottled, medium, with silt  
 5' - 10' Clay, cream, with silt  
 10' - 20' Pea gravel, with coarse sand  
 20' - 30' Clay, cream, with silt  
 30' - 40' Clay, light tan, with silt  
 40' - 45' Silt, dark brown, with very fine sand  
 45' - 50' Silt, grayish brown, with very fine sand  
 50' - 55' Clay, dark brown, with lignite zones  
 55' - 60' Silt, light gray, micaceous  
 60' - 85' Clay, grayish brown, with silt and a trace of lignite  
 85' - 100' Clay, gray, silty, micaceous, with a trace of lignite  
 100' - 200' Silt, gray, with very fine sand and gray clay binder, with a trace of lignite

Core Interval 49'6" - 54'6"

Recovered: 42"                      Lost: 18"  
 49'6" - 51' not recovered  
 51' - 53'8" Lignite, black, soft  
 53'8" - 54'6" Clay, light tan, silty  
 T. D.: 200'

**Drill Hole No. 441.** Elevation 200'  
 Location: SW¼, Sec. 3, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard                      6/78.

0' - 10' Sand, mottled, fine, silty  
 10' - 20' Gravel with coarse sand  
 20' - 30' Clay, gray and brown interbedded, with a trace of lignite  
 30' - 40' Clay, greenish-gray, glauconitic, silty  
 40' - 45' Clay, greenish-gray  
 45' - 65' Clay, greenish-gray, with interbedded light brown clay  
 65' - 70' Clay, gray, with brown silt interbedded, and a trace of lignite  
 70' - 80' Silt, brownish gray, with gray clay binder and a trace of glauconite  
 80' - 95' Lignite, dark brown  
 95' - 100' Clay, dark brown

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

100'-110' Clay, greenish gray, with interbedded light brown clay and a trace of glauconite  
 110'-115' Clay, gray, with silt  
 115'-120' Clay, gray and light brown interbedded  
 120'-125' Silt, light brown, micaceous, with very fine sand  
 125'-130' Clay, light brown, with silt  
 130'-135' Clay, light brownish gray  
 135'-140' Lignite, with light brown clay  
 140'-145' Clay, light brown  
 145'-150' Clay, light gray  
 150'-160' Sand, very fine, with silt

Core Interval 80' 90'

Recovered: Lost:  
 10' 0'

80' 84' sand, light gray, very fine, with clay binder, with thin lignite partings  
 84' 90' clay, light gray, with very fine sand and silt slightly micaceous and carbonaceous

Core Interval 90' 100'

Recovered: Lost:  
 7' 3'

90' 93' not recovered  
 93' 94' 2" clay, light greenish gray  
 94' 2" 99' 10" lignite, black, hard  
 99' 10" 100' clay, dark brown, lignitic, with lignite

Core Interval 100' 106' 6"

Recovered: Lost:  
 0' 6' 6"

Approximately 2' of lignite penetrated according to drillers' log. Bottomed in gray clay.

T. D.: 160'

**Drill Hole No. 442.** Elevation 208'  
 Location: NW¼, Sec. 11, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 5' Clay, sandy, with gravel  
 5' 32' Gravel, with tan to gray clay, micaceous, with fine sand  
 32' 35' Clay, gray  
 35' 60' Clay, gray to light tan, micaceous, with a trace of lignite  
 60' 70' Clay, gray, glauconitic with very fine sand and a trace of lignite  
 70' 100' Clay, gray, with sand stringers and a trace of lignite  
 100' 110' Clay, gray, micaceous  
 110' 115' Clay, gray brown, with approximately 1' of lignite  
 115' 125' Clay, gray, with sand stringers and a trace of lignite  
 125' 135' Clay, gray brown to tan, micaceous, with very fine sand  
 135' 150' Clay, greenish gray, with a trace of lignite  
 150' 165' Clay, gray, micaceous  
 165' 200' Clay, gray to tan, with fine sand and a trace of lignite  
 T. D.: 200'

**Drill Hole 443.** Elevation 208'  
 Location: SE¼, Sec. 12, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 10' Sand, mottled, very fine with silt  
 10' 15' Sand, light gray, very fine, with silt  
 15' 30' Pea gravel  
 30' 35' Sand, dark brown, fine, with silt  
 35' 45' Clay, greenish gray, with a trace of glauconite and lignite  
 45' 50' Silt, dark brown, with fine sand and a trace of lignite  
 50' 55' Clay, gray, with interbedded light brown silt and a trace of lignite  
 55' 70' Clay, gray, with silt  
 70' 75' Clay, greenish gray, with a few brown clay interbeds  
 75' 80' Clay, gray, with silt  
 80' 89' Silt, gray, with gray clay binder  
 89' 89' 6" Siderite  
 89' 6" 110' Silt, gray, with very fine sand  
 110' 140' Clay, gray, silty, very fine sand and a trace of lignite  
 140' 145' Silt, gray, with very fine sand  
 145' 150' Clay, gray and brown interbedded, with silt  
 150' 160' Clay, brownish gray, with a trace of lignite  
 160' 190' Clay, brown, with a trace of lignite  
 190' 200' Clay, gray, with silt  
 T. D.: 200'

**\* Drill Hole No. 444.** Elevation 213'  
 Location: SW¼, Sec. 7, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 10' Clay, tan, sandy, with iron stain  
 10' 18' Clay, gray and tan, with fine sand and silt  
 18' 67' Gravel, with gray clay and fine sand  
 67' 125' Clay, gray, with very fine sand, slightly micaceous  
 125' 150' Clay, gray, with very fine sand and a trace of lignite  
 150' 175' Clay, gray, with very fine sand  
 175' 190' Clay, gray, with fine sand  
 190' 200' Clay, gray to tan, with sand stringers  
 T. D. 200'

**Drill Hole No. 445.** Elevation 216'  
 Location: NW¼, Sec. 9, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 10' Sand, mottled, medium to fine, silty, with a trace of light gray clay  
 10' 30' Pea gravel  
 30' 35' Clay, light gray to cream, with silt  
 35' 50' Clay, brownish gray, with silt  
 50' 60' Clay, gray, with silt and a trace of glauconite and lignite  
 60' 65' Clay, brown, with silt  
 65' 70' Clay, brown and gray interbedded, with a few brown sand interbeds  
 70' 90' Clay, greenish gray, with a trace of glauconite  
 90' 100' Clay, brown, with a trace of glauconite and lignite  
 100' 105' Clay, greenish gray  
 105' 110' Clay, brown, with dark brown

silt and a trace of glauconite and lignite  
 110' 115' Clay, greenish-gray, with glauconite  
 115'-135' Clay, gray, with silt and a trace of lignite  
 135'-140' Clay, gray, with interbedded brown silt  
 140'-150' Silt, brown, with brown clay binder and a trace of glauconite  
 150'-155' Clay, brown, with a trace of glauconite and lignite  
 155'-160' Clay, gray, with interbedded dark brown, lignitic silt  
 160'-165' Silt, dark brown, lignitic  
 165'-170' Clay, gray, with silt and a trace of lignite  
 170'-180' Clay, gray, with a trace of dark brown clay interbedded, slightly glauconitic  
 180' 200' Clay, light brown, with silt  
 T. D.: 200'

**\* Drill Hole No. 446.** Elevation 212'  
 Location: NE¼, Sec. 4, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 5' Clay, brown, sandy, with gravel  
 5' 35' Gravel and fine sand  
 35' 40' Clay, gray, with very fine sand  
 40' 45' Clay, gray to tan, with a trace of lignite  
 45' 55' Clay, greenish-gray, with a trace of tan to brown clay, very fine sand, iron stained  
 55' 60' Clay, gray, with very fine sand  
 60' 70' Clay, gray, with gravel  
 70' 75' Clay, gray, with very fine sand, glauconitic  
 75' 95' Clay, gray, with very fine sand  
 95' 100' Clay, gray, with fine sand  
 100' 150' Clay, gray-brown to tan, with fine sand, iron stained  
 150' 160' Clay, greenish-gray, with very fine sand  
 160' 165' Clay, greenish-gray, with very fine sand and a trace of lignite  
 165' 185' Clay, gray, with fine sand  
 185' 200' Clay, gray to tan, with fine sand  
 T. D.: 200'

**\* Drill Hole No. 447.** Elevation 205'  
 Location: SW¼, Sec. 18, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 10' Sand, mottled, medium to fine, with silt  
 10' 29' Pea gravel  
 29' 35' Clay, light brown, with silt  
 35' 40' Sand, very fine, with silt  
 40' 50' Clay, light brown, silty, with a trace of lignite  
 50' 55' Sand, light brownish-gray, very fine, with silt  
 55' 60' Clay, light brownish-gray, with a trace of lignite  
 60' 65' Clay, dark brown, with lignite approximately 1' - 2' thick  
 65' 70' Clay, light gray, with silt  
 70' 75' Clay, greenish-gray, with silt  
 75' 80' Clay, greenish-gray and brown interbedded, with a trace of lignite  
 80' 85' Clay, brown, with a trace of lignite  
 85' 100' Silt, greenish-gray, with gray clay binder and a trace of glauconite and lignite

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

100'-110' Sand, greenish gray, very fine micaceous, silty, with a trace of glauconite and lignite  
 110'-125' Sand, light brown, fine, interbedded with dark brown lignitic silt  
 125'-130' Clay, gray, with silt  
 130'-135' Clay, dark brown, with a trace of lignite  
 135'-145' Clay, brown, with silt and a trace of glauconite and lignite  
 145'-150' Silt, brown, with very fine sand and a trace of lignite  
 150'-155' Clay, brown, silty, with a trace of lignite  
 155'-167' Clay, greenish gray, silty, with a trace of lignite  
 167'-169' Siderite  
 169'-180' Clay, gray, with silt, and a trace of lignite  
 180'-190' Silt, gray, with a gray clay binder  
 190'-195' Silt, brown, with brown clay binder  
 195'-200' Clay, brown, with silt  
 T. D.: 200'

**Drill Hole No. 448.** Elevation 195'  
 Location: SE 1/4, Sec. 19, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 5' Clay, light brown, silty, with sand  
 5' 8' Clay, light brown to tan, with fine sand and gravel  
 8' 28' Gravel with clay, light brown to tan, and fine sand  
 28' 35' Clay, gray  
 35' 50' Clay, gray, with fine to very fine sand and a trace of lignite  
 50' 55' Clay, tan to brown, iron stained with very fine sand and a trace of lignite  
 55' 60' Clay, greenish gray, glauconitic with a trace of lignite  
 60' 70' Clay, greenish gray, with very fine sand  
 70' 75' Clay, tan to light brown, with fine sand  
 75' 80' Clay, gray to greenish gray, glauconitic, with very fine sand and a trace of lignite  
 80' 90' Clay, greenish gray, with fine sand  
 90'-105' Clay, gray brown to tan, with fine sand and a trace of lignite  
 105'-115' Clay, gray, with very fine sand  
 115'-125' Clay, gray to tan, with very fine sand and a trace of lignite  
 125'-140' Clay, gray, with very fine sand  
 140'-145' Clay, greenish gray, with very fine sand  
 145'-150' Clay, gray to dark brown, with very fine sand and a trace of lignite  
 150'-155' Clay, dark gray, with very fine sand  
 155'-165' Clay, gray, with very fine sand  
 165'-170' Clay, gray to dark brown, with very fine sand and a trace of lignite  
 170'-175' Clay, reddish brown to dark brown, with very fine sand  
 175'-190' Clay, greenish gray, with very fine sand and a trace of lignite  
 190'-200' Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 449.** Elevation 201'  
 Location: NE 1/4, Sec. 29, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 20' Sand, orange, medium to fine with silt  
 20' 55' Pea gravel, with coarse sand  
 55' 65' Sand, white, medium to fine  
 65' 90' Sand, white and orange, medium to fine, with a trace of lignite  
 90' 125' Sand, fine to very fine, with silt, micaceous  
 125' 130' Sand, orange, fine to very fine, with silt  
 130' 180' Sand, gray, fine to very fine  
 180' 200' Clay, gray, silty, with a trace of lignite  
 T. D.: 200'

**Drill Hole No. 450.** Elevation 175'  
 Location: NW 1/4, Sec. 33, T. 14 S., R. 12 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 5' Clay, reddish brown, with fine sand  
 5' 13' Gravel, with gray clay and fine sand  
 13' 30' Clay, light gray, with very fine sand  
 30' 35' Clay, light gray to gray, with very fine sand and approximately 2' of lignite  
 35' 40' Clay, light gray to gray, with very fine sand and a trace of lignite  
 40' 50' Clay, gray to light tan, with very fine sand, with a trace of siderite and lignite  
 50' 60' Clay, greenish gray, glauconitic, with very fine sand  
 60' 100' Clay, greenish gray, with very fine sand  
 100' 105' Clay, greenish gray, glauconitic  
 105' 120' Clay, dark greenish gray, with very fine sand, glauconitic  
 120' 125' Clay, gray, with very fine sand and a trace of lignite  
 125' 145' Clay, greenish gray, with very fine sand  
 145' 185' Clay, gray, with fine sand  
 185' 195' Clay, greenish gray, with very fine sand, glauconitic  
 195' 200' Clay, greenish gray, with fine sand  
 T. D.: 200'

**Drill Hole No. 451.** Elevation 218'  
 Location: NW 1/4, Sec. 33, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0' 10' Sand, fine with gray clay binder  
 10' 37' Gravel  
 37' 60' Clay, cream, with silt  
 60' 75' Sand, cream, silty, with a trace of gray clay binder  
 75' 85' Clay, dark brown to black, with approximately 2' of lignite  
 85' 95' Clay, gray, with gray silt interbeds  
 95' 105' Silt, gray, micaceous, with very fine sand and a trace of lignite  
 105' 115' Sand, gray, silty, with approximately 1' of lignite

115'-120' Clay, dark brown, with lignite approximately 2'  
 120'-130' Silt, brown, with very fine sand and a trace of lignite  
 130'-200' Clay, light gray with very fine sand, silty, and a trace of lignite  
 T. D.: 200'

\* **Drill Hole No. 452.** Elevation 205'  
 Location: SE 1/4, Sec. 21, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. V. Bush 6/78.

0' 10' Clay, reddish brown, sandy, with pea gravel  
 10'-30' Gravel, with tan to brown clay and fine sand  
 30'-35' Clay, gray, with very fine sand  
 35'-50' Clay, gray to tan, with very fine sand  
 50'-55' Clay, greenish-gray, with a trace of lignite  
 55'-60' Clay, greenish gray, with very fine sand, with approximately 1'6" lignite  
 60'-65' Clay, gray to tan, with salt and pepper sand, and a trace of lignite  
 65'-85' Clay, gray, with very fine sand  
 85'-90' Clay, gray, with a trace of dark brown clay and lignite  
 90'-100' Clay, gray to dark brown, with very fine sand and a trace of tan clay  
 100'-115' Clay, gray and dark brown interbedded, and a trace of lignite  
 115'-150' Clay, gray, with dark brown stain  
 150'-165' Clay, gray, with light tan clay and very fine sand  
 165'-180' Clay, light gray, with fine sand and a trace of lignite  
 T. D.: 180'

**Drill Hole No. 453.** Elevation 229'  
 Location: SW 1/4, Sec. 15, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0'-12' Clay, mottled, with medium to fine sand  
 12'-30' Pea gravel with medium to coarse sand  
 30' 40' Sand, tan to white, salt and pepper, medium to coarse  
 40'-80' Sand, salt and pepper, fine to medium, with a trace of lignite  
 80'-105' Clay, gray, silty, with a trace of siderite and lignite  
 105' 110' Silt, gray, with gray clay binder  
 110'-125' Sand, salt and pepper, fine to medium  
 125'-130' Clay, brown, with approximately 2' of lignite  
 130'-135' Clay, brown  
 135'-180' Clay, gray  
 180'-200' Sand, gray, medium to fine

Core Interval 135' - 145'

Recovered: 84" Lost: 36"

135' - 139'6" sand, light greenish-gray, with thin lignite partings  
 139'6" - 140' clay, dark greenish-gray, with very fine sand and silt, slightly lignitic  
 140' - 142' lignite, black, hard  
 142' - 145' not recovered  
 T. D.: 200'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 454.** Elevation 218'  
Location: SE ¼, Sec. 10, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: W. V. Bush 6/78.

0' 5' Clay, cream to tan, with iron stain and a trace of gravel  
5' 15' Clay, tan to reddish brown, with fine sand  
15' 30' Clay, tan to light gray, sandy  
30' 60' Sand, salt and pepper, with gray clay  
60' 70' Clay, tan to reddish brown, with fine sand  
70' 75' Clay, light greenish gray, glauconitic, with very fine sand  
75' 90' Clay, light greenish gray, with very fine sand  
90' 110' Clay, light gray, with a trace of lignite  
110' 115' Clay, dark brown, silty, lignitic  
115' 160' Clay, gray, with fine sand  
160' 165' Sand, with gray clay  
165' 175' Clay, tan to gray, with fine sand  
175' 180' Sand, and gray clay, with a trace of lignite  
180' 200' Clay, dark brown, lignitic, with sand  
T. D.: 200'

**Drill Hole No. 455.** Elevation 280'  
Location: SW ¼, Sec. 2, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 5' Sand, brown, with silt  
5' 25' Pea gravel  
25' 35' Clay, mottled pink and white  
35' 40' Clay, cream  
40' 45' Clay, light gray  
45' 60' Clay, brownish gray, with silt  
60' 65' Clay, brown, with a trace of lignite  
65' 60' Clay, gray and brown, with silt  
60' 65' Clay, dark brown, with a trace of lignite  
65' 70' Clay, light greenish gray  
70' 75' Clay, greenish gray, glauconitic  
75' 80' Clay, light brown  
80' 85' Silt, greenish gray, micaceous, with greenish gray clay binder  
85' 90' Clay, dark brown  
90' 95' Clay, gray and brown interbedded  
95' 105' Clay, gray, with silt  
105' 110' Clay, dark brown, with approximately 1' of lignite  
110' 117' Silt, greenish gray, micaceous with clay binder  
117' 135' Clay, gray, silty, glauconitic, with a trace of siderite and lignite  
135' 150' Clay, brown, with a trace of lignite  
150' 155' Clay, light gray  
155' 160' Clay, light brown, silty  
160' 165' Sand, fine, silty, with brown clay binder and approximately 6" - 1' of lignite  
165' 170' Clay, brown, micaceous, with a trace of lignite  
170' 180' Clay, dark brown, with lignitic silt  
180' 185' Clay, brown, glauconitic with approximately 6" - 1' of lignite  
185' 200' Clay, dark brown, with approximately 6" - 1' of lignite  
T. D.: 200'

**Drill Hole No. 456.** Elevation 235'  
Location: NW ¼, Sec. 1, T. 13 S., R. 13 W.  
County: Calhoun  
Logged by: W. V. Bush 6/78.

0' 5' Sand and clay, light gray to reddish brown, iron stained  
5' 15' Clay, light gray to reddish brown, with fine sand  
15' 20' Clay, light gray, with brown lignitic clay  
20' 35' Clay, bluish gray, with brown lignitic clay  
35' 90' Clay, medium gray  
T. D.: 90'

**\* Drill Hole No. 457.** Elevation 201'  
Location: SW ¼, Sec. 32, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 25' Clay, light gray, with silt and very fine sand  
25' 30' Clay, light brown, with silt  
30' 35' Clay, gray, with silt  
35' 50' Clay, light brown, with silt  
50' 55' Clay, greenish gray, glauconitic  
55' 75' Clay, greenish gray, micaceous, silty, with a trace of lignite  
75' 90' Clay, brownish-gray, with silt  
90' 95' Clay, gray, with silt  
95' 100' Clay, dark brown, with approximately 1' - 1'6" of lignite  
100' 105' Silt, lignitic  
105' 110' Clay, brownish gray  
110' 115' Clay, gray  
115' 120' Clay, dark brown, with approximately 1' - 2' of lignite  
120' 125' Clay, dark brown and gray interbedded  
125' 140' Clay, gray, with silt  
140' 155' Silt, dark brown, with approximately 2'6" of lignite  
155' 170' Sand, gray, with silt and a trace of lignite  
170' 175' Clay, gray, with silt and a trace of lignite  
175' 200' Sand, tan, with silt and a trace of lignite  
  
Core Interval 114' 118'  
  
Recovered: 38"  
Lost: 10"  
114' 114'6" lignite, black, hard  
114'6" 114'7" clay, black, lignitic  
114'7" 117'2" clay, greenish-gray, with very fine sand, slightly micaceous  
117'2" 118' not recovered  
T. D.: 200'

**Drill Hole No. 458.** Elevation 165'  
Location: SW ¼, Sec. 28, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: W. V. Bush 6/78.

0' 5' Sand, with cream clay  
5' 15' Sand and clay, tan, with a trace of gravel  
15' 20' Clay, tan to light gray, with fine sand  
20' 50' Clay, medium gray, with fine sand and a trace of siderite  
50' 65' Clay, gray, with brown lignitic clay, silty, with very fine sand  
65' 100' Clay, gray, with very fine sand  
100' 120' Clay, gray  
120' 200' Clay, gray, with fine to very fine sand  
T. D.: 200'

**Drill Hole No. 459.** Elevation 158'  
Location: NW ¼, Sec. 21, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 10' Clay, light gray, with silt and fine sand  
10' 15' Sand, gray, medium to fine, with a trace of gravel  
15' 30' Clay, gray, with silt  
30' 35' Clay, light brown, with silt  
35' 45' Clay, brownish-gray, with silt  
45' 50' Clay, gray, silty, with a trace of dark brown, lignitic clay  
50' 65' Clay, gray, with silt  
65' 70' Clay, brown  
70' 95' Clay, brownish gray, with a trace of lignite  
95' 100' Sand, gray, fine, with silt  
100' 105' Clay, dark brown, with very fine sand and silt, with approximately 1'6" of lignite  
105' 114' Clay, brownish gray, with fine sand  
114' 120' Clay, gray, with a trace of siderite and lignite  
120' 125' Clay, brown  
125' 130' Clay, dark brown, with a trace of lignite  
130' 135' Clay, brown and gray interbedded  
135' 140' Sand, gray, fine, silty, with approximately 6" - 1' of lignite  
140' 145' Clay, brown, with a trace of lignite  
145' 160' Clay, brownish-gray, with silt and a trace of lignite  
160' 200' Sand, gray, fine to very fine, silty, with a trace of lignite  
T. D.: 200'

**Drill Hole No. 460.** Elevation 170'  
Location: NW ¼, Sec. 16, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: W. V. Bush 6/78.

0' 5' Sand, with gray clay and gravel  
5' 10' Gravel, with sand  
10' 15' Clay, tan to gray, with fine sand and gravel  
15' 20' Clay, light gray, with fine sand  
20' 50' Clay, gray, with very fine sand  
50' 65' Clay, gray, with brown, silty lignitic clay  
65' 70' Clay, gray, with silty, brown, lignitic clay and approximately 1' - 2' of lignite  
70' 80' Clay, gray, with silty brown, lignitic clay and a trace of lignite  
80' 100' Clay, greenish-gray, with very fine sand  
100' 125' Clay, gray to light blue, with fine sand  
125' 140' Clay, gray, sandy  
140' 150' Clay, gray, with fine sand  
150' 160' Clay, gray and brown interbedded, with very fine sand and silt  
T. D.: 160'

**\* Drill Hole No. 461.** Elevation 219'  
Location: NE ¼, Sec. 8, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 15' Clay, gray, with fine sand and silt  
15' 40' Pea gravel, with fine sand  
40' 113' Sand, tan, salt and pepper, fine to very fine  
113' 200' Clay, gray, with very fine sand and silt  
T. D.: 200'

\* Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 462.** Elevation 195'

Location: NE $\frac{1}{4}$ , Sec. 5, T. 12 S., R. 12 W.  
County: Calhoun  
Logged by: W. V. Bush 6/78.

0'- 5' Gravel, reddish brown, with sand and tan clay  
5'- 25' Sand and clay, light gray to tan, with a trace of gravel  
25'- 45' Clay, tan, with fine sand  
45'- 55' Clay and sand, salt and pepper  
55'- 60' Clay, tan to light gray, with interbedded brown clay  
60'- 65' Clay, tan, with salt and pepper sand  
65'- 70' Clay, light gray to tan, with brown lignitic clay interbeds and a trace of lignite  
70'- 75' Clay, gray, with very fine sand  
75'-110' Clay, gray, sticky  
T. D.: 110'

**\* Drill Hole No. 463.** Elevation 225'

Location: NW $\frac{1}{4}$ , Sec. 32, T. 11 S., R. 12 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 10' Clay, mottled, with fine sand  
10'- 20' Clay, cream  
20'- 28' Clay, mottled, with silt  
28'- 35' Clay, gray, with silt  
35'- 45' Clay, dark brown, with approximately 1' to 2' of lignite  
45'- 55' Clay, light greenish gray, with glauconite  
55'- 60' Clay, gray, with silt  
60'- 65' Clay, dark brown  
65'- 70' Clay, brownish gray  
70'- 75' Clay, chocolate brown, with a trace of lignite  
75'- 80' Clay, brownish gray, with silt  
80'- 85' Silt, with brownish gray clay binder  
85'- 95' Clay, brownish gray, with silt  
95'- 115' Clay, gray, with silt  
115'-120' Silt, gray, with gray clay binder  
120'-125' Clay, gray, with silt  
125'-135' Clay, greenish gray, with silt  
135'-185' Clay, brownish gray, with silt  
185'-200' Clay, brown, with silt  
T. D.: 200'

**\* Drill Hole No. 464.** Elevation 191'

Location: SW $\frac{1}{4}$ , Sec. 20, T. 11 S., R. 12 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 13' Sand, tan, medium, with a trace of pea gravel  
13'- 30' Silt, gray, with very fine sand, micaceous, with clay binder  
30'- 85' Clay, gray, with very fine sand and silt  
85'-114' Clay, light brown, with silt and a trace of dark brown clay interbeds  
114'-200' Clay, brownish to greenish gray, silty, micaceous  
T. D.: 200'

**Drill Hole No. 465.** Elevation 318'

Location: NW $\frac{1}{4}$ , Sec. 5, T. 11 S., R. 13 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Clay, mottled, with silt  
5'- 30' Clay, tan, with silt

30'- 35' Clay, brown, with silt  
35'- 40' Clay, greenish gray  
40'- 55' Clay, gray and brown, interbedded  
55'- 65' Clay, green, glauconitic  
65'- 90' Clay, light brown, with a trace of greenish-gray clay and lignite  
90'-110' Clay, light gray, with a trace of lignite  
110'-115' Silt, dark brown, lignitic, with approximately 6" of lignite  
115'-120' Clay, light brown  
120'-130' Clay, brown and greenish gray interbedded  
130'-170' Clay, greenish brown  
170'-200' Clay, greenish brown, with very fine sand and silt, micaceous  
T. D.: 200'

**\* Drill Hole No. 466.** Elevation 343'

Location: NW $\frac{1}{4}$ , Sec. 7, T. 11 S., R. 13 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0' 28' Clay, tan, with a trace of silt  
28'- 40' Clay, gray and brown interbedded  
40'- 50' Silt, greenish gray and brown, with clay binder  
50'- 65' Clay, brown, silty, with a trace of lignite  
65'- 75' Silt, green, glauconitic, with very fine sand  
75'- 95' Clay, greenish gray, glauconitic  
95'-115' Clay, greenish-brown, glauconitic, with a trace of lignite  
115'-120' Clay, gray  
120'-130' Clay, brown, with approximately 1' of lignite  
130'-145' Clay, gray  
145'-160' Clay, light brown, with a trace of lignite  
160'-165' Clay, greenish gray  
165'-170' Clay, dark brown, with approximately 1' of lignite  
170'-175' Clay, brownish gray  
175'-185' Clay, brownish gray, silty, with approximately 1' of lignitic silt  
185'-200' Silt, brown, micaceous, with brown clay binder  
T. D.: 200'

**\* Drill Hole No. 467.** Elevation 301'

Location: SE $\frac{1}{4}$ , Sec. 13, T. 11 S., R. 14 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0' 10' Clay, gray, with very fine sand  
10'- 15' Clay, light gray, with very fine sand  
15'- 20' Clay, light gray to tan, with very fine sand, iron stained  
20'- 35' Clay, light brown, with very fine sand  
35'- 40' Clay, chocolate brown, lignitic, with very fine sand  
40'- 45' Clay, gray, with very fine sand  
45'- 50' Clay, green, with very fine sand  
50'- 55' Clay, greenish blue, with very fine sand  
55'- 60' Clay, green, with interbedded gray clay and very fine sand  
60'- 65' Clay, dark gray, with very fine sand  
65'- 70' Clay, light gray, with interbedded light brown clay and very fine sand  
70'- 80' Clay, gray brown, with very fine sand  
80'- 90' Clay, light brown to brown, with very fine sand  
90'-110' Clay, gray, slightly glauconitic, slightly micaceous, with very

fine sand  
110'-115' Clay, gray, glauconitic, with interbedded lignitic clay and very fine sand  
115'-125' Clay, gray, glauconitic, with fine sand  
125'-135' Clay, gray, slightly glauconitic, with very fine sand  
135'-150' Clay, gray, with fine to very fine sand interbedded  
150'-170' Clay, gray, slightly glauconitic, with very fine sand  
170'-185' Clay, gray, slightly glauconitic, with brown clay and very fine sand interbedded  
185'-200' Clay, gray, with very fine sand  
T. D.: 200'

**Drill Hole No. 468.** Elevation 260'

Location: SW $\frac{1}{4}$ , Sec. 19, T. 11 S., R. 13 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 5' Clay, light gray to tan, with very fine sand  
5'- 25' Clay, light tan, with fine to very fine sand  
25'- 35' Clay, light tan to light gray, with very fine sand  
35'- 40' Clay, red, with very fine sand  
40'- 45' Clay, light gray, with interbedded red clay, and very fine sand  
45'- 50' Clay, light tan to light gray, with very fine sand  
50'-55' Clay, light tan, with interbedded gray clay and very fine sand  
55'- 80' Clay, gray, slightly glauconitic, with very fine sand  
80'- 90' Clay, gray, glauconitic, micaceous, with very fine sand  
90'-100' Clay, gray, glauconitic, with interbedded very fine sand  
100'-200' Clay, gray, slightly glauconitic, with very fine sand  
T. D.: 200'

**Drill Hole No. 469.** Elevation 265'

Location: NW $\frac{1}{4}$ , Sec. 31, T. 11 S., R. 13 W.  
County: Calhoun  
Logged by: J. M. Howard 6/78.

0'- 5' Sand, mottled, very fine with silt  
5'- 25' Clay, cream to light gray, with silt  
25'- 40' Clay, light brown, with silt  
40'- 80' Clay, greenish-gray, with silt  
80'-135' Clay, greenish-gray, with silt and interbedded hard, glauconitic fine sand  
135'-180' Sand, fine, micaceous, glauconitic, with greenish-gray clay binder  
180'-188' Clay, greenish-gray, micaceous, glauconitic, with fine sand  
188'-200' Clay, brown, with silt  
T. D.: 200'

**Drill Hole No. 470.** Elevation 257'

Location: NE $\frac{1}{4}$ , Sec. 6, T. 12 S., R. 13 W.  
County: Calhoun  
Logged by: Dave Lumbert 6/78.

0'- 20' Clay, light gray, with fine to very fine sand, iron stained  
20'- 30' Clay, light gray to light brown, with very fine sand  
30'- 40' Clay, light gray, with very fine sand

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

40' 50' Clay, light gray, with interbedded very fine sand  
 50' 55' Clay, light gray, with very fine sand  
 55' 65' Clay, light gray, with interbedded orange clay and very fine sand  
 65' 90' Clay, gray, with very fine sand  
 90' 100' Clay, gray, slightly glauconitic with interbedded, very fine sand  
 100' 140' Clay, gray, glauconitic, micaceous, with fine to very fine sand  
 140' 145' Clay, gray, glauconitic, with interbedded very fine sand  
 145' 150' Sand, very fine to fine, with gray clay, slightly glauconitic  
 150' 200' Clay, gray, slightly glauconitic with very fine sand and a trace of siderite  
 T. D.: 200'

**Drill Hole No. 471.** Elevation 240'  
 Location: NE ¼, Sec. 7, T. 12 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lambert 6/78

0' 5' Sand, fine, with light tan clay  
 5' 10' Clay, tan to gray, with very fine sand  
 10' 15' Pan gravel  
 15' 20' Clay, light brown, with very fine sand  
 20' 25' Clay, light brown, with interbedded gray clay and very fine sand  
 25' 30' Clay, green, with very fine sand  
 30' 50' Clay, gray green, with very fine sand and silt  
 50' 55' Sand, fine, with gray clay  
 55' 100' Clay, gray, with very fine sand and silt  
 100' 110' Clay, gray, with interbedded fine to very fine sand  
 110' 120' Clay, gray, slightly micaceous  
 120' 180' Sand, fine  
 180' 200' Clay, gray, slightly glauconitic, slightly micaceous with a trace of siderite and very fine sand  
 T. D.: 200'

**Drill Hole No. 472.** Elevation 230'  
 Location: NE ¼, Sec. 18, T. 12 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78

0' 20' Clay, gray to tan, with silt and very fine sand  
 20' 45' Clay, gray, with silt  
 45' 50' Clay, dark brown, with approximately 1' to 2' of lignite  
 50' 60' Clay, gray, with silt  
 60' 102' Clay, gray and brown, interbedded, silty  
 102' 110' Clay, brown, with approximately 3' of lignite  
 110' 115' Clay, brown  
 115' 125' Clay, gray, with silt  
 125' 130' Clay, dark brown, with approximately 1' to 2' of lignite  
 130' 140' Clay, gray, with silt  
 140' 145' Silt, gray, with very fine sand  
 145' 155' Clay, brown, with lignite (possibly caved from above lignite zone)  
 155' 180' Clay, gray  
 180' 200' Clay, brown  
 T. D.: 200'

**\* Drill Hole No. 473.** Elevation 262'  
 Location: SW¼, Sec. 20, T. 12 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lambert 6/78

0' 5' Clay, light gray, with very fine sand, iron stained  
 5' 10' Sand, fine, with gray clay  
 10' 20' Clay, gray, with chocolate brown clay interbedded, and very fine sand  
 20' 25' Lignite and chocolate brown clay, with fine sand  
 25' 30' Clay, gray, with very fine sand  
 30' 35' Clay, gray to chocolate brown, with a trace of lignite  
 35' 40' Clay, gray to brown, with very fine sand  
 40' 80' Clay, gray, with very fine sand  
 80' 90' Clay, gray, slightly glauconitic, with very fine sand  
 90' 100' Clay, gray, slightly glauconitic with interbedded fine to very fine sand  
 100' 105' Lignite and chocolate brown clay, with very fine sand  
 105' 110' Clay, gray, glauconitic, with very fine sand  
 110' 125' Clay, gray brown, slightly glauconitic, with very fine sand  
 125' 130' Clay, gray to brown, with very fine sand and a trace of lignite  
 130' 135' Clay, gray, with very fine sand  
 135' 145' Sand, fine, with gray clay  
 145' 150' Clay, gray to brown, with very fine sand  
 150' 160' Clay, brown, with fine sand  
 160' 170' Clay, gray to brown, with very fine sand  
 170' 180' Clay, gray, with very fine sand  
 180' 190' Sand, fine, with gray clay  
 190' 200' Clay, gray to brown, with fine to very fine sand  
 Core Interval 24' 30'  
 Recovered: 50" Lost: 22"  
 24' 28' 2" lignite, black, firm to hard  
 28' 2" 30' not recovered  
 T. D.: 200'

**\* Drill Hole No. 474.** Elevation 248'  
 Location: SE ¼, Sec. 30, T. 12S, R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lambert 6/78

0' 5' Clay, gray to tan, very fine sand  
 5' 10' Clay, tan to white, with very fine sand  
 10' 20' Clay, white to light tan, with very fine sand  
 20' 30' Clay, lignitic, with a trace of white clay and fine sand  
 30' 45' Clay, gray, with very fine sand  
 45' 50' Clay, gray, with very fine sand and a trace of lignite  
 50' 70' Clay, gray, glauconitic, with very fine sand and a trace of lignite  
 70' 95' Clay, gray, slightly glauconitic, with very fine sand  
 95' 100' Clay, gray, with very fine sand and a trace of lignite  
 100' 110' Clay, gray, with very fine sand  
 110' 115' Clay, gray, with very fine sand and a trace of lignite  
 115' 125' Clay, gray, slightly glauconitic, with very fine sand

125' 135' Clay, gray to brown, with very fine sand and a trace of lignite  
 135' 150' Clay, gray to brown, slightly glauconitic, with very fine sand  
 150' 170' Sand, fine, with gray clay, slightly glauconitic  
 170' 175' Clay, gray, with very fine sand  
 175' 200' Clay, gray to brown, interbedded, with very fine sand

Core Interval 23' - 29' 6"

Recovered: 78" Lost: 0"

23' 0" - 24' clay, gray-brown, with very fine sand and silt, slightly carbonaceous  
 24' - 24' 2" lignite, black, hard  
 24' 2" - 24' 9" clay, brown to dark brown, with very fine sand  
 24' 9" - 25' 8" lignite, black, firm  
 25' 8" - 26' 4" clay, dark brown, lignitic, with a trace of lignite  
 26' 4" - 26' 8" clay, lignitic  
 26' 8" - 29' 6" clay, gray-brown, with very fine sand and silt, slightly micaceous  
 T. D.: 200'

**\* Drill Hole No. 475.** Elevation 250'  
 Location: SW¼, Sec. 32, T. 12 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78

0' 15' Clay, tan, with silt and very fine sand  
 15' 25' Clay, cream to tan, with silt  
 25' 30' Clay, light brown  
 30' 35' Clay, dark brown, with approximately 1' - 2' of lignite  
 35' 40' Clay, brownish gray, with silt  
 40' 50' Clay, greenish-gray, glauconitic  
 50' 60' Clay, brownish gray  
 60' 70' Clay, brown and gray interbedded, with approximately 1' - 1' 6" of lignite  
 70' 75' Clay, greenish-brown  
 75' 80' Silt, with greenish-brown clay binder  
 80' 90' Clay, gray, with silt and a trace of siderite  
 90' 145' Clay, light brown, with a trace of lignite  
 145' 155' Clay, brown, with approximately 3' - 4' of lignite  
 155' 175' Clay, light brown  
 175' 200' Clay, light brown to gray

Core Interval 143' - 150'

Recovered: 45" Lost: 39"

143' - 144' clay, gray-brown  
 144' - 146' lignite, black, hard  
 146' - 146' 9" clay, brown to dark brown, with thin lignite stringers  
 146' 9" 150' sand (not recovered)  
 T. D.: 200'

**Drill Hole No. 476.** Elevation 142'  
 Location: SE¼, Sec. 33, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lambert 6/78

0' 10' Clay, tan, with fine sand

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

10'- 15' Clay, tan, with fine sand and pea gravel  
 15'- 45' Gravel and fine sand  
 45'- 62' Clay, gray, with fine sand  
 62'- 65' Lignite and brown lignitic clay with fine sand  
 65'- 75' Clay, brown, with very fine sand and a trace of lignite  
 75'- 80' Clay, chocolate brown, with fine sand  
 80'- 85' Pea gravel, with fine sand  
 85'- 90' Clay, gray brown, with very fine to fine sand  
 90'- 95' Sand, fine, with gray brown clay and a trace of lignite  
 95'- 100' Clay, brown, with very fine sand  
 100'- 110' Sand, fine, with brown clay  
 110'- 130' Gravel and coarse sand  
 130'- 140' Clay, gray brown, with fine sand  
 140'- 150' Sand, fine, with a trace of brown clay  
 150'- 170' Clay, brown, with interbedded very fine sand  
 170'- 200' Sand, very fine, with brown to gray clay  
 T. D.: 200'

**Drill Hole No. 477.** Elevation 135'  
 Location: SW¼, Sec. 34, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0'- 5' Clay, light brown, with silt  
 5'- 8' Clay, light gray, with fine sand  
 8'- 25' Pea gravel, with medium sand  
 25'- 39' Silt, greenish gray, with clay binder, micaceous  
 39'- 45' Clay, brown, with a trace of lignite  
 45'- 55' Silt, gray brown, micaceous, with clay binder  
 55'- 60' Clay, grayish brown  
 60'- 65' Clay, greenish gray, with silt  
 65'- 70' Clay, dark brown, with approximately 1" to 1 1/2" of lignite  
 70'- 75' Clay, brown  
 75'- 90' Clay, brownish gray  
 90'- 95' Clay, gray, with silt  
 95'- 100' Clay, brown, with silt  
 100'- 110' Clay, brown, with silt and a trace of lignite  
 110'- 115' Clay, brown, with very fine sand, micaceous  
 115'- 125' Clay, brown, micaceous, with silt  
 125'- 140' Sand, very fine, with gray silt  
 140'- 150' Clay, gray, with silt  
 150'- 165' Clay, brownish gray, with silt  
 165'- 170' Clay, brown, with silt  
 170'- 200' Clay, brownish gray, with very fine sand and silt  
 T. D.: 200'

**Drill Hole No. 478.** Elevation 133'  
 Location: SW¼, Sec. 35, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0'- 5' Clay, gray, with fine sand and silt  
 5'- 38' Pea gravel, with coarse sand  
 38'- 50' Clay, gray, with silt and a trace of lignite  
 50'- 90' Silt with gray, very fine sand  
 90'- 125' Clay, gray, with very fine sand and silt  
 125'- 165' Clay, gray, silty, with interbedded fine sand  
 155'- 200' Sand, gray, fine, with interbedded gray, silty clay  
 T. D.: 200'

**\* Drill Hole No. 479.** Elevation 150'  
 Location: NW¼, Sec. 1, T. 15 S., R. 13 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0'- 5' Sand, fine, with tan clay  
 5'- 10' Clay, tan, with fine sand  
 10'- 25' Clay, light gray, with very fine sand, iron stained  
 25'- 30' Gravel  
 30'- 40' Clay, gray to brown, with very fine sand and a trace of lignite  
 40'- 50' Clay, gray, with very fine sand, slightly glauconitic  
 50'- 90' Clay, gray to blue green, with very fine sand  
 90'- 100' Clay, gray to light gray, with very fine sand  
 100'- 105' Clay, gray, with very fine sand  
 105'- 110' Clay, blue green, with very fine sand  
 110'- 120' Clay, green, glauconitic, with very fine sand  
 120'- 150' Clay, gray, with very fine sand  
 150'- 165' Clay, brown, with very fine sand  
 165'- 180' Clay, brown, with interbedded, fine to very fine sand  
 180'- 185' Sand, fine, with brown to gray clay  
 185'- 200' Clay, gray, with very fine sand  
 T. D.: 200'

**Drill Hole No. 480.** Elevation 151'  
 Location: NW¼, Sec. 6, T. 15 S., R. 12 W.  
 County: Calhoun  
 Logged by: J. M. Howard 6/78.

0'- 18' Clay, tan to cream, with fine sand and silt  
 18'- 25' Sand, tan, medium to fine  
 25'- 30' Sand, tan, coarse to medium  
 30'- 38' Pea gravel  
 38'- 100' Clay, gray, with fine sand and silt, and a trace of lignite  
 100'- 180' Clay, gray, with fine sand  
 180'- 200' Clay, gray, with fine sand and approximately 1" of lignite  
 T. D.: 200'

**Drill Hole No. 481.** Elevation 155'  
 Location: NW¼, Sec. 5, T. 15 S., R. 12 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0'- 5' Clay, gray brown, fine sand  
 5'- 10' Clay, gray, fine sand, iron stained  
 10'- 15' Clay, gray to tan, with very fine sand  
 15'- 20' Clay, gray, with interbedded tan clay and very fine sand  
 20'- 50' Gravel  
 50'- 55' Clay, brown to gray, fine sand  
 55'- 60' Clay, gray, with very fine sand, iron stained  
 60'- 90' Clay, gray to brown, with fine to very fine sand  
 90'- 110' Clay, gray brown, slightly micaceous and glauconitic with very fine sand  
 110'- 150' Clay, gray, with fine to very fine sand  
 150'- 180' Clay, light gray to light tan, with very fine sand  
 180'- 200' Clay, gray to light brown, slightly glauconitic, with very fine sand  
 T. D.: 200'

**\* Drill Hole No. 482.** Elevation 120'  
 Location: NW¼, Sec. 4, T. 15 S., R. 12 W.  
 County: Calhoun  
 Logged by: Dave Lumbert 6/78.

0'- 5' Clay, red, with fine sand  
 5'- 15' Clay, tan, with very fine sand  
 15'- 20' Sand, fine, with tan clay  
 20'- 25' Clay, tan, with very fine sand  
 25'- 35' Gravel  
 35'- 40' Clay, gray to brown, with very fine sand and a trace of lignite  
 40'- 60' Clay, gray, slightly glauconitic, with very fine sand  
 60'- 65' Sand, fine, with gray clay  
 65'- 80' Clay, gray, slightly glauconitic, with very fine sand  
 80'- 85' Clay, gray to brown, with very fine sand, slightly glauconitic  
 85'- 100' Clay, gray, with very fine sand  
 100'- 110' Clay, gray, with interbedded brown clay and very fine sand  
 110'- 120' Clay, gray, with fine to very fine sand  
 120'- 130' Clay, gray to brown, with fine sand  
 130'- 140' Clay, light gray to light brown, slightly micaceous, with very fine sand  
 140'- 154' Clay, light gray to dark gray, with very fine sand, slightly glauconitic and micaceous  
 154'- 156' Siderite  
 156'- 160' Clay, gray, with very fine sand, slightly glauconitic and micaceous  
 160'- 165' Sand, fine, with gray clay  
 165'- 170' Clay, light gray, with very fine sand  
 170'- 180' Clay, brown to gray, with very fine sand  
 180'- 190' Clay, brown to light brown, with very fine sand  
 190'- 200' Clay, brown, with interbedded fine to very fine sand  
 T. D.: 200'

**Drill Hole No. 483.** Elevation 100'  
 Location: NE¼, Sec. 10, T. 15 S., R. 12 W.  
 County: Bradley  
 Logged by: Dave Lumbert 6/78.

0'- 10' Clay, light brown, with very fine sand  
 10'- 25' Pea gravel, with medium sand  
 25'- 55' Clay, gray, glauconitic, with interbedded fine to medium sand and a trace of lignite  
 55'- 65' Clay, gray, glauconitic, fine to very fine sand  
 65'- 70' Clay, gray, slightly glauconitic with fine sand  
 70'- 100' Clay, gray, slightly glauconitic, slightly micaceous, with very fine sand  
 100'- 120' Clay, gray-brown, with fine sand and a trace of lignite  
 120'- 200' Clay, gray, slightly glauconitic and micaceous, with fine to very fine sand  
 T. D.: 200'

**Drill Hole No. 484.** Elevation 163'  
 Location: SE¼, Sec. 11, T. 15 S., R. 12 W.  
 County: Bradley  
 Logged by: J. M. Howard 6/78.

0'- 5' Clay, mottled, with silt and very fine sand  
 5'- 20' Pea gravel, with red clay binder  
 20'- 25' Clay, light brown, with silt

\* Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

25' 30' Sand, greenish gray, very fine, glauconitic, silty  
 30' 65' Clay, grayish brown, silty, with a trace of siderite and lignite  
 65' 70' Clay, brown  
 70' 75' Clay, greenish gray  
 75' 80' Clay, brownish gray, with interbedded glauconitic, fine sand and silt  
 80' 85' Sand, greenish gray, very fine, silty  
 85' 86' Lignite, with dark brown silt  
 86' 95' Clay, dark brown  
 95' 100' Clay, brown  
 100' 105' Clay, greenish gray, with silt  
 105' 110' Silt, with gray clay  
 110' 125' Clay, brown, with silt  
 125' 150' Clay, light grayish brown  
 150' 160' Clay, gray  
 160' 170' Clay, gray, with very fine sand and silt  
 170' 200' Sand, very fine, with silt and gray clay binder  
 T. D.: 200'

• **Drill Hole No. 485.** Elevation 190'  
 Location: NE ¼, Sec. 12, T. 18 S., R. 12 W.  
 County: Bradley  
 Logged by: Dave Lambert 6/78

0' 5' Sand, brown to red,  
 5' 10' Clay, brown to red, with fine sand  
 10' 15' Sand, medium to coarse, with red clay  
 15' 50' Gravel, with coarse sand  
 50' 65' Clay, gray, with very fine to fine sand  
 65' 100' Clay, gray, slightly glauconitic with very fine sand and a trace of siderite  
 100' 110' Clay, gray to blue, with very fine sand  
 110' 120' Clay, gray to brown, with very fine sand and a trace of lignite  
 120' 150' Clay, gray to blue, with very fine sand and a trace of lignitic clay  
 150' 160' Clay, light gray to light brown, with very fine sand  
 160' 170' Clay, light gray interbedded with gray to blue clay, very fine sand and silt  
 170' 180' Clay, light gray, with very fine sand and silt  
 180' 190' Clay, light gray, with interbedded fine sand  
 190' 200' Sand, fine, with gray clay  
 T. D.: 200'

• **Drill Hole No. 486.** Elevation 184'  
 Location: NE ¼, Sec. 7, T. 15 S., R. 11 W.  
 County: Bradley  
 Logged by: J. M. Howard 6/78

0' 10' Clay, mottled, with fine sand and silt  
 10' 20' Pea gravel, with coarse sand  
 20' 45' Clay, gray, with silt  
 45' 50' Clay, brown, silty, with approximately 1'6" of lignite  
 50' 60' Clay, gray  
 60' 65' Clay, chocolate brown  
 65' 70' Clay, light brown  
 70' 80' Silt, greenish gray, with very fine sand and glauconite  
 80' 85' Clay, light brown  
 85' 110' Clay, greenish gray, with a trace of brown clay

110' 130' Clay, light brown  
 130' 135' Clay, brown, with silt and a trace of lignite  
 135' 150' Clay, gray  
 150' 170' Sand, medium to fine, salt and pepper  
 170' 180' Clay, grayish tan  
 180' 200' Sand, gray, medium to fine with a trace of lignite  
 T. D.: 200'

• **Drill Hole No. 487.** Elevation 168'  
 Location: SE ¼, Sec. 5, T. 15 S., R. 11 W.  
 County: Bradley  
 Logged by: J. M. Howard 6/78

0' 5' Clay, gray, with silt and fine sand  
 5' 10' Pea gravel, with coarse sand  
 10' 15' Clay, gray, with silt  
 15' 20' Silt, brown, with clay binder and a trace of lignite  
 20' 25' Clay, gray  
 25' 30' Clay, greenish gray  
 30' 45' Clay, brownish gray, with silt and a trace of lignite  
 45' 55' Clay, greenish gray  
 55' 60' Clay, brownish gray, with silt  
 60' 65' Clay, brown, micaceous, with silt  
 65' 75' Sand, fine, silty, with glauconite  
 75' 80' Clay, dark brown, with a trace of lignite  
 80' 85' Lignite, approximately 4', with a trace of brown clay  
 85' 105' Clay, greenish gray and brown interbedded, with glauconite  
 105' 115' Silt, with brownish gray clay binder  
 115' 150' Clay, light brownish gray, silty with a trace of lignite  
 150' 155' Clay, light brown, with silt  
 155' 175' Sand, very fine, with light brownish silt and clay binder  
 175' 200' Clay, light brown, with very fine sand and silt  
 T. D.: 200'

**Drill Hole No. 488.** Elevation 187'  
 Location: NW ¼, Sec. 4, T. 11 S., R. 12 W.  
 County: Calhoun  
 Logged by: G. L. Delevan 6/78

0' 27' Sand, light brown, very fine, silty  
 27' 34' Pea gravel, with very fine sand and a trace of lignite  
 34' 70' Clay, gray, with very fine sand and silt, micaceous  
 70' 71' Clay, dark brown, with a trace of lignite  
 71' 84' Clay, light gray, silty, slightly micaceous  
 84' 91' Clay, light gray brown, with interbedded dark brown clay  
 91' 120' Clay, light gray brown, with very fine sand and silt  
 120' 138' Silt, light brown, with a trace of clay and lignite  
 138' 150' Sand, brown, very fine  
 T. D.: 150'

• **Drill Hole No. 489.** Elevation 228'  
 Location: NW ¼, Sec. 36, T. 10 S., R. 13 W.  
 County: Dallas  
 Logged by: G. L. Delevan 6/78

0' 6' Sand, light gray brown, very

fine, slightly micaceous  
 6' 13'6" Clay, light brown, with very fine sand and silt  
 13'6"-15' Lignite, black, firm  
 15' 16'6" Clay, brown to dark brown  
 16'6"-19' Lignite, black, firm  
 19' 28' Clay, light gray-brown, with very fine sand and silt, slightly micaceous and carbonaceous  
 28' 35' Clay, brown, with a trace of lignite  
 35' 51' Clay, gray-brown, silty  
 51' 57' Clay, greenish-gray, slightly glauconitic and micaceous  
 57' 70' Sand, light gray-green, very fine, slightly glauconitic and micaceous  
 70' 132' Clay, light gray-green, silty, slightly glauconitic, with siderite  
 132' 150' Clay, light brown, with very fine sand, slightly micaceous and carbonaceous

Core Interval 10'6" - 14'1"

Recovered: 43" Lost: 0"

10'6" - 12'11" lignite, black, soft, with numerous silt partings  
 12'11" - 13'2" clay, brown to dark brown, with very fine sand and thin lignite stringers  
 13'2" - 14'1" sand, gray, very fine, with a trace of clay  
 T. D.: 150'

**Drill Hole No. 490.** Elevation 241'  
 Location: SE ¼, Sec. 36, T. 10 S., R. 12 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 6/78

0' 21' Clay, buff, slightly micaceous  
 21' 100' Clay, gray, with very fine sand and silt, slightly micaceous  
 100' 120' Sand, gray, very fine, with a trace of gray clay  
 120' 138' Sand and clay, gray, very fine, slightly micaceous  
 138' 140' Clay, lignitic, with a trace of lignite  
 140' 150' Clay, gray, with a trace of lignite  
 T. D.: 150'

**Drill Hole No. 491.** Elevation 280'  
 Location: SW ¼, Sec. 5, T. 11 S., R. 11 W.  
 County: Cleveland  
 Logged by: G. L. Delevan 6/78

0' 37' Clay, light brown to buff, slightly micaceous  
 37' 42' Siderite  
 42' 80' Clay, dark gray-brown, with very fine sand, slightly micaceous and carbonaceous  
 80' 100' Clay, gray-brown, with very fine sand, slightly micaceous  
 100' 110' Sand, gray-brown, very fine, slightly micaceous  
 110' 122' Clay, brown, slightly micaceous with a trace of lignite  
 122' 145' Clay, light gray-brown, with very fine sand, slightly micaceous  
 145' 150' Clay, brown, with very fine sand and silt, slightly micaceous and a trace of lignite  
 T. D.: 150'

\* Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 492.** Elevation 271'  
Location: NW¼, Sec. 9, T. 11 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 5' Clay, reddish brown, with iron cemented sand and a trace of gravel  
5' 16' Carbonate, dark green, fossiliferous, hard, with interbedded green sand  
16' 35' Clay, dark gray brown, slightly micaceous  
35' 40' Clay, brown, with very fine sand and silt, and a trace of lignite  
40' 66' Clay and sand, gray-brown, very fine, slightly micaceous  
66' 73' Clay, brown, with very fine sand and a trace of lignite and lignitic clay  
73' 120' Clay and sand, gray to gray brown, very fine, slightly micaceous  
120' 140' Clay, dark gray brown, slightly micaceous  
140' 150' Sand, gray brown, very fine, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 493.** Elevation 294'  
Location: NE¼, Sec. 16, T. 11 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 13' Sand, light orange, fine to very fine  
13' 29' Clay, buff to light tan, with very fine sand, slightly micaceous  
29' 57' Clay, gray brown, with very fine sand, slightly micaceous and carbonaceous  
57' 64' Sand, gray brown, very fine, slightly micaceous and carbonaceous  
64' 85' Clay, gray brown to brown, with very fine sand, slightly micaceous  
85' 87' Clay, lignitic, dark brown to black, with a trace of lignite  
87' 89' Lignite, black, firm, with a trace of dark brown clay  
89' 91' Clay, dark chocolate brown, with a trace of lignite  
91' 95' Clay, brown, with thin lignite stringers  
95' 108' Sand and silt, brown, very fine, with thin lignite stringers  
108' 150' Clay, brown, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 494.** Elevation 273'  
Location: NW¼, Sec. 23, T. 11 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 5' Sand, reddish brown, very fine  
5' 27' Clay, buff, slightly micaceous  
27' 55' Clay and sand, buff, very fine, silty, slightly micaceous  
55' 80' Sand, light orange to brown, silty, very fine  
80' 105' Clay, gray, with very fine sand, slightly micaceous, with a trace of lignite  
105' 107' Clay, light blue gray, with very fine sand and silt, slightly micaceous  
107' 137' Clay, dark gray brown, silty,

slightly micaceous  
137' 150' Sand, gray, fine, slightly micaceous  
T. D.: 150'

**Drill Hole No. 495.** Elevation 232'  
Location: NW¼, Sec. 24, T. 11 S., R. 11 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 5' Sand, light brown, very fine, silty, with buff clay  
5' 13' Sand and clay, light brown to buff, very fine, silty, slightly micaceous  
13' 35' Clay and sand, gray brown, very fine, silty, slightly micaceous and carbonaceous  
35' 39' Clay and sand, chocolate brown, very fine, slightly micaceous  
39' 61' Clay, light gray-brown, with very fine sand, slightly micaceous  
61' 63' Clay, lignitic, dark chocolate brown to black, with a trace of lignite  
63' 110' Clay and sand, gray, very fine, slightly micaceous, with a trace of lignite  
110' 122' Clay, gray brown, with very fine sand, slightly micaceous  
122' 123' Clay, lignitic, with a trace of lignite  
123' 150' Clay, light brown, slightly micaceous, with very fine sand  
T. D.: 150'

**Drill Hole No. 496.** Elevation 268'  
Location: NW¼, Sec. 30, T. 11 S., R. 10 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 6' Sand, reddish brown, very fine, silty  
6' 37' Clay and sand, buff, fine to very fine, slightly micaceous  
37' 70' Clay, gray to gray brown, with very fine sand and silt, slightly micaceous  
70' 71' Lignite and lignitic clay, black  
71' 96' Clay, gray brown, with very fine sand, slightly micaceous  
96' 121' Clay, brown, silty, slightly micaceous  
121' 135' Sand and clay, gray brown, very fine, slightly micaceous  
135' 150' Clay, gray brown, with very fine sand, slightly micaceous  
T. D.: 150'

**Drill Hole No. 497.** Elevation 228'  
Location: SW¼, Sec. 29, T. 11 S., R. 10 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 9' Sand, reddish brown, with a trace of buff clay  
9' 35' Clay, brown, with very fine sand and silt, slightly micaceous  
35' 60' Clay, gray brown, with very fine sand, slightly micaceous  
60' 75' Clay, brown, with very fine sand, slightly micaceous, with a trace of lignite and black clay  
75' 90' Clay and sand, brown, silty, very fine

90' 110' Clay, brown, very fine sand and silt, slightly micaceous  
110' 125' Clay and sand, brown, very fine, slightly micaceous  
125' 150' Clay, brown, with very fine sand, slightly micaceous  
T. D.: 150'

**Drill Hole No. 498.** Elevation 223'  
Location: SW¼, Sec. 33, T. 11 S., R. 10 W.  
County: Cleveland  
Logged by: G. L. Delevan 6/78.

0' 4' Sand, reddish brown, very fine  
4' 15' Clay, buff, slightly micaceous, with interbedded very fine sand  
15' 18' Clay, chocolate brown, with very fine sand, slightly micaceous  
18' 32' Clay, dark gray-brown, with very fine sand and silt, slightly micaceous  
32' 80' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
80' 150' Clay and sand, gray-brown, very fine, slightly micaceous  
T. D.: 150'

**Drill Hole No. 499.** Elevation 176'  
Location: SW¼, Sec. 3, T. 12 S., R. 10 W.  
County: Bradley  
Logged by: G. L. Delevan 6/78.

0' 5' Sand, reddish brown, silty, very fine  
5' 18' Clay, buff, with interbedded very fine sand  
18' 21' Clay, brown, with very fine sand and silt, slightly micaceous  
21' 35' Sand, gray-brown, silty, very fine, slightly micaceous  
35' 42' Clay, gray-brown  
42' 45' Clay, dark chocolate brown to black, with a trace of lignite  
45' 60' Clay, greenish gray, slightly silty  
60' 95' Sand, gray, fine to very fine, slightly micaceous, with a trace of clay  
95' 121' Clay, gray-brown, slightly silty and micaceous, with very fine sand  
121' 128' Clay, brown, slightly silty and micaceous  
128' 150' Clay, gray to gray-brown, slightly micaceous  
T. D.: 150'

**Drill Hole No. 500.** Elevation 183'  
Location: SW¼, Sec. 11, T. 12 S., R. 10 W.  
County: Bradley  
Logged by: G. L. Delevan 6/78.

0' 13' Clay, light brown to orange-brown, slightly micaceous  
13' 25' Clay and sand, light gray-brown, very fine, slightly micaceous  
25' 39' Sand, light gray-brown, fine to very fine, slightly micaceous  
39' 46' Clay, light gray-brown, with very fine sand  
46' 49' Clay, brown, with very fine sand, slightly micaceous  
49' 61' Clay and sand, light gray-brown, very fine  
61' 65' Clay, chocolate brown, with very fine sand and a trace of lignite

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

65' 90' Clay, gray, with very fine sand and silt, slightly micaceous  
 90' 103' Clay, gray, with dark brown clay, silty, slightly micaceous  
 103' 125' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 125' 150' Clay, gray brown to brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 501. Elevation 161'  
 Location: SE ¼, Sec. 14, T. 12 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 13' Sand, reddish brown, very fine  
 13' 35' Clay and sand, gray brown, very fine, slightly micaceous  
 35' 70' Clay, gray brown, with very fine sand, slightly micaceous  
 70' 85' Clay and sand, gray brown, very fine, slightly micaceous  
 85' 100' Clay, gray brown, with very fine sand, slightly micaceous  
 100' 115' Clay and sand, gray brown, slightly micaceous  
 115' 140' Clay, gray brown, with very fine sand, slightly micaceous with a trace of dark brown clay  
 140' 150' Clay, gray brown, with very fine sand, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 502. Elevation 220'  
 Location: SE ¼, Sec. 24, T. 12 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 37' Clay, buff, slightly micaceous  
 37' 39' Clay, light gray, silty, slightly carbonaceous  
 39' 60' Clay, gray brown, with very fine sand, slightly micaceous  
 60' 130' Clay, gray brown, with very fine sand, slightly micaceous  
 130' 150' Clay, gray brown, with interbedded, very fine sand, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 503. Elevation 162'  
 Location: SW ¼, Sec. 30, T. 12 S., R. 9 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 15' Sand and clay, light reddish brown, very fine, silty  
 15' 30' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 30' 40' Clay, brown, with very fine sand and silt, slightly micaceous  
 40' 64' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 64' 65' Clay, dark brown, lignitic  
 65' 75' Clay, light brown, with very fine sand and silt, slightly micaceous  
 75' 96' Clay, dark brown to black, lignitic, with a trace of lignite  
 96' 150' Clay, light brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

\* Electric logs available

\* Drill Hole No. 504. Elevation 240'  
 Location: NW ¼, Sec. 31, T. 13 S., R. 9 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 27' Clay, light orange, with very fine sand, slightly micaceous  
 27' 31' Sand, light orange to brown, very fine, silty, slightly micaceous  
 31' 40' Clay, light brown, with very fine sand, slightly micaceous  
 40' 45' Clay, dark gray brown, with very fine sand and silt, slightly micaceous  
 45' 60' Clay, brown, with very fine sand and silt, slightly micaceous  
 60' 150' Clay, gray to gray brown, slightly micaceous, with a trace of lignite  
 T. D.: 150'

\* Drill Hole No. 505. Elevation 220'  
 Location: SE ¼, Sec. 19, T. 13 S., R. 9 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 24' Clay, light orange, with very fine sand and silt  
 24' 28' Clay, light brown, with a trace of light brown, very fine sand  
 28' 34' Clay, gray brown, with very fine sand, slightly micaceous  
 34' 37' Clay, brown, with very fine sand, slightly micaceous  
 37' 110' Clay, light brown, with very fine sand and silt, slightly micaceous  
 110' 114' Clay, brown, with very fine sand and silt, slightly micaceous with a trace of lignite  
 T. D.: 114'

\* Drill Hole No. 506. Elevation 229'  
 Location: SW ¼, Sec. 18, T. 13 S., R. 9 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 3' Sand, light reddish brown, very fine, silty, slightly micaceous  
 3' 23' Clay, buff, silty, slightly micaceous  
 23' 75' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 75' 100' Clay, brown, with very fine sand, slightly micaceous and a trace of siderite  
 100' 150' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

\* Drill Hole 507. Elevation 232'  
 Location: SW ¼, Sec. 1, T. 13 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 4' Sand, light brown, very fine  
 4' 21' Clay, buff, with very fine sand  
 21' 24' Clay, brown, with very fine sand, slightly micaceous  
 24' 44' Clay, gray, with very fine sand and silt and a trace of lignite  
 44' 70' Clay and sand, gray brown, very fine, slightly micaceous

70' 150' Clay, gray-brown, with very fine sand, slightly micaceous  
 T. D.: 150'

\* Drill Hole No. 508. Elevation 270'  
 Location: NW ¼, Sec. 10, T. 13 S., R. 10 W.  
 County: Bradley  
 Logged by G. L. Delevan 7/78.

0' 6' Sand, light orange-brown, very fine, silty  
 6' 29' Clay, buff, silty, slightly micaceous  
 29' 36' Clay, gray, with very fine sand, slightly micaceous  
 36' 90' Clay, brown, with interbedded very fine sand, slightly micaceous with a trace of lignite  
 90' 103' Clay and sand, gray-brown, very fine  
 103' 114' Sand, gray-brown, very fine, slightly micaceous  
 114' 122' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 122' 123' 6" Clay, black, lignitic, with black, soft lignite  
 123' 6" 125' Clay, brown, silty, slightly micaceous, with a trace of lignite  
 125' 142' Clay, light gray, slightly micaceous  
 142' 145' Sand, light brown, very fine  
 145' 150' Clay, brown, with very fine sand, slightly micaceous  
 T. D.: 150'

Drill Hole No. 509. Elevation 255'  
 Location: SW ¼, Sec. 9, T. 13 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 11' Sand, light brown, fine to very fine  
 11' 19' Clay, buff, with very fine sand and silt, slightly micaceous  
 19' 24' Clay, brown, with very fine sand, slightly micaceous  
 24' 30' 6" Clay, gray-brown, with very fine sand, slightly micaceous  
 30' 6" 31' 6" Lignite, black, firm  
 31' 6" 36' Clay, gray-brown to light gray, with very fine sand  
 36' 44' Clay and sand, light gray, fine to very fine, slightly micaceous  
 44' 54' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 54' 56' Clay, dark brown, with a trace of dark brown lignite  
 56' 72' Clay, gray-brown, with very fine sand and silt, slightly micaceous  
 72' 90' Sand and clay, gray-brown, very fine  
 90' 92' 6" Lignite, black, firm, with black lignitic clay  
 92' 6" 125' Clay, very light gray  
 125' 150' Clay, gray, with very fine sand and silt, slightly micaceous and a trace of siderite  
 T. D.: 150'

Drill Hole No. 510. Elevation 263'  
 Location: NW ¼, Sec. 8, T. 13 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delevan 7/78.

0' 9' Sand, light reddish brown, very fine, silty

ARKANSAS LIGNITE INVESTIGATIONS

9'-22' Clay and sand, buff, very fine, silty, slightly micaceous  
 22'-23' Lignite and lignitic clay  
 23'-52' Clay, gray to gray brown, with very fine sand, slightly micaceous  
 52'-53' Lignite, black, soft  
 53'-72' Sand and clay, brown, very fine, with a trace of lignite  
 72'-74' Clay, light brown, slightly silty  
 74'-76' Lignite and lignitic clay, black to dark brown, firm  
 76'-80' Clay, light brown  
 80'-87' Clay, light gray green, with very fine sand and silt  
 87'-133' Sand and clay, gray brown, very fine, slightly micaceous  
 133'-150' Clay, gray brown, slightly silty and micaceous  
 T. D.: 150'

**Drill Hole No. 511.** Elevation 228'  
 Location: SW¼, Sec. 6, T. 13 S., R. 10 W.  
 County: Bradley  
 Logged by: G. L. Delavan 7/78.

0'-30' Clay, light brown, with very fine sand and silt, slightly micaceous  
 30'-36' Clay and sand, light brown, very fine  
 36'-89' Sand, gray, fine to very fine  
 89'-90' Clay, dark chocolate brown to black, lignitic, with very fine sand  
 90'-104' Sand, gray, fine to very fine, slightly micaceous  
 104'-130' Clay, gray, slightly micaceous  
 130'-137' Sand, gray, fine to very fine, slightly micaceous, with a trace of gray clay  
 137'-150' Clay, gray, with fine sand, slightly micaceous and a trace of siderite  
 T. D.: 150'

**Drill Hole No. 512.** Elevation 150'  
 Location: SE¼, Sec. 4, T. 13 S., R. 9 W.  
 County: Bradley  
 Logged by: G. L. Delavan 7/78.

0'-12' Clay, gray brown, with very fine sand, slightly micaceous  
 12'-40' Clay, gray, with very fine sand and silt, slightly micaceous  
 40'-50' Clay, dark gray brown  
 50'-132' Clay, gray, with very fine sand and silt, slightly micaceous  
 132'-139' Clay and sand, gray brown, very fine, silty  
 139'-150' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

**\* Drill Hole No. 513.** Elevation 137'  
 Location: NW¼, Sec. 5, T. 13 S., R. 8 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-12' Sand, light orange brown, very fine  
 12'-17' Pea gravel  
 17'-30' Clay, gray brown, silty, slightly micaceous  
 30'-40' Clay and sand, gray brown, very fine  
 40'-61' Clay, chocolate brown, with

61'-128' Clay, gray-brown, with very fine sand, slightly micaceous  
 128'-130' Sand, gray brown, very fine, with gray brown clay  
 130'-135' Clay, gray-brown, with very fine sand, slightly micaceous  
 135'-138' Clay, brown to chocolate brown, with very fine sand and silt  
 138'-150' Clay, gray brown, slightly micaceous  
 T. D.: 150'

**\* Drill Hole No. 514.** Elevation 145'  
 Location: NW¼, Sec. 33, T. 12 S., R. 8 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-8' Sand, light orange brown, very fine with buff clay  
 8'-19' Clay, light orange brown, with very fine sand and silt, slightly micaceous  
 19'-30' Clay, gray brown, with very fine sand and a trace of siderite  
 30'-64' Clay, dark gray-brown, with very fine sand, slightly micaceous  
 64'-65' Clay, dark chocolate brown  
 65'-69' Clay, brown, with very fine sand, slightly micaceous  
 69'-105' Clay, gray, with very fine sand, slightly micaceous  
 105'-108' Clay, brown, silty  
 108'-150' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

**\* Drill Hole No. 515.** Elevation 186'  
 Location: SE¼, Sec. 27, T. 12 S., R. 8 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-7' Sand, light orange brown, very fine, silty  
 7'-22' Clay, light brown, with very fine sand and silt  
 22'-98' Clay, brown to gray-brown, with very fine sand and silt, slightly micaceous  
 98'-100' Clay, gray brown, with a trace of siderite  
 100'-150' Clay, brown, with very fine sand, slightly micaceous  
 T. D.: 150'

**\* Drill Hole No. 516.** Elevation 211'  
 Location: SW¼, Sec. 25, T. 12 S., R. 8 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-7' Sand, light brown, very fine, silty  
 7'-30' Clay, light brown, with very fine sand and silt, slightly micaceous  
 30'-120' Clay, dark gray brown, with very fine sand and silt, slightly micaceous with a trace of siderite  
 120'-180' Clay, gray brown, with very fine sand  
 T. D.: 180'

**Drill Hole No. 517.** Elevation 225'  
 Location: SE¼, Sec. 30, T. 12 S., R. 7 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-5' Sand, light brown, very fine, silty  
 5'-22' Clay, light brown, with very fine sand and silt, slightly micaceous  
 22'-50' Clay, gray-brown, slightly silty and micaceous  
 50'-150' Clay, gray-brown, with very fine sand and silt, slightly micaceous with a trace of siderite  
 T. D.: 150'

**Drill Hole No. 518.** Elevation 233'  
 Location: SW¼, Sec. 28, T. 12 S., R. 7 W.  
 County: Drew  
 Logged by: G. L. Delavan 7/78.

0'-8' Sand, light brown, very fine slightly micaceous  
 8'-37' Clay, brown to light brown  
 37'-100' Clay, gray-brown, slightly silty and micaceous  
 100'-150' Clay, gray, slightly silty and micaceous  
 T. D.: 150'

**Drill Hole No. 519.** Elevation 270'  
 Location: SW¼, Sec. 11, T. 13 S., R. 7 W.  
 County: Drew  
 Logged by: G. L. Delavan 8/78.

0'-9' Sand, light reddish brown, very fine, silty, with a trace of light brown clay  
 9'-27' Clay and sand, light brown to buff, very fine, slightly micaceous  
 27'-80' Clay, dark gray-brown, slightly micaceous  
 80'-150' Clay, light gray-brown, silty with a trace of siderite  
 T. D.: 150'

**Drill Hole No. 520.** Elevation 270'  
 Location: SE¼, Sec. 15, T. 13 S., R. 7 W.  
 County: Drew  
 Logged by: G. L. Delavan 8/78.

0'-10' Clay, light brown, with very fine sand and silt  
 10'-27' Clay, buff, with very fine sand and silt  
 27'-150' Clay, dark gray brown, slightly silty and micaceous with a trace of siderite  
 T. D.: 150'

**Drill Hole No. 521.** Elevation 256'  
 Location: NW¼, Sec. 26, T. 13 S., R. 7 W.  
 County: Drew  
 Logged by: G. L. Delavan 8/78.

0'-8' Clay, light buff  
 8'-22' Clay, light gray-brown  
 22'-150' Clay, dark gray-brown, slightly silty and micaceous  
 T. D.: 150'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 522.** Elevation 246'  
Location: SW¼, Sec. 26, T. 12 S., R. 7 W.  
County: Drew  
Logged by: G. L. Delavan 8/78

0' 8' Sand, light brown, very fine, silty  
8' 19' Clay, light brown, with very fine sand, slightly micaceous  
19' 150' Clay, gray brown, slightly silty and micaceous  
T. D.: 150'

**Drill Hole No. 523.** Elevation 283'  
Location: NE¼, Sec. 22, T. 12 S., R. 7 W.  
County: Drew  
Logged by: G. L. Delavan 8/78

0' 22' Clay, light brown, silty, slightly micaceous  
22' 39' Clay, gray brown, with very fine sand, slightly micaceous  
39' 150' Clay, gray brown, silty, slightly micaceous  
T. D.: 150'

**Drill Hole No. 524.** Elevation 268'  
Location: SE¼, Sec. 10, T. 12 S., R. 7 W.  
County: Drew  
Logged by: G. L. Delavan 8/78

0' 4' Sand, light brown, very fine, silty  
4' 30' Sand and pea gravel, light brown, very fine, silty  
30' 150' Clay, gray brown, silty, slightly micaceous  
T. D.: 150'

**\* Drill Hole No. 525.** Elevation 208'  
Location: SW¼, Sec. 14, T. 10 S., R. 13 W.  
County: Dallas  
Logged by: G. L. Delavan 8/78

0' 7' Sand, light brown, fine to very fine, slightly micaceous  
7' 16' Clay, light gray, with very fine sand  
16' 18' Gravel, large pebble to small pea  
18' 38' Clay, gray brown, with very fine sand, silty  
38' 47' Clay, very light gray, slightly micaceous  
47' 48' Clay, dark gray brown to brown, with a trace of lignite  
48' 63' Clay, gray brown, slightly micaceous  
63' 69' Clay, very light gray, slightly micaceous  
69' 81' Clay, light gray brown, with very fine sand, slightly micaceous  
81' 116' Clay, gray brown, with very fine sand and silt, slightly micaceous  
116' 120' Sand, gray brown, fine  
120' 150' Clay, gray brown, with very fine sand, slightly micaceous and a trace of siderite  
T. D.: 150'

**\* Drill Hole No. 526.** Elevation 237'  
Location: NE¼, Sec. 15, T. 9 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 24' Clay, buff, with very fine

sand and silt, slightly micaceous  
24' 26' Clay, light brown to gray brown with very fine sand and silt, slightly micaceous  
26' 36' Clay, brown, with very fine sand and silt, slightly micaceous  
36' 75' Clay, gray, with very fine sand and silt, slightly micaceous with a trace of siderite  
75' 100' Clay, gray brown, silty, with a trace of lignite and lignitic clay  
100' 130' Clay, gray, with very fine sand and silt, and a trace of lignite and lignitic clay  
130' 150' Clay, gray, with very fine sand, slightly micaceous, with a trace of lignite  
T. D.: 150'

**\* Drill Hole No. 527.** Elevation 240'  
Location: SW¼, Sec. 3, T. 9 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 4' Sand, light brown, very fine, silty  
4' 19' Clay, light brown, silty, slightly micaceous  
19' 22' Lignite, black, firm  
22' 24' Clay, brown to dark brown, with a trace of lignite  
24' 65' Clay, gray, silty, slightly micaceous  
65' 125' Clay, gray brown, silty, slightly micaceous, with a trace of lignite and siderite  
125' 150' Clay, light gray, slightly silty,

| Core Interval  | Recovered | Lost |
|--|-----------|------|
| 16'6" 21'  |           |      |
| 30"  |           | 24"  |
| 16'6" 18'6" lignite, black, soft with numerous silt partings |           |      |
| 18'6" 19' lignite, black, firm to hard                       |           |      |
| 19' 21' not recovered  |           |      |
| T. D.: 150'  |           |      |

**\* Drill Hole No. 528.** Elevation 247'  
Location: NE¼, Sec. 34, T. 8 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 17' Sand, very light brown, very fine, silty, slightly micaceous  
17' 19' Clay, very light brown, with very fine sand and silt  
19' 23' Clay, light brown, and lignite  
23' 30' Clay, dark chocolate brown, with very fine sand and silt, and a trace of lignite  
30' 40' Clay and sand, light brown to buff, very fine, and a trace of lignite  
40' 52' Silt and clay, gray brown, slightly micaceous  
52' 90' Clay, gray brown, silty, slightly micaceous  
90' 110' Silt and sand, gray brown, with a trace of gray brown clay  
110' 150' Sand and silt, gray brown, very fine, slightly micaceous  
T. D.: 150'

**\* Drill Hole No. 529.** Elevation 240'  
Location: NE¼, Sec. 27, T. 8 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 4' Sand, light reddish brown, very fine, silty  
4' 12' Clay, light tan to buff, silty  
12' 14' Clay, brown to dark chocolate brown, silty  
14' 24' Clay, gray-brown, with interbedded dark brown clay  
24' 31' Clay, light gray, slightly micaceous  
31' 55' Clay, gray-brown, silty, slightly micaceous  
55' 72' Clay, gray-brown, with very fine sand, slightly micaceous  
72' 83' Clay, gray-brown  
83' 100' Clay, gray-brown, with very fine sand, slightly micaceous  
100' 115' Clay, gray-brown  
115' 150' Clay, gray-brown, with very fine sand, slightly micaceous  
T. D.: 150'

**\* Drill Hole No. 530.** Elevation 233'  
Location: NW¼, Sec. 22, T. 8 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 18' Clay, buff, with very fine sand, slightly micaceous  
18' 26' Clay, gray-brown, with a trace of silty brown clay  
26' 32' Clay, gray to gray-brown, silty  
32' 39' Clay, brown, with very fine sand, slightly micaceous with a trace of lignite  
39' 64' Clay, gray-brown, silty  
64' 66'6" Clay, black to dark chocolate brown, lignitic, with a trace of lignite  
66'6" 82' Clay, light gray, with very fine sand and silt, slightly micaceous  
82' 125' Sand, light gray, very fine, silty  
125' 150' Clay, light gray-brown, silty  
T. D.: 150'

**Drill Hole No. 531.** Elevation 220'  
Location: NW¼, Sec. 15, T. 8 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 4' Sand, light brown, very fine, silty  
4' 22' Clay, light brown, with very fine sand and silt, slightly micaceous  
22' 45' Clay, brown, with very fine sand and silt, slightly micaceous  
45' 60' Clay and sand, gray-brown, very fine, silty, slightly micaceous  
60' 68' Clay, dark gray-brown  
68' 109' Clay, gray, with interbedded very fine sand, slightly micaceous  
109' 121' Sand, gray, fine to very fine  
121' 150' Clay, gray-brown to brown, slightly micaceous  
T. D.: 150'

**Drill Hole No. 532.** Elevation 250'  
Location: SW¼, Sec. 3, T. 8 S., R. 13 W.  
County: Cleveland  
Logged by: G. L. Delavan 8/78

0' 8' Sand, light brown, very fine, silty, slightly micaceous

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

8'-18' Clay, light brown, silty, slightly micaceous  
 18'-28' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 28'-33' Clay, gray brown, with very fine sand and silt, and interbedded dark brown clay, with a trace of lignite  
 33'-43' Clay and sand, gray, very fine, silty  
 43'-50' Clay, gray to gray brown, with very fine sand and silt, slightly micaceous  
 60'-57' Clay, gray, with very fine sand, slightly micaceous  
 57'-69' Clay, gray brown, with very fine sand and silt, slightly micaceous  
 69'-70' Clay, gray brown, with interbedded dark brown clay and a trace of lignite  
 70'-85' Sand, very fine, with a trace of gray clay  
 85'-104' Clay, gray brown, with a trace of dark brown clay  
 104'-109' Clay, greenish gray, silty, slightly micaceous  
 109'-119' Clay, brown, with very fine sand and silt, slightly micaceous with a trace of lignite  
 119'-150' Clay, gray, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 533.** Elevation 182'  
 Location: NW¼, Sec. 34, T. 7 S., R. 13 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-15' Clay, light tan, with very fine sand and silt  
 15'-20' Clay, light brown  
 20'-30' Clay, brown, slightly micaceous and silty  
 30'-40' Pea gravel  
 40'-75' Clay, gray brown, slightly micaceous  
 75'-77' Lignite, black, firm, with a trace of dark chocolate brown clay  
 77'-87' Clay, gray brown, slightly micaceous with a trace of light tan clay and lignite  
 87'-110' Sand and clay, light gray brown, very fine, silty, slightly micaceous  
 110'-150' Sand, light brown to brown, very fine, silty  
 T. D.: 150'

**\*Drill Hole No. 534.** Elevation 211'  
 Location: NE¼, Sec. 19, T. 7 S., R. 13 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-17' Sand, light gray, very fine with light gray clay  
 17'-19' Clay, buff, slightly micaceous  
 19'-33' Clay, gray brown, slightly silty and micaceous  
 33'-34' Lignite and dark chocolate brown lignitic clay  
 34'-54' Clay, greenish gray, slightly micaceous, sandy  
 54'-56' Clay, chocolate brown, lignitic  
 56'-66' Clay, light gray brown, slightly micaceous  
 66'-72' Sand, light gray brown, very fine, silty  
 72'-94' Clay, greenish gray, with very fine sand and silt, slightly micaceous

\*Electric logs available

94'-100' Sand, greenish gray, very fine, silty, slightly micaceous  
 100'-113' Clay, greenish gray, with very fine sand and silt, slightly micaceous  
 113'-127' Clay, gray brown, with very fine sand and silt and a trace of chocolate brown clay  
 127'-150' Clay, light brown, with dark chocolate brown lignitic clay interbedded and a trace of lignite  
 T. D.: 150'

**Drill Hole No. 535.** Elevation 236'  
 Location: NW¼, Sec. 19, T. 7 S., R. 13 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-5' Sand, light brown, very fine, silty  
 5'-10' Clay, light brown, with very fine sand and silt, slightly micaceous  
 10'-15' Clay, brown, with very fine sand and silt, slightly micaceous with a trace of dark brown lignitic clay  
 15'-30' Clay, gray green, with very fine sand, slightly micaceous  
 30'-70' Clay, gray brown, with very fine sand and silt, slightly micaceous with a trace of dark brown clay and lignite  
 T. D.: 70'

**\*Drill Hole No. 536.** Elevation 266'  
 Location: NE¼, Sec. 26, T. 7 S., R. 14 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-3' Sand, light gray, very fine, slightly micaceous  
 3'-10' Clay, light brown, with very fine sand and silt, slightly micaceous  
 10'-20' Pea gravel  
 20'-34' Clay, light brown, with very fine sand and silt, slightly micaceous  
 34'-65' Clay, dark brown, with very fine sand and silt, slightly micaceous  
 65'-76' Clay, greenish gray, with very fine sand, slightly silty and micaceous  
 76'-77' Lignite, black, hard  
 77'-85' Sand, greenish gray, very fine, slightly micaceous  
 85'-142' Clay, gray brown, slightly silty, carbonaceous  
 142'-150' Clay, greenish gray, with very fine sand and silt, slightly micaceous, with a trace of lignite  
 T. D.: 150'

**\*Drill Hole No. 537.** Elevation 330'  
 Location: SE¼, Sec. 30, T. 7 S., R. 14 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-35' Sand, light brown, very fine, silty, slightly micaceous  
 35'-55' Clay, light brown, with very fine sand and silt, slightly micaceous  
 55'-70' Clay, gray brown, with very

fine sand, slightly micaceous  
 70'-75' Clay and sand, gray, very fine, slightly micaceous  
 75'-92' Clay, gray-green, with very fine sand and silt, slightly micaceous with a trace of dark chocolate brown clay  
 92'-107' Sand, gray, very fine, slightly micaceous  
 107'-108' Lignite, black, soft  
 108'-135' Clay, chocolate brown, silty, with a trace of lignite  
 135'-143' Sand, gray-brown, very fine, slightly micaceous  
 143'-150' Clay, gray-brown, with very fine sand, slightly micaceous  
 T. D.: 150'

**\*Drill Hole No. 538.** Elevation 345'  
 Location: NE¼, Sec. 36, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: G. L. Delavan 8/78.

0'-5' Sand, light reddish brown, very fine, silty, slightly micaceous  
 5'-55' Clay and sand, buff, very fine, with small pea gravel  
 55'-96' Clay and sand, gray-brown, very fine, with small pea gravel, slightly micaceous and silty  
 96'-101' Sand, light brown, very fine  
 101'-130' Clay and sand, gray-brown, very fine, with a trace of lignite  
 T. D.: 130'

**Drill Hole No. 539.** Elevation 380'  
 Location: NW¼, Sec. 35, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0'-12' Clay, buff, slightly silty and micaceous  
 12'-45' Sand, light gray, fine, slightly carbonaceous  
 45'-103' Clay, gray, with fine sand and silt, slightly carbonaceous with a trace of siderite  
 103'-150' Clay, gray, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 540.** Elevation 430'  
 Location: NW¼, Sec. 34, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0'-25' Clay, light buff, slightly silty and micaceous  
 25'-46' Sand, very fine, silty  
 46'-78' Clay, gray-brown, with very fine sand and silt, slightly micaceous with a trace of siderite  
 78'-93' Clay, buff, with very fine sand and silt, slightly micaceous  
 93'-150' Sand, buff, very fine, silty, slightly carbonaceous  
 T. D.: 150'

**Drill Hole No. 541.** Elevation 470'  
 Location: SE¼, Sec. 33, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0'-35' Pea gravel  
 35'-43' Clay, purple-red, with very fine sand and silt

ARKANSAS LIGNITE INVESTIGATIONS

43'-82' Sand, light orange brown, fine  
 82'-103' Silt, light brown  
 103'-105' Clay, chocolate brown, with  
 very fine sand and silt, and a  
 trace of lignite  
 105'-108' Clay, light brown, with very  
 fine sand and silt, and a trace  
 of lignite  
 108'-123' Clay, greenish gray, with very  
 fine sand and silt, and approxi-  
 mately 6" of black, hard lignite  
 123'-126' Silt, light brown, with a trace  
 of siderite  
 126'-137' Clay and silt, greenish gray,  
 micaceous, with a trace of  
 lignite  
 137'-155' Clay, gray, with very fine  
 sand and silt, slightly mica-  
 ceous  
 155'-170' Clay, gray brown, with very  
 fine sand and silt, slightly  
 micaceous  
 T. D.: 170'

**Drill Hole No. 542.** Elevation 460'  
 Location: NW¼, Sec. 3, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 18' Gravel and sand, large pebble  
 to large pea  
 T. D.: 18'

**\* Drill Hole No. 543.** Elevation 345'  
 Location: SW¼, Sec. 10, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 7' Clay, gray brown, with very  
 fine sand and silt  
 7' 19' Sand, very fine, silty  
 19' 24' Lignite, black, hard  
 24' 26' Clay, chocolate brown  
 26' 30' Lignite, black, hard  
 30' 32' Clay, chocolate brown, lignitic  
 32' 42' Clay, gray brown  
 42' 48' Sand  
 48' 60' Clay, buff to light brown,  
 with very fine sand and silt

Core Interval 20' 26' 6"

Recovered: Lost:  
 37" 41"

20' 20' 2" clay, buff  
 20' 2" 21' 2" lignite, soft  
 21' 2" 22' 1" clay, chocolate  
 brown, lignitic  
 22' 1" 23' 1" lignite, black,  
 hard  
 23' 1" 26' 6" not recovered

Core Interval 26' 6" 30'

Recovered: Lost:  
 42" 0"

26' 6" 27' 4" clay, chocolate  
 brown  
 27' 4" 29' 11" lignite, black,  
 hard  
 29' 11" 30' clay, lignitic

T. D.: 60'

**Drill Hole No. 544.** Elevation 285'  
 Location: NE¼, Sec. 21, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 15' Sand and clay, light gray,  
 very fine, silty, slightly mica-  
 ceous  
 15' 23' Clay, gray, with a trace of  
 interbedded chocolate brown  
 clay  
 23' 26' Clay, light gray  
 26' 58' Sand and silt, light gray, very  
 fine, with a trace of lignite  
 and siderite  
 T. D.: 58'

**Drill Hole No. 545.** Elevation 270'  
 Location: SE¼, Sec. 27, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 20' Sand and clay, buff gray, very  
 fine, silty  
 20' 63' Clay, gray brown, with very  
 fine sand and silt, slightly  
 micaceous  
 63' 150' Sand, very fine, silty, with  
 a trace of lignite  
 T. D.: 150'

**Drill Hole No. 546.** Elevation 265'  
 Location: SW¼, Sec. 34, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 10' Clay, buff to brown, with  
 very fine sand and silt  
 10' 15' Clay, buff, with very fine  
 sand and silt  
 15' 20' Clay, gray, with small pea  
 gravel and very fine sand  
 20' 149' Sand, light brown, very fine,  
 with a trace of lignite  
 149' 150' Clay, gray, with very fine  
 sand and silt  
 T. D.: 150'

**Drill Hole No. 547.** Elevation 280'  
 Location: SE¼, Sec. 3, T. 9 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 25' Sand, reddish brown, very  
 fine, slightly micaceous  
 25' 26' Clay, light buff, with very  
 fine sand and silt, slightly  
 micaceous  
 26' 80' Sand, light gray, very fine,  
 slightly micaceous, slightly car-  
 bonaceous  
 80' 144' Sand, light gray, very fine,  
 slightly micaceous, with light  
 buff clay partings  
 144' 144' 10" Lignite, black, hard  
 144' 10" 155' Sand, light gray, very fine,  
 slightly micaceous  
 Lignite, black, hard  
 155' 156' Sand, light gray, very fine,  
 slightly silty  
 156' 165' Sand, light gray, very fine,  
 slightly silty  
 165' 177' Clay and sand, gray brown,  
 very fine, and a trace of lignite  
 Silt, with very fine sand, and  
 a trace of lignite  
 177' 180' T. D.: 180'

**Drill Hole No. 548.** Elevation 310'  
 Location: SW¼, Sec. 11, T. 9 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 5' Clay, mottled buff to light  
 red, with very fine sand  
 and silt  
 5' 17' Sand, light gray, fine to very  
 fine, slightly micaceous, with  
 iron concretions  
 17' 23' Clay, buff to yellow, iron  
 stained  
 23' 29' Clay, light gray  
 29' 32' Sand, light gray, very fine  
 32' 59' Clay, gray  
 59' 60' Clay, light buff, with very  
 fine sand and silt  
 60' 65' Sand, light gray, very fine  
 65' 68' Clay, gray, with very fine  
 sand and silt  
 68' 74' Sand, light gray, very fine,  
 slightly micaceous  
 74' 120' Clay, dark gray, with very  
 fine sand and a trace of lignite  
 120' 144' Clay, chocolate brown, slightly  
 micaceous  
 144' 150' Clay, light greenish-brown, with  
 a trace of glauconite  
 T. D.: 150'

**Drill Hole No. 549.** Elevation 348'  
 Location: SW¼, Sec. 13, T. 9 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 8/78.

0' 4' Clay, mottled red to gray  
 4' 8' Pea gravel, large  
 8' 15' Clay, buff to light brown  
 15' 35' Clay, dark buff, with very  
 fine sand, slightly micaceous  
 35' 44' Clay, light gray, with very fine  
 sand and silt, slightly micaceous  
 44' 47' Sand, light gray, very fine,  
 slightly micaceous  
 47' 85' Sand and clay, light gray, very  
 fine, slightly micaceous  
 85' 100' Clay, light gray, with very fine  
 sand, slightly micaceous  
 100' 150' Clay, dark greenish-gray, with  
 very fine sand, slightly mica-  
 ceous and a trace of siderite  
 T. D.: 150'

**\* Drill Hole No. 550.** Elevation 340'  
 Location: SW¼, Sec. 24, T. 9 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 6' Clay, gray-brown, with very  
 fine sand and silt, slightly  
 micaceous  
 6' 26' Clay, buff to light brown,  
 with very fine sand and silt,  
 slightly micaceous and a trace  
 of lignite  
 26' 30' Clay, dark brown, with very  
 fine sand and silt, slightly  
 micaceous  
 30' 63' Clay, greenish-gray, with very  
 fine sand and silt, slightly  
 micaceous  
 63' 66' Sand, light gray, very fine  
 66' 86' Clay, gray-brown, with very  
 fine sand, micaceous  
 86' 115' Sand, light gray, very fine  
 115' 127' Clay and silt, greenish-gray,  
 slightly micaceous and a trace  
 of lignite

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

127'-128' Sand, light gray, very fine  
 128'-139' Clay and silt, greenish gray, with very fine sand, micaceous, with a trace of lignite  
 139'-150' Clay, light greenish gray, with very fine sand, slightly micaceous and a trace of lignite  
 T. D.: 150'

\* Drill Hole No. 551. Elevation 360'  
 Location: NW¼, Sec. 30, T. 9 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78

0' 6' Clay, mottled, sandy, fine to very fine  
 6' 8' Gravel, small to large pea  
 8' 12' Clay, mottled light gray, with fine to very fine sand  
 12' 40' Sand, salt and pepper, fine, slightly micaceous with minor limonite and hematite stringers  
 40' 55' Clay, gray, silty  
 55' 64' Clay, light greenish gray, with very fine sand and silt, slightly micaceous  
 64' 125' Clay, dark gray, with very fine sand and silt, slightly micaceous and a trace of lignite  
 125' 150' Sand, very fine, with a trace of lignite  
 T. D.: 150'

Drill Hole No. 552. Elevation 350'  
 Location: NW¼, Sec. 32, T. 9 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 5' Clay, mottled, with very fine sand  
 5' 6' Gravel, small to large pea  
 6' 10' Clay, light buff, with very fine sand  
 10' 16' Clay, light brown  
 16' 20' Clay, dark brown, lignitic  
 20' 27' Clay, greenish gray, slightly silty  
 27' 34' Sand, very fine  
 34' 37' Clay, greenish gray  
 T. D.: 37'

Drill Hole No. 553. Elevation 320'  
 Location: SE¼, Sec. 5, T. 10 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 34' Clay and sand, mottled light brown, very fine, slightly micaceous, with a trace of pea gravel  
 34' 115' Clay, dark gray, with light buff clay stringers, slightly silty and a trace of siderite  
 115' 118' Clay, greenish gray, slightly silty and micaceous  
 118' 150' Clay, dark gray, slightly silty and micaceous  
 T. D.: 150'

Drill Hole No. 554. Elevation 330'  
 Location: NE¼, Sec. 9, T. 10 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 14' Clay, light buff to brown, slightly silty and micaceous, with minor limonite interbeds  
 14' 18' Clay, chocolate brown, with very fine sand and silt, slightly micaceous, with a trace of

lignite  
 18' 20' Clay, light chocolate brown, with very fine sand and silt, slightly micaceous  
 20' 29' Clay, dark gray, with very fine sand and silt, micaceous  
 29' 39' Clay, light green, with very fine sand and silt, slightly micaceous  
 39' 43' Clay, light gray, slightly silty  
 43' 47' Clay, very light green, slightly silty  
 47' 54' Clay, light gray  
 54' 56' Clay, chocolate brown, with a trace of lignite  
 56' 64' Clay, light greenish gray  
 64' 67' Clay, dark greenish gray, with very fine sand and silt, micaceous  
 67' 150' Clay, dark gray, with very fine sand and silt, micaceous, with a trace of lignite throughout  
 T. D.: 150'

Drill Hole No. 555. Elevation 310'  
 Location: SE¼, Sec. 10, T. 10 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 3' Sand and clay, mottled  
 3' 4' Gravel, small to large pea  
 4' 8' Clay, light brown, with very fine sand and silt, micaceous  
 8' 10' Clay, dark gray-brown, with very fine sand and silt, micaceous  
 10' 29' Clay and sand, dark gray, very fine, micaceous  
 29' 36' Clay, dark gray, with very fine sand and silt, micaceous  
 36' 77' Sand, greenish gray, very fine, micaceous, with a trace of lignite  
 77' 87' Clay, light buff to dark green, with very fine sand, micaceous and a trace of lignite  
 87' 150' Clay, dark gray brown, with very fine sand and silt, slightly micaceous  
 T. D.: 150'

Drill Hole No. 556. Elevation 345'  
 Location: SE¼, Sec. 14, T. 10 S., R. 14 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 5' Clay, dark buff, with very fine sand, slightly silty  
 5' 15' Clay, dark buff, with very fine sand and silt  
 15' 20' Clay, medium gray  
 20' 25' Clay, dark gray brown  
 25' 40' Clay, light greenish gray, with very fine sand and silt  
 40' 46' Clay, dark gray  
 46' 48' Clay, dark chocolate brown, lignitic  
 48' 80' Clay, medium greenish gray, slightly silty  
 80' 96' Clay, gray, with a trace of very fine sand and silt  
 96' 98' Clay, dark chocolate brown, lignitic with a trace of lignite  
 98' 110' Clay, gray brown, slightly silty  
 110' 125' Clay, light greenish gray  
 125' 128' Clay, dark gray brown, slightly carbonaceous  
 128' 129' Clay, light chocolate brown, lignitic, with a trace of lignite

129'-136' Silt, light brown  
 136'-140' Clay, light gray-brown, with a trace of very fine sand and silt  
 140'-148' Clay, light greenish-gray, with a trace of very fine sand and silt  
 148'-150' Clay, light chocolate brown, lignitic  
 150'-156' Silt, light brown  
 156'-160' Clay, medium greenish-gray, with a trace of very fine sand and silt  
 T. D.: 160'

Drill Hole No. 557. Elevation 300'  
 Location: SW¼, Sec. 18, T. 10 S., R. 13 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 15' Sand, fine to very fine, micaceous, with a trace of limonite  
 15' 25' Clay and sand, light buff, very fine, micaceous  
 25' 80' Clay and sand, dark gray, very fine, micaceous  
 80' 115' Clay and sand, dark greenish-gray, very fine, micaceous  
 115'-130' Clay, dark gray, silty, micaceous, with very fine sand  
 130' 146' Clay, light gray-brown, silty, slightly micaceous, with a trace of lignite  
 146' 150' Clay, gray, slightly silty  
 T. D.: 150'

Drill Hole No. 558. Elevation 245'  
 Location: SE¼, Sec. 17, T. 10 S., R. 13 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 25' Sand, white, medium to fine  
 25' 28' Clay, orange, with very fine sand and silt, slightly micaceous  
 28' 30' Clay, dark gray, with very fine sand and silt  
 30' 32' Clay, dark gray-brown  
 32' 34' Clay, chocolate brown, lignitic with a trace of lignite  
 34' 37' Clay, light green, with very fine sand and silt, slightly micaceous  
 37' 70' Silt, light buff to light brown, with very fine sand and a trace of lignite  
 70' 92' Clay, light green, with a trace of very fine sand and silt  
 92' 93' Clay, chocolate brown, lignitic  
 93' 107' Clay, light greenish-gray  
 107' 120' Clay, light brown, with a trace of very fine sand and silt, slightly micaceous  
 120' 123' Clay, light green, with very fine sand and silt, slightly micaceous  
 123' 130' Clay, chocolate brown, lignitic with a trace of lignite  
 130' 150' Silt, light brown, with a trace of very fine sand  
 T. D.: 150'

Drill Hole No. 559. Elevation 300'  
 Location: SE¼, Sec. 21, T. 10 S., R. 13 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 17' Clay, mottled light buff

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

17'- 19' Clay, dark gray, slightly silty  
 19'- 20' Clay, chocolate brown, slightly silty  
 20'- 21' Lignite, with dark chocolate brown lignitic clay  
 21'- 28' Clay, light chocolate brown  
 28'- 32' Clay, light greenish gray, slightly silty and micaceous  
 32'- 38' Clay, dark buff, with very fine sand and silt, slightly micaceous  
 38'- 42' Sand, brown, fine to very fine, micaceous  
 42'- 43' Clay, gray brown, with very fine sand and silt, micaceous  
 43'- 44' Lignite, with dark brown lignitic clay  
 44'- 58' Clay and sand, light greenish gray, fine to very fine, micaceous  
 58'- 64' Clay, light brown  
 64'- 69' Clay, dark gray, with very fine sand and silt, slightly micaceous  
 69'- 72' Clay, brown, slightly silty  
 72'- 96' Clay, light greenish gray, with very fine sand and silt  
 96'- 97' Clay, brown, with a trace of very fine sand and silt  
 97'- 124' Clay, gray, with very fine sand and silt  
 124'- 128' Clay, light buff to gray, slightly silty  
 128'- 138' Clay, medium gray, with very fine sand and silt, micaceous  
 138'- 160' Clay, greenish gray, with very fine sand and silt, micaceous  
 T. D.: 160'

**Drill Hole No. 560.** Elevation 260'  
 Location: SW¼, Sec. 18, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 5' Gravel, small pea to small pebble  
 5' 6' Clay, limonite stained, slightly micaceous  
 6' 12' Clay, dark buff, slightly silty  
 12' 44' Clay, dark chocolate brown, slightly silty and micaceous, with 3" of siderite  
 44' 50' Clay and sand, dark gray brown, very fine to fine, micaceous with a trace of glauconite  
 50' 55' Clay, dark chocolate brown, with a trace of lignite  
 55' 75' Clay, dark gray brown, silty, micaceous  
 T. D.: 75'

**Drill Hole No. 561.** Elevation 330'  
 Location: SW¼, Sec. 17, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 5' Clay, dark orange red, with very fine sand and silt  
 5' 6' Clay, bright orange, limonite stained  
 6' 18' Clay, white, with very fine sand and silt, slightly micaceous  
 18' 26' Clay, dark chocolate brown, with very fine sand and silt, micaceous  
 26' 33' Clay, light gray brown, with very fine sand and silt, micaceous  
 33' 103' Clay, dark chocolate brown, with very fine sand and silt,

micaceous and a trace of lignite  
 103' 110' Silt, dark chocolate brown  
 110' 130' Clay, dark chocolate brown, with very fine sand and silt, micaceous  
 130' 145' Silt, dark chocolate brown  
 145' 150' Sand and clay, dark gray-brown, very fine, micaceous  
 T. D.: 150'

**Drill Hole No. 562.** Elevation 300'  
 Location: NE¼, Sec. 16, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 3' Gravel, small pea  
 3' 20' Sand and clay, reddish-orange, very fine, silty  
 20' 30' Clay, brown, with very fine sand and silt, micaceous, with a trace of siderite  
 30' 60' Clay, dark gray to very light green, with very fine sand and silt, micaceous  
 60' 90' Clay, dark brown, with very fine sand and silt, micaceous  
 90' 100' Clay, dark gray brown, with very fine sand and silt, slightly micaceous  
 100' 128' Clay, dark brown, with very fine sand and silt, micaceous and a trace of lignite  
 128' 140' Silt, dark brown, highly micaceous  
 140' 150' Clay, dark brown, with very fine sand and interbedded silt, micaceous  
 T. D.: 150'

**Drill Hole No. 563.** Elevation 285'  
 Location: NW¼, Sec. 23, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 38' Sand, reddish orange, with buff white clay stringers, fine to very fine  
 38' 58' Sand and silt, light orange brown  
 58' 93' Sand and silt, light buff white, very fine, with 3" of siderite  
 93' 108' Sand and silt, dark gray, fine to very fine, micaceous, with 3" of siderite  
 108' 150' Clay and sand, dark greenish gray, very fine, highly micaceous and a trace of siderite  
 T. D.: 150'

**Drill Hole No. 564.** Elevation 195'  
 Location: NE¼, Sec. 24, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 4' Clay, light orange brown, with very fine sand and silt, slightly micaceous  
 4' 20' Gravel and sand, small pea  
 T. D.: 20'

**Drill Hole No. 565.** Elevation 265'  
 Location: SE¼, Sec. 24, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 45' Sand, red, very fine, with clay binder  
 45' 122' Sand and clay, gray to buff,

fine to very fine, with a trace of lignite  
 122' 155' Clay, dark brown, with very fine sand and silt, slightly micaceous and a trace of lignite  
 155' 162' Silt and sand, light brown, very fine  
 162' 164'6" Clay and silt, dark gray, with very fine sand and a trace of siderite  
 T. D.: 164'6"

**Drill Hole No. 566.** Elevation 300'  
 Location: SE¼, Sec. 19, T. 8 S., R. 16 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 25' Sand and clay, light buff to light orange-brown, very fine  
 25' 45' Clay, gray, with very fine sand and silt, slightly micaceous  
 45' 60' Clay, dark gray, with very fine sand and silt, slightly micaceous, with a trace of lignite  
 60' 75' Sand and silt, light gray, very fine, slightly micaceous  
 75' 154' Sand, light gray, very fine, slightly carbonaceous  
 154' 156' Clay, light chocolate brown, lignitic  
 156' 158' Lignite, black, soft  
 158' 161' Siderite  
 161' 170' Silt, gray-brown, with a trace of lignite  
 T. D.: 170'

**Drill Hole No. 567.** Elevation 310'  
 Location: SE¼, Sec. 29, T. 8 S., R. 16 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 10' Sand, light red, very fine, slightly micaceous  
 10' 20' Clay, gray mottled reddish  
 20' 50' Sand, white, fine to very fine  
 50' 65' Clay, dark gray-brown, with very fine sand and silt, slightly micaceous  
 65' 65'6" Lignite, black, hard  
 65'6" 80' Silt, brown, with a trace of lignite  
 80' 100' Clay, gray-brown, with very fine sand and silt, slightly micaceous with 3" of siderite  
 100' 150' Silt, gray-brown, with very fine sand  
 T. D.: 150'

**Drill Hole No. 568.** Elevation 243'  
 Location: NW¼, Sec. 33, T. 8 S., R. 16 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.

0' 7' Sand, red, fine to very fine  
 7' 10' Clay, buff to dark gray, silty, with very fine sand, slightly micaceous  
 10' 20' Sand and clay, dark brown, very fine, with a trace of lignite  
 20' 28' Clay and sand, light chocolate brown, very fine, with a trace of lignite  
 28' 43' Clay, light gray-brown, silty, slightly micaceous  
 43' 74' Sand, white, very fine  
 74' 80' Silt, gray, with very fine sand, slightly micaceous  
 80' 110' Sand, white, very fine, silty, with a trace of lignite  
 110' 111' Lignite, black, hard

## ARKANSAS LIGNITE INVESTIGATIONS

- 111'-135' Silt and very fine sand, gray brown, with a trace of lignite  
 135'-147' Silt, light gray, with a trace of lignite  
 T. D.: 147'
- \* Drill Hole No. 569.** Elevation 270'  
 Location: SE¼, Sec. 27, T. 8 S., R. 16 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.
- 0' 4' Sand and clay, red, very fine, silty  
 4' 6' Gravel, small pea  
 6' 7' Clay, light buff, with very fine sand and silt, slightly micaceous  
 7' 25' Sand, white, very fine  
 25' 50' Clay, white to buff, with very fine sand, slightly silty  
 50' 65' Silt and sand, with a trace of lignite  
 65' 85' Clay and sand, dark gray, very fine, silty, with a trace of lignite  
 85' 98' Clay, chocolate brown, lignitic, with very fine sand and silt, slightly micaceous, with a trace of lignite  
 98' 100' Clay, dark gray, with very fine sand and silt, slightly micaceous  
 100' 128' Sand and silt, light brown, very fine, with a trace of lignite and lignitic clay  
 128' 145' Silt and sand, light brown, very fine, with a trace of lignite  
 145' 160' Sand, white, with a trace of lignite  
 T. D.: 160'
- \* Drill Hole No. 570.** Elevation 295'  
 Location: NW¼, Sec. 36, T. 8 S., R. 16 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.
- 0' 5' Clay and sand, mottled red, very fine  
 5' 20' Clay, buff to gray,  
 20' 27' Clay, gray brown  
 27' 39' Clay, dark greenish gray  
 39' 45' Clay, dark greenish gray, with interbedded, thin chocolate brown clay  
 45' 55' Clay, light greenish gray  
 55' 60' Clay, light greenish gray, with thin interbedded, very fine sand  
 60' 80' Sand, white, very fine  
 80' 115' Sand, light buff mottled red, very fine, with thin buff clay interbeds  
 115' 148' Sand, and silt, light gray brown, very fine, with a trace of lignite and siderite  
 T. D.: 148'
- Drill Hole No. 571.** Elevation 265'  
 Location: NW¼, Sec. 32, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78
- 0' 6' Sand, gray, very fine, slightly micaceous  
 6' 8' Clay and sand, gray, slightly micaceous  
 8' 30' Sand, light gray, very fine  
 30' 55' Sand, light gray, very fine, with thin interbedded yellow, buff, silty clay interbeds  
 55' 136' Sand, light gray, very fine
- 136' 137' silty, with a trace of lignite  
 Lignite, black, soft  
 137' 150' Sand and clay, dark gray, very fine, silty, slightly micaceous with a trace of lignite  
 T. D.: 150'
- Drill Hole No. 572.** Elevation 250'  
 Location: SE¼, Sec. 33, T. 8 S., R. 15 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.
- 0' 8' Gravel, small pea to large pebble  
 8' 80' Sand, white, very fine, with thin buff clay interbeds  
 80' 130' Clay and silt, dark gray, with very fine sand and approximately 10" of black, soft lignite  
 130' 150' Sand, light brown, very fine, silty, with a trace of lignite  
 T. D.: 150'
- Drill Hole No. 573.** Elevation 285'  
 Location: SE¼, Sec. 19, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 9/78.
- 0' 3' Sand and gravel, small to large pebble, with fine to very fine sand  
 3' 10' Clay and sand, light orange, very fine  
 10' 13' Gravel, large pebble  
 13' 18' Clay, buff white, with very fine sand and silt, slightly micaceous  
 18' 95' Clay, brown, with very fine sand and silt, micaceous  
 95' 110' Clay, light greenish gray, with very fine sand and silt, micaceous  
 110' 125' Clay, gray brown, with very fine sand and silt, micaceous  
 125' 145' Clay, brown, with very fine sand and silt, micaceous  
 145' 148' Clay and sand, light greenish gray, very fine, slightly glauconitic, micaceous, with a trace of siderite  
 T. D.: 148'
- Drill Hole No. 574.** Elevation 210'  
 Location: NW¼, Sec. 31, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.
- 0' 23' Sand and clay, light orange, very fine  
 23' 35' Gravel, small pea to small pebble  
 35' 46' Sand, light orange, very fine, slightly micaceous, with approximately 2" of lignite  
 46' 85' Clay, chocolate brown, silty, slightly micaceous  
 T. D.: 85'
- Drill Hole No. 575.** Elevation 205'  
 Location: NE¼, Sec. 6, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.
- 0' 5' Clay and sand, buff light brown, very fine, slightly micaceous  
 5' 18' Gravel, large pebble to small pea
- 18' 30' Clay, chocolate brown, with very fine sand and silt, slightly micaceous  
 30' 40' Silt, dark brown  
 40' 50' Clay and silt, dark brown, with very fine sand, micaceous  
 50' 75' Clay, dark chocolate brown, with very fine sand and silt, micaceous, and a trace of lignitic clay  
 75' 85' Clay and silt, chocolate brown, micaceous  
 85' 115' Clay, gray-brown, silty, micaceous  
 115' 135' Silt, chocolate brown, micaceous, with a trace of lignite  
 135' 160' Silt and sand, light gray-brown, very fine, micaceous, with a trace of siderite  
 T. D.: 160'
- Drill Hole No. 576.** Elevation 185'  
 Location: SE¼, Sec. 7, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.
- 0' 3' Sand and clay, reddish orange, very fine  
 3' 30' Gravel, small pea to large pebble  
 30' 57' Clay, chocolate brown, micaceous  
 57' 70' Silt and sand, dark chocolate brown, very fine, micaceous and a trace of lignite  
 70' 71' Lignite, black, hard  
 71' 95' Clay and sand, dark chocolate brown, very fine, micaceous  
 95' 98' Clay, dark gray, with very fine sand and silt, micaceous  
 98' 117' Silt, dark chocolate brown, with very fine sand, micaceous, and a trace of lignite  
 117' 123' Clay, dark gray-brown, with very fine sand and silt, micaceous  
 123' 150' Silt, dark brown, with very fine sand, micaceous, and a trace of lignite  
 T. D.: 150'
- Drill Hole No. 577.** Elevation 160'  
 Location: NW¼, Sec. 20, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.
- 0' 26' Sand and clay, light orange, very fine  
 26' 40' Gravel, small pea to large pebble  
 40' 58' Clay, chocolate brown, silty, micaceous, with 5" of siderite  
 58' 97' Silt, chocolate brown, with very fine sand, micaceous, and a trace of lignite  
 97' 140' Silt and sand, chocolate brown, very fine, with a trace of lignite  
 140' 150' Silt, chocolate brown, and approximately 1' to 2' of lignite  
 T. D.: 150'
- Drill Hole No. 578.** Elevation 160'  
 Location: NE¼, Sec. 29, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.
- 0' 2' Sand and clay, light orange, very fine  
 2' 20' Clay and sand, buff gray, very fine, slightly micaceous

ARKANSAS LIGNITE INVESTIGATIONS

20'-26' Gravel, small pea to large pebble  
 26'-40' Clay, gray brown, with very fine sand and silt, micaceous  
 40'-150' Sand and silt, brown, very fine, with a trace of pea gravel and lignite  
 T. D.: 150'

**Drill Hole No. 579.** Elevation 280'  
 Location: SW¼, Sec. 33, T. 8 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-1' Soil, dark humus  
 1'-5' Sand and gravel, small pea, dark red, very fine to fine  
 5'-8' Gravel, small pea to small pebble, with 4" of siderite  
 8'-20' Sand, very fine, with limonite and small pea gravel interbeds  
 20'-38' Sand, orange, very fine, carbonaceous, slightly silty  
 38'-48' Clay, buff white, with very fine sand, slightly micaceous and carbonaceous  
 48'-49' Sand, dark reddish black, iron cemented  
 49'-70' Clay, dark brown, with very fine sand and silt, slightly micaceous and a trace of lignite  
 70'-95' Clay and silt, chocolate brown, with very fine sand, micaceous and a trace of lignite and 5" of siderite  
 95'-105' Sand, gray brown, with clay binder, silty, micaceous  
 105'-110' Clay, dark brown, with very fine sand, silty, micaceous  
 110'-150' Silt, dark brown, with very fine sand, micaceous, and thin brown clay stringers  
 T. D.: 150'

**Drill Hole No. 580.** Elevation 161'  
 Location: SW¼, Sec. 33, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-5' Clay, dark gray, with very fine sand and silt, slightly micaceous  
 5'-25' Clay, buff gray, with very fine sand, iron stained, micaceous  
 25'-30' Gravel, large pebble to small pea, and coarse sand  
 30'-65' Gravel, very small pea to coarse sand, with 3" of siderite  
 65'-90' Silt, light brown, with small pea gravel  
 T. D.: 90'

**Drill Hole No. 581.** Elevation 156'  
 Location: SW¼, Sec. 4, T. 10 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78

0'-3' Sand, light reddish brown, very fine, slightly silty  
 3'-12' Clay and sand, light reddish orange, very fine  
 12'-25' Clay and sand, buff white, very fine, slightly micaceous  
 25'-33' Sand, fine to very fine, iron stained  
 33'-35' Gravel, large pebble  
 35'-40' Gravel, small pea, with coarse sand  
 40'-42' Sand, light brown, very fine

42'-46' to fine, with clay binder  
 Sand, dark brown, very fine to fine, with clay binder  
 46'-62' Clay, dark gray brown, with very fine sand and silt, micaceous  
 62'-70' Silt and sand, dark brown, very fine, slightly micaceous  
 70'-75' Clay and silt, dark gray, with very fine sand, slightly micaceous  
 75'-115' Clay, dark brown, with very fine sand, slightly silty, micaceous and a trace of lignite  
 115'-135' Sand, with dark greenish-gray clay binder, very fine, slightly glauconitic and micaceous  
 135'-150' Clay, light to dark brown, with a trace of very fine sand, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 582.** Elevation 150'  
 Location: SE¼, Sec. 9, T. 10 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-47' Gravel, large pebble, with fine to medium sand, iron stained  
 47'-62' Clay, dark brown, finely micaceous  
 62'-75' Clay, dark gray brown, finely micaceous, with a trace of glauconite  
 75'-82' Clay, dark gray brown, with very fine sand and silt, finely micaceous  
 82'-89' Clay, light gray, finely micaceous  
 89'-96' Sand, dark gray, very fine to fine, slightly micaceous  
 96'-150' Clay, brown, slightly silty, coarsely micaceous with thin very fine sand stringers  
 T. D.: 150'

**Drill Hole No. 583.** Elevation 160'  
 Location: SE¼, Sec. 22, T. 10 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-6' Clay, light orange, finely micaceous  
 6'-10' Clay, red, with very fine sand, slightly micaceous  
 10'-13' Clay, light orange, with very fine sand, slightly micaceous  
 13'-38' Sand, light orange, fine to very fine, slightly micaceous  
 38'-40' Sand and gravel, light brown, medium to coarse, small pea  
 40'-50' Gravel, small pea, with medium to fine sand, iron stained  
 50'-80' Clay, dark gray brown, finely micaceous, with very fine sand and silt, and 3" of siderite  
 80'-95' Clay, dark gray, finely micaceous, with a trace of glauconite  
 95'-108' Clay, light brown, with very fine sand and silt, finely micaceous  
 108'-115' Sand, dark gray, very fine, coarsely micaceous  
 115'-140' Clay, dark gray brown, with very fine sand and silt, finely micaceous  
 140'-150' Sand and clay, dark greenish gray, very fine, finely micaceous and a trace of glauconite  
 T. D.: 150'

**Drill Hole No. 584.** Elevation 142'  
 Location: SE¼, Sec. 27, T. 10 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-9' Clay, buff-white, with very fine sand and silt, iron stained  
 9'-11' Clay and sand, red, very fine, silty  
 11'-25' Sand, with small pea gravel  
 25'-37' Gravel, small to large pebble  
 37'-75' Clay, dark gray-brown, with very fine sand and silt, finely micaceous, slightly carbonaceous, with 7" of siderite  
 T. D.: 75'

**Drill Hole No. 585.** Elevation 125'  
 Location: NE¼, Sec. 3, T. 11 S., R. 17 W.  
 County: Ouachita  
 Logged by: T. Y. Suen 10/78.

0'-3' Sand, white, very fine, slightly micaceous  
 3'-7' Sand, with light brown clay binder, slightly micaceous  
 7'-10' Sand, white, fine, slightly micaceous  
 10'-17' Sand, light yellow, iron stained, fine, slightly micaceous  
 17'-25' Sand and gravel, fine, small pea to large pebble  
 25'-40' Sand, medium to fine, iron stained  
 40'-46' Sand, dark gray, fine, slightly micaceous  
 46'-64' Clay, dark gray, slightly micaceous  
 64'-73' Clay, light gray, slightly silty and micaceous, with a trace of glauconite  
 73'-78' Sand, with gray clay interbeds, fine, slightly micaceous, with 2" of siderite  
 78'-100' Clay, brown, finely micaceous, slightly silty  
 100'-125' Clay, gray-brown, finely micaceous, with very fine sand and silt, and coarse sand stringers  
 125'-150' Silt, dark gray, with medium sand, micaceous  
 T. D.: 150'

**Drill Hole No. 586.** Elevation 192'  
 Location: SW¼, Sec. 26, T. 9 S., R. 17 W.  
 County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'-2' Sand, dark gray, very fine, slightly micaceous  
 2'-17' Sand, light orange, very fine with clay binder, slightly micaceous  
 17'-55' Gravel, large pebble, with very fine sand  
 55'-90' Clay, dark gray-brown, with very fine sand and silt, finely micaceous, with a trace of glauconite and 5" of siderite  
 90'-102' Sand, dark gray-brown, with clay binder, very fine, glauconitic  
 102'-120' Clay, dark brown, with very fine sand and silt, finely micaceous, glauconitic, with 2" of siderite  
 120'-122' Sand, light greenish-gray, fine, glauconitic, slightly micaceous  
 122'-135' Clay and sand, dark greenish-gray, very fine, slightly micaceous, with a trace of glauconite  
 T. D.: 135'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 587.** Elevation 250'  
Location: SW¼, Sec. 36, T. 9 S., R. 17 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 1' Soil, black, loam
  - 1' 6' Sand, very fine, with red clay binder, slightly micaceous
  - 6' 10' Gravel, large pebble
  - 10' 20' Clay, red, with thin inter bedded white clay seams, slightly micaceous
  - 20' 25' Sand, light orange, with clay binder, very fine, slightly micaceous
  - 25' 30' Sand, gray, with silt binder, very fine, finely micaceous
  - 30' 70' Clay, gray, silty, with a trace of lignite and siderite
  - 70' 77' Clay, buff white, slightly silty, with a trace of lignite
  - 77' 95' Sand, gray, fine to very fine, slightly micaceous, with a trace of lignite
  - 95' 97' Clay gray, slightly micaceous
  - 97' 103' Lignite, black, hard
  - 103' 110' Sand, gray, very fine, finely micaceous
  - 110' 118' Clay, gray, with very fine sand and silt, finely micaceous
  - 118' 121' Lignite, black, soft
  - 121' 122' Clay, buff gray, with very fine sand and silt, slightly micaceous
  - 122' 124' Lignite, black, soft
  - 124' 130' Clay, dark brown, lignitic
  - 130' 137' Clay, lignitic, with approximately 2" of lignite
  - 137' 140' Clay, light buff brown, with very fine sand and silt, slightly micaceous
  - 140' 167' Sand, very fine, with white clay binder, slightly micaceous
  - 167' 170' Clay, dark gray brown, with very fine sand
- |               |      |      |
|---------------|------|------|
| Core Interval | 97'  | 107' |
| Recovered:    | Lost |      |
|               | 30"  | 90"  |
- 97' 98' lignite, black, hard  
98' 98' 7" lignite, black, soft  
98' 7" 99' 6" clay, lignitic  
99' 6" 107' not recovered

Note: Driller's log indicated 7' of lignite penetrated

T. D.: 170'

**Drill Hole No. 588.** Elevation 270'  
Location: SW¼, Sec. 5, T. 10 S., R. 16 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 50' Gravel and sand, small pebble, fine to very fine, iron stained
- 50' 60' Clay, white, with very fine sand and silt, and a trace of lignite

- 60' 72' Clay, dark gray brown, with very fine sand and silt, finely micaceous, and a trace of lignite
- 72' 85' Silt, with dark gray clay stringers, very fine sand, finely micaceous, with a trace of lignite
- 85' 90' Clay, light greenish gray, with very fine sand and silt, slightly micaceous, and a trace of lignite
- 90' 114' Sand, very fine, finely micaceous, silty, and a trace of lignite
- 114' 120' Clay, dark gray, with very fine sand and silt, slightly micaceous and 2" of siderite
- 120' 125' Sand, dark gray, very fine, silty, slightly micaceous
- 125' 138' Silt and sand, dark gray, finely micaceous, with a trace of lignite and lignitic clay
- 138' 150' Sand and silt, gray, very fine, slightly micaceous  
T. D.: 150'

**Drill Hole No. 589.** Elevation 300'  
Location: NE¼, Sec. 22, T. 10 S., R. 16 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 6' Gravel, small pea to large pebble, with thin, red sandy clay interbeds
- 6' 16' Clay and silt, red, with very fine sand
- 16' 17' Gravel, small pea to small pebble, iron stained
- 17' 19' Sand, light red, very fine to fine
- 19' 22' Clay, light red, with very fine sand
- 22' 23' Gravel, small pebble
- 23' 35' Clay, light red, very fine sand, slightly micaceous
- 35' 50' Gravel, small pea
- 50' 59' Clay, white buff, with very fine sand and silt
- 59' 90' Clay, gray brown, with very fine sand and silt, slightly micaceous, with a trace of lignite
- 90' 105' Silt, dark gray, with very fine sand, slightly micaceous, with approximately 4" of siderite
- 105' 121' Clay, dark gray, with very fine sand and silt, slightly micaceous
- 121' 135' Sand, dark gray, very fine, silty, slightly micaceous
- 135' 140' Silt and clay, white to buff, slightly micaceous
- 140' 150' Sand and silt, dark gray, slightly micaceous  
T. D.: 150'

**Drill Hole No. 590.** Elevation 196'  
Location: SW¼, Sec. 36, T. 10 S., R. 16 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 7' Sand, with clay binder
- 7' 17' Sand, fine to very fine, with clay binder and small pebble gravel
- 17' 24' Sand and gravel interbedded, dark gray, silty, with 3" of siderite
- 24' 55' Clay, dark gray, with very fine sand and silt, slightly micaceous and 1" of siderite
- 55' 62' Sand, dark gray, with clay binder, slightly micaceous

- 62' 65' Sand, dark brown, with clay binder, very fine, slightly micaceous
- 65' 103' Clay, gray, with very fine sand and silt, slightly micaceous, and a trace of lignite
- 103' 117' Clay, dark chocolate brown, lignitic, with very fine sand and silt, slightly micaceous and a trace of lignite
- 117' 135' Sand, dark tan, very fine to fine, slightly micaceous
- 135' 136' Lignite, black, hard
- 136' 150' Clay and silt, light greenish-gray, slightly micaceous  
T. D.: 150'

**Drill Hole No. 591.** Elevation 270'  
Location: NW¼, Sec. 25, T. 10 S., R. 16 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 4' Sand and gravel, light yellow-orange, fine to very fine, small pebble
- 4' 6' Sand, light red, very fine to fine, with clay binder
- 6' 7' Gravel, small pebble
- 7' 13' Sand, light red, very fine, with clay binder
- 13' 15' Sand, white-orange, fine
- 15' 18' Gravel, small pebble
- 18' 22' Sand, light red, fine, with clay binder
- 22' 25' Clay, light orange, with very fine sand
- 25' 28' Sand, light yellow, fine
- 28' 30' Clay, light red, with very fine sand
- 30' 50' Sand, light yellow, fine to very fine, with clay binder
- 50' 56' Gravel, large pebble, with thin sand interbeds  
T. D.: 56'

**Drill Hole No. 592.** Elevation 330'  
Location: NW¼, Sec. 18, T. 10 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 28' Sand, dark to light red, fine to very fine, with clay binder
- 28' 46' Sand, white to light red, fine
- 46' 95' Clay, white, with very fine sand, slightly silty
- 95' 139' Sand, white, salt and pepper, fine to very fine, silty
- 139' 140' Limonite, with very fine sand and a trace of lignite
- 140' 143' Sand, gray, with gray clay binder, very fine, silty, slightly micaceous
- 143' 160' Clay, gray, with very fine sand and silt, slightly micaceous, slightly carbonaceous
- 160' 165' Sand, gray, very fine to fine, with gray clay binder  
T. D.: 165'

**Drill Hole No. 593.** Elevation 243'  
Location: NW¼, Sec. 8, T. 10 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 10/78.

- 0' 2' Sand, light tan, very fine
- 2' 3' Clay, light orange, with very fine sand and silt
- 3' 6' Gravel, small pebble
- 6' 10' Sand, light gray to white, very fine

## ARKANSAS LIGNITE INVESTIGATIONS

10'- 45' Clay, light greenish gray, with very fine sand and silt, slightly micaceous  
 45'- 56' Sand, light greenish gray, with clay binder, slightly micaceous  
 56'- 65' Sand, dark gray, with clay binder, slightly micaceous, and a trace of lignite  
 65'- 80' Sand, light brown, with clay binder, slightly silty and micaceous, with a trace of lignite  
 80'- 94' Silt and sand, light to dark gray, very fine, slightly micaceous, with a trace of lignite  
 94'-102' Clay, dark gray brown, with very fine sand and silt, slightly micaceous  
 102'-110' Sand, dark gray brown, with clay binder, silty, slightly micaceous  
 110'-125' Silt and sand, dark gray, very fine, slightly micaceous, with a trace of lignite  
 T. D.: 125'

**Drill Hole No. 594.** Elevation 218'  
 Location: SW¼, Sec. 33, T. 9 S., R. 15 W. County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'- 20' Clay and sand, white gray, with very fine sand and silt, slightly micaceous  
 20'- 30' Gravel, small pea  
 30'- 56' Sand, light tan, fine to medium, with a trace of pea gravel and lignite  
 56'- 85' Clay, dark gray, with very fine sand and silt, slightly micaceous  
 85'- 113' Sand, very fine, with dark gray clay binder, finely micaceous and a trace of lignite  
 113'-123' Silt, dark gray, with very fine sand, slightly micaceous  
 123'-150' Sand, dark gray, very fine, silty, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 595.** Elevation 310'  
 Location: NW¼, Sec. 27, T. 9 S., R. 15 W. County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'- 15' Sand, red, very fine to fine, slightly silty and micaceous  
 15'- 65' Clay, buff white, with very fine sand and silt, slightly micaceous  
 65'- 70' Sand, with buff white clay binder, very fine, silty, slightly micaceous  
 70'- 80' Sand, white, very fine, slightly salt and pepper, slightly micaceous  
 T. D.: 80'

**Drill Hole No. 596.** Elevation 275'  
 Location: SE¼, Sec. 1b, T. 9 S., R. 15 W. County: Dallas  
 Logged by: T. Y. Suen 10/78.

0'- 20' Sand, light tan, very fine to fine, with a trace of small pebble gravel  
 20'- 35' Sand, light greenish gray, salt and pepper, very fine to fine, with 4" of siderite  
 35'-100' Clay, dark gray brown, with very fine sand and silt, slightly

micaceous  
 100'-106' Sand, dark gray, very fine, salt and pepper, silty, slightly micaceous  
 106'-110' Silt, dark gray, with very fine sand, slightly micaceous  
 110'-112' Sand, dark gray, very fine, salt and pepper, silty, slightly micaceous  
 112'-140' Silt and sand, dark gray, very fine  
 140'-145' Sand, dark gray, very fine, slightly micaceous  
 145'-160' Silt and sand, dark gray, very fine, slightly micaceous, with a trace of lignite  
 T. D.: 160'

**Drill Hole No. 597.** Elevation 260'  
 Location: SE¼, Sec. 33, T. 4 S., R. 13 W. County: Grant  
 Logged by: T. Y. Suen 11/78.

0'- 17' Sand, light reddish brown, very fine to fine, slightly silty, slightly micaceous  
 17'- 65' Clay, dark gray, with very fine sand and silt, slightly micaceous and 2" of siderite  
 65'- 75' Clay, light gray, slightly micaceous, with approximately 6" of lignite  
 75'- 78' Clay, dark brown, with very fine sand and silt, slightly micaceous  
 78'- 90' Clay, light greenish gray, with very fine sand and silt, slightly micaceous  
 90'-120' Clay and sand, light greenish-gray, interbedded very fine, slightly micaceous, with a trace of lignite and glauconite  
 120'-128' Clay, dark brown and light greenish gray interbedded, with a trace of very fine sand and silt, slightly micaceous  
 128'-135' Clay, dark green, with very fine sand and silt, finely micaceous and a trace of glauconite  
 135'-145' Clay, light green, with very fine sand and silt, finely micaceous, with a trace of glauconite  
 T. D.: 145'

**Drill Hole No. 598.** Elevation 285'  
 Location: SW¼, Sec. 29, T. 4 S., R. 13 W. County: Grant  
 Logged by: Dave Lumbert 11/78.

0'- 14' Clay, light gray and red interbedded, with fine sand  
 14'- 20' Clay, medium to dark gray, with very fine sand  
 20'- 35' Clay, gray and brown interbedded, with very fine sand  
 35'- 50' Sand, fine, with gray clay interbeds  
 50'- 70' Sand, very fine, silty  
 T. D.: 70'

**Drill Hole No. 599.** Elevation 265'  
 Location: SE¼, Sec. 19, T. 4 S., R. 13 W. County: Grant  
 Logged by: Dave Lumbert 11/78.

0'- 6' Sand, fine  
 6'- 10' Clay, light gray, with very fine sand

10'- 22' Sand and gravel, coarse, with red clay  
 22'- 30' Clay, gray, with fine to very fine sand and a trace of lignite  
 30'- 40' Clay, light gray, with interbedded fine sand  
 40'- 50' Sand, fine, with gray clay interbeds  
 50'- 70' Sand, very fine, silty  
 70'- 80' Clay, gray, with interbedded very fine sand  
 80'- 90' Clay, gray, with very fine sand and silt, and approximately 6" of lignite  
 90'-100' Silt, with a trace of lignite  
 100'-110' Silt with interbedded lignite and gray clay  
 110'-150' Silt and gray clay  
 T. D.: 150'

**Drill Hole No. 600.** Elevation 250'  
 Location: NE¼, Sec. 24, T. 4 S., R. 14 W. County: Grant  
 Logged by: Dave Lumbert 11/78.

0'- 10' Sand, very fine, with a trace of gray clay  
 10'- 20' Sand, very fine  
 20'- 26' Sand, fine with pea gravel  
 26'- 35' Clay, gray, with very fine sand  
 35'- 40' Sand, fine  
 40'- 50' Clay, gray-brown, with interbedded fine sand  
 50'- 60' Clay, green, with interbedded fine sand  
 60'- 80' Sand, fine  
 T. D.: 80'

**Drill Hole No. 601.** Elevation 300'  
 Location: NE¼, Sec. 14, T. 4 S., R. 14 W. County: Grant  
 Logged by: Dave Lumbert 11/78.

0'- 23' Sand, fine, with red clay  
 23'- 30' Clay, light gray, with chocolate brown clay interbeds, and very fine sand  
 30'- 60' Clay, gray, with very fine sand  
 60'- 70' Clay, gray, with interbedded fine sand  
 70'- 90' Sand, fine  
 90'-100' Sand, lignitic, very fine  
 100'-133' Sand, very fine  
 133'-140' Clay, glauconitic, with very fine sand  
 140'-142' Lignite  
 142'-150' Clay, gray-brown, with interbedded very fine sand  
 T. D.: 150'

**Drill Hole No. 602.** Elevation 331'  
 Location: SE¼, Sec. 2, T. 4 S., R. 14 W. County: Grant  
 Logged by: T. Y. Suen 11/78.

0'- 10' Sand and clay, light buff-gray, very fine, silty  
 10'- 24' Clay, buff  
 24'- 45' Clay, dark gray, slightly glauconitic  
 45'- 59' Clay, dark gray-brown, with very fine sand, coarsely micaceous  
 59'- 60' Clay, dark brown, with a trace of lignite  
 60'- 75' Clay, light green, slightly silty  
 75'- 80' Clay, dark buff

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

80'-83' Sand, very fine  
 83'-97' Clay, dark buff, silty  
 97'-100' Clay, dark brown, lignitic, with a trace of lignite  
 100'-107' Clay, gray, slightly silty  
 107'-110' Clay, dark brown, lignitic, with a trace of lignite  
 110'-130' Clay, dark buff, with very fine sand and silt  
 T. D.: 130'

**Drill Hole No. 603.** Elevation 338'  
 Location: SE ¼, Sec. 34, T. 3 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-5' Clay, light reddish orange, mottled, with very fine sand  
 5'-25' Clay, light gray, with very fine sand, slightly silty  
 T. D.: 25'

**Drill Hole No. 604.** Elevation 340'  
 Location: NW ¼, Sec. 34, T. 3 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-3' Sand and clay, buff red, mottled, very fine  
 3'-23' Clay, dark buff, with limonite stain  
 23'-33' Clay, dark gray, with a trace of dark gray brown clay, slightly silty and micaceous  
 33'-39' Sand, fine to very fine  
 39'-72' Clay, dark gray, with very fine sand and silt, slightly micaceous  
 72'-73' Clay, chocolate brown, slightly silty and micaceous, with a trace of lignite  
 73'-85' Clay, light greenish gray, with very fine sand and silt, slightly micaceous  
 85'-100' Clay, light brown to dark buff, with interbedded light greenish gray clay  
 100'-125' Clay, dark gray, slightly silty and micaceous  
 125'-130' Clay, light brown, with very fine sand, silty, slightly micaceous and a trace of lignite  
 130'-135' Clay, dark chocolate brown  
 135'-140' Clay, chocolate brown, with a trace of lignite  
 140'-150' Clay, light brown, slightly silty and micaceous, with a trace of very fine sand  
 T. D.: 150'

**Drill Hole No. 605.** Elevation 325'  
 Location: SE ¼, Sec. 5, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-8' Sand, light tan to red, mottled, with clay binder, very fine  
 8'-10' Sand, white, very fine  
 10'-15' Sand, white, with clay binder, very fine  
 15'-70' Clay, dark gray, with very fine sand, slightly silty and micaceous, with a trace of glauconitic and siderite  
 70'-120' Silt, dark gray, with very fine sand and 5" of siderite  
 120'-150' Clay, dark gray, with very fine sand and silt, slightly micaceous

and a trace of lignite  
 T. D.: 150'

**Drill Hole No. 606.** Elevation 238'  
 Location: SW ¼, Sec. 6, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-15' Sand, light tan to red, mottled, with clay binder, very fine  
 15'-25' Clay, light tan, with very fine sand and silt, slightly micaceous  
 25'-30' Clay, dark gray-brown, with very fine sand and silt, slightly micaceous  
 30'-85' Clay, dark greenish-gray, with very fine sand and silt, slightly micaceous, slightly carbonaceous, slightly glauconitic  
 85'-90' Clay, light brown, with very fine sand and silt, slightly micaceous, slightly carbonaceous  
 90'-110' Clay, light greenish-gray, with very fine sand and silt, slightly micaceous and slightly carbonaceous  
 110'-135' Sand, fine to very fine, salt and pepper, with 2" of siderite  
 135'-140' Clay and sand, light greenish-gray, fine, slightly micaceous  
 140'-150' Clay, light greenish gray, with very fine sand and silt, slightly micaceous with a trace of lignite  
 T. D.: 150'

**Drill Hole No. 607.** Elevation 275'  
 Location: NE ¼, Sec. 2, T. 5 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-16' Sand, light buff-white, very fine with clay binder, limonite stained  
 16'-20' Clay, light buff, slightly silty and slightly micaceous  
 20'-28' Clay, buff to light brown, with fine sand interbedded  
 28'-30' Clay, dark gray, slightly silty and slightly micaceous  
 30'-36' Clay, chocolate brown, lignitic with a trace of lignite  
 36'-37' Lignite, black, hard  
 37'-55' Clay, light gray brown, slightly silty and micaceous  
 55'-66' Clay, medium gray, with a trace of very fine sand and silt, slightly micaceous  
 66'-100' Sand, light gray, very fine, salt and pepper, with clay binder, slightly glauconitic and slightly micaceous  
 100'-150' Sand, light gray, fine to very fine, slightly micaceous, with a trace of lignite  
 T. D.: 150'

**Drill Hole No. 608.** Elevation 320'  
 Location: NE ¼, Sec. 3, T. 5 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-13' Clay, dark tan, with very fine sand and silt, slightly micaceous  
 13'-15' Clay, chocolate brown, lignitic  
 15'-22' Lignite, black, hard  
 22'-35' Clay, dark tan to medium gray  
 35'-40' Clay, lignitic, with a trace of

lignite  
 40'-50' Sand, medium gray, very fine, finely micaceous, with a trace of lignite  
 50'-60' Sand, medium gray to tan, very fine, salt and pepper, finely micaceous, with clay binder  
 60'-69' Sand, light green, very fine, finely micaceous, with clay binder, slightly glauconitic  
 69'-78' Clay, chocolate brown, lignitic, with a trace of lignite  
 78'-85' Clay, dark gray-brown, with very fine sand and silt, slightly micaceous  
 85'-90' Sand, light gray-brown, very fine, with clay binder  
 90'-105' Clay, light greenish-gray, with very fine sand and silt, slightly micaceous  
 105'-110' Sand, dark greenish-gray, very fine, finely micaceous

Core Interval 15' - 25'  
 Recovered: 69"  
 Lost: 51"

15' - 19'3" not recovered  
 19'3" - 19'9" clay, dark brown, lignitic, with very fine sand, and thin lignite partings  
 19'9" - 21'3" clay, light brown, with very fine sand and a trace of thin lignite partings  
 21'3" - 23'9" lignite, black, soft  
 23'9" - 25' clay, light greenish-gray, with very fine sand and silt, slightly micaceous

Core Interval 14'6" - 23'6"

Recovered: 60"  
 Lost: 48"

14'6" - 18'6" not recovered  
 18'6" - 20'9" clay, light gray-brown, with thin lignite partings  
 20'9" - 21'9" clay, light brown, with thin lignite partings throughout  
 21'9" - 22'11" lignite, black, hard  
 22'11" - 23'6" clay, light greenish-gray

Core Interval 15' - 25'

Recovered: 81"  
 Lost: 39"

15' - 18'3" not recovered  
 18'3" - 18'9" clay, light brown, with lignite partings  
 18'9" - 20' lignite, black, with thin brown clay partings  
 20' - 21'2" lignite, black, hard  
 21'2" - 21'5" clay, dark brown, lignitic  
 21'5" - 25' sand, light greenish-gray, with clay binder, micaceous  
 T. D.: 110'

**Drill Hole No. 609.** Elevation 270'  
 Location: NE ¼, Sec. 4, T. 5 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 11/78.

0'-4' Gravel, medium pea to small pebble

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

4'- 88' Sand, white, fine, salt and pepper, coarsely micaceous, with thin limonite seams  
 88'- 89' Clay, dark chocolate brown, lignitic  
 89'- 95' Clay, light greenish gray, with very fine sand and silt, slightly micaceous, with a trace of dark chocolate brown clay  
 95'-107' Clay, dark green, with very fine sand and silt, slightly glauconitic and a trace of lignite and lignitic clay  
 107'-130' Clay, dark tan, with very fine sand and silt, slightly micaceous  
 130'-145' Sand, light tan, salt and pepper, fine to very fine  
 145'-150' Sand and silt, light gray, very fine, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 610.** Elevation 290'  
 Location: SE ¼, Sec. 6, T. 5 S., R. 14 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 8' Gravel, large to small pebble  
 8' 12' Clay, light yellow brown, with very fine sand and silt  
 12' 17' Clay, dark tan, with very fine sand and silt, slightly micaceous  
 17' 25' Sand, light gray, with clay binder, very fine, micaceous  
 25' 32' Silt, light gray, with very fine sand, slightly micaceous  
 32' 35' Sand, dark green, very fine, glauconitic, slightly micaceous  
 35' 76' Clay, dark gray, with very fine sand and silt, finely micaceous  
 76' 87' Sand, medium gray, salt and pepper, fine, micaceous  
 87' 91' Clay, medium gray, with very fine sand, slightly micaceous  
 91' 128' Sand, medium gray, salt and pepper, silty, fine, slightly micaceous  
 128' 144' Clay and silt, light greenish gray, with very fine sand, slightly micaceous, and a trace of lignite  
 144' 145' Clay, dark chocolate brown, lignitic  
 145' 147' Lignite, black, soft  
 147' 150' Clay, light brown to dark tan, with a trace of very fine sand and silt, coarsely micaceous  
 T. D.: 150'

**Drill Hole No. 611.** Elevation 270'  
 Location: SE ¼, Sec. 1, T. 5 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78

0' 7' Sand, light gray, very fine, with clay binder, slightly silty  
 7' 12' Clay, light gray, with very fine sand and silt, slightly salt and pepper, and slightly micaceous  
 12' 40' Gravel and coarse sand  
 40' 50' Sand and silt, light gray, fine to coarse  
 50' 57' Clay, dark greenish gray, with very fine sand and silt, and a trace of lignite  
 57' 58' Clay, chocolate brown, lignitic  
 58' 59' Lignite, black, hard  
 59' 96' Sand, light greenish gray, very fine, with a trace of lignite

\*Electric logs available

95' 100' Sand, light gray, slightly salt and pepper, very fine, with silt binder  
 100' 110' Clay, light greenish-gray, with very fine sand and silt, and a trace of lignite  
 110' 135' Sand, light gray, coarse, with a trace of clay binder  
 135' 145' Sand, medium to fine, slightly micaceous  
 145' 150' Sand, fine, with thin interbedded gray silt seams  
 T. D.: 150'

**Drill Hole No. 612.** Elevation 210'  
 Location: NE ¼, Sec. 2, T. 5 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 20' Sand, light to dark brown, fine to very fine, with silty clay binder  
 20' 25' Sand, dark brown, with silt binder  
 25' 40' Sand, medium, with brown silt binder  
 40' 49' Sand, dark brown, medium to granule, with silt binder  
 49' 50' Clay, chocolate brown, lignitic with a trace of lignite  
 50' 57' Clay, gray, slightly silty  
 57' 60' Clay, medium brown, with very fine sand and silt  
 60' 65' Clay, light greenish gray, slightly silty  
 65' 69' Lignite, dark brown, soft, with lignitic clay seams  
 69' 93' Clay, light gray  
 93' 100' Clay, light gray, with very fine sand and silt  
 100' 110' Sand, dark gray, very fine, silty  
 110' 150' Sand, light gray, slightly salt and pepper, fine, slightly micaceous and a trace of lignite  
 T. D.: 150'

**Drill Hole No. 613.** Elevation 222'  
 Location: NW ¼, Sec. 4, T. 5 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 8' Clay, light yellow-brown, with a trace of very fine sand  
 8' 12' Sand, very fine, with yellow brown clay binder, slightly micaceous  
 12' 32' Gravel, large pea to small pebble  
 32' 47' Clay, dark gray, with very fine sand and silt  
 T. D.: 47'

**Drill Hole No. 614.** Elevation 234'  
 Location: SW ¼, Sec. 32, T. 4 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

Location abandoned

**Drill Hole No. 615.** Elevation 235'  
 Location: SW ¼, Sec. 30, T. 4 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 14' Sand, yellow brown, very fine, with clay binder

14'- 20' Sand, white, very fine, with clay binder  
 20'- 43' Gravel and sand, small pea to granule  
 43'- 50' Gravel, large pebble, with fine to medium sand  
 T. D.: 50'

\* **Drill Hole No. 616.** Elevation 285'  
 Location: SE ¼, Sec. 10, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 13' Sand, very fine to fine, with white to red mottled clay  
 13'- 15' Silt and sand, cream to white, very fine  
 15' 50' Clay, dark gray, with very fine sand and silt, slightly micaceous, slightly glauconitic  
 50'- 90' Clay, medium to light gray, with very fine sand and silt, slightly micaceous and a trace of siderite  
 90'-100' Sand, very fine to fine, with medium gray clay binder, silty, slightly micaceous and 4" of siderite  
 100'-138' Silt, medium gray, with very fine sand, finely micaceous with a trace of siderite  
 138'-139' Lignite, brown, soft, with lignitic clay seams  
 139'-145' Clay, light gray, silty, with a trace of very fine sand  
 145'-150' Clay, light green, with very fine sand and silt  
 T. D.: 150'

\* **Drill Hole No. 617.** Elevation 265'  
 Location: NE ¼, Sec. 22, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 12' Sand, red, very fine, micaceous  
 12'- 25' Clay, dark gray, with a trace of very fine sand and silt, and a trace of siderite  
 25'- 35' Clay, dark gray, with very fine sand, slightly glauconitic  
 35'- 85' Clay, light gray, with very fine sand and silt, slightly micaceous and a trace of siderite  
 85'-128' Clay, medium gray, with very fine sand and silt, slightly glauconitic and 6" of siderite  
 128'-129' Clay, dark chocolate brown, lignitic  
 129'-133' Clay, medium gray, with very fine sand, slightly micaceous  
 133'-134' Clay, chocolate brown, lignitic  
 134'-150' Clay, light gray, with very fine sand and silt  
 T. D.: 150'

\* **Drill Hole No. 618.** Elevation 220'  
 Location: SE ¼, Sec. 27, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0' 6' Clay, medium brown and light tan interbedded  
 6' 45' Clay, dark gray, with very fine sand and silt, slightly micaceous with a trace of glauconite and 2" of siderite  
 45' 51' Sand, light gray, salt and pepper, fine

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51'-60' Clay, medium gray, slightly glauconitic and micaceous, with very fine sand  
 60'-134' Clay, light gray, with siderite stringers @88' and 98'  
 134'-135' Lignite, black, hard, with chocolate brown lignitic clay  
 135'-145' Clay, light greenish-gray, with very fine sand  
 145'-150' Clay, medium gray-green, with very fine sand  
 T. D.: 150'

**Drill Hole No. 619.** Elevation 270'  
 Location: SW¼, Sec. 34, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-20' Sand and small pebble gravel, fine to very fine, with light brown to tan clay binder  
 20'-45' Clay, medium gray, silty, with a trace of very fine sand, slightly carbonaceous  
 45'-52' Clay and sand, fine, slightly silty, slightly carbonaceous  
 52'-93' Sand, medium gray, very fine, silty, finely micaceous, with 2" of siderite  
 93'-100' Clay, medium gray, with small to large pebble white gravel lenses and 2" of siderite  
 100'-120' Clay, medium gray, with very fine sand and silt  
 120'-129' Silt and sand, light gray, very fine, with white small pebble gravel lenses  
 129'-136' Clay, chocolate brown, lignitic with a trace of lignite  
 136'-150' Sand, very fine to fine, with gray clay and silt binder  
 T. D.: 150'

**\* Drill Hole No. 620.** Elevation 260'  
 Location: NW¼, Sec. 10, T. 6 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-8' Gravel, small pea to granule, with thin dark tan clay seams  
 8'-55' Clay, dark gray, with very fine sand and silt, slightly micaceous, and a trace of siderite  
 55'-60' Clay, medium gray, with very fine sand and silt, and a trace of lignite  
 60'-85' Sand, light gray, fine, coarsely micaceous, with a trace of lignite  
 85'-95' Clay, light cream to buff, slightly silty  
 95'-150' Sand, medium gray, fine, coarsely micaceous  
 T. D.: 150'

**\* Drill Hole No. 621.** Elevation 250'  
 Location: NW¼, Sec. 15, T. 6 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-18' Gravel, small pea to small pebble, with a trace of light

tan clay  
 18'-40' Clay, dark gray, with very fine sand and silt, slightly micaceous, slightly carbonaceous  
 40'-52' Clay, medium gray, slightly silty, and slightly micaceous  
 52'-65' Clay, light gray, with very fine sand, slightly micaceous  
 65'-95' Clay, light greenish-gray, with very fine sand and silt, coarsely micaceous, and slightly glauconitic  
 95'-125' Clay, light green, with very fine sand and silt, slightly glauconitic  
 125'-127' Clay, chocolate brown, with a trace of lignite  
 127'-140' Clay, light gray, silty, with a trace of very fine sand  
 140'-150' Sand, very fine, with light green to light buff clay, silty, slightly micaceous  
 T. D.: 150'

**\* Drill Hole No. 622.** Elevation 260'  
 Location: NE¼, Sec. 22, T. 6 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-11' Clay, dark tan, with very fine sand and silt, slightly micaceous  
 11'-15' Sand, white to light gray, fine to medium, with a trace of clay binder  
 15'-23' Clay, light brown, with very fine sand, slightly micaceous  
 23'-40' Clay, light gray, with a trace of very fine sand, silt, and lignite  
 40'-46' Clay, light gray  
 46'-48' Clay, light green, with very fine sand  
 48'-50' Sand, very fine, with medium gray silt binder, slightly micaceous  
 50'-85' Clay, gray to chocolate brown interbedded, with a trace of very fine sand and lignite  
 85'-100' Sand, light gray-green, with clay binder, slightly micaceous  
 100'-150' Sand, light gray, fine to very fine  
 T. D.: 150'

**Drill Hole No. 623.** Elevation 240'  
 Location: SE¼, Sec. 27, T. 6 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-10' Sand, very fine, with light gray to yellow-orange clay binder  
 10'-17' Gravel, small pea, with coarse sand  
 17'-25' Clay, medium gray  
 25'-34' Clay, light green  
 34'-45' Clay, light gray brown, silty  
 45'-53' Clay, brown, slightly silty  
 53'-59' Clay, light green, slightly silty  
 59'-60' Lignite, black, soft, with a trace of dark chocolate brown

lignitic clay  
 60'-62' Clay, dark brown  
 62'-63' Lignite, black, soft, with dark chocolate brown lignitic clay  
 63'-67' Clay, dark gray-brown, slightly silty  
 67'-75' Sand, medium gray, very fine to fine, slightly salt and pepper  
 75'-80' Clay, light gray, slightly silty  
 80'-110' Clay, light green and light brown interbedded, with very fine sand and silt, slightly micaceous  
 110'-150' Sand, gray, very fine, slightly salt and pepper, with 7" of siderite  
 T. D.: 150'

**\* Drill Hole No. 624.** Elevation 180'  
 Location: NW¼, Sec. 3, T. 7 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 12/78.

0'-10' Sand and gravel interbedded  
 10'-20' Clay, light tan to light gray, with thin bedded pebble gravel  
 20'-30' Clay, light gray to tan, with very fine sand and silt, slightly micaceous  
 30'-32' Sand, very fine, with light tan to cream clay binder, slightly silty  
 32'-34' Clay, dark brown  
 34'-43' Clay, light greenish-gray, slightly silty  
 43'-44' Lignite, black, soft, with dark chocolate brown clay  
 44'-47' Clay, light green, slightly silty  
 47'-48' Lignite, black, soft  
 48'-54' Clay, light green, slightly silty  
 54'-58' Clay, dark chocolate brown, lignitic, with a trace of lignite  
 58'-75' Clay, light green  
 75'-90' Clay, light to medium green, with very fine sand and silt, finely micaceous, and 3" of siderite  
 90'-125' Silt, light greenish-gray, with clay binder, very fine sand, finely micaceous, and a trace of lignite  
 125'-150' Sand, light gray, very fine to fine, salt and pepper

Core Interval 46' - 51'  
 Recovered: 26"  
 Lost: 34"  
 46' - 48'10" lignite, not recovered - ground up in core barrel.  
 48'10" - 49'2" lignite, black, soft, with lignitic clay  
 49'2" - 51' clay, light greenish-gray, slightly micaceous and glauconitic.  
 T. D.: 150'

\* Electric logs available



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• **Drill Hole No. 625.** Elevation 470'  
Location: NW¼, Sec. 3, T. 8 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 3/79.

0' 17' Gravel, large pebble to small pea  
17' 30' Sand, light orange, fine to very fine, with clay binder  
30' 33' Clay, light orange gray, with very fine sand and a trace of gravel  
33' 37' Gravel and clay, light tan, with very fine sand  
37' 49' Clay, dark greenish gray, with very fine sand and silt  
49' 50' Lignite, black, soft  
50' 78' Clay, light greenish gray, with dark green clay stringers  
78' 79' 6" Lignite, black, hard  
79' 6" 85' Clay, buff  
85' 87' Clay, white, slightly silty  
87' 120' Clay, light green  
120' 122' Clay, gray, with thin green clay stringers  
122' 122' 6" Lignite, black, hard  
122' 6" 123' Clay, gray and green interbedded  
123' 129' Lignite, black to dark brown, hard to soft  
129' 130' Clay, gray, slightly silty, with a trace of dark green clay  
130' 135' Clay, dark chocolate brown, lignitic, with a trace of lignite  
135' 150' Clay, buff white to dark green interbedded  
T. D.: 150'

• **Drill Hole No. 626.** Elevation 345'  
Location: SW¼, Sec. 10, T. 8 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 3/79.

0' 7' Clay, gray brown, with very fine sand and silt  
7' 19' Sand, very fine, silty  
19' 24' Lignite, black, hard  
24' 26' Clay, chocolate brown  
26' 30' Lignite, black, hard  
30' 42' Clay, gray brown  
42' 48' Sand, very fine  
48' 60' Clay, buff to light brown, with very fine sand and silt  
60' 70' Clay, light gray, with very fine sand and silt, slightly micaceous  
70' 76' Clay, buff white, silty, with a trace of lignite  
76' 86' Sand, light gray, very fine, slightly micaceous  
86' 95' Clay, light brown, with very fine sand and silt  
95' 123' Clay, light greenish gray, with very fine sand and silt, and a trace of lignite  
123' 131' Silt, medium green, with very fine sand  
131' 132' Clay, buff, with a trace of lignite  
132' 139' Silt, medium green, with very fine sand  
139' 146' Clay, dark buff to light brown, with a trace of lignite  
146' 148' Clay, dark green, silty  
T. D.: 148'

• **Drill Hole No. 627.** Elevation 285'  
Location: NE¼, Sec. 21, T. 8 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 3/79.

0' 15' Sand and clay, light gray,

\* Electric logs available

very fine, silty, slightly micaceous  
15' 23' Clay, gray, chocolate brown interbedded  
23' 26' Clay, gray  
26' 80' Sand and silt, gray, very fine, with a trace of lignite and siderite  
80' 93' Clay, gray, silty  
93' 125' Sand, gray, very fine, silty  
125' 148' Silt, gray, with clay and very fine sand  
T. D.: 148'

• **Drill Hole No. 628.** Elevation 480'  
Location: NE¼, Sec. 32, T. 7 S., R. 15 W.  
County: Dallas  
Logged by: T. Y. Suen 3/79.

0' 42' Gravel, small pea to large pebble, with coarse sand  
42' 46' Clay, cream-white, with very fine sand and silt, slightly micaceous  
46' 48' Gravel  
48' 53' Clay, cream-white, with very fine sand and silt, slightly micaceous  
53' 78' Sand, light gray, fine, salt and pepper, coarsely micaceous  
78' 81' Clay, chocolate brown to black, lignitic, with approximately 6" of lignite  
81' 148' Clay, light to dark greenish-gray, silty, with a trace of lignite  
T. D.: 148'

• **Drill Hole No. 629.** Elevation 275'  
Location: SE¼, Sec. 2, T. 5 S., R. 13 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0' 11' Clay, gray-white, mottled red, with very fine sand  
11' 20' Clay, buff white, with a trace of limonite  
20' 77' Clay, medium to dark gray, with very fine sand, silty, slightly micaceous, with 6" of siderite and a trace of glauconite  
77' 79' Sand, gray, very fine, with 2" of siderite  
79' 150' Silt, gray green, with very fine sand  
T. D.: 150'

• **Drill Hole No. 630.** Elevation 240'  
Location: NE¼, Sec. 1, T. 5 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0' 10' Gravel, pea to small pebble, with coarse sand  
10' 25' Clay, gray, with coarse sand  
25' 70' Clay, gray green, glauconitic  
70' 80' Clay, gray-green, silty, with 4" of siderite  
80' 105' Clay, gray green, with very fine sand, glauconitic, and 5" of siderite  
105' 124' Silty, gray  
124' 130' Clay, gray-brown, lignitic  
130' 140' Clay, gray green, silty  
140' 150' Silt, gray  
T. D.: 150'

• **Drill Hole No. 631.** Elevation 220'  
Location: NW¼, Sec. 5, T. 5 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0' 18' Clay, gray, with very fine sand and silt  
18' 36' Gravel, small pea, with coarse to medium white sand  
36' 41' Clay, dark gray-brown  
41' 90' Clay, medium gray, slightly micaceous, slightly glauconitic, silty, with 2" of siderite  
90' 100' Clay, gray, silty, with a trace of siderite  
100' 148' Silt and very fine sand, gray, slightly micaceous  
T. D.: 148'

• **Drill Hole No. 632.** Elevation 270'  
Location: NW¼, Sec. 4, T. 4 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0' 5' Clay, buff, with very fine sand and pea gravel  
5' 13' Clay, chocolate brown, with fine sand  
13' 35' Clay, green-gray, with fine sand, glauconitic  
35' 100' Clay, green-gray, silty, glauconitic, with a trace of lignite  
100' 130' Silt, gray-green, with interbedded gray-green clay  
130' 150' Clay, gray-green, with very fine sand and silt  
T. D.: 150'

• **Drill Hole No. 633.** Elevation 310'  
Location: NW¼, Sec. 3, T. 5 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0' 5' Sand, dark tan, fine to very fine, with clay binder  
5' 15' Clay, buff, with very fine sand, slightly micaceous  
15' 17' Sand, light tan, fine to very fine, micaceous  
17' 23' Clay, dark buff to light brown, silty  
23' 45' Clay, dark greenish gray, with very fine sand and silt, slightly micaceous  
45' 80' Clay, light green, silty, slightly micaceous  
80' 142' Sand, gray, very fine to fine, finely micaceous, salt and pepper, with silt binder  
142' 148' Clay, gray, with very fine sand and silt  
T. D.: 148'

• **Drill Hole No. 634.** Elevation 300'  
Location: NW¼, Sec. 2, T. 5 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0' 30' Sand, buff-yellow, fine, with a trace of pea gravel  
30' 35' Sand, gray, fine, with dark green clay stringers and a trace of lignite  
35' 75' Clay, dark gray-green, with very fine sand and silt  
75' 105' Sand, gray, very fine  
105' 150' Clay, dark green, with very fine sand and silt, glauconitic  
T. D.: 150'

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**Drill Hole No. 634.** Elevation 300'  
Location: NW¼, Sec. 2, T. 5 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 30' Sand, buff yellow, fine, with a trace of pea gravel  
30'- 35' Sand, gray, fine, with dark green clay stringers and a trace of lignite  
35'- 75' Clay, dark to medium gray green, with very fine sand and silt  
75'-105' Sand, gray, very fine  
105'-150' Clay, dark green, with very fine sand and silt, glauconitic  
T. D.: 150'

**Drill Hole No. 635.** Elevation 325'  
Location: NW¼, Sec. 1, T. 5 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 35' Clay, buff-tan, with very fine sand and pea gravel  
35'- 87' Sand, light buff-tan, very fine  
87'-100' Sand, light buff, very fine, with a trace of lignite  
100'-110' Clay, gray green  
110'-135' Silt and sand, gray green, very fine  
135'-150' Sand, light gray-green, very fine  
T. D.: 150'

**Drill Hole No. 636.** Elevation 310'  
Location: SW¼, Sec. 6, T. 5 S., R. 11 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0'- 15' Clay, light brown to dark buff, with very fine sand  
15'- 25' Clay, medium gray, with very fine sand and interbedded dark reddish brown clay  
25'- 40' Sand, medium gray, very fine, salt and pepper, slightly micaceous, with clay binder  
40'- 55' Clay, light gray, with very fine sand and silt, slightly micaceous, with approximately 6" of lignite  
55'- 80' Clay, light greenish-gray, silty, with a trace of very fine sand and 6" of lignite  
80'-105' Sand and silt, light greenish gray, very fine, slightly micaceous with clay binder  
105'-120' Clay, light greenish gray, with very fine sand and silt, slightly micaceous  
120'-148' Sand and silt, gray, very fine, slightly micaceous  
T. D.: 148'

**Drill Hole No. 637.** Elevation 270'  
Location: SE¼, Sec. 5, T. 5 S., R. 11 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 20' Gravel, pea to large pebble, with coarse sand  
20'- 48' Clay, gray-green, with very fine sand and thin green clay stringers  
48'- 55' Clay, olive green, slightly silty  
55'-114' Sand, light gray, very fine, with a trace of lignite  
114'-122' Clay, gray-green, glauconitic, with a trace of sand

122'-130' Silt, gray-green  
130'-150' Clay, gray green, with very fine sand and a trace of lignite  
T. D.: 150'

**Drill Hole No. 638.** Elevation 266'  
Location: SE¼, Sec. 27, T. 4 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 15' Clay, buff, silty, with coarse sand and gravel  
15'- 45' Clay, dark gray, with very fine sand  
45'- 48' Clay, light green, with very fine sand, glauconitic  
48'- 61' Clay, light brown, with very fine sand  
61'- 64' Clay, dark brown, lignitic  
64'- 75' Clay, light brown, with very fine sand  
75'- 90' Clay, gray-green, with very fine sand  
90'- 110' Clay, green, slightly silty, glauconitic, with a trace of lignite  
110'- 118' Clay, gray green, with very fine sand  
118'- 150' Sand, gray green, very fine  
T. D.: 150'

**Drill Hole No. 639.** Elevation 300'  
Location: SW¼, Sec. 23, T. 4 S., R. 13 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0'- 20' Clay, mottled red-orange, with very fine sand and silt  
20'- 32' Clay, gray  
32'- 58' Clay, gray, with very fine sand and silt, slightly micaceous, with a trace of siderite  
58'- 83' Sand, gray, very fine, with clay binder and 2" of siderite  
83'- 92' Silt, gray, with clay binder  
92'- 115' Sand, gray, very fine, with clay binder  
115'- 148' Clay, gray, with very fine sand and silt, slightly micaceous  
T. D.: 148'

**Drill Hole No. 640.** Elevation 300'  
Location: NW¼, Sec. 14, T. 4 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 18' Clay, mottled red-buff, with very fine sand  
18'- 55' Clay, gray green, with very fine sand  
55'- 88' Clay, dark green, with fine sand  
88'- 105' Sand, gray green, fine  
105'- 117' Clay, green, silty, glauconitic  
117'- 150' Sand, gray-green, fine, with a trace of lignite  
T. D.: 150'

**Drill Hole No. 641.** Elevation 280'  
Location: NE¼, Sec. 11, T. 4 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 13' Clay, mottled, with fine sand  
13'- 56' Clay, gray-green, with interbedded fine to very fine sand  
56'- 61' Clay, light green, with fine sand, slightly micaceous  
61'- 63' Sand, gray green, very fine

63'- 73' Clay, light gray-green, slightly sandy  
73'- 83' Clay, green-brown, slightly sandy  
83'-120' Clay, light green, slightly silty, with a trace of lignite  
120'-141' Clay, green-brown, slightly sandy  
141'-150' Silt, gray-green, with clay  
T. D.: 150'

**Drill Hole No. 642.** Elevation 330'  
Location: NE¼, Sec. 2, T. 4 S., R. 13 W.  
County: Grant  
Logged by: T. Y. Suen 3/79.

0'- 3' Clay, red, with very fine sand, slightly micaceous  
3'- 10' Clay, light orange, with very fine sand, slightly micaceous  
10'- 18' Clay, light buff, with very fine sand, slightly micaceous  
18'- 25' Clay, light brown, with very fine sand and silt, slightly micaceous  
25'- 40' Clay, dark to medium green-gray, with very fine sand and silt, slightly micaceous  
40'- 46' Sand, light gray, very fine, salt and pepper, slightly micaceous  
46'- 49' Clay, light gray, with very fine sand and silt, slightly micaceous  
49'- 52' Clay, light greenish-gray  
52'- 58' Clay, light gray-brown, with very fine sand and silt  
58'- 69' Sand, light gray, very fine, salt and pepper, micaceous, with 5" of siderite  
69'- 90' Silt, gray, with very fine sand, slightly micaceous  
90'-100' Clay, gray, with silt binder  
100'-115' Sand, gray, very fine, salt and pepper, micaceous, with silt binder and a trace of siderite  
115'-130' Clay, medium gray, silty, with very fine sand and a trace of lignite  
130'-138' Clay, light green, silty, with a trace of lignite  
138'-148' Silt, light greenish-gray, with a trace of lignite  
T. D.: 148'

**Drill Hole No. 643.** Elevation 290'  
Location: NW¼, Sec. 36, T. 3 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 3/79.

0'- 10' Sand, yellow-brown, fine  
10'- 20' Clay, mottled, with fine sand  
20'- 45' Sand, fine, with gray clay binder  
45'- 73' Clay, green-gray, with very fine sand  
73'- 81' Clay, green-brown, with a trace of lignitic clay  
81'-110' Clay, light green, with very fine sand and silt, slightly glauconitic  
110'-150' Clay, gray-green, with very fine sand  
T. D.: 150'

**Drill Hole No. 644.** Elevation 260'  
Location: NE¼, Sec. 25, T. 3 S., R. 13 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

0'- 20' Clay, light brown, with very fine sand

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

20' 28' Sand, white tan, coarse to medium  
 28' 80' Clay, medium gray, with very fine sand and silt  
 80' 100' Clay, medium gray, with dark gray silty clay interbeds  
 100' 125' Silt and sand, gray, very fine  
 125' 135' Clay, medium gray-brown, with very fine sand and silt, and a trace of lignite  
 135' 148' Sand, gray, very fine, salt and pepper, slightly micaceous  
 T. D.: 148'

**Drill Hole No. 645.** Elevation 310'  
 Location: NW¼, Sec. 19, T. 3 S., R. 12 W.  
 County: Grant  
 Logged by: R. L. Cole 4/79.

0' 42' Sand, brown yellow, very fine, with clay binder  
 42' 64' Clay, green gray, with very fine sand  
 64' 71' Clay, brown gray, with very fine sand  
 71' 74' Clay, dark green, with very fine sand  
 74' 80' Silt  
 80' 93' Clay, dark green, with very fine sand  
 93' 111' Clay, dark greenish gray, with very fine sand and interbedded silt partings  
 111' 138' Clay, dark green, silty, with a trace of lignite  
 138' 150' Sand, brown tan, slightly silty  
 T. D.: 150'

**Drill Hole No. 646.** Elevation 330'  
 Location: NW¼, Sec. 18, T. 3 S., R. 12 W.  
 County: Grant  
 Logged by: R. L. Cole 3/79.

0' 20' Clay, tan yellow, with very fine sand  
 20' 30' Clay, buff tan, with very fine sand  
 30' 36' Clay, green gray, with very fine sand, slightly glauconitic  
 36' 46' Clay, chocolate brown, with very fine sand and silt  
 46' 63' Clay, light green, slightly silty  
 63' 66' Lignite, black, friable  
 66' 73' Sand, tan green, very fine  
 73' 92' Clay, dark green, silty  
 92' 103' Clay, gray green, silty  
 103' 110' Clay, light green, slightly silty, with thin sand interbeds  
 110' 138' Clay, brown gray, slightly sandy  
 138' 150' Clay, light green tan, glauconitic, slightly sandy

Core Interval 61' 71'

Recovered: 82" Lost: 38"

61' 63' 6" not recovered  
 63' 5" 64' clay, light brown to light green, silty  
 64' 66' 1" clay, dark green, silty, with thin lignite partings  
 66' 1" 70' 4" clay, dark green, with very fine sand and silt  
 70' 4" 71' clay, light green with very fine sand  
 T. D.: 150'

**Drill Hole No. 647.** Elevation 360'  
 Location: SW¼, Sec. 6, T. 3 S., R. 12 W.  
 County: Grant  
 Logged by: T. Y. Suen 3/79.

0' 5' Clay, light orange, with very fine sand and silt  
 5' 10' Clay, light red-buff, with very fine sand, slightly micaceous  
 10' 22' Clay, light buff, with very fine sand and silt, slightly micaceous  
 22' 30' Sand, light buff, very fine to fine, with clay and silt binder, slightly micaceous  
 30' 33' Clay, light buff, with very fine sand and silt, slightly micaceous, with limonite lenses  
 33' 65' Sand, light buff, very fine to fine, salt and pepper, slightly micaceous with limonite lenses and 2" of iron cemented sand  
 65' 75' Clay, gray, silty, with thin greenish gray clay interbeds  
 75' 83' Clay, gray brown, with very fine sand, slightly micaceous  
 83' 96' Sand, gray brown, very fine, salt and pepper, slightly micaceous  
 96' 105' Clay, gray, with greenish gray clay interbeds  
 105' 115' Silt, medium gray, with a trace of light greenish gray clay  
 115' 140' Sand, gray, very fine, salt and pepper, with silt binder and a trace of lignite  
 140' 148' Clay, light green, silty, slightly micaceous  
 T. D.: 148'

**Drill Hole No. 648.** Elevation 320'  
 Location: NW¼, Sec. 6, T. 3 S., R. 12 W.  
 County: Grant  
 Logged by: R. L. Cole 3/79.

0' 15' Clay, buff, silty  
 15' 28' Clay, tan, silty, slightly mottled  
 28' 32' Clay, light gray-green, silty  
 32' 34' Clay, chocolate brown, silty  
 34' 48' Clay, tan gray, with very fine sand  
 48' 98' Clay, dark gray, with fine sand and a trace of lignite  
 98' 150' Sand, tan brown, fine  
 T. D.: 150'

**Drill Hole No. 649.** Elevation 295'  
 Location: SW¼, Sec. 9, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 4/79.

0' 3' Clay, orange brown, with very fine sand  
 3' 7' Clay, red, slightly silty and micaceous  
 7' 17' Clay, light buff yellow, with limonite lenses  
 17' 19' Clay, dark chocolate brown, slightly silty, finely micaceous  
 19' 23' Clay, dark buff, slightly iron stained  
 23' 26' Sand, yellow black variegated, very fine, with limonite lenses  
 26' 40' Sand, light gray, very fine, salt and pepper, finely micaceous  
 40' 58' Clay, light gray, salt and pepper, with interbedded very fine sand  
 58' 103' Sand, light gray, salt and pepper finely micaceous, with thin clay interbeds and 2" of siderite

103'-108' Clay, light gray, with interbedded very fine sand, silty  
 108'-138' Sand, light gray, very fine, with silt binder and approximately 6" of lignite  
 138'-148' Clay, light gray, with very fine sand and silt, slightly micaceous  
 T. D.: 148'

**Drill Hole No. 650.** Elevation 310'  
 Location: SE¼, Sec. 17, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: R. L. Cole 4/79.

0' 13' Clay, buff, slightly silty  
 13' 35' Clay, dark green, with very fine sand and silt, slightly micaceous  
 35' 110' Clay, dark green, sandy, slightly glauconitic  
 110' 116' Clay, dark green, with very fine sand and a trace of lignite  
 116' 140' Clay, light to dark green, with fine sand, slightly micaceous  
 140' 150' Clay, light gray-green, sandy  
 T. D.: 150'

**Drill Hole No. 651.** Elevation 330'  
 Location: SW¼, Sec. 20, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: R. L. Cole 4/79.

0' 19' Sand, buff-tan, with clay binder  
 19' 42' Clay, dark gray-green, with very fine sand  
 42' 58' Sand, gray-tan, fine, with a trace of gray clay  
 58' 74' Clay, dark gray-green, with fine sand  
 74' 81' Sand, gray-tan, with gray-green clay partings  
 81' 115' Clay, dark gray-green, with very fine sand, slightly micaceous  
 115' 125' Clay, dark green-gray, sandy, with a trace of lignite  
 125' 137' Sand, gray-green, with dark gray clay partings  
 137' 150' Clay, light gray-green, with very fine sand, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 652.** Elevation 285'  
 Location: SE¼, Sec. 19, T. 5 S., R. 13 W.  
 County: Grant  
 Logged by: T. Y. Suen 4/79.

0' 3' Gravel, small pebble  
 3' 7' Clay, red, with very fine sand  
 7' 12' Clay, yellow-buff, with very fine sand  
 12' 20' Clay, buff, with very fine sand and silt  
 20' 53' Clay, gray, with very fine sand and 3" of siderite  
 53' 58' Clay, gray, with fine sand and a trace of lignite  
 58' 80' Sand, gray, fine, with clay binder  
 80' 100' Sand, gray, fine, slightly glauconitic, with clay binder  
 100' 150' Sand and silt, gray, fine, slightly glauconitic  
 T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 653.** Elevation 210'  
Location: NE¼, Sec. 25, T. 5 S., R. 14 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 10' Sand, gray brown, fine, with a trace of clay
- 10'- 25' Sand, tan buff, with a trace of clay binder
- 25'- 45' Clay, light green, with very fine sand
- 45'- 90' Sand, fine, with green clay binder
- 90'-105' Clay, green, with fine sand, slightly glauconitic
- 105'-115' Sand, gray-tan, fine, with clay binder
- 115'-150' Clay, green, with fine sand, slightly micaceous  
T. D.: 150'

**Drill Hole No. 654.** Elevation 265'  
Location: NE¼, Sec. 26, T. 5 S., R. 14 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 5' Sand, coarse, with gravel, pea to large pebble
- 5'- 25' Sand, red brown, medium to fine
- 25'- 35' Sand, red tan, fine, slightly glauconitic, with pea gravel
- 35'-150' Sand, tan-buff, very fine to fine, slightly glauconitic, with a trace of clay binder  
T. D.: 150'

**Drill Hole No. 655.** Elevation 390'  
Location: SW¼, Sec. 33, T. 6 S., R. 15 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'- 6' Clay, buff, slightly silty and micaceous
- 6'- 8' Clay, light orange red, slightly silty and micaceous
- 8'- 17' Clay, light tan buff, with very fine sand and silt, slightly micaceous
- 17'- 33' Clay, light gray, with very fine sand and silt, slightly micaceous with a trace of limonite stain
- 33'- 50' Sand, orange, fine to medium, slightly salt and pepper
- 50'- 70' Sand, light buff, fine to medium with a trace of buff clay
- 70'- 72' Clay, light buff, with fine sand
- 72'-125' Sand, orange, fine to medium, slightly salt and pepper, slightly micaceous, with 2" of siderite  
T. D.: 125'

**Drill Hole No. 656.** Elevation 350'  
Location: NE¼, Sec. 35, T. 6 S., R. 15 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 30' Sand, coarse to medium, with a trace of pea gravel  
T. D.: 30' Wash out.

**Drill Hole No. 657.** Elevation 240'  
Location: SW¼, Sec. 26, T. 6 S., R. 15 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 10' Sand, tan brown, medium to fine, slightly micaceous, glauconitic

- 10'- 138' Sand, tan-brown, fine to very fine, slightly silty, slightly glauconitic
- 138'-150' Clay, gray to light brown, slightly silty, with approximately 1' of lignite, black soft @138' T. D.: 150'

**Drill Hole No. 658.** Elevation 265'  
Location: SW¼, Sec. 24, T. 6 S., R. 15 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 12' Clay, gray-tan, mottled, with fine sand, and a trace of pea gravel
- 12'- 21' Clay, gray-green, with very fine sand
- 21'- 30' Clay, dark green, with very fine sand
- 30'-120' Sand, tan-brown, fine to very fine, salt and pepper, with a trace of clay binder  
T. D.: 120'

**Drill Hole No. 659.** Elevation 193'  
Location: SW¼, Sec. 8, T. 6 S., R. 14 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'- 20' Sand and gravel, light reddish-brown, small pea to large with limonite lenses
- 20'- 23' Clay, medium gray, with very fine sand
- 23'- 26' Sand, light gray, fine, slightly salt and pepper, with a trace of lignite
- 26'- 40' Sand, light yellow, fine, slightly salt and pepper, slightly micaceous with a trace of lignite
- 40'- 50' Gravel, small pea to granule
- 50'-130' Sand, very light gray, fine, slightly micaceous, with a trace of lignite throughout  
T. D.: 130'

**Drill Hole No. 660.** Elevation 200'  
Location: NE¼, Sec. 5, T. 6 S., R. 14 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'- 25' Sand, red, very fine, slightly silty with clay binder
- 25'- 45' Gravel, small pea to small pebble, with sand, granule to coarse
- 45'- 60' Clay, gray green, slightly silty with a trace of lignite
- 60'- 93' Clay, light chocolate brown, slightly silty, with a trace of very fine sand and lignite
- 93'- 98' Clay, black, slightly silty
- 98'-108' Clay, light and dark chocolate brown interbedded
- 108'-125' Clay, buff white, slightly silty
- 125'-148' Sand, light gray, very fine, slightly silty  
T. D.: 148'

**Drill Hole No. 661.** Elevation 225'  
Location: NW¼, Sec. 2, T. 6 S., R. 13 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'- 16' Clay, light orange to light red, very fine sand and silt
- 16'- 28' Clay, dark buff, with very fine sand and silt and a trace of iron cemented sand
- 28'- 57' Clay, dark gray, with very

- fine sand and silt, finely micaceous, and a trace of siderite
- 57'- 89' Sand, gray, very fine, salt and pepper, finely micaceous
- 89'-100' Clay, greenish-gray, silty
- 100'-120' Sand, gray, very fine, salt and pepper, finely micaceous
- 120'-125' Clay, gray, with very fine sand and silt, slightly salt and pepper
- 125'-143' Sand, gray, very fine, salt and pepper, with 3" of iron cemented sand @ 146'  
T. D.: 143'

**Drill Hole No. 662.** Elevation 200'  
Location: NW¼, Sec. 1, T. 6 S., R. 13 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 14' Clay, dark gray, with very fine sand and silt
- 14'- 28' Gravel, pea to large pebble, with sand, medium to coarse
- 28'- 53' Clay, dark gray, with very fine sand
- 53'- 55' Clay, dark brown, lignitic
- 55'-114' Clay, dark green, with fine sand and silt, with a trace of lignite
- 114'-128' Clay, light green, with very fine sand and silt
- 128'-144' Silt, with a trace of clay
- 144'-149' Clay, gray-green, with very fine sand and silt, and approximately 5" of lignite @ 147'
- 148'-150' Clay, light green, with very fine sand and silt  
T. D.: 150'

**Drill Hole No. 663.** Elevation 232'  
Location: NW¼, Sec. 5, T. 6 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 8' Clay, gray, silty, with limonite stain
- 8'- 20' Clay, dark gray, with very fine sand and silt
- 20'- 33' Sand, fine to medium, with a trace of clay binder
- 33'- 60' Clay, gray-green, with very fine sand and silt
- 60'-110' Clay, dark green, with very fine sand and silt, slightly glauconitic with approximately 7" of siderite
- 110'-120' Clay, dark gray-green, with very fine sand
- 120'-150' Sand, gray-brown, fine to very fine  
T. D.: 150'

**Drill Hole No. 664.** Elevation 265'  
Location: NE¼, Sec. 8, T. 6 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'- 5' Clay, yellow-brown, with very fine sand and silt
- 5'- 17' Clay, buff-tan, with fine sand, slightly iron stained
- 17'- 25' Clay, chocolate brown, with very fine sand and silt
- 25'- 68' Clay, olive green, with fine sand and 4" of siderite
- 68'- 71' Sand, gray-tan, very fine
- 71'- 83' Silt, gray-green
- 83'-138' Clay, gray-green, silty and 12" of siderite
- 138'-150' Silt, with very fine sand  
T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 665.** Elevation 250'  
Location: SE¼, Sec. 17, T. 6 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'-12' Clay, red, with very fine sand and silt, slightly micaceous
- 12'-22' Clay, light brown, with limonite seams
- 22'-38' Clay, dark gray
- 38'-43' Clay, medium gray, slightly glauconitic
- 43'-47' Sand, medium gray, very fine, salt and pepper, slightly micaceous
- 47'-65' Clay, medium gray, with very fine sand and silt, slightly micaceous and slightly glauconitic
- 65'-72' Clay, medium gray, with thin interbedded, very fine sand
- 72'-92' Silt, dark gray, with clay binder and a trace of very fine sand
- 92'-94' Sand, medium gray, very fine, silty
- 94'-110' Silt, medium gray, with very fine sand, slightly micaceous and a trace of iron cemented sand
- 110'-148' Silt, dark greenish gray, with very fine sand, slightly micaceous, with a trace of lignite  
T. D.: 148'

**Drill Hole No. 666.** Elevation 262'  
Location: SW¼, Sec. 21, T. 6 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'-13' Clay, red, with very fine sand and silt
- 13'-21' Clay, light brown to dark buff
- 21'-30' Clay, dark greenish gray, with very fine sand and silt, slightly micaceous
- 30'-140' Sand, light gray, very fine, slightly micaceous, with a trace of siderite
- 140'-148' Silt, dark gray, slightly micaceous  
T. D.: 148'

\* **Drill Hole No. 667.** Elevation 250'  
Location: SE¼, Sec. 28, T. 6 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'-5' Clay, buff, mottled red, slightly silty
- 5'-23' Clay, buff tan, with a trace of yellow fine sand
- 23'-27' Clay, gray green, slightly silty, micaceous
- 27'-160' Clay, dark green gray, slightly sandy, slightly silty, with traces of siderite throughout  
T. D.: 160'

**Drill Hole No. 668.** Elevation 230'  
Location: SW¼, Sec. 34, T. 6 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'-4' Clay, light yellow, with very fine sand
- 4'-8' Clay, red, with very fine sand
- 8'-35' Sand, yellow, fine to medium
- 35'-50' Clay, dark gray, with very fine sand and silt, and a trace of limestone

- 50'-100' Clay, dark gray-brown, with very fine sand and silt
- 100'-119' Silt, gray, slightly glauconitic, with clay binder
- 119'-124' Sand, gray, very fine, slightly micaceous
- 124'-135' Clay and silt, gray interbedded
- 135'-140' Sand, gray, very fine, salt and pepper, slightly micaceous, with clay binder
- 140'-146' Silt, gray  
T. D.: 146'

\* **Drill Hole No. 669.** Elevation 240'  
Location: SW¼, Sec. 3, T. 7 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'-24' Clay, buff white to light brown, slightly silty, with limonite seams
- 24'-44' Clay, dark greenish-gray, slightly silty
- 44'-144' Clay, dark greenish gray, with very fine sand and silt, 7" of siderite, and a trace of lignite
- 144'-150' Clay, dark gray green to brown, slightly silty, slightly micaceous  
T. D.: 150'

\* **Drill Hole No. 670.** Elevation 264'  
Location: SE¼, Sec. 10, T. 7 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'-18' Clay, light tan to light red mottled, with very fine sand and limonite lenses
- 18'-25' Clay, light chocolate brown, slightly silty
- 25'-29' Clay, light green
- 29'-33' Sand, yellow, fine to medium
- 33'-35' Clay, dark greenish-gray, slightly silty, slightly micaceous
- 35'-40' Sand, gray, fine, salt and pepper, slightly micaceous
- 40'-45' Clay, gray, with thin interbedded sand
- 45'-60' Clay, gray, with very fine sand and silt, slightly micaceous
- 60'-80' Clay, gray, with a trace of glauconite and 4" of fossiliferous limestone
- 80'-105' Clay, gray, slightly silty, with 3" of limestone
- 105'-140' Clay, light greenish-gray, silty, with 2" of limestone
- 140'-150' Silt, light gray, with a trace of clay  
T. D.: 150'

**Drill Hole No. 671.** Elevation 190'  
Location: NE¼, Sec. 22, T. 7 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'-15' Gravel, with coarse sand
- 15'-45' Clay, green-gray, with very fine sand, slightly micaceous
- 45'-67' Clay, light gray green, with very fine sand and silt, slightly micaceous
- 67'-135' Clay, light green-gray, silty, with very fine sand, slightly glauconitic, micaceous
- 135'-147' Clay, dark green brown, with very fine sand, slightly micaceous
- 147'-149' Sand, gray, very fine

- 149'-150' Clay, dark green-gray, with fine to very fine sand, slightly micaceous  
T. D.: 150'

\* **Drill Hole No. 672.** Elevation 225'  
Location: NW¼, Sec. 26, T. 7 S., R. 12 W.  
County: Grant  
Logged by: T. Y. Suen 4/79.

- 0'-5' Clay, buff-white, with very fine sand and silt, slightly micaceous
- 5'-22' Clay, light chocolate brown
- 22'-36' Clay, dark greenish-gray, with very fine sand and silt, slightly micaceous
- 36'-45' Sand, dark gray, fine, slightly glauconitic, with clay binder
- 45'-55' Clay, dark gray, slightly silty
- 55'-80' Clay, dark gray brown, with very fine sand and silt, slightly micaceous
- 80'-135' Clay, light gray, with very fine sand and silt, and a trace of glauconite
- 135'-140' Sand, gray, fine, with clay binder
- 140'-150' Clay, gray, with very fine sand and silt  
T. D.: 150'

\* **Drill Hole No. 673.** Elevation 200'  
Location: NW¼, Sec. 35, T. 7 S., R. 12 W.  
County: Grant  
Logged by: R. L. Cole 4/79.

- 0'-14' Clay, tan-buff, with fine to very fine sand, iron stained
- 14'-19' Clay, tan-brown, with fine to very fine sand, slightly micaceous
- 19'-41' Clay, green-gray, with very fine sand and silt, slightly micaceous, with fossil bivalves @ 35'
- 41'-65' Clay, dark green-gray, silty, slightly micaceous, with a trace of yellow sand and 1" of fossiliferous limestone
- 65'-88' Clay, green-gray, silty, glauconitic, slightly micaceous
- 88'-103' Clay, light green-gray, with very fine sand, slightly micaceous and 1" of fossiliferous limestone
- 103'-113' Clay, green-gray, silty, slightly micaceous
- 113'-122' Sand, gray-green, fine to very fine, slightly micaceous, with a trace of clay
- 122'-150' Clay, green-gray, with very fine sand and silt, slightly micaceous  
T. D.: 150'

\* **Drill Hole No. 674.** Elevation 240'  
Location: NW¼, Sec. 1, T. 8 S., R. 12 W.  
County: Cleveland  
Logged by: R. L. Cole 4/79.

- 0'-12' Clay and sand, tan-brown to yellow-brown, fine to very fine
- 12'-19' Clay, chocolate brown, silty, slightly micaceous
- 19'-34' Clay, green-gray, silty, slightly glauconitic, micaceous
- 34'-54' Clay, green-gray, with very fine sand and silt, slightly micaceous, with fossiliferous zone @ 45'
- 54'-94' Clay, green-gray, silty, slightly micaceous

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

\*+Drill Hole No. 682. (GW) Elevation 168'

Location: NW¼, Sec. 4, T. 11 S., R. 19 W.  
County: Clark  
Logged by: T. Y. Suen 4/79.

- 0'- 3' Clay, light red, with very fine sand
- 3'- 17' Clay, light buff-cream, silty
- 17'- 26' Sand, light buff-white, very fine, with limonite seams and a trace of lignite
- 26'- 40' Gravel, small pebble
- 40'- 45' Clay, light orange-red
- 45'- 47' Clay, black, lignitic
- 47'- 54' Clay, gray
- 54'- 57' Clay, dark to light chocolate brown
- 57'- 60' Lignite, black, soft with interbedded black clay
- 60'- 67' Clay, gray, slightly silty
- 67'- 69' Lignite, black, soft
- 69'- 72' Clay, gray
- 72'- 80' Clay, light green, with very fine sand and silt, slightly glauconitic
- 80'- 82' Clay, medium gray, with very fine sand and silt, finely micaceous
- 82'- 84' Lignite, black, soft
- 84'- 90' Clay, light gray-brown, slightly silty
- 90'- 91' Lignite, black, hard, with black lignitic clay
- 91'- 98' Clay, gray, silty, slightly micaceous
- 98'-101' Clay, cream-green
- 101'-103' Clay, dark green, slightly silty, finely micaceous
- 103'-118' Clay, medium gray-brown, with very fine sand and silt, slightly micaceous
- 118'-122' Sand, gray, very fine, finely micaceous
- 122'-125' Clay, gray, with very fine sand
- 125'-146' Sand, gray, very fine to fine, salt and pepper, micaceous
- 146'-150' Siderite, hard, unable to penetrate  
T. D.: 150'

\*+Drill Hole No. 683. (GW) Elevation 360'

Location: SE¼, Sec. 16, T. 12 S., R. 20 W.  
County: Nevada  
Logged by: T. Y. Suen 5/79.

- 0'- 39' Sand, red, fine to medium
- 39'- 58' Clay, dark chocolate brown, slightly silty, slightly micaceous
- 58'- 61' Clay, dark green, with fine sand, finely micaceous
- 61'- 70' Silt and sand, dark gray-brown, very fine, with iron cemented sand stringers
- 70'- 78' Sand, dark greenish-gray, with clay binder
- 78'- 90' Clay, dark brown, micaceous
- 90'-118' Sand, light tan, very fine, finely micaceous
- 118'-140' Clay, dark brown, with interbedded fine sand
- 140'-150' Silt, dark chocolate brown, with very fine sand, finely micaceous
- 150'-160' Clay, dark chocolate brown, silty, coarsely micaceous
- 160'-200' Silt, dark chocolate brown, with very fine sand and interbedded chocolate brown clay
- 200'-210' Sand, dark brown, very fine, micaceous, with silt binder
- 210'-225' Clay, dark brown, with very fine sand and silt
- 225'-228' Sand, dark brown, very fine

- 11' 18' Clay, buff-red mottled, with very fine sand
- 18' 21' Clay, tan-brown, with very fine sand
- 21' 44' Clay, gray-green, with very fine sand, slightly micaceous
- 44'- 60' Clay, gray-green, slightly silty
- 60'-123' Clay, gray-green, glauconitic, slightly micaceous, slightly silty, with 5" of fossiliferous limestone throughout
- 123' 150' Clay, gray-green, with very fine sand, slightly micaceous  
T. D.: 150'

\* Drill Hole No. 679. Elevation 170'  
Location: NE¼, Sec. 4, T. 9 S., R. 11 W.  
County: Cleveland  
Logged by: R. L. Cole 4/79.

- 0' 9' Clay, tan to light brown, with very fine sand
- 9' 11' Sand, red, very fine with clay binder
- 11' 19' Clay, light gray, sandy, slightly micaceous
- 19' 43' Clay, dark gray-green, slightly silty
- 43' 52' Clay, gray green
- 52' 74' Clay, gray-green, glauconitic, slightly micaceous, with 2" of fossiliferous limestone
- 74' 87' Clay, gray-green, with a trace of very fine sand
- 87' 89' Clay, gray-brown, with very fine sand, slightly micaceous
- 89' 121' Clay, gray-green, with very fine sand
- 121'-150' Sand, very fine, with clay binder  
T. D.: 150'

\*+Drill Hole No. 680. (GW) Elevation 276'  
Location: SW¼, Sec. 18, T. 8 S., R. 17 W.  
County: Dallas  
Logged by: R. L. Cole 4/79.

- 0' 13' Sand, very fine, with a trace of clay binder
- 13' 37' Gravel, pea to large cobble, with very fine sand and clay binder
- 37' 60' Sand, very fine, glauconitic, slightly silty
- 60'-155' Clay, silty, with very fine sand, glauconitic
- 155' 240' Sand, gray-white, very fine, with a trace of clay  
T. D.: 240'

+Drill Hole No. 681. (GW) Elevation 265'  
Location: SE¼, Sec. 14, T. 8 S., R. 17 W.  
County: Dallas  
Logged by: R. L. Cole 4/79.

- 0' 17' Sand, fine to very fine, with clay binder
- 17' 25' Gravel, pea to cobble, with fine sand
- 25' 45' Sand, light brown, fine, with a trace of gravel
- 45'- 70' Clay, gray to light brown, slightly silty
- 70' 165' Sand, gray, very fine to fine, slightly micaceous, slightly silty  
T. D.: 165'

- 94'- 96' Sand, green, fine to very fine, glauconitic, with clay binder
- 96'-137' Clay, green gray, slightly silty, slightly micaceous, with 5" of fossiliferous limestone
- 137'-150' Silt, gray-green  
T. D.: 150'

\* Drill Hole No. 675. Elevation 266'  
Location: NW¼, Sec. 12, T. 8 S., R. 12 W.  
County: Cleveland  
Logged by: R. L. Cole 4/79.

- 0' 21' Clay, yellow-buff mottled, with fine to very fine sand
- 21'- 28' Clay, light gray, with fine to very fine sand, slightly micaceous
- 28'-119' Clay, gray-green, with very fine sand and silt, slightly micaceous
- 119'-150' Clay, gray green, silty, slightly glauconitic, with 1" of fossiliferous limestone  
T. D.: 150'

\* Drill Hole No. 676. Elevation 255'  
Location: NE¼, Sec. 13, T. 8 S., R. 12 W.  
County: Cleveland  
Logged by: T. Y. Suen 4/79.

- 0' 11' Clay, red-buff mottled, with fine to very fine sand
- 11'- 16' Clay, buff, with very fine sand
- 16'- 21' Sand, brown-tan, very fine
- 21'- 22' Clay, light tan, slightly silty
- 22'- 25' Clay, tan-brown, slightly silty
- 25'- 68' Clay, green-gray, slightly silty
- 68'- 59' Sand, gray-green, very fine, slightly lignitic
- 59'- 60' Clay, green-gray, with very fine sand
- 60'- 86' Clay, green-gray, slightly silty
- 86'-136' Clay, green-gray, with very fine sand, slightly micaceous, with 3" of fossiliferous limestone
- 136'-150' Clay, green gray, silty, glauconitic, with 1" of fossiliferous limestone  
T. D.: 150'

\* Drill Hole No. 677. Elevation 235'  
Location: SE¼, Sec. 24, T. 8 S., R. 12 W.  
County: Cleveland  
Logged by: R. L. Cole 4/79.

- 0' 8' Clay, red buff mottled, with very fine sand
- 8'- 26' Clay, chocolate brown
- 26'- 34' Clay, gray green, slightly silty
- 34'- 71' Clay, gray-green, with very fine sand, slightly micaceous, with 1" of fossiliferous limestone
- 71'- 90' Clay, gray-green, slightly silty, slightly micaceous
- 90'-126' Clay, gray green, slightly micaceous, with 2" of fossiliferous limestone
- 126'-150' Clay, gray green, with very fine sand, slightly micaceous, slightly glauconitic, with a trace of silt  
T. D.: 150'

\* Drill Hole No. 678. Elevation 210'  
Location: SE¼, Sec. 25, T. 8 S., R. 12 W.  
County: Cleveland  
Logged by: R. L. Cole 4/79.

- 0' 11' Sand, very fine to fine, with a trace of pea gravel and clay binder

\* Electric logs available

+(GW) U.S.G.S. Ground Water Observation Well

ARKANSAS LIGNITE INVESTIGATIONS

228'-240' Clay, dark brown, with very fine sand and silt  
 240'-275' Clay, gray white, with a trace of lignite  
 275'-285' Clay, dark green, silty, slightly micaceous  
 285'-300' Clay, gray  
 T. D.: 300'

\* +Drill Hole No. 684. (GW) Elevation 320'  
 Location: SW¼, Sec. 5, T. 14, R. 22 W.  
 County: Nevada  
 Logged by: T. Y. Suen 5/79.

0' 5' Sand, red, fine, slightly micaceous  
 5' 15' Clay, buff white, with very fine sand and silt, slightly iron stained  
 15' 25' Clay, gray brown, slightly silty, slightly micaceous, glauconitic  
 25' 40' Clay, dark brown, slightly silty, slightly micaceous  
 40' 56' Clay, dark brown, with very fine sand, finely micaceous, and a trace of siderite  
 56' 76' Sand, light green, very fine to fine, finely micaceous, with clay binder and a trace of iron cemented sand  
 76' 100' Clay, dark chocolate brown, slightly silty, slightly micaceous with a trace of lignite  
 100' 125' Sand, brown, very fine, slightly micaceous  
 125' 150' Clay, dark brown, slightly micaceous  
 T. D.: 150'

+Drill Hole No. 685. (GW) Elevation 360'  
 Location: NW¼, Sec. 4, T. 13, R. 23 W.  
 County: Hempstead  
 Logged by: T. Y. Suen 5/79.

0' 22' Sand, red, fine to very fine, slightly micaceous, with a trace of buff white clay  
 22' 41' Sand, white tan buff, slightly salt and pepper, slightly micaceous  
 41' 120' Clay, blue gray, finely micaceous, with 3" of siderite  
 120' 150' Clay, medium gray, slightly silty, with a trace of glauconite  
 T. D.: 150'

\* +Drill Hole No. 686. (GW) Elevation 350'  
 Location: SE¼, Sec. 36, T. 13 S., R. 20 W.  
 County: Nevada  
 Logged by: T. Y. Suen 5/79.

0' 10' Sand, red, very fine, with clay binder  
 10' 45' Sand, white tan, very fine to fine, slightly micaceous  
 45' 46' Lignite, black, soft  
 46' 57' Clay, medium gray, with very fine sand and silt, finely micaceous  
 57' 90' Sand, white, very fine, with a trace of lignite  
 90' 99' Clay, gray, with very fine sand  
 99' 117' Sand, white, very fine  
 117' 119' Lignite, black, hard  
 119' 140' Sand, gray, very fine  
 T. D.: 140'

+Drill Hole No. 687. (GW) Elevation 280'  
 Location: NE¼, Sec. 29, T. 14 S., R. 19 W.  
 County: Ouachita  
 Logged by: T. Y. Suen 5/79.

0' 10' Clay, red tan mottled, with very fine sand  
 10' 24' Clay, buff tan, with very fine sand, slightly iron stained  
 24' 30' Clay, medium gray, slightly silty, with a trace of lignite  
 30' 55' Clay, light gray, slightly silty  
 55' 73' Clay, dark gray, with very fine sand, slightly micaceous  
 73' 78' Sand, white gray, very fine, slightly micaceous  
 78' 84' Clay, light gray, with very fine sand  
 84' 85' Lignite, black, hard  
 85' 100' Clay, light gray, with silt  
 100' 109' Clay, light to dark chocolate brown  
 109' 110' Clay, black, lignitic  
 110' 115' Clay, medium gray, silty, slightly micaceous  
 115' 120' Sand, gray, very fine, silty, slightly micaceous  
 120' 130' Clay, medium gray, silty  
 130' 220' Clay, cream-gray, silty, with a trace of lignite  
 220' 230' Clay and sand, light gray, very fine, interbedded, slightly salt and pepper  
 230' 250' Sand, gray, very fine, slightly salt and pepper, coarsely micaceous  
 T. D.: 250'

+Drill Hole No. 688. (GW) Elevation 300'  
 Location: SE¼, Sec. 15, T. 17, R. 19 W.  
 County: Columbia  
 Logged by: R. L. Cole 5/79.

0' 15' Clay, light red to gray buff, with very fine sand  
 15' 20' Clay, dark brown, lignitic  
 20' 47' Clay, dark brown, with very fine sand and silt, slightly micaceous, with a trace of lignite  
 47' 135' Clay, green, slightly glauconitic, micaceous, with very fine sand, and 18" of siderite  
 135' 150' Silt and clay, green-gray, slightly glauconitic, with a trace of sand  
 150' 180' Sand, very fine, with clay binder  
 180' 300' Silt, with very fine sand stringers and a trace of clay  
 T. D.: 300'

\* +Drill Hole No. 689. (GW) Elevation 253'  
 Location: SW¼, Sec. 20, T. 18 S., R. 20 W.  
 County: Columbia  
 Logged by: R. L. Cole 5/79.

0' 24' Sand, buff tan to white, very fine, with clay binder  
 24' 47' Clay, gray green, with very fine sand  
 47' 94' Clay, gray green, glauconitic, slightly micaceous, with thin sand stringers throughout  
 94' 104' Sand, gray, very fine, with silt binder  
 104' 110' Silt, gray green  
 110' 120' Sand, gray, very fine, silty  
 120' 130' Clay, gray green, glauconitic, silty

130'-174' Silt  
 174'-180' Sand, gray-green, very fine  
 180'-200' Silt  
 200'-217' Clay, gray-brown, with very fine sand and silt interbedded  
 217'-272' Silt  
 272'-310' Sand, very fine, slightly silty  
 T. D.: 310'

\* +Drill Hole No. 690. (GW) Elevation 285'  
 Location: NW¼, Sec. 26, T. 18 S., R. 23 W.  
 County: Columbia  
 Logged by: R. L. Cole 5/79.

0' 35' Sand, very fine, with red clay binder, silty  
 35' 55' Sand, yellow-brown, very fine to fine, with a trace of clay and silt  
 55' 62' Clay, red, slightly glauconitic, with a trace of very fine sand and silt  
 62' 68' Clay, buff-gray, with very fine sand  
 68' 90' Sand, very fine to coarse  
 90' 115' Clay, green, slightly glauconitic, with thin interbedded very fine sand  
 115' 220' Clay, dark gray-green, slightly micaceous, lignitic, with interbedded sand  
 220' 278' Sand, gray-green, very fine, with interbedded silt  
 278' 300' Sand, gray-green, very fine  
 T. D.: 300'

+Drill Hole No. 691. (GW) Elevation 265'  
 Location: SW¼, Sec. 19, T. 16 S., R. 24 W.  
 County: Lafayette  
 Logged by: R. L. Cole 5/79.

0' 7' Clay, buff-gray, slightly sandy  
 7' 45' Clay, red, slightly silty  
 45' 55' Sand, brown, very fine  
 55' 70' Sand, brown, very fine, with interbedded brown clay  
 70' 130' Sand, brown, very fine to coarse, with a trace of gravel  
 130' 150' Sand, brown, very fine to fine, with interbedded green clay  
 150' 222' Silt and clay, green, with a trace of sand  
 222' 235' Sand, gray-green, very fine  
 235' 300' Silt with a trace of sand  
 T. D.: 300'

\* +Drill Hole No. 692. (GW) Elevation 330'  
 Location: NW¼, Sec. 31, T. 16 S., R. 27 W.  
 County: Miller  
 Logged by: T. Y. Suen 5/79.

0' 25' Sand, light red, fine to medium  
 25' 40' Gravel, small pea to small pebble, with coarse sand  
 40' 100' Clay, black to dark brown, with very fine sand, finely micaceous  
 100' 125' Silt, dark brown to black, with a trace of clay  
 125' 135' Sand, light gray-brown.  
 135' 145' Clay, dark brown, silty, micaceous, with a trace of siderite  
 T. D.: 145'

Drill Hole No. 693. Elevation 385'  
 Location: NE¼, Sec. 33, T. 15 S., R. 28 W.  
 County: Miller  
 Logged by: T. Y. Suen 5/79.

0' 11' Clay, red, mottled white, slightly micaceous

+ (GW) U.S.G.S. Ground Water Observation Well

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

11'- 23' Clay, buff-white, slightly mica-  
ceous, with ilmonite lenses  
23'- 35' Clay, light gray, with very fine  
sand, slightly micaceous  
35'- 45' Sand, light yellow, fine, with  
clay binder  
45'- 55' Clay, medium gray, with very  
fine sand and silt, slightly  
micaceous  
55'-130' Sand, medium gray, very fine,  
slightly salt and pepper, finely  
micaceous  
T. D.: 130'

\* Drill Hole No. 694. Elevation 375'  
Location: NE 1/4, Sec. 34, T. 15 S., R. 28 W.  
County: Miller  
Logged by: R. L. Cole, 5/79.

0'- 9' Clay, gray to dark buff, with  
very fine sand  
9'- 50' Sand, yellow, very fine, with a  
trace of clay binder  
50'- 75' Sand, yellow-gray, very fine to  
medium, slightly silty  
75'-115' Sand, tan-gray, very fine, slight-  
ly silty  
115'-150' Silt, green-gray, with a trace of  
very fine sand and clay  
T. D.: 150'

\* Drill Hole No. 695. Elevation 396'  
Location: SE 1/4, Sec. 35, T. 15 S., R. 28 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0'- 20' Clay, buff yellow, slightly sandy  
20'- 65' Clay, dark brown to black, silty,  
slightly micaceous  
65'- 76' Clay, green, silty, slightly mica-  
ceous with 1' of lignitic clay  
@ 75'  
76'-112' Clay, light green, with very fine  
sand, slightly silty  
112'-150' Clay, brown, slightly silty, with  
a trace of lignitic clay  
T. D.: 150'

\* Drill Hole No. 696. Elevation 385'  
Location: NE 1/4, Sec. 1, T. 16 S., R. 28 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0'- 4' Sand, yellow to light brown,  
very fine  
4'- 35' Sand, buff-gray, very fine, with  
clay binder  
35'- 45' Clay, dark gray-green to black,  
slightly micaceous  
45'- 80' Clay, dark brown, slightly sandy  
with 2' of lignite and brown  
clay interbedded  
80'-104' Clay, light green, slightly mica-  
ceous  
104'-110' Clay, gray-green, with a trace of  
sand  
110'-130' Clay, light green, slightly mica-  
ceous, sandy  
130'-134' Clay, brown, slightly silty, with  
1' of lignite @ 133'  
134'-147' Clay, brown, slightly silty  
147'-150' Sand, gray-green, with clay  
binder  
T. D.: 150'

Drill Hole No. 697. Elevation 320'  
Location: SE 1/4, Sec. 6, T. 16 S., R. 27 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0'- 3' Sand, light red, very fine, with

clay binder  
3'- 13' Sand, light brown, very fine,  
with clay binder  
13'- 20' Clay, chocolate brown, with  
very fine sand and silt  
20'- 40' Clay, dark chocolate brown to  
black, with very fine sand,  
slightly micaceous and 2" of  
siderite  
40'- 50' Sand, brown, very fine, coarsely  
micaceous, with 2" of siderite  
50'- 65' Sand, light buff, very fine to  
fine, salt and pepper, finely  
micaceous  
65'- 72' Clay, light gray, with very fine  
sand  
72'- 90' Clay, chocolate brown, slightly  
silty, with thin bedded sand  
lenses  
90'-110' Silt and sand, light brown, very  
fine  
110'-115' Clay, gray, silty, with a trace  
of lignite  
115'-125' Sand, light brown, fine to very  
fine, finely micaceous  
125'-130' Clay, gray, with very fine sand  
130'-145' Sand, light brown, very fine,  
silty, micaceous, with thin clay  
interbeds  
145'-150' Clay, light gray, with greenish  
cast, silty  
T. D.: 150'

Drill Hole No. 698. Elevation 368'  
Location: NE 1/4, Sec. 8, T. 16 S., R. 27 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0'- 10' Sand, very fine, with clay  
binder and a trace of pea  
gravel  
10'- 18' Sand, buff yellow, mottled  
red, very fine to medium, with  
clay binder  
18'- 28' Gravel, pea to cobble, with  
coarse sand  
28'- 50' Clay, gray, slightly glauconitic,  
slightly silty  
50'- 61' Clay, buff-white, slightly sandy  
61'- 75' Clay, gray, slightly sandy  
75'- 80' Gravel, pea to cobble  
80'-120' Sand, gray, very fine, with a  
trace of clay  
120'-135' Silt, gray-green, with a trace  
of clay  
135'-150' Sand, very fine, silty  
T. D.: 150'

\* Drill Hole No. 699. Elevation 330'  
Location: NE 1/4, Sec. 29, T. 15 S., R. 27 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0'- 8' Sand, red, very fine, with clay  
binder  
8'- 11' Sand, buff-gray, with clay  
binder  
11'- 14' Clay, buff gray, slightly silty,  
micaceous  
14'- 19' Clay, brown  
19'- 21' Clay, dark brown, slightly mica-  
ceous  
21'- 28' Sand, light brown, very fine,  
with clay binder  
28'- 31' Clay, gray-brown, slightly mica-  
ceous, with very fine sand  
31'- 53' Clay, gray, with a trace of  
lignite  
53'- 69' Clay, green, slightly micaceous  
69'- 80' Clay, gray-green, with a trace

of lignite  
80'- 83' Lignite, black, hard  
83'-115' Clay, green, slightly glauconitic,  
sandy, with a trace of lignite  
115'-150' Silt, gray-green

Core Interval  
77'6" - 85'

Recovered: Lost:  
60" 30"

77'6" - 78' clay, green, lignitic  
78' - 81' Lignite, black, hard  
81' - 82'6" clay, green, sandy  
82'6" - 85' not recovered

Core Interval

90' - 98'

Recovered: Lost:  
96" 0"

90' - 90'11" clay, buff-green,  
lignitic  
90'11" - 93'5" lignite, black,  
hard  
93'5" - 93'11" clay, brown-  
green, lignitic  
93'11" - 98' clay, green, sandy,  
slightly micaceous  
T. D.: 150'

Drill Hole No. 700. Elevation 282'  
Location: NW 1/4, Sec. 27, T. 15 S., R. 27 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0'- 10' Sand, light red, very fine, with  
clay binder  
10'- 27' Clay, light red, with very fine  
sand and trace of siderite  
27'- 34' Clay, medium gray, with 4" of  
siderite  
34'- 38' Clay, dark brown to black, with  
a trace of lignite  
38'- 65' Sand, gray, fine, salt and pepper  
65'- 73' Clay, gray-brown, with very fine  
sand interbedded  
73'- 75' Clay, chocolate brown, lignitic

Core Interval  
75' - 85'

Recovered: Lost:  
10' 0'

75' - 81'2" clay, medium gray,  
with very fine sand, micaceous,  
with thin lignite partings  
81'2" - 82'2" lignite, with gray  
clay partings  
82'2" - 84'3" lignite, black,  
firm, woody texture  
84'3" - 85' clay, dark gray, with  
lignitic clay partings

85'-100' Clay, light gray, with a trace of  
lignite  
100'-105' Clay, light gray, with very fine  
sand  
105'-138' Sand, light gray, very fine,  
salt and pepper  
138'-140' Siderite, hard  
140'-150' Sand, light gray, very fine, salt  
and pepper  
T. D.: 150'



ARKANSAS LIGNITE INVESTIGATIONS

\* **Drill Hole No. 701.** Elevation 260'  
Location: NW¼, Sec. 26, T. 15 S., R. 27 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0' 3' Sand, red yellow, fine to very fine with clay binder  
3' 7' Sand, gray, very fine, with clay binder  
7' 28' Sand, yellow, very fine, with gravel, pea to small cobble  
28' 68' Clay, gray green, slightly micaceous, with very fine sand  
68' 88' Clay, gray green, slightly silty  
88' 112' Clay, gray green, slightly silty and micaceous  
112' 120' Lignite, 4" stringer; clay, gray green, with very fine sand  
120' 124' Clay, gray green, 1' lignite @ 122'  
124' 137' Clay, gray, sandy  
137' 146' Clay, light green, slightly glauconitic, slightly micaceous, with 4" siderite @ 146'  
146' 150' Clay, gray green, sandy, slightly micaceous  
T. D.: 150'

**Drill Hole No. 702.** Elevation 240'  
Location: SW¼, Sec. 25, T. 15 S., R. 27 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 7' Sand, brown, very fine to fine  
7' 20' Sand, light orange, fine with clay binder  
20' 26' Clay, light orange brown, with very fine sand  
26' 35' Sand, light brown, very fine  
35' 62' Sand, white, fine  
62' 70' Sand, light gray, very fine to fine  
70' 90' Sand, light brown, very fine with trace of lignite  
90' 110' Sand, light gray, very fine, micaceous  
110' 146' Clay, light gray, silty, trace of lignite  
T. D.: 146'

**Drill Hole No. 703.** Elevation 250'  
Location: SW¼, Sec. 30, T. 15 S., R. 26 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 17' Sand, red, very fine with slight clay binder  
17' 27' Sand, buff to brown, very fine, with clay binder  
27' 32' Clay, gray black, slightly micaceous  
32' 50' Clay, gray green, sandy, slightly micaceous  
50' 138' Sand, gray green, very fine, with some sandy clay, trace of lignite  
138' 150' Clay, light green, with very fine sand  
T. D.: 150'

\* **Drill Hole No. 704.** Elevation 250'  
Location: SE¼, Sec. 29, T. 15 S., R. 26 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 4' Clay, reddish brown, with very fine sand  
4' 12' Sand, yellow, fine to very fine  
12' 15' Sand, dark brown, with clay binder  
15' 25' Clay, dark brown, with very fine sand and trace of lignite

\*Electric logs available

25' 32' Sand, light gray, fine  
32' 37' Clay, gray brown, with very fine sand  
37' 58' Sand, light gray, salt and pepper, fine and micaceous  
58' 70' Sand, red to gray, salt and pepper, micaceous, trace of siderite  
70' 80' Sand and clay interbedded, light gray, finely micaceous  
80' 130' Sand, light brown, salt and pepper, finely micaceous and 4" siderite @ 92'  
130' 146' Clay, light gray, silty, with trace of lignite @ 135'  
T. D.: 146'

**Drill Hole No. 705.** Elevation 230'  
Location: NE¼, Sec. 33, T. 15 S., R. 26 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 9' Clay, chocolate brown  
9' 10' Sand, red, very fine, with clay binder  
10' 15' Clay, gray brown  
15' 40' Sand, gray brown, medium to coarse  
T. D.: 40'

\* **Drill Hole No. 706.** Elevation 230'  
Location: SE¼, Sec. 27, T. 15 S., R. 26 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0' 13' Clay, reddish brown, silty  
13' 30' Sand, light reddish brown, very fine to fine, with clay binder  
30' 45' Sand, light reddish brown, coarse  
45' 55' Sand, gray brown, medium  
55' 147' Sand, light gray, salt and pepper, fine, slightly micaceous, 4" of siderite @ 95' and 6" @ 125'  
T. D.: 147'

**Drill Hole No. 707.** Elevation 233'  
Location: NW¼, Sec. 36, T. 15 S., R. 26 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0' 20' Clay, dark reddish brown  
20' 28' Clay, gray white, with very fine sand  
28' 45' Sand, buff tan, very fine to fine, slightly micaceous  
45' 52' Sand, buff, medium to coarse  
52' 58' Sand interbedded with chocolate brown clay  
58' 87' Sand, brown, salt and pepper, very fine to fine, slightly micaceous, with thin brown clay stringers  
87' 90' Clay, brown  
90' 146' Sand, brown, salt and pepper, fine, slightly micaceous, with 7' clay seam @ 93'  
T. D.: 146'

\* **Drill Hole No. 708.** Elevation 234'  
Location: NE¼, Sec. 1, T. 16 S., R. 26 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 18' Clay, reddish brown, slightly sandy, glauconitic  
18' 38' Sand, reddish yellow, very fine to fine  
38' 50' Sand, gray, medium to coarse,

50' 75' with some pea gravel  
75' 150' Gravel, pea to small cobble  
Clay, brown-black, slightly micaceous, silty, with 4" siderite @ 135'  
T. D.: 150'

\* **Drill Hole No. 709.** Elevation 230'  
Location: NW¼, Sec. 7, T. 16 S., R. 25 W.  
County: Miller  
Logged by: R. L. Cole 5/79.

0' 28' Clay, dark reddish brown, slightly micaceous  
28' 36' Sand, reddish brown, medium to coarse  
36' 68' Sand, coarse to very coarse, with some pea gravel  
68' 75' Clay, chocolate brown, sandy  
75' 95' Silt  
95' 150' Clay, dark brown, slightly sandy, silty  
T. D.: 150'

\* **Drill Hole No. 710.** Elevation 230'  
Location: SW¼, Sec. 8, T. 16 S., R. 25 W.  
County: Miller  
Logged by: T. Y. Suen 5/79.

0' 28' Clay, dark reddish brown, with very fine sand  
28' 50' Sand, light tan, fine to medium  
50' 60' Sand, light tan, medium to coarse  
60' 68' Sand, coarse, with some pea gravel  
68' 76' Clay, dark brown to black, with a trace of siderite @ 76'  
76' 79' Sand, light gray, medium to coarse  
79' 82' Clay, dark brown  
82' 110' Sand, light gray, medium  
110' 133' Sand, fine, with clay binder and thin siderite stringers  
133' 138' Clay, brown, silty  
138' 146' Clay, brown, silty, with very fine sand  
T. D.: 146'

**Drill Hole No. 711.** Elevation 340'  
Location: SE¼, Sec. 8, T. 15 S., R. 22 W.,  
County: Nevada  
Logged by: T. Y. Suen 5/79.

0' 7' Clay, light orange, with very fine to fine sand  
7' 22' Clay, buff-tan, with limonite lenses  
22' 25' Clay, buff-gray to chocolate brown, with very fine sand  
25' 30' Clay, light brown  
30' 100' Clay, light gray-green, silty and with some very fine sand  
100' 138' Clay and sand interbedded, gray and silty  
138' 146' Sand, gray, salt and pepper, very fine  
T. D.: 146'

**Drill Hole No. 712.** Elevation 365'  
Location: SW¼, Sec. 5, T. 15 S., R. 22 W.  
County: Nevada  
Logged by: R. L. Cole 5/79.

0' 9' Sand, red, fine, with clay binder  
9' 18' Sand, buff-yellow, very fine, with clay binder  
18' 23' Clay, chocolate brown, sandy  
23' 55' Clay, dark green, with very fine sand, glauconitic

ARKANSAS LIGNITE INVESTIGATIONS

55'- 77' Clay, gray-brown, slightly micaceous, sandy, glauconitic, trace of lignite at 68'  
 77'- 86' Sand, buff gray, very fine  
 86'-100' Clay, gray brown, slightly sandy and micaceous  
 100'-150' Sand, buff gray, very fine  
 T. D.: 150'

**Drill Hole No. 713.** Elevation 385'  
 Location: NE¼, Sec. 31, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 5/79.

0'- 15' Sand, orange red, very fine  
 15'- 35' Sand, brown red, very fine with clay partings  
 35'-110' Sand, brownish red, very fine to fine, with some clay laminations  
 110'-150' Sand, light brown, very fine, with clay laminations and 2" siderite @ 145'  
 T. D.: 150'

**Drill Hole No. 714.** Elevation 415'  
 Location: NW¼, Sec. 29, T. 14 S., R. 22 W. County: Nevada  
 Logged by: T. Y. Suen 5/79.

0'- 17' Sand, reddish orange, fine to medium  
 17'- 50' Sand, light orange to tan, medium grained  
 50'- 95' Sand, white, fine  
 95'- 96' Sand, reddish yellow, hematite cemented  
 96'- 98' Clay, dark brown to black, micaceous  
 98'-110' Sand, reddish white, medium  
 110'-142' Clay, dark gray-brown, micaceous, with very fine sand  
 T. D.: 142'

**Drill Hole No. 715.** Elevation 346'  
 Location: NW¼, Sec. 20, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 5/79.

0'- 13' Clay, mottled red and yellow, with slight sand  
 13'- 53' Clay, grayish green, slightly micaceous, sandy  
 53'-105' Sand, brownish green, very fine grained, with some silt  
 105'-150' Clay, dark brown, micaceous, slightly sandy, with 1" siderite @ 148'  
 T. D.: 150'

\* **Drill Hole No. 716.** Elevation 330'  
 Location: NW¼, Sec. 17, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 5/79.

0'- 13' Sand, brownish red, very fine, with some clay binder  
 13'- 40' Clay, dark brown, slightly sandy, silty and micaceous, 2" siderite @ 23'  
 40'- 56' Sand, brownish gray, very fine, slightly micaceous  
 56'- 75' Clay, light gray green, slightly sandy  
 75'-105' Clay, dark brown to black, slightly micaceous, silty  
 105'-126' Sand, brownish tan, very fine grained, with some silt and clay laminations

126'-145' Silt, with brown clay laminations, siderite @ 145'  
 T. D.: 145'

**Drill Hole No. 717.** Elevation 316'  
 Location: SE¼, Sec. 5, T. 14 S., R. 22 W. County: Nevada  
 Logged by: T. Y. Suen 5/79.

0'- 8' Sand, light orange, very fine  
 8'- 17' Clay, light orange-red  
 17'- 40' Clay, dark brown, slightly micaceous and glauconitic  
 40'- 55' Clay, chocolate brown, with very fine sand, micaceous  
 55'- 70' Sand, dark brown, salt and pepper, very fine and micaceous  
 70'- 90' Clay, gray dark brown, silty finely micaceous  
 90'-100' Sand, dark brown, very fine  
 100'-115' Clay and sand, dark brown, very fine, trace of lignite  
 115'-137' Sand and clay, chocolate brown, finely micaceous  
 137'-142' Sand, brown, micaceous  
 T. D.: 142'

**Drill Hole No. 718.** Elevation 410'  
 Location: SE¼, Sec. 17, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 5/79.

0'- 25' Sand, reddish-orange, very fine to fine  
 25'- 35' Sand, orange tan, very fine to fine  
 35'- 89' Sand, buff tan, very fine to fine, with 1" siderite @ 84'  
 89'-138' Sand, buff-tan, with some clay partings, micaceous, silty, and 1" siderite @ 104'  
 138'-150' Clay, dark greenish-brown, sandy, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 719.** Elevation 385'  
 Location: NE¼, Sec. 16, T. 14 S., R. 22 W. County: Nevada  
 Logged by: T. Y. Suen 5/79.

0'- 33' Sand, light orange-red, fine to medium  
 33'- 47' Clay, light tan to light brown  
 47'- 58' Sand, white, fine  
 58'- 60' Clay, dark gray brown  
 60'- 105' Sand, light brown, micaceous, trace of lignite @ 73', trace of glauconite @ 100'  
 105'-142' Clay, light brown, glauconitic, with very fine sand, silt  
 T. D.: 142'

**Drill Hole No. 720.** Elevation 315'  
 Location: NE¼, Sec. 15, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 5/79.

0'- 8' Sand, yellow-brown, very fine, with clay binder  
 8'- 25' Sand, gray buff, very fine, with clay binder  
 25'- 50' Sand, gray buff, very fine, with dark brown black clay partings  
 50'- 95' Sand, gray buff, very fine, with light green clay partings  
 95'-125' Clay, dark brown, slightly sandy and micaceous  
 125'-150' Sand, gray-buff with gray-green

clay partings  
 T. D.: 150'

\* **Drill Hole No. 721.** Elevation 333'  
 Location: NE¼, Sec. 14, T. 14 S., R. 22 W. County: Nevada  
 Logged by: R. L. Cole 6/79.

0'- 8' Sand, red-orange, with clay binder  
 8'- 11' Sand, buff-tan, with clay binder  
 11'- 47' Clay, buff-brown, slightly micaceous and sandy  
 47'- 75' Sand, gray, very fine  
 75'- 91' Clay, gray, brown  
 91'-105' Sand, gray, very fine, with gray-brown clay interbedded  
 105'-125' Clay, gray-tan, slightly sandy and micaceous  
 125'-150' Sand, very fine, trace of lignite @ 127'  
 T. D.: 150'

\* **Drill Hole No. 722.** Elevation 345'  
 Location: SE¼, Sec. 13, T. 14 S., R. 22 W. County: Nevada  
 Logged by: T. Y. Suen 6/79.

0'- 6' Clay, mottled red, with very fine sand  
 6'- 17' Sand, yellow-tan, very fine, with clay binder  
 17'- 42' Sand, gray to blue-gray, fine, slightly micaceous, with clay binder  
 42'- 71' Clay, gray, slightly silty, 4" siderite @ 52'  
 71'- 82' Sand, light gray, salt and pepper with some silt  
 82'- 99' Clay, light tan-gray, very fine sand, slight silt, trace of lignite @ 85'  
 99'-103' Lignite, black, firm  
 103'-105' Clay, light gray  
 105'-110' Sand, light gray, very fine, slightly micaceous  
 110'-142' Clay, light gray, with very fine sand interbedded, lignitic  
 T. D.: 142'

\* **Drill Hole No. 723.** Elevation 350'  
 Location: SW¼, Sec. 17, T. 14 S., R. 21 W. County: Nevada  
 Logged by: R. L. Cole 6/79.

0'- 5' Sand, red mottled, very fine, with clay binder  
 5'- 18' Sand, yellow-tan mottled, very fine to fine, with clay binder  
 18'- 60' Clay, gray-green, sandy, slightly micaceous  
 60'- 65' Sand, gray to light tan, very fine  
 65'- 95' Clay, gray-green, slightly sandy  
 95'-100' Clay, dark brown, lignitic  
 100'-150' Sand, gray-tan, very fine, with some silt and lignite partings  
 T. D.: 150'

\* **Drill Hole No. 724.** Elevation 360'  
 Location: NE¼, Sec. 6, T. 3 S., R. 14 W. County: Saline  
 Logged by: T. Y. Suen 6/79.

0'- 2' Sand, white, fine grained  
 2'- 11' Sand, light orange-brown, fine, slightly micaceous  
 11'- 29' Clay, dark brown, with some sand, silt, 5" siderite @ 29'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

29' 55' Clay, dark brown to black, with very fine sand  
 55'-100' Sand, brown, very fine, slightly micaceous, 1' siderite @ 58'  
 100'-110' Sand and clay, brown interbedded, slightly micaceous  
 110'-147' Sand, tan and brown, very fine, slightly micaceous  
 T. D.: 147'

**Drill Hole No. 725.** Elevation 390'  
 Location: NW¼, Sec. 10, T. 2 S., R. 14 W.  
 County: Saline  
 Logged by: T. Y. Suen 6/79.

0' 8' Sand, light yellow-brown, fine  
 8'-18' Clay, brown, with very fine sand, slightly micaceous  
 18' 25' Bauxite, psolitic  
 25'-35' Sand, black, iron cemented, with trace of siderite  
 35'-50' Sand, green, glauconitic  
 50'-58' Clay, light white with a blue tint  
 58'-60' Clay, dark blue gray  
 T. D.: 60'

**Drill Hole No. 726.** Elevation 380'  
 Location: NW¼, Sec. 3, T. 26 S., R. 14 W.  
 County: Saline  
 Logged by: R. L. Cole 6/79.

0'-5' Sand, mottled red buff, very fine, with clay binder  
 5'-30' Clay, greenish brown, slightly silty, sandy and micaceous  
 30'-58' Clay, gray brown, slightly silty and micaceous  
 58'-88' Sand, tan to light brown, very fine  
 88'-90' Clay, gray green, slightly micaceous and sandy  
 T. D.: 90'

**Drill Hole No. 727.** Elevation 390'  
 Location: NW¼, Sec. 32, T. 2 S., R. 14 W.  
 County: Saline  
 Logged by: T. Y. Suen 6/79.

0' 17' Clay, light orange brown, with white mottled clay  
 17' 30' Clay, dark chocolate brown, with very fine sand, slightly micaceous  
 30' 50' Sand, brown, very fine  
 50'-100' Clay, brown, with very fine sand, silty, trace of lignite @ 68'  
 100' 146' Sand, brown, with very fine sand, silty and micaceous  
 T. D.: 146'

**Drill Hole No. 728.** Elevation 210'  
 Location: NW¼, Sec. 4, T. 5 S., R. 15 W.  
 County: Grant  
 Logged by: T. Y. Suen 6/79.

0' 15' Clay, light orange, with very fine sand  
 15' 23' Sand, light orange, medium to coarse grained  
 23'-32' Gravel, small pebble to large pebble  
 32' 33' Sand, coarse  
 33' 73' Clay, medium gray, with 7" coarse sand @ 34'  
 T. D.: 73'

**Drill Hole No. 729.** Elevation 345'  
 Location: SW¼, Sec. 21, T. 4 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0' 25' Sand, red orange, very fine  
 25' 35' Sand, tan to brown, very fine to fine, with some tan-buff clay  
 35' 40' Clay, buff-light tan, slightly sandy and glauconitic  
 40' 95' Sand, tan buff, very fine  
 95' 105' Clay, dark brown to brown, lignitic  
 105' 113' Silt and clay, tan, trace of lignite @ 106'  
 113' 117' Clay, dark brown to black, lignitic  
 117' 150' Silt, tan, with some clay and sand  
 T. D.: 150'

**Drill Hole No. 730.** Elevation 245'  
 Location: SW¼, Sec. 25, T. 4 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0' 7' Sand, light gray brown, fine  
 7' 26' Clay, light yellow, with very fine sand and silt  
 26' 52' Gravel, small pebble, with very coarse sand  
 52' 80' Sand, light gray, salt and pepper, fine to medium, trace of carbonaceous material @ 56'  
 80' 147' Sand, light gray, fine, carbonaceous  
 T. D.: 147'

**Drill Hole No. 731.** Elevation 401'  
 Location: SE¼, Sec. 20, T. 4 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0' 15' Sand, red orange, very fine  
 15' 65' Sand, buff tan, very fine, with some buff tan clay  
 65' 105' Sand, buff tan, fine to very coarse, with 2" siderite @ 105'  
 T. D.: 105'

**Drill Hole No. 732.** Elevation 295'  
 Location: NE¼, Sec. 27, T. 4 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0' 2' Sand, light brown, medium  
 2' 25' Sand, dark red to light yellow, medium  
 25' 35' Sand, dark red, medium, with clay binder  
 35' 50' Sand, tan, medium  
 50' 97' Sand, white, fine to medium  
 97' 106' Sand, gray white, with thin lignite partings  
 106' 125' Sand, brown, fine  
 125' 132' Clay, buff white, with very fine sand  
 132' 147' Sand, brown, fine  
 T. D.: 147'

**Drill Hole No. 733.** Elevation 358'  
 Location: SE¼, Sec. 9, T. 4 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0' 13' Sand, fine to very coarse, with some pea gravel

13' 21' Sand, light brown-tan, very fine, with some buff-tan clay  
 21' 95' Sand, buff-tan, very fine  
 95'-115' Sand, buff-cream, very fine, with chips of clay  
 115'-150' Sand, tan, gray-brown, very fine  
 T. D.: 150'

**Drill Hole No. 734.** Elevation 320'  
 Location: NE¼, Sec. 35, T. 4 S., R. 17 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'-11' Gravel, pea to small cobble, with medium to very coarse sand  
 11'-30' Sand, red-orange, very fine to fine  
 30'-95' Sand, tan to light brown, very, very fine sand  
 95'-150' Silt, with some very fine sand  
 T. D.: 150'

**Drill Hole No. 735.** Elevation 355'  
 Location: NW¼, Sec. 1, T. 5 S., R. 17 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'-13' Gravel, pea to small cobble, with coarse sand  
 13'-30' Sand, tan-brown, very fine to very coarse, with some silt and pea gravel  
 30'-75' Sand, tan, very, very fine, with some silt  
 75'-150' Sand, buff-tan to dark gray, very, very fine  
 T. D.: 150'

**Drill Hole No. 736.** Elevation 390'  
 Location: SE¼, Sec. 1, T. 5 S., R. 17 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0'-22' Sand, light tan, fine, with thin pea gravel lenses  
 22' 32' Clay and sand, light brown  
 32'-40' Clay, light brown to black, with trace of soft lignite  
 40'-70' Sand, white to tan, fine to medium  
 70'-86' Silt and sand, brown to cream  
 86'-140' Sand, white, medium to coarse, trace of lignite @ 141'  
 140'-147' Sand, tan, fine to medium  
 T. D.: 147'

**Drill Hole No. 737.** Elevation 480'  
 Location: SW¼, Sec. 7, T. 5 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'-12' Gravel, pea to cobble, with very fine to very coarse sand  
 12'-30' Clay, buff to light tan, sandy  
 30'-50' Sand, very, very fine, with some clay  
 50'-150' Sand, tan to gray, very fine, with silt  
 T. D.: 150'

**Drill Hole No. 738.** Elevation 490'  
 Location: NE¼, Sec. 18, T. 5 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0'-32' Clay, red to buff-tan, with very fine sand

ARKANSAS LIGNITE INVESTIGATIONS

32'- 40' Sand, light gray, salt and pepper, medium to fine  
 40'- 44' Clay, dark to light brown  
 44'- 47' Lignite, black, soft  
 47'- 62' Clay, tan to light greenish gray  
 62'- 66' Clay, buff white  
 66'- 68' Lignite, black, soft  
 68'-100' Clay, light greenish gray  
 100'-120' Sand, light gray, very fine to fine  
 120'-135' Clay, light gray brown, with very fine sand and silt  
 135'-150' Sand, light gray, fine, with thin clay interbedded

Core Interval

44' - 49'

Recovered: Lost:  
 14" 46"

44' 47' 8" lost  
 47' 8" - 49' lignite, black to dark brown, firm, subconchoidal fracture

Core Interval

49' - 54'

Recovered: Lost:  
 30" 30"

49' 51' 6" lost  
 51' 6" - 53' 8" clay, black to chocolate brown, with trace of lignite  
 53' 8" - 54' clay, light greenish gray  
 T. D.: 150'

**Drill Hole No. 739.** Elevation 505'  
 Location: NW¼, Sec. 20, T. 5 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'- 10' Gravel, small pea to small cobble, with very fine to very coarse orange-red sand  
 10'- 25' Sand, very fine to very coarse  
 25'- 30' Gravel, pea to small cobble, with very fine sand and a trace of lignite  
 30'- 80' Sand, gray to dark tan, very fine, with some silt  
 80'-125' Sand, gray, very fine  
 T. D.: 125'

**Drill Hole No. 740.** Elevation 500'  
 Location: NW¼, Sec. 29, T. 5 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'- 13' Gravel, pea to small cobble, with very fine, very coarse sand  
 13'- 25' Sand, very fine to fine, with dark brown lignitic clay laminations  
 25'- 37' Sand, very fine to fine, with some silt and gray buff clay laminations  
 37'- 45' Sand, gray to light brown, very fine to fine, with some gray clay  
 45'-103' Sand, blue-gray to light green, very, very fine

103' 110' Sand, gray-brown, very, very fine  
 T. D.: 110'

**Drill Hole No. 741.** Elevation 480'  
 Location: NW¼, Sec. 33, T. 5 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 6/79.

0'- 4' Gravel, small pea to cobble, with coarse sand  
 4'- 6' Clay, gray, sandy  
 6'- 20' Sand, reddish brown, very, very fine with some silt  
 20'- 36' Clay, light gray, brittle, with some trace of black lignitic clay  
 36'- 92' Sand, gray to dark brown, very, very fine, some silt  
 92'- 95' Clay, brown, brittle  
 95'-150' Sand, gray brown, very fine  
 T. D.: 150'

**Drill Hole No. 742.** Elevation 485'  
 Location: NE¼, Sec. 4, T. 6 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0'- 4' Gravel, small pea to large cobble  
 4'- 5' Sand, light yellow, fine to medium  
 5'- 13' Clay, light red orange, with fine sand and 4' gravel @ 8'  
 13'- 19' Clay, buff-white  
 19'- 40' Sand, buff-tan, salt and pepper, fine, trace of lignite @ 40'  
 40'- 50' Lignite, with chocolate brown clay

Core Interval

37' - 42'

Recovered: Lost:  
 5' 0"

37' - 37' 8" clay, chocolate brown with thin lignite partings  
 37' 8" - 38' 10" clay, green, brown, slightly micaceous  
 38' 10" - 39' 2" lignite, black, hard, blocky fracture  
 39' 2" - 40' clay, gray-brown, trace of lignite  
 40' - 42' clay, dark chocolate brown, lignitic, with woody lignite partings  
 T. D.: 50'

**Drill Hole No. 743.** Elevation 497'  
 Location: SW¼, Sec. 3, T. 6 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0'- 25' Gravel, pea to small cobble, with very coarse sand  
 25'- 40' Sand, light gray to brown, very fine  
 40'- 42' Lignite, black, firm  
 42'- 60' Clay, medium gray to light green, trace of lignite @ 56'  
 60'- 63' Clay, buff white, trace of lignite  
 63'- 80' Sand, gray, fine, with clay binder  
 T. D.: 80'

**Drill Hole No. 744.** Elevation 505'  
 Location: SW¼, Sec. 11, T. 6 S., R. 16 W.  
 County: Hot Spring  
 Logged by: T. Y. Suen 6/79.

0'- 30' Gravel, large pea to large cobble  
 30'- 35' Clay, light yellow, with limonite, trace of lignite @ 34'  
 35'- 42' Clay, light buff-brown  
 42'- 50' Clay, gray, slightly silty  
 50'- 52' Lignite, dark chocolate brown, firm, with chocolate brown clay  
 52'- 60' Clay, buff-white  
 60'- 73' Clay, dark green  
 73'- 85' Clay, dark greenish-gray, slightly silty  
 85'-106' Sand, gray-green, very fine  
 106'-145' Sand, gray-brown, very fine, trace of lignite @ 116', some slight clay  
 T. D.: 145'

**Drill Hole No. 745.** Elevation 505'  
 Location: SE¼, Sec. 15, T. 6 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 7/79.

0'- 22' Gravel, small pea to large cobble, with very fine sand and clay  
 22'- 23' Sand, very fine, some clay  
 23'- 33' Clay, tan-brown, lignitic, 2" lignite @ 25' and 6" @ 30'  
 33'- 42' Clay, buff-gray  
 42'- 65' Sand, reddish-brown, very, very fine, with some gray clay  
 T. D.: 65'

**Drill Hole No. 746.** Elevation 495'  
 Location: SE¼, Sec. 23, T. 6 S., R. 16 W.  
 County: Hot Spring  
 Logged by: R. L. Cole 7/79.

0'- 8' Sand, red-brown, very fine, with some clay binder  
 8'- 15' Gravel, with very fine sand and silt  
 15'- 22' Clay, buff-yellow, slightly silty and limonitic  
 22'- 25' Clay, buff-gray, with some limonite stain  
 25'- 38' Clay, dark gray, slightly micaceous and sandy  
 38'- 95' Sand, gray and dark brown, very, very fine, with some clay  
 95'-100' Sand, gray, very, very fine, with trace of lignite @ 99'  
 100'-107' Clay, dark brown, lignitic  
 107'-145' Sand, gray-brown, very, very fine  
 T. D. 145'

**Drill Hole No. 747.** Elevation 492'  
 Location: SW¼, Sec. 25, T. 6 S., R. 16 W.  
 County: Dallas  
 Logged by: R. L. Cole 7/79.

0'- 6' Sand, dark red to yellow, very fine, with some pea gravel  
 6'- 12' Sand, yellow-orange, very fine, with pea gravel  
 12'- 21' Gravel, pea to cobble, with very fine sand  
 21'- 24' Clay, light brown, with very fine sand  
 24'- 27' Gravel, with very fine sand  
 27'- 36' Sand, red-yellow, very fine, with clay occurring as stringers  
 36'- 64' Sand, salt and pepper, very fine

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

64'- 76' Sand reddish, fine to coarse, with some buff gray clay  
 76'- 145' Sand, very fine to coarse, with interbedded buff gray clay seams  
 T. D.: 145'

• **Drill Hole No. 748.** Elevation 491'  
 Location: NE¼, Sec. 1, T. 7 S., R. 16 W.  
 County: Dallas  
 Logged by: R. L. Cole 7/79.

0'- 27' Gravel, pea to cobble, with brown yellow, very fine sand, with limonite stain  
 27'- 29' Clay, buff light gray, slight sand, micaceous  
 29'- 32' Clay, green gray, with slight silt  
 32'- 33' Clay, dark brown to black, lignitic  
 33'- 42' Clay, green gray  
 42'- 47' Sand, brown, very fine to fine  
 47'- 141' Sand, gray brown, very fine, with some clay and silt, 4" of gray clay @ 74', 4" @ 116', 2" @ 135', trace of lignite at 141'  
 T. D.: 141'

**Drill Hole No. 749.** Elevation 475'  
 Location: NW¼, Sec. 7, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: R. L. Cole 7/79.

0'- 18' Gravel, pea to cobble, with very fine to fine red sand  
 18'- 21' Clay, buff to brown, slightly silty, glauconitic  
 21'- 24' Clay, yellow, slightly silty and glauconitic  
 24'- 42' Clay, gray green, slightly micaceous, silty  
 42'- 52' Clay, light gray to blue green  
 52'- 60' Clay, blue green, glauconitic  
 60'- 82' Sand, black gray, very fine, with a carbonaceous material, slightly micaceous  
 82'- 91' Clay, gray green, slightly sandy  
 91'- 92' Sand, gray, very fine, carbonaceous  
 92'- 97' Lignite, black, hard, with some black clay  
 97'-132' Sand, gray brown, very fine, with gray green clay seams of 6" to 2'  
 132'-142' Clay, gray, with silt

Core Interval

94' 104'

Recovered: Lost  
 2'6" 7'6"

94' 94'6" clay, green, slightly micaceous, lignitic  
 94'6" 95'6" lignite, black, hard, fractured  
 95'6" 96'6" clay, brown, sandy, slightly lignitic, micaceous  
 96'6" 104' not recovered

Core Interval

96'6" 104'

Recovered: Lost  
 7'6" 0

96'6" 100' clay, brown, micaceous and sandy, with a trace of lignite  
 100' 104' clay, green, lignitic, micaceous, and sandy, with brown clay nodules  
 T. D.: 142'

**Drill Hole No. 750.** Elevation 483'  
 Location: NW¼, Sec. 29, T. 7 S., R. 15 W.  
 County: Dallas  
 Logged by: R. L. Cole 7/79.

0'- 12' Gravel, pea to cobble, with very fine to fine, red sand  
 12'- 17' Clay, yellow brown, sandy, limonite stain  
 17'- 24' Clay, light brown gray, slightly silty  
 24'- 27' Clay, light buff gray, slightly sandy  
 27'- 37' Clay, green, sandy  
 37'- 38' Clay, dark brown to black, lignitic  
 38'- 41' Clay, green, sandy  
 41'- 42' Clay, dark brown to black, lignitic  
 42'- 45' Clay, turquoise, sandy  
 45'- 126' Sand, light brown gray, very fine, with clay seams  
 126'- 146' Silt, gray green  
 T. D.: 146'

**Drill Hole No. 751.** Elevation 340'  
 Location: NW¼, Sec. 24, T. 14 S., R. 24 W.  
 County: Hempstead  
 Logged by: T. Y. Suen 7/79.

0'- 10' Sand, light orange, very fine, with clay binder  
 10'- 15' Sand, reddish orange, very fine  
 15'- 20' Clay, brown, with very fine sand, silt, finely micaceous  
 20'- 36' Clay, dark chocolate brown  
 36'- 70' Sand, dark brown gray, salt and pepper, fine to very fine, 5" of iron cemented sand @ 36', 4" siderite @ 47'  
 70'- 85' Sand, dark gray, very fine to fine, with thin gray clay seams interbedded, trace of siderite  
 85'- 145' Sand and clay, brown, very fine, interbedded, 3" of siderite @ 102'  
 T. D.: 145'

**Drill Hole No. 752.** Elevation 351'  
 Location: SE¼, Sec. 19, T. 14 S., R. 23 W.  
 County: Hempstead  
 Logged by: S. Pullen 7/79.

0'- 17' Sand, red brown, very fine  
 17'- 63' Clay, dark brown, sandy, micaceous  
 63'- 86' Clay, green, silty, micaceous, 1" of siderite @ 63'  
 86'- 103' Clay, dark brown, slightly sandy, micaceous  
 103'- 128' Clay, light brown, orange, slightly sandy, silty, micaceous  
 128'- 135' Clay, dark brown, sandy, slightly micaceous  
 135'- 140' Clay, light brown, slightly micaceous  
 T. D.: 140'

**Drill Hole No. 753.** Elevation 305'  
 Location: NE¼, Sec. 20, T. 14 S., R. 23 W.  
 County: Hempstead  
 Logged by: R. L. Cole 7/79.

0'- 7' Sand, red brown, very fine to fine  
 7'- 10' Clay, gray to yellow-orange, with sand binder, limonite stain  
 10'- 17' Clay, brown to black, sandy, micaceous, slight iron stain  
 17'- 24' Sand, very fine, with some clay and carbonaceous material  
 24'- 28' Clay, olive green, 6" of siderite @ 25'  
 28'- 30' Sand, gray-green, very fine  
 30'- 47' Clay, gray-green, micaceous, sandy, with isolated seams of sand  
 47'- 97' Sand, gray-green, very fine, with silt interbedded  
 97'-142' Sand, very fine, with clay seams, micaceous  
 T. D.: 142'

**Drill Hole No. 754.** Elevation 301'  
 Location: SW¼, Sec. 21, T. 14 S., R. 23 W.  
 County: Hempstead  
 Logged by: S. Pullen 7/79.

0'- 15' Clay, reddish orange, very fine, sandy  
 15'- 20' Clay, tan to pink, slightly sandy, micaceous  
 20'- 40' Sand, red-orange, fine, slightly micaceous  
 40'- 50' Clay, tan, slightly sandy and micaceous  
 50'- 66' Sand, reddish, very fine  
 66'- 88' Clay, dark brown, sandy, slightly micaceous, slightly lignitic  
 88'- 96' Sand, fine  
 96'- 110' Clay, gray, 5" of siderite @ 98'  
 110'- 140' Clay, dark brown, sandy, lignitic, silty  
 140'-150' Clay, gray, silty, slightly micaceous  
 T. D.: 150'

**Drill Hole No. 755.** Elevation 285'  
 Location: NW¼, Sec. 27, T. 14 S., R. 23 W.  
 County: Nevada  
 Logged by: S. Pullen 7/79.

0'- 15' Clay, brown, sandy  
 15'- 60' Clay, gray, sandy, slightly micaceous  
 60'- 70' Silt, gray  
 70'- 85' Clay, gray, sandy, with some siderite  
 85'- 88' Clay, gray, sandy, lignitic, micaceous  
 88'- 150' Clay, gray, sandy, micaceous, lignitic, with some siderite  
 T. D.: 150'

**Drill Hole No. 756.** Elevation 322'  
 Location: SW¼, Sec. 26, T. 14 S., R. 23 W.  
 County: Nevada  
 Logged by: R. L. Cole 7/79.

0'- 7' Sand, orange-red, very fine to fine, slightly micaceous, with clay binder  
 7'- 17' Clay, gray to dark gray, slightly micaceous

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

17'- 32' Clay, dark gray-brown, sandy, with local seams of sand  
 32'-147' Sand, grayish, very fine, with some silt, 3" siderite @ 107' T. D.: 147'

**Drill Hole No. 757.** Elevation 350'  
 Location: NW¼, Sec. 36, T. 14 S., R. 23 W.  
 County: Nevada  
 Logged by: S. Pullen 7/79.

0'- 20' Sand, brown, fine  
 20'- 30' Clay, dark brown, slightly sandy, micaceous and silty  
 30'- 50' Clay, brown, slightly lignitic, some siderite  
 50'- 56' Clay, brown, sandy and glauconitic  
 56'-100' Clay, brown, slightly micaceous  
 100'-108' Clay, dark rust, micaceous, slightly sandy  
 108'-150' Clay, brown, micaceous and very sandy  
 T. D.: 150'

**Drill Hole No. 758.** Elevation 350'  
 Location: NW¼, Sec. 6, T. 15 S., R. 22 W.  
 County: Nevada  
 Logged by: R. L. Cole 7/79.

0'- 7' Sand, yellow-red, very fine to fine, with slight clay  
 7'- 13' Clay, buff-light gray, with some sand  
 13'- 17' Clay, buff yellow, very fine to fine sand  
 17'- 21' Sand, buff to yellow-tan, very fine to fine  
 21'- 34' Sand, yellow-red, very fine to fine  
 34'- 75' Sand, tan-brown, very fine to fine  
 75'-147' Sand, tan-brown, very fine, micaceous, 1' siderite @ 85', intermittent siderite from 137' to 147'  
 T. D.: 147'

**Drill Hole No. 759.** Elevation 300'  
 Location: NW¼, Sec. 20, T. 15 S., R. 22 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 10' Sand, orange-red, slightly micaceous, with clay binder  
 10'- 44' Clay, dark green, sandy, micaceous  
 44'- 57' Clay, green-brown, slightly sandy, micaceous, lignitic  
 57'- 76' Clay, green, micaceous  
 76'- 95' Clay, green, slightly sandy, micaceous  
 95'-125' Clay, green, micaceous, siderite @ 114', 1" - 1½" thick  
 125'-150' Sand, greenish-brown, slightly micaceous, with clay binder  
 T. D.: 150'

**Drill Hole No. 760.** Elevation 305'  
 Location: NW¼, Sec. 29, T. 15 S., R. 22 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 10' Clay, red-orange, slightly sandy, micaceous  
 10'- 20' Sand, red-brown, fine, with clay binder  
 20'- 30' Clay, gray-red, micaceous, slightly sandy  
 30'-128' Clay, gray, micaceous, sandy  
 128'-140' Sand, brown, fine, micaceous  
 T. D.: 140'

**Drill Hole No. 761.** Elevation 300'  
 Location: NW¼, Sec. 32, T. 15 S., R. 22 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 20' Sand, brownish-white, with clay binder  
 20'- 28' Clay, gray-green, slightly sandy, micaceous  
 28'- 47' Clay, gray, micaceous, with chocolate brown clay  
 47'-107' Clay, slightly micaceous, green, lignitic  
 107'-122' Clay, green, micaceous with lignitic stringers  
 122'-150' Sand, brownish-green, fine, micaceous, with clay, green and micaceous  
 T. D.: 150'

**Drill Hole No. 762.** Elevation 278'  
 Location: NE¼, Sec. 6, T. 16 S., R. 22 W.  
 County: LaFayette  
 Logged by: R. L. Cole 7/79.

0'- 5' Sand, very fine, yellow, with clay binder  
 5'- 13' Sand, very fine, with clay binder  
 13'- 14' Sand, yellow very fine, slight clay  
 14'- 17' Sand, reddish brown, very fine, slight clay  
 17'- 27' Clay, gray, slightly micaceous, silty  
 27'- 67' Sand, gray, very fine, interbedded with silt, some slight clay  
 67'- 77' Clay, gray  
 77'-147' Sand, gray, very fine, with clay seams  
 T. D.: 147'

**Drill Hole No. 763.** Elevation 295'  
 Location: SE¼, Sec. 1, T. 16 S., R. 23 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 10' Sand, red-orange, medium, with clay binder  
 10'- 30' Clay, tan, slight sand, micaceous  
 30'- 35' Clay, grayish-brown, slightly micaceous, sandy  
 35'- 45' Sand, tan-brown, fine, slightly micaceous  
 45'- 50' Clay, brownish-gray, micaceous  
 50'- 97' Clay, gray, slightly micaceous, sandy  
 97'-100' Clay, chocolate brown, micaceous  
 100'-150' Sand, brownish gray, micaceous, slightly lignitic clay  
 T. D.: 150'

**Drill Hole No. 764.** Elevation 287'  
 Location: SE¼, Sec. 9, T. 16 S., R. 23 W.  
 County: LaFayette  
 Logged by: R. L. Cole 7/79.

0'- 5' Sand, gray, very fine, with clay binder  
 5'- 10' Sand, yellow-gray, very fine, clay binder  
 10'- 17' Sand, red, very fine, clay binder, and 1' loose gravel @ 16'  
 17'- 19' Sand, yellow, very fine  
 19'- 42' Clay, gray, sandy, with trace of lignite

42'- 92' Sand, gray, with clay  
 92'-105' Clay, gray, sandy, 6" of siderite at 105'  
 105'-147' Sand, gray, with clay interbeds  
 T. D.: 147'

**Drill Hole No. 765.** Elevation 310'  
 Location: SE¼, Sec. 10, T. 16 S., R. 23 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 18' Clay, gray to red, sandy, micaceous  
 18'- 50' Clay, dark gray, sandy, micaceous  
 50'- 58' Sand, gray, very fine, with clay binder, lignitic  
 58'- 83' Clay, gray, micaceous, sandy  
 83'-103' Sand, red-yellow, with iron stain  
 103'-150' Clay, gray, slightly micaceous, sandy  
 T. D.: 150'

**Drill Hole No. 766.** Elevation 276'  
 Location: NW¼, Sec. 13, T. 16 S., R. 23 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 50' Sand, tannish-gray, very fine, with minor clay, chocolate brown  
 50'-150' Sand, tannish-gray, silty, very fine, with lignite vein @ 140'  
 T. D.: 150'

**Drill Hole No. 767.** Elevation 275'  
 Location: NW¼, Sec. 18, T. 16 S., R. 22 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 10' Sand, tan, very fine  
 10'- 15' Clay, gray, micaceous, slightly sandy  
 15'- 40' Clay, chocolate brown to gray, sandy, slightly lignitic  
 40'- 48' Clay, greenish-gray, slightly micaceous, lignitic  
 48'- 54' Sand, brownish-gray, micaceous, with brown clay, sandy, micaceous  
 54'- 79' Clay, gray, slightly sandy, micaceous, lignitic  
 79'-150' Clay, grayish-brown, slightly micaceous, lignitic  
 T. D.: 150'

**Drill Hole No. 768.** Elevation 260'  
 Location: NW¼, Sec. 17, T. 16 S., R. 22 W.  
 County: Columbia  
 Logged by: S. Pullen 7/79.

0'- 10' Clay, tan, with sand, fine  
 10'- 40' Sand, brownish-white, fine, with clay binder  
 40'- 55' Clay, gray, sandy  
 55'- 60' Clay, gray, micaceous, lignitic  
 60'- 73' Sand, grayish-brown, fine, slightly micaceous  
 73'- 76' Clay, gray, lignitic  
 76'- 80' Sand, grayish-brown, very fine  
 80'- 84' Clay, grayish-brown, slightly micaceous, slightly lignitic  
 84'-100' Sand, brownish-gray, very fine, micaceous  
 100'-115' Clay, brown, micaceous

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115'-130' Sand, brown-gray, very fine to fine, micaceous  
 130'-135' Clay, chocolate brown, micaceous  
 135'-145' Clay, gray green to brown, slightly micaceous and sandy  
 145'-150' Sand, brown gray, very fine to fine, micaceous  
 T. D.: 150'

**Drill Hole No. 769.** Elevation 292'  
 Location: NW¼, Sec. 16, T. 16 S., R. 22 W.  
 County: Columbia  
 Logged by: S. Pullen 7/79.

0'- 10' Sand, orange brown, fine, with clay binder  
 10'- 14' Clay, gray white, with a slight carbonaceous material  
 14'- 19' Clay, dark gray, sandy, slightly micaceous  
 19'- 30' Clay, green, micaceous, slightly lignitic and sandy  
 30'- 52' Clay, gray, sandy, very fine, with 1" siderite @ 51'  
 52'- 75' Clay, green brown, slightly micaceous and sandy  
 75'-106' Clay, brown, micaceous  
 106'-150' Clay, brown green, micaceous, slightly sandy  
 T. D.: 150'

**Drill Hole No. 770.** Elevation 335'  
 Location: NW¼, Sec. 15, T. 16 S., R. 22 W.  
 County: Columbia  
 Logged by: S. Pullen 7/79.

0'- 5' Sand, tan, very fine to fine, micaceous  
 5'- 10' Clay, red orange, slightly sandy, micaceous  
 10'- 20' Clay, white to orange, sandy, micaceous  
 20'- 25' Clay, brown gray, micaceous  
 25'- 80' Sand, green, fine, slightly micaceous  
 80'- 90' Sand, green brown, fine, some clay and mica  
 90'-100' Clay, green, micaceous, and 4" siderite @ 100'  
 100'-135' Sand, green, fine, micaceous  
 T. D.: 135'

**Drill Hole No. 771.** Elevation 293'  
 Location: NE¼, Sec. 14, T. 16 S., R. 22 W.  
 County: Columbia  
 Logged by: R. L. Cole 7/79.

0'- 27' Clay, buff white gray, with red to yellow iron stain, sandy  
 27'- 35' Clay, buff tan, sandy  
 35'- 80' Clay, gray green, with isolated stringers of sand  
 80'-105' Sand, gray, very fine, with some clay  
 105'-125' Clay, gray, with some sand, 3" of siderite @ 124'  
 125'- 130' Sand, gray, very fine  
 T. D.: 130'

**Drill Hole No. 772.** Elevation 295'  
 Location: NE¼, Sec. 13, T. 16 S., R. 22 W.  
 County: Columbia  
 Logged by: R. L. Cole 7/79.

0'- 12' Clay, buff-cream, with limonite stains, and sandy  
 12'- 14' Clay, chocolate brown, sandy

14'- 90' Clay, gray, sandy, with local seams of sand  
 90'-105' Sand, gray, very fine  
 105'-130' Clay, gray, sandy, 2" of siderite @ 111', 5" @ 115'  
 130'- 150' Clay, gray brown, sandy, with some glauconite  
 T. D.: 150'

**Drill Hole No. 773.** Elevation 250'  
 Location: SE¼, Sec. 7, T. 16 S., R. 23 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 11' Sand, brown, medium with some pea gravel  
 11'- 20' Clay, pink brown  
 20'- 30' Clay, pink blue, micaceous, some sand  
 30'- 48' Sand, brown-gray, very fine to fine, slight clay  
 48'- 150' Clay, gray, micaceous, sandy  
 T. D.: 150'

**Drill Hole No. 774.** Elevation 261'  
 Location: SE¼, Sec. 12, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 10' Sand, brown, with clay binder  
 10'- 20' Clay, brown-white, micaceous, sandy  
 20'- 61' Clay, green, micaceous, sandy  
 61'- 100' Sand, green brown, fine, micaceous  
 100'- 150' Clay, gray brown, micaceous, sandy and silty  
 T. D.: 150'

**Drill Hole No. 775.** Elevation 265'  
 Location: NE¼, Sec. 14, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: R. L. Cole 7/79.

0'- 15' Sand, yellow brown, with clay binder, water table @ 14'  
 15'- 20' Sand, red, with slight clay  
 20'- 32' Clay, gray, with very slight silt  
 32'- 82' Sand, gray, very fine, with some silt and clay, trace of lignite @ 42' 45'  
 82'- 92' Silt and sand  
 92'- 132' Silt, 7" of siderite @ 102'  
 132'- 137' Sand, very fine, silty, with trace of lignite  
 T. D.: 137'

**Drill Hole No. 776.** Elevation 265'  
 Location: SE¼, Sec. 15, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: S. Pullen 7/79.

0'- 30' Clay, tan to white, sandy, micaceous  
 30'- 36' Clay, gray tan, micaceous, with interbedded sand  
 36'- 142' Clay, gray, micaceous, lignitic  
 142'- 150' Clay, gray, silty, micaceous  
 T. D.: 150'

**Drill Hole No. 777.** Elevation 270'  
 Location: SW¼, Sec. 16, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: R. L. Cole 7/79.

0'- 5' Sand, yellow, very fine

5'- 17' Clay, red, brittle  
 17'- 60' Sand, red, very fine to fine  
 60'- 82' Sand, very porous, 6" of siderite @ 82'  
 82'- 97' Silt, with carbonaceous material  
 97'-150' Sand, very fine, with some silt, 1' of siderite @ 98'  
 T. D.: 150'

**Drill Hole No. 778.** Elevation 240'  
 Location: NW¼, Sec. 18, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: H. P. Elliott 8/79.

0'- 12' Sand, reddish brown, fine, with some clay  
 12'- 26' Clay, reddish brown, with some sand  
 26'- 77' Sand, reddish brown, with some clay  
 77'-102' Sand, yellow-brown, medium to coarse  
 102'-112' Sand and silt  
 112'-147' Sand, medium, with some silt  
 T. D.: 147'

**Drill Hole No. 779.** Elevation 265'  
 Location: NW¼, Sec. 27, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: D. F. Holbrook 8/79.

0'- 8' Clay, buff-plastic  
 8'- 30' Sand, gray, fine  
 30'- 40' Clay, light reddish-brown, plastic  
 40'- 50' Sand, gray, fine  
 50'- 62' Sand, light gray, coarse  
 62'-114' Sand, gray, very fine  
 114'-124' Sand, coarse, with some gravel  
 124'-135' Sand, coarse  
 135'-150' Sand, gray, very fine  
 T. D.: 150'

**Drill Hole No. 780.** Elevation 268'  
 Location: SE¼, Sec. 33, T. 16 S., R. 24 W.  
 County: LaFayette  
 Logged by: O. A. Wise 8/79.

0'- 5' Clay and dirt  
 5'- 55' Clay, red  
 55'-100' Sand, fine  
 100'-125' Sand, fine grained  
 125'-150' Clay, gray, with silt  
 T. D.: 150'

**Drill Hole No. 781.** Elevation 267'  
 Location: SW¼, Sec. 4, T. 17 S., R. 24 W.  
 County: LaFayette  
 Logged by: R. L. Cole 8/79.

0'- 2' Clay, yellow-brown, sandy  
 2'- 6' Clay, reddish gray, sandy  
 6'- 20' Clay, red, sandy  
 20'- 85' Sand, red, very fine, with isolated stringers of clay  
 85'-120' Sand, brown, medium to very coarse  
 T. D.: 120'

**Drill Hole No. 782.** Elevation 263'  
 Location: NE¼, Sec. 17, T. 17 S., R. 24 W.  
 County: LaFayette  
 Logged by: O. A. Wise 8/79.

0'- 25' Clay, red, with sand stringers @ 15'  
 25'- 43' Sand, very fine, with silt  
 43'- 48' Clay, red  
 48'- 85' Silt, red to green-brown  
 85'-120' Sand, fine to medium  
 T. D.: 120'

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**Drill Hole No. 783.** Elevation 268'  
Location: NW¼, Sec. 20, T. 17 S., R. 24 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 15' Sand, yellow to red, with clay binder  
15'- 30' Clay, red, with some sand  
30'- 90' Sand, red, very fine to fine  
90'-100' Sand, very coarse  
T. D.: 100'

**Drill Hole No. 784.** Elevation 248'  
Location: NW¼, Sec. 29, T. 17 S., R. 24 W.  
County: LaFayette  
Logged by: S. Pullen 8/79.

0'- 37' Clay, brown to red  
37'-100' Sand, red-orange, micaceous, fine to medium  
100'-130' Sand, red-orange, some gravel @ 112'  
T. D.: 130'

**Drill Hole No. 785.** Elevation 259'  
Location: NE¼, Sec. 31, T. 17 S., R. 24 W.  
County: LaFayette  
Logged by: S. Pullen 8/79.

0'- 5' Sand, brown, medium fine, with clay binder  
5'- 10' Clay, red  
10'-130' Sand, red, medium to coarse with 30' of gravel @ 100'  
T. D.: 130'

**Drill Hole No. 786.** Elevation 258'  
Location: NE¼, Sec. 7, T. 18 S., R. 24 W.  
County: LaFayette  
Logged by: S. Pullen 8/79.

0'- 5' Clay, brown-gray  
5'- 80' Clay, red  
80'-110' Sand, red, fine, slightly silty with a clay binder  
110'-150' Silt and sand, red, micaceous  
T. D.: 150'

**Drill Hole No. 787.** Elevation 251'  
Location: NW¼, Sec. 18, T. 18 S., R. 24 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 90' Sand, reddish brown, very fine to fine  
90'-110' Sand, very coarse to coarse with some pea gravel  
T. D.: 110'

**Drill Hole No. 788.** Elevation 263'  
Location: SW¼, Sec. 19, T. 18 S., R. 24 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 13' Sand, reddish brown, with clay binder  
13'- 22' Clay, reddish, slightly silty  
22'- 90' Sand, red-orange, very fine interbedded with clay seams  
90'-105' Sand, brown-tan, with clay seams interbedded  
105'-125' Sand, very coarse to coarse  
T. D.: 125'

**Drill Hole No. 789.** Elevation 252'  
Location: SW¼, Sec. 12, T. 19 S., R. 25 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 6' Clay, gray, with iron stain  
6'- 45' Clay, red, glauconitic  
45'- 70' Sand, red, very fine, with dark gray clay seams  
70'-120' Sand, very coarse to coarse, porous  
T. D.: 120'

**Drill Hole No. 790.** Elevation 248'  
Location: SE¼, Sec. 18, T. 19 S., R. 24 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 5' Clay, gray  
5'- 10' Clay, red  
10'- 30' Clay, red, with minor sand @ 15'  
30'- 90' Sand, medium  
90'-110' Sand, very coarse  
110'-120' Sand, with minor clay and gravel  
120'-129' Sand, very coarse, with lignitic clay  
129'-140' Sand, fine, with trace of lignite  
T. D.: 140'

**Drill Hole No. 791.** Elevation 259'  
Location: SW¼, Sec. 11, T. 19 S., R. 25 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 2' Sandy loam  
2'- 22' Sand, red, very fine, with clay binder  
22'- 57' Sand, very fine to fine  
57'- 70' Sand, fine, with coarser sand and gravel deeper  
70'- 97' Sand, reddish brown, very fine to fine  
97'-147' Sand, brownish-gray, medium to coarse  
T. D.: 147'

**Drill Hole No. 792.** Elevation 243'  
Location: NW¼, Sec. 21, T. 19 S., R. 24 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 21' Clay, red, with minor sand  
21'- 42' Sand, medium  
42'- 95' Sand, fine  
95'-108' Sand, very coarse, with some gravel  
108'-140' Clay, gray  
140'-150' Sand, coarse, trace of lignite  
T. D.: 150'

**Drill Hole No. 793.** Elevation 240'  
Location: SW¼, Sec. 22, T. 19 S., R. 24 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 30' Clay, red, with a 3' layer of sand @ 27'  
30'- 60' Sand, very fine  
60'-100' Sand, medium, with some gravel  
100'-104' Clay, gray  
104'-110' Sand, medium  
110'-130' Clay, gray-red  
130'-140' Clay, gray, with some sand and lignite traces  
140'-150' Sand, medium, with trace of lignite  
T. D.: 150'

**Drill Hole No. 794.** Elevation 253'  
Location: SE¼, Sec. 9, T. 19 S., R. 25 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 8' Sand, yellow-brown, fine, slightly micaceous, with clay binder  
8'- 14' Sand, red, fine, slightly micaceous  
14'- 42' Sand, yellow, fine  
42'- 82' Sand, yellow-brown, fine  
82'- 97' Sand, brown-tan, very coarse to coarse  
T. D.: 97'

**Drill Hole No. 795.** Elevation 241'  
Location: NW¼, Sec. 26, T. 19 S., R. 24 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 20' Clay, reddish-brown  
20'- 55' Sand, very fine, with some silt  
55'- 60' Clay, dark brown  
60'- 75' Clay, gray to red  
75'- 95' Sand, very coarse  
95'- 98' Clay, gray  
98'-142' Clay, gray to light brown  
142'-150' Clay, gray, with trace of lignite  
T. D.: 150'

**Drill Hole No. 796.** Elevation 231'  
Location: SW¼, Sec. 25, T. 19 S., R. 24 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 8' Clay, red  
8'- 68' Sand, fine  
68'- 72' Sand, very coarse  
72'- 76' Clay, gray  
76'-115' Clay, gray, with some sand, 3" of siderite @ 96'  
115'-121' Sand, medium with trace of lignite  
121'-127' Sand, coarse, with trace of lignite  
127'-150' Clay, gray, lignitic  
T. D.: 150'

**Drill Hole No. 797.** Elevation 213'  
Location: SW¼, Sec. 8, T. 19 S., R. 25 W.  
County: LaFayette  
Logged by: R. L. Cole 8/79.

0'- 1' Gravel, pea size, with sand  
1'- 4' Sand, dark brown, fine, with clay binder  
4'- 6' Sand, yellow, fine  
6'- 23' Sand, reddish brown, fine  
23'- 27' Clay, brown, dark gray, slightly silty  
27'- 62' Sand, grayish-tan, fine, woody plant fibers @ 44'  
62'- 97' Sand, light gray-blue, fine to medium, wood fibers @ 75' and throughout  
97'-117' Sand, light brown to tan, fine to coarse  
117'-150' Sand, blue-gray, fine, with a trace of lignite  
T. D.: 150'

**Drill Hole No. 798.** Elevation 231'  
Location: NW¼, Sec. 31, T. 19 S., R. 23 W.  
County: LaFayette  
Logged by: W. L. Prior 8/79.

0'- 59' Sand, medium



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59'-65' Gravel  
 65'-77' Clay, gray, with a 4" layer of siderite @ 77'  
 77'-130' Clay, gray, lignitic  
 130'-137' Clay, gray, with coarse sand  
 137'-150' Clay, gray, lignitic, with some sand  
 T. D.: 150'

**Drill Hole No. 799.** Elevation 238'  
 Location: SE¼, Sec. 31, T. 19 S., R. 23 W.  
 County: LaFayette  
 Logged by: J. M. Howard 8/79.

0'-9' Clay, reddish brown  
 9'-65' Sand, tan, fine  
 65'-67' Gravel, pea size  
 67'-85' Clay, dark gray, with fine sand and a thin siderite layer @ 76'  
 85'-110' Clay, gray, with thin interbedded fine gray sand stringers  
 110'-120' Silt, gray, with some clay  
 120'-132' Clay, gray, with fine sand and numerous siderite layers  
 132'-140' Clay, brown  
 140'-150' Clay, gray, with fine sand and siderite stringers  
 T. D.: 150'

**Drill Hole No. 800.** Elevation 212'  
 Location: SW¼, Sec. 5, T. 19 S., R. 25 W.  
 County: LaFayette  
 Logged by: R. L. Cole 8/79

0'-7' Clay, brown to dark brown, with very slight silt  
 7'-15' Clay, reddish brown, slightly sandy  
 15'-18' Clay, brown, slightly glauconitic  
 18'-22' Clay, blue gray, very sandy and glauconitic  
 22'-37' Sand, yellow tan to light brown, fine to medium grained  
 37'-60' Sand, tan, coarse to very coarse  
 60'-118' Sand, brown, fine grained, light  
 118'-142' Sand, gray brown, fine  
 T. D.: 142'

**Drill Hole No. 801.** Elevation 244'  
 Location: SE¼, Sec. 32, T. 19 S., R. 23 W.  
 County: LaFayette  
 Logged by: J. M. Howard 8/79.

0'-30' Clay, reddish brown, with fine sand  
 30'-56' Sand, tan, fine to medium  
 56'-57' Gravel, pea size  
 57'-70' Clay, dark gray, with sandy siderite layers  
 70'-90' Clay, gray  
 90'-107' Clay, gray, with sandy siderite layers  
 107'-122' Sand, gray, very fine  
 122'-140' Clay, gray, with fine sand and interbedded siderite  
 140'-150' Clay, gray, with interbedded gray sand  
 T. D.: 150'

**\*Drill Hole No. 802.** Elevation 230'  
 Location: SE¼, Sec. 4, T. 20 S., R. 11 W.  
 County: LaFayette  
 Logged by: R. L. Cole 8/79.

0'-1' Sand, gray, fine  
 1'-23' Clay, red, slightly sandy and glauconitic  
 23'-35' Sand, red, fine  
 35'-38' Gravel, pea to small cobble  
 38'-72' Clay gray blue, interbedded with silty sands, slightly glauconitic @ 57'

72'-92' Sand, gray, fine, with some silt  
 92'-150' Clay, gray-blue, with some sand, slightly glauconitic  
 T. D.: 150'

**Drill Hole No. 803.** Elevation 210'  
 Location: SW¼, Sec. 1, T. 19 S., R. 26 W.  
 County: LaFayette  
 Logged by: J. M. Howard 8/79.

0'-7' Loam, brown, silty  
 7'-10' Silt, light tan to brown, with some sand and clay  
 10'-15' Clay, brown and silty  
 15'-16' Silt, tan  
 16'-37' Sand, tan, very fine to fine  
 37'-52' Sand, fine to medium, clean, well rounded  
 52'-60' Sand, medium to coarse  
 60'-67' Clay, gray, with very fine sand  
 67'-102' Sand, gray, very fine to fine  
 102'-112' Clay, gray, with very fine sand  
 112'-147' Sand, gray, very fine  
 T. D.: 147'

**Drill Hole No. 804.** Elevation 210'  
 Location: SE¼, Sec. 3, T. 19 S., R. 26 W.  
 County: LaFayette  
 Logged by: R. L. Cole 8/79.

0'-27' Sand, reddish brown, fine  
 27'-35' Clay, gray brown, sandy  
 35'-100' Sand, fine to coarse, and gravel, pea to small cobble  
 100'-130' Clay, gray blue, slightly lignitic, micaceous, sandy  
 130'-150' Clay, dark brown, sandy  
 T. D.: 150'

**Drill Hole No. 805.** Elevation 208'  
 Location: SE¼, Sec. 9, T. 19 S., R. 36 W.  
 County: LaFayette  
 Logged by: J. M. Howard 8/79.

0'-6' Loam, brown, silty  
 6'-12' Clay, brown  
 12'-20' Clay, gray  
 20'-29' Clay, brown  
 29'-41' Sand, gray, medium  
 41'-50' Sand, gray, coarse  
 50'-60' Sand, gray, medium to coarse  
 60'-74' Sand, coarse, with some pea gravel  
 74'-147' Clay, gray, with siderite layers  
 147'-150' Sand, gray, very fine, with clay binder  
 T. D.: 150'

**Drill Hole No. 806.** Elevation 210'  
 Location: NE¼, Sec. 17, T. 19 S., R. 26 W.  
 County: LaFayette  
 Logged by: R. L. Cole 8/79.

0'-12' Sand, reddish brown, with clay binder  
 12'-17' Clay, red brown, slightly glauconitic  
 17'-52' Sand, reddish brown, medium  
 52'-67' Sand, coarse to very fine, with some pea gravel  
 67'-72' Clay, dark gray to red  
 72'-150' Sand, gray, fine, lignitic  
 T. D.: 150'

**Drill Hole No. 807.** Elevation 209'  
 Location: SE¼, Sec. 18, T. 19 S., R. 26 W.  
 County: LaFayette  
 Logged by: J. M. Howard 8/79

0'-21' Clay, brown to gray  
 21'-50' Sand, fine, gray  
 50'-60' Sand, medium to coarse, with pea gravel

60'-95' Clay, brown, lignitic, 1.5' of lignite @ 95'  
 95'-150' Sand, fine, with clay, gray  
 T. D.: 150'

**Drill Hole No. 808.** Elevation 215'  
 Location: NE¼, Sec. 28, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: W. V. Bush 8/79.

0'-2' Silt and fine sand, reddish brown, with clay binder  
 2'-15' Silt and clay, tan to reddish brown, with some gravel  
 15'-30' Clay, tan, with silt  
 30'-32' Clay, light gray, with silt  
 32'-79' Clay, medium to dark gray, very tight, with some silt  
 79'-90' Sand, fine to medium, with some light gray clay  
 90'-150' Sand, fine to medium, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 809.** Elevation 178'  
 Location: NE¼, Sec. 33, T. 15 S., R. 19 W.  
 County: Ouachita  
 Logged by: R. L. Cole 8/79.

0'-8' Sand, yellow-brown, fine, with slight clay binder  
 8'-9' Sand, buff to light gray, fine  
 9'-23' Sand, dark yellow-brown, fine with some clay  
 23'-87' Sand, light gray, fine, with clay binder  
 87'-95' Sand, light gray, fine, salt and pepper  
 95'-100' Clay, light gray, with fine sand  
 100'-150' Sand, light gray, fine grained, with traces of lignite throughout  
 T. D.: 150'

**\*Drill Hole No. 810.** Elevation 259'  
 Location: NW¼, Sec. 3, T. 16 S., R. 19 W.  
 County: Columbia  
 Logged by: W. V. Bush 8/79.

0'-2' Sand, reddish brown, with few pea gravels, and clay  
 2'-24' Clay, light gray to buff white, with fine sand and silt  
 24'-28' Clay, dark gray  
 28'-30' Clay, dark gray, with fine sand  
 30'-42' Clay, gray  
 42'-45' Clay, light gray, with fine sand and silt  
 45'-56' Clay, dark gray, tight and very sticky  
 56'-60' Clay, gray, with fine sand  
 60'-80' Clay, light gray, with fine sand and silt  
 80'-100' Clay, light gray, with a thin layer of sand @ 86' and trace of lignite @ 87'  
 100'-110' Clay, light gray, fine sand 8" layer of silt @ 103'  
 110'-150' Clay, gray, very sticky  
 T. D.: 150'

**\*Drill Hole No. 811.** Elevation 190'  
 Location: NW¼, Sec. 11, T. 16 S., R. 19 W.  
 County: Columbia  
 Logged by: O. A. Wise 8/79.

0'-10' Clay, orange  
 10'-20' Clay, tan, and sandy  
 20'-30' Sand, fine  
 30'-40' Gravel, pea size  
 40'-120' Clay, dark gray, lignitic @ 110'  
 120'-130' Clay, medium gray, lignitic  
 130'-150' Clay, medium gray, silty, with trace of lignite and siderite  
 T. D.: 150'

## ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 812.** Elevation 245'  
Location: SW¼, Sec. 12, T. 16 S., R. 29 W.  
County: Columbia  
Logged by: R. L. Cole 8/79.

0'- 6' Sand, red, fine, with clay binder  
6'- 8' Sand, dark red, fine, with clay binder  
8'- 15' Sand, yellow-brown, fine, with slight clay binder  
15'- 52' Clay, gray, sandy, lignitic stringer @ 17'  
52'- 78' Clay, gray, with interbedded stringers of sand, 8" of siderite @ 78'  
78'-127' Sand, gray, very fine, with isolated clay stringers  
127'-150' Sand, medium to coarse  
T. D.: 150'

**Drill Hole No. 813.** Elevation 224'  
Location: SW¼, Sec. 18, T. 16 S., R. 18 W.  
County: Columbia  
Logged by: O. A. Wise 8/79.

0'- 10' Clay, brown  
10'- 40' Clay, grayish green  
40'- 50' Sand, coarse  
50'- 70' Sand, red, medium, trace of glauconite  
70'- 80' Sand, fine, glauconitic and pyrite, with clay, grayish-green  
80'-150' Clay, grayish-green, with 1" siderite @ 112', and trace of lignite from 130'- 140'  
T. D.: 150'

**Drill Hole No. 814.** Elevation 230'  
Location: NW¼, Sec. 20, T. 16 S., R. 18 W.  
County: Columbia  
Logged by: J. M. Howard 8/79.

0'- 10' Sand, fine, few clay stringers  
10'- 20' Sand, tan, fine to medium, micaceous  
20'- 40' Clay, dark brown, with interbedded clay, gray, and silt layers  
40'- 46' Clay, gray, with silt  
46'- 54' Clay, brown, with thin siderite stringers @ 47'  
54'- 57' Clay, gray, with silt  
57'- 62' Silt, with gray clay binder  
62'- 70' Sand, gray, fine, micaceous, with gray clay binder  
70'- 74' Silt, gray, with gray clay binder  
74'- 85' Clay, gray  
85'- 90' Silt, gray, with gray clay stringers  
90'-100' Clay, gray, with silt stringers  
100'-120' Clay, gray, with a few brown clay stringers  
120'-130' Clay, brown  
130'-140' Clay, gray, with a few brown clay layers  
140'-150' Clay, gray, with silty zones  
T. D.: 150'

**Drill Hole No. 815.** Elevation 210'  
Location: NW¼, Sec. 28, T. 16 S., R. 18 W.  
County: Union  
Logged by: R. L. Cole 8/79.

0'- 12' Sand, yellow-brown, fine  
12'- 35' Sand, buff-light gray, fine, lignitic @ 25'  
35'- 47' Clay, gray, sandy, with interbedded isolated sand stringers, lignitic

47'- 52' Clay, dark gray  
52'- 63' Sand, gray, with clay stringers interbedded  
63'-121' Silt, gray-green, with some dark gray clay seams  
121'-145' Clay, gray-green, with interbedded sands  
T. D.: 145'

**\*Drill Hole No. 816.** Elevation 262'  
Location: SW¼, Sec. 27, T. 16 S., R. 18 W.  
County: Union  
Logged by: J. M. Howard 8/79.

0'- 10' Silt, brown, with brown clay binder  
10'- 20' Clay, brown, with silt  
20'- 89' Clay, gray  
89'- 95' Sand, gray, medium to fine, with lignite logs  
95'-110' Silt and fine micaceous sand, gray, with gray clay binder, with traces of lignite  
110'-120' Silt, gray, micaceous, interbedded with brown silt and clay stringers  
120'-130' Clay, gray  
130'-140' Clay, burnish gray, with few silty, gray clay layers  
140'-150' Clay, gray, interbedded with clay, brown, and brown micaceous silt layers  
T. D.: 150'

**\*Drill Hole No. 817.** Elevation 231'  
Location: NW¼, Sec. 3, T. 17 S., R. 18 W.  
County: Union  
Logged by: R. L. Cole 8/79.

0'- 21' Clay, dark brown, slightly sandy  
21'- 45' Clay, dark gray, slightly sandy  
45'- 55' Sand, grayish-blue, fine, salt and pepper  
55'- 75' Clay, grayish-green, sandy, lignitic  
75'-101' Clay, greenish-gray, sandy  
101'-121' Clay, green, slight silt  
121'-150' Clay, grayish-green, with slight silt  
T. D.: 150'

**\*Drill Hole No. 818.** Elevation 235'  
Location: SE¼, Sec. 10, T. 17 S., R. 18 W.  
County: Union  
Logged by: D. F. Holbrook 8/79.

0'- 3' Sand, brown, with clay binder  
3'- 5' Sand, gray, with clay binder  
5'- 15' Clay, brownish gray, sandy  
15'- 24' Clay, gray, with limonite streaks  
24'- 56' Clay, dark gray, plastic  
56'- 68' Sand, gray, fine, with lignite traces, 60'-65' some gray clay streaks  
68'- 99' Sand, gray, coarse, with lignitic streaks  
99'-124' Sand, gray, medium, with traces of lignite  
124'-143' Sand, gray, coarse, with trace of lignite  
143'-150' Sand, gray, coarse, with trace of lignite and clay streaks  
T. D.: 150'

**Drill Hole No. 819.** Elevation 240'  
Location: NE¼, Sec. 15, T. 17 S., R. 18 W.  
County: Union  
Logged by: R. L. Cole 8/79.

0'- 11' Sand, yellow-gray, fine, with

1" lignite @ 11'  
11'- 68' Clay, with slight sand  
68'- 80' Sand, gray, medium, lignitic flakes  
80'-150' Clay, gray, plastic, with lignite flakes  
T. D.: 150'

**Drill Hole No. 820.** Elevation 236'  
Location: NW¼, Sec. 1, T. 13 S., R. 15 W.  
County: Union  
Logged by: W. L. Prior 9/79

0'- 25' Sand, gray, fine  
25'- 35' Clay, light gray  
35'- 87' Sand, medium, with isolated gray-green clay stringers and lignite grains  
87'-130' Clay, gray-green, sandy, slightly micaceous, with isolated sand stringers, lignite grains  
130'-138' Sand, fine, with lignite grains, 2" siderite @ 132' and a fossil shell layer @ 137'  
138'-150' Sand, gray, fine, with some lignite grains  
T. D.: 150'

**Drill Hole No. 821.** Elevation 220'  
Location: SW¼, Sec. 6, T. 18 S., R. 14 W.  
County: Union  
Logged by: W. L. Prior 9/79.

0'- 30' Clay, gray, with sand, medium  
30'- 54' Sand, medium, micaceous  
54'- 55' Clay, light gray, sandy  
55'- 97' Sand, medium, with light gray clay seams, micaceous  
97'-105' Clay, light gray, sandy, lignite grains  
105'-140' Clay, dark gray, lignitic, with some sand, medium  
140'-150' Sand, very fine, with lignite grains  
T. D.: 150'

**Drill Hole No. 822.** Elevation 242'  
Location: NE¼, Sec. 7, T. 18 S., R. 14 W.  
County: Union  
Logged by: W. L. Prior 9/79.

0'- 32' Clay, gray, with sand, very fine  
32'- 60' Clay, light gray, with clay, reddish brown  
60'-120' Sand, very fine to silt size  
T. D.: 120'

**Drill Hole No. 823.** Elevation 220'  
Location: NW¼, Sec. 16, T. 18 S., R. 14 W.  
County: Union  
Logged by: W. L. Prior 9/79.

0'- 10' Clay, gray  
10'- 30' Sand, medium, micaceous  
30'- 50' Sand, medium, micaceous, with clay, gray, stringers and lignite grains  
50'- 83' Sand, medium, with lignite grains  
83'- 99' Sand, fine, micaceous, with lignite grains  
99'-130' Sand, medium, with clay, gray, stringers and lignite grains  
130'-150' Clay, gray, lignitic, silty  
T. D.: 150'

\*Electric logs available

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**\*Drill Hole No. 824.** Elevation 241'  
 Location: NE¼, Sec. 16, T. 18 S., R. 14 W.  
 County: Union  
 Logged by: W. L. Prior 9/79.

0'- 65' Sand, medium, micaceous  
 65'- 67' Clay, brown, lignitic  
 67'- 79' Sand, medium, with clay, gray, stringers  
 79'- 98' Sand, medium, lignitic  
 98'- 99' Clay, gray  
 99'-131' Sand, medium, lignitic, with 1" to 2" layers of gray clay @ 131'  
 131'-150' Sand, medium, lignitic  
 T. D.: 150'

**Drill Hole No. 825.** Elevation 225'  
 Location: SE¼, Sec. 15, T. 18 S., R. 14 W.  
 County: Union  
 Logged by: R. L. Cole 9/79.

0'- 10' Clay, buff-tan, sandy  
 10'- 27' Sand, gray to tan, fine, with some clay  
 27'- 75' Sand, grayish-tan, fine, with greenish-gray sandy clay  
 75'-125' Sand, greenish, fine, lignitic  
 125'-150' Sand, dark brown, fine, lignitic  
 T. D.: 150'

**Drill Hole No. 826.** Elevation 274'  
 Location: NE¼, Sec. 23, T. 18 S., R. 14 W.  
 County: Union  
 Logged by: W. L. Prior 9/79.

0'- 35' Clay, light gray  
 35'- 38' Clay, light gray, with minor sand, medium  
 38'- 75' Sand, medium, micaceous, with 1" to 2" clay, gray, seams  
 75'- 81' Sand, medium, with lignite grains  
 81'-110' Clay, grayish brown, lignitic with some sand, medium  
 110'-147' Sand, medium, lignitic  
 147'-150' Clay, brown, lignitic  
 T. D.: 150'

**Drill Hole No. 827.** Elevation 220'  
 Location: SE¼, Sec. 24, T. 18 S., R. 14 W.  
 County: Union  
 Logged by: R. L. Cole 9/79.

0'- 5' Sand, tan, fine, with silt and clay, gray to brown  
 5'- 27' Clay, gray  
 27'- 30' Clay, gray, with reddish brown clay, slightly lignitic  
 30'-105' Clay, green, with sand, slightly micaceous @ 55'  
 105'-110' Clay, green, sandy, with brown stains, lignitic  
 110'-135' Sand, fine, salt and pepper  
 135'-150' Clay, brown, lignitic, with some sand  
 T. D.: 150'

**Drill Hole No. 828.** Elevation 230'  
 Location: SE¼, Sec. 19, T. 18 S., R. 13 W.  
 County: Union  
 Logged by: W. L. Prior 9/79.

0'- 12' Clay, light gray, with some sand, very fine  
 12'- 21' Clay, brownish gray, with sand, medium  
 21'- 31' Clay, gray

31'- 33' Clay, brown, lignitic  
 33'- 42' Clay, green  
 42'- 44' Clay, brown, lignitic  
 44'- 63' Clay, greenish gray  
 63'- 66' Clay, brown, lignitic  
 66'- 77' Clay, greenish gray, lignitic  
 77'- 78' Lignite, clayey  
 78'- 81' Clay, greenish gray, lignitic  
 81'- 94' Sand, green, medium, clay and lignitic  
 94'-138' Sand, green, medium, lignitic and micaceous, 2" layer of siderite @ 138'  
 138'-148' Clay, gray  
 148'-149' Lignite, 4" to 6" thick  
 149'-150' Clay, greenish gray  
 T. D.: 150'

**Drill Hole No. 829.** Elevation 220'  
 Location: NE¼, Sec. 29, T. 18 S., R. 13 W.  
 County: Union  
 Logged by: R. L. Cole 9/79.

0'- 3' Sand, light brown, fine  
 3'- 8' Clay, light gray  
 8'- 27' Clay, gray, sandy, medium  
 27'- 37' Clay, grayish green  
 37'- 47' Clay, dark brown to green, slightly sandy  
 47'- 55' Sand, gray, fine  
 55'- 72' Clay, green, with 3" of lignite @ 57" and trace of lignite @ 62"  
 72'- 81' Clay, brown, with silt, and 6" lignite  
 81'-115' Silt, grayish green  
 115'-137' Clay, grayish green, with some sand, fine, and silt  
 137'-147' Sand, greenish gray, fine  
 T. D.: 147'

**\*Drill Hole No. 830.** Elevation 220'  
 Location: NW¼, Sec. 28, T. 18 S., R. 13 W.  
 County: Union  
 Logged by: W. L. Prior 9/79.

0'- 5' Sand, medium  
 5'- 20' Clay, dark gray, lignitic  
 20'- 30' Clay, lignitic, some pyrite  
 30'- 40' Clay, gray  
 40'- 50' Clay, greenish gray, lignitic  
 50'-120' Clay, gray, with lignite particles  
 120'-130' Clay, green, 3'- 4" thick, with lignitic layers 1" to 2" thick  
 130'-150' Clay, green, with lignite particles  
 T. D.: 150'

**Drill Hole No. 831.** Elevation 220'  
 Location: NE¼, Sec. 27, T. 18 S., R. 12 W.  
 County: Union  
 Logged by: R. L. Cole 9/79.

0'- 15' Clay, buff tan, with fine sand  
 15'- 55' Sand, tan yellow, with some tan buff clay  
 55'- 75' Sand, tannish brown, with clay, green interbedded  
 75'-140' Clay, green, slightly sandy, interbedded with sands, lignitic @ 110' and 135'  
 140'-150' Clay, green  
 T. D.: 150'

**Drill Hole No. 832.** Elevation 220'  
 Location: NE¼, Sec. 26, T. 18 S., R. 12 W.  
 County: Union  
 Logged by: W. L. Prior 9/79.

0'- 10' Clay, grayish brown, with sand

10'- 13' Clay, gray, medium sand  
 13'- 15' Clay, brown, lignitic  
 15'- 19' Clay, gray, sandy  
 19'- 21' Sand, medium, micaceous  
 21'- 26' Clay, gray, sandy, micaceous  
 26'- 37' Clay, brown, lignitic, some sand, fine  
 37'- 39' Clay, greenish-gray, with medium sand  
 39'- 66' Sand, green, medium, micaceous  
 66'- 76' Clay, greenish-gray  
 76'- 88' Sand, greenish, medium, lignitic  
 88'- 89' Sand, greenish, ironstone cemented  
 89'-102' Sand, greenish, medium, micaceous, lignitic  
 102'-113' Clay, greenish-gray, lignitic, with some medium sand, micaceous  
 113'-120' Sand, green, medium, with 1" clay layers, micaceous and lignitic  
 120'-136' Clay, sandy, green, micaceous, lignitic  
 136'-137' Clay, sandy, micaceous, siderite limonite cemented  
 137'-150' Clay, sandy, green, micaceous, lignitic  
 T. D.: 150'

**Drill Hole No. 833.** Elevation 220'  
 Location: NE¼, Sec. 25, T. 18 S., R. 13 W.  
 County: Union  
 Logged by: R. L. Cole 9/79.

0'- 15' Clay, tannish-brown, sandy  
 15'- 19' Clay, buff-blue-gray, sandy  
 19'- 25' Clay, chocolate brown to dark brown, 2½" lignitic @ 21'  
 25'- 32' Clay, light brown and gray  
 32'- 67' Clay, light green, slightly sandy, fine @ 39", lignite @ 61"  
 67'- 75' Clay, dark brown, lignitic  
 75'- 83' Clay, green  
 83'-142' Sand, gray, fine

Core Interval

61' - 71'

Recovered: Lost:  
 7' 3'

61' - 64' lost  
 64' - 67'9" Lignite, dark black, fissile, hard  
 67'9" - 68'3" clay, tan to light brown, hard, fissile  
 68'3" - 70'1" lignite, dark black, fissile hard  
 70'1" - 71' clay, green, slightly micaceous

T. D.: 142'

**Drill Hole No. 834.** Elevation 175'  
 Location: NE¼, Sec. 16, T. 11 S., R. 20 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 1' Gravel, small cobble, with fine sand  
 1'- 17' Sand, yellow-brown, fine, with clay binder, slightly micaceous  
 17'- 22' Sand, tannish gray, gravel lense @ 17'  
 22'- 24' Clay, grayish, slightly sandy

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

24'- 44' Clay, buff-white to tan;  
 44'- 87' Clay, medium gray  
 87'-147' Clay, gray, with isolated seams  
 of sand and a siderite stringer  
 from 140' to 147'  
 T. D.: 147'

**Drill Hole No. 835.** Elevation 176'  
 Location: NW¼, Sec. 22, T. 11 S., R. 20 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 15' Sand, very coarse, and gravel  
 15'- 18' Clay, light gray  
 18'- 30' Clay, brown, lignitic  
 30'- 48' Sand, coarse  
 48'- 56' Clay, brown, lignitic, siderite  
 layer @ 51'  
 56'- 66' Lignite, sandy  
 66'- 92' Clay, gray, with lignite particles  
 92'-115' Clay, gray, 2" layer of lignite  
 @ 96'  
 115'-149' Sand, medium, lignitic, with a  
 2" layer of siderite @ 130' and  
 a 1" layer of siderite @ 147'  
 149'-150' Clay, gray, lignitic  
 T. D.: 150'

**Drill Hole No. 836.** Elevation 180'  
 Location: SE¼, Sec. 22, T. 11 S., R. 20 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 1' Sand, dark brown, fine, with  
 clay binder  
 1'- 7' Sand, yellow-brown, fine, with  
 clay binder  
 7'- 11' Gravel, pea to small cobble,  
 with fine light yellow sand  
 11'- 22' Sand, dark brownish gray, fine  
 with some clay, clay increasing  
 in amount with depth, lignite  
 @ 20'  
 22'- 28' Clay, gray, with 3" of lignite  
 @ 27'  
 28'- 33' Lignite, dark brown to black,  
 variable hardness  
 33'- 42' Clay, gray, with 3" brown clay  
 @ 36'  
 42'- 62' Clay, greenish-gray, with some  
 sand  
 62'- 75' Sand, fine, gray, 6" of siderite  
 @ 71'  
 75'-115' Clay, gray, with isolated beds  
 of sand and 3" of lignite @ 81'

Core Interval

30' - 38'5"

Recovered: Lost:  
 7'5" 1'

30' - 31' lost, lignitic clay  
 31' - 37'5" clay, gray, with a  
 few lignitic seams and some  
 sand, very fine  
 T. D.: 115'

\* **Drill Hole No. 837.** Elevation 250'  
 Location: NE¼, Sec. 34, T. 11 S., R. 20 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 17' Clay, red to buff, some sand,  
 fine  
 17'- 21' Clay, brown, lignitic, some very  
 fine sand

21' 55' Clay, sandy, gray, with lignite  
 grains  
 55'- 56' Lignite, sandy  
 56'- 69' Clay, greenish-gray, with sand,  
 fine, and lignite grains  
 69'- 70' Clay, brown, lignitic  
 70'- 89' Clay, greenish-gray, lignite grains,  
 3" of siderite @ 84'  
 89'- 95' Clay, brown, lignitic  
 95'- 96' Lignite 6" thick, sandy  
 96'-102' Clay, greenish-gray, lignite flakes  
 102'-105' Clay, lignitic  
 105'-109' Clay, greenish-gray, with a 1" to  
 2" layer of lignite between 5" to  
 6" layers of clay  
 109'-110' Clay, white, with siderite  
 110'-125' Clay, white, lignite flakes  
 125'-126' Clay, brown, lignitic  
 126'-150' Clay, white, sandy, lignite flakes  
 T. D.: 150'

**Drill Hole No. 838.** Elevation 310'  
 Location: NE¼, Sec. 34, T. 11 S., R. 20 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 28' Sand, fine, yellow-brown  
 28'- 60' Sand, tan to brown, fine, with  
 some sandy brown clay  
 60'- 97' Clay, dark brown, sandy, with  
 isolated sand seams @ 80'  
 97'-115' Silt, brown  
 115'-150' Clay, dark brown, some silt  
 T. D.: 150'

\* **Drill Hole No. 839.** Elevation 256'  
 Location: SW¼, Sec. 2, T. 12 S., R. 20 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 21' Clay, buff-white, with limonite  
 stains and loose sand  
 21'- 29' Clay, light brown to gray, slightly  
 sandy  
 29'- 70' Clay, gray, with some sand  
 70'- 80' Sand, light tan to gray, fine,  
 with gravel @ 80'  
 80'-150' Clay, brownish-gray, with slight  
 sand and slightly micaceous  
 T. D.: 150'

\* **Drill Hole No. 840.** Elevation 320'  
 Location: SE¼, Sec. 10, T. 12 S., R. 20 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 17' Sand, medium  
 17'- 22' Clay, white, with medium sand  
 22'- 30' Clay, brown, lignitic and sandy,  
 also with clay, green  
 30'- 96' Clay, brown, lignitic, sandy, with  
 mica and pyrite, 2" layer of  
 siderite @ 95'  
 96'-118' Clay, sandy, green, lignitic, mica-  
 ceous and pyrite  
 118'-119' Lignite, 2" to 3" thick  
 119'-131' Clay, sandy gray, lignitic  
 131'-150' Sand, lignitic, with clay stringers  
 and some pyrite  
 T. D.: 150'

\* **Drill Hole No. 841.** Elevation 285'  
 Location: NW¼, Sec. 15, T. 12 S., R. 20 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 15' Sand, yellow to tan, fine  
 15'- 40' Clay, dark brown, sandy

40'-120' Clay, dark brown, local lenses,  
 sand  
 120'-150' Sand, grayish-brown, fine  
 T. D.: 150'

\* **Drill Hole No. 842.** Elevation 325'  
 Location: NE¼, Sec. 21, T. 12 S., R. 20 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 28' Sand, cream-yellow, fine to  
 medium  
 28'- 39' Sand, red to orange, fine to  
 medium  
 39'-120' Sand, tan to light brown, fine  
 to medium, with 2" of siderite  
 @ 59'  
 120'-150' Sand, tan to brown, with isolated  
 dark grayish-green clay beds  
 T. D.: 150'

\* **Drill Hole No. 843.** Elevation 310'  
 Location: NE¼, Sec. 29, T. 12 S., R. 20 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 18' Sand, medium, coarse  
 18'- 42' Clay, brown, sandy, micaceous  
 and lignitic  
 42'- 43' Ironstone, limonite, 8" layer  
 43'- 63' Clay, brown, lignitic, with sand,  
 medium  
 63'-131' Clay, brown, sandy, lignitic, with  
 some pyrite  
 131'-132' Siderite, 3" layer  
 132'-150' Clay, brown, sandy, lignitic  
 T. D.: 150'

\* **Drill Hole No. 844.** Elevation 275'  
 Location: SE¼, Sec. 25, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 7' Sand, orange, slight clay  
 7'- 9' Sand, brownish-orange  
 9'- 14' Clay, buff-tan, sandy, limonite  
 stain  
 14'- 67' Clay, dark brown, sandy, slightly  
 micaceous  
 67'- 78' Clay, greenish-gray, sandy  
 78'-150' Clay, brown, sandy, with isolated  
 seams of sand  
 T. D.: 150'

\* **Drill Hole No. 845.** Elevation 300'  
 Location: NE¼, Sec. 26, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 10' Clay, reddish brown, sandy  
 10'- 82' Clay, grayish-brown, sandy, mica-  
 ceous  
 82'- 89' Sand, medium, with clay and  
 some siderite  
 89'-101' Clay, sandy, lignitic, glauconitic,  
 and pyrite cemented 1" layers  
 101'-142' Clay, light gray, sandy, mica-  
 ceous, with 4" layer of lignite,  
 black @ 122'  
 142'-143' Lignite, black, sandy  
 143'-148' Clay, gray  
 148'-149' Siderite  
 T. D.: 149'

**Drill Hole No. 846.** Elevation 300'  
 Location: NE¼, Sec. 27, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0'- 2' Sand, reddish orange, fine

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

2'- 19' Clay, dark brown, some sand  
 19'- 60' Clay, gray to light brown  
 60'- 91' Clay, gray to light brown, sandy  
 91'- 99' Clay, gray to brown, lignitic,  
 with some sand stringers  
 99'-110' Clay, green to light greenish blue,  
 sandy  
 T. D. 110'

**Drill Hole No. 847.** Elevation 250'  
 Location: NW¼, Sec. 28, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 9' Clay, yellow to brown, sandy  
 9'- 17' Clay, brown, lignitic, sandy  
 17'- 21' Lignite, black, hard, compact  
 21'- 42' Clay, gray, micaceous  
 42'- 43' Lignite, black, compact  
 43'- 61' Clay, gray to brown, sandy  
 61'- 62' Lignite, 2" to 4", soft and sandy  
 62'- 66' Clay, light gray, sandy  
 66'- 67' Clay, greenish gray

Core Interval

12' 22'

Recovered: 8' Lost: 2'

12' 14' lost  
 14' - 14'8" clay, light green to  
 brown, sandy, slightly micaceous  
 14'8" - 16'2" clay, brown, slight-  
 ly sandy, lignitic  
 16'2" - 21' lignite, black, hard,  
 fissile  
 21' - 22' clay, dark greenish gray,  
 slightly sandy, micaceous  
 T. D.: 67'

\* **Drill Hole No. 848.** Elevation 322'  
 Location: NW¼, Sec. 29, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 42' Sand, medium, with some clay,  
 red and white  
 42'- 44' Lignite, 2", black, hard  
 44'- 60' Clay, light gray  
 60'- 71' Clay, gray, some sand, very fine  
 71'- 75' Clay, brown, lignitic  
 75'- 76' Lignite, black, soft  
 76'- 93' Clay, gray to brown, sandy,  
 2" layer of siderite @ 92'  
 93'- 95' Clay, light gray, sandy, with a  
 2" layer of lignite, soft, black  
 95'-105' Clay, light gray, sandy, with  
 some clay, brown, lignitic  
 105'-118' Clay, light gray, some silt  
 118'-143' Clay, brown, lignitic, with some  
 clay, gray and silty  
 143'-150' Clay, light green, sandy  
 T. D.: 150'

**Drill Hole No. 849.** Elevation 382'  
 Location: NE¼, Sec. 19, T. 12 S., R. 21 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0'- 50' Sand, coarse, with gravel, and  
 some minor clay, white, iron  
 stone @ 4'  
 50'- 81' Sand, fine, with clay, grayish-  
 white  
 81'-102' Sand, clay, with traces of lignite,  
 and micaceous

102'-110' Clay, gray, sandy, glauconitic,  
 micaceous, with traces of lignite,  
 1" of siderite @ 110'  
 110'- 120' Sand, clay, micaceous, lignitic,  
 and glauconitic  
 120'- 150' Sand, clay, gray, with traces of  
 lignite, and glauconitic  
 T. D.: 150'

**Drill Hole No. 850.** Elevation 350'  
 Location: SE¼, Sec. 13, T. 12 S., R. 22 W.  
 County: Nevada  
 Logged by: W. L. Prior 9/79.

0' 15' Sand, very coarse, with some  
 gravel and clay, white  
 15' 16' Clay, light gray, sandy  
 16' 70' Sand, very fine, with minor  
 clay, white  
 70' 87' Sand, medium, with minor  
 clay, white, lignite traces  
 87' 88' Sand, with some ironstone  
 88' 104' Sand, light gray, clay, with  
 traces of lignite  
 104' 125' Sand, medium, lignitic, with  
 minor clay, brown, lignitic  
 125' 134' Clay, light gray, sandy, lignitic  
 134' 150' Clay, black, minor sand  
 T. D.: 150'

**Drill Hole No. 851.** Elevation 230'  
 Location: SW¼, Sec. 14, T. 12 S., R. 22 W.  
 County: Nevada  
 Logged by: R. L. Cole 9/79.

0' 12' Sand, fine, with clay binder  
 12' 20' Clay, dark gray to brown,  
 slightly silty  
 20' 50' Clay, dark gray to green  
 T. D.: 50'

\* **Drill Hole No. 852.** Elevation 144'  
 Location: NE¼, Sec. 14, T. 12 S., R. 16 W.  
 County: Ouachita  
 Logged by: R. L. Cole 10/79.

0' 13' Sand, medium, with minor clay,  
 yellow  
 13' 30' Gravel, marble size, with sand,  
 medium  
 30' 50' Sand, gray, medium  
 50' 85' Clay, green, slightly sandy  
 85' 100' Clay, greenish brown, micaceous,  
 sandy  
 100'-155' Sand, gray, fine, some clay  
 T. D.: 155'

**Drill Hole No. 853.** Elevation 146'  
 Location: NE¼, Sec. 11, T. 12 S., R. 16 W.  
 County: Ouachita  
 Logged by: R. L. Cole 10/79.

0' 3' Sand, reddish, fine  
 3' 11' Sand, gray to tan, fine  
 11' 29' Sand, yellow to gray, fine to  
 medium, with gravel, pea to  
 small cobble size  
 29' 70' Sand, gray to tan, medium to  
 coarse, salt and pepper  
 T. D.: 70'

**Drill Hole No. 854.** Elevation 155'  
 Location: NW¼, Sec. 36, T. 11 S., R. 16 W.  
 County: Ouachita  
 Logged by: W. L. Prior 10/79.

0' 8' Loam, sandy, clayey brown

8'- 29' Gravel, pea size to pebble, with  
 sand, tan, coarse  
 29'- 40' Sand, coarse to medium, salt and  
 pepper  
 40'- 55' Clay, gray to brown, silty, with  
 trace of lignite  
 55'- 68' Clay, gray, silty, with traces of  
 lignite, and clay, light gray,  
 sandy  
 68'-130' Clay, dark gray, silty, traces of  
 lignite  
 130'-131' Clay, brown, with lignite 2"  
 thick, soft  
 131'-155' Clay, gray, silty, with traces of  
 lignite  
 T. D.: 155'

**Drill No. 855.** Elevation 190'  
 Location: NW¼, Sec. 25, T. 11 S., R. 16 W.  
 County: Ouachita  
 Logged by: R. L. Cole 10/79.

0'- 11' Sand, reddish, fine, with iron-  
 stain and clay binder  
 11'- 16' Gravel, pea to marble size, with  
 sand, yellow, fine  
 16'- 26' Sand, yellow to red, fine to  
 medium  
 26'- 60' Clay, gray, sandy  
 60'- 70' Sand, gray, fine  
 70'-102' Clay, gray, sandy, with isolated  
 seams of sand  
 102'-150' Sand, gray, fine, with some  
 silt  
 T. D.: 150'

**Drill Hole No. 856.** Elevation 200'  
 Location: SW¼, Sec. 13, T. 11 S., R. 16 W.  
 County: Ouachita  
 Logged by: W. L. Prior 10/79.

0'- 17' Gravel, pebble size, with sand,  
 coarse  
 17'- 35' Sand, fine, micaceous, with  
 clay, gray to brown, lignite  
 traces  
 35'- 54' Clay, gray to light gray, sandy,  
 micaceous, lignite traces  
 54'- 55' Sand, clayey, fine, micaceous,  
 with 2" of siderite @ 55'  
 55'- 75' Sand, clayey, fine, micaceous,  
 lignite traces  
 75'- 85' Clay, gray, sandy, micaceous,  
 lignite traces  
 85'-135' Clay, brown, sandy, micaceous,  
 lignitic  
 135'-149' Clay, gray, sandy, micaceous,  
 with trace of lignite  
 149'-150' Siderite  
 T. D.: 150'

**Drill Hole No. 857.** Elevation 200'  
 Location: NW¼, Sec. 12, T. 11 S., R. 16 W.  
 County: Ouachita  
 Logged by: R. L. Cole 10/79.

0'- 14' Gravel, pebble to cobble size,  
 with sand, red, coarse  
 14'- 20' Sand, yellow, very coarse, with  
 some gravel, pebble size, and  
 minor clay  
 20'- 31' Clay, gray, sandy  
 31'- 36' Sand, gray, fine  
 36'- 80' Clay, gray, sandy, with isolated  
 seams of sand interbedded  
 Sand, gray, fine  
 T. D.: 150'

\* Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 858.** Elevation 250'  
Location: SW¼, Sec. 1, T. 6 S., R. 18 W.  
County: Hot Spring  
Logged by: W. L. Prior 10/79.

0'- 7' Sand, brown, clayey, with some gravel  
7'- 14' Sand, red, coarse, clayey, with cobble size gravel  
14'- 20' Sand, red, very coarse, clayey  
20'- 30' Sand, red, coarse, clayey, with cobble size gravel  
30'- 34' Sand, red, coarse, with minor clay  
34'- 85' Clay, dark gray to green, montmorillonite  
T. D.: 85'

**Drill Hole No. 859.** Elevation 301'  
Location: NE¼, Sec. 7, T. 6 S., R. 17 W.  
County: Hot Spring  
Logged by: R. L. Cole 10/79.

0'- 5' Clay, yellow to tan, sandy  
5'- 13' Clay, buff-tan, sandy  
13'- 16' Lignite, dark brown  
16'- 25' Clay, dark gray to dark brown  
25'- 35' Clay, green, sandy, glauconitic  
35'- 50' Clay, medium gray, sandy, slightly glauconitic

Core Interval

14' - 20'

Recovered: Lost:  
4' 2'

14' - 15' clay, tan, sandy  
15' - 16' lignite, dark brown, hard, fissile  
16' - 18' lignite, black, hard, fissile  
18' - 20' lost  
T. D.: 50'

**Drill Hole No. 860.** Elevation 395'  
Location: NE¼, Sec. 8, T. 6 S., R. 17 W.  
County: Hot Spring  
Logged by: R. L. Cole 10/79.

0'- 5' Sand, dark red, fine  
5'- 10' Sand, yellow-red, fine  
10'- 15' Sand, yellow-tan, fine  
15'- 45' Clay, buff-light tan, sandy  
45'-120' Clay, dark brown, sandy, with isolated seams of sand, lignitic  
120'-127' Clay, buff-blue, sandy  
127'-130' Clay, grayish-blue, sandy, slightly glauconitic  
T. D.: 130'

**\*Drill Hole No. 861.** Elevation 360'  
Location: NE¼, Sec. 16, T. 6 S., R. 17 W.  
County: Hot Spring  
Logged by: W. L. Prior 10/79.

0'- 20' Sand, medium to fine, micaceous  
20'- 34' Sand, medium to fine, micaceous, with minor kaolinitic clay, also micaceous  
34'-150' Sand, brown, clayey, medium, micaceous, lignitic  
T. D.: 150'

**Drill Hole No. 862.** Elevation 365'  
Location: NW¼, Sec. 14, T. 6 S., R. 17 W.  
County: Hot Spring  
Logged by: R. L. Cole 10/79.

0'- 31' Sand, tan to cream, fine

31'-100' Clay, dark brown, lignitic, sandy, micaceous  
100'-150' Sand, tan to brown, silty, micaceous, with some brown clay  
T. D.: 150'

**Drill Hole No. 863.** Elevation 395'  
Location: SW¼, Sec. 12, T. 6 S., R. 17 W.  
County: Hot Spring  
Logged by: R. L. Cole 10/79.

0'- 9' Sand, red, fine, clay binder  
9'- 11' Gravel, pea to marble, with coarse sand  
11'- 30' Sand, cream to yellow-red, fine, with some clay  
30'- 39' Sand, orange, fine, with slight clay  
39'-135' Sand, cream to light tan, fine, some buff clay @ 55'  
135'-150' Clay, dark brown, sandy, micaceous  
T. D.: 150'

**Drill Hole No. 864.** Elevation 476'  
Location: SE¼, Sec. 7, T. 6 S., R. 16 W.  
County: Hot Spring  
Logged by: W. L. Prior 10/79.

0'- 4' Sand, red to brown, coarse, clayey  
4'- 35' Sand, very coarse, with gravel, cobble size  
35'- 40' Sand, pink to brown, medium, clayey  
40'- 81' Sand, medium, micaceous, with 2" of ironstone @ 81'  
81'- 95' Sand, brown, clayey, lignitic  
T. D.: 95'

**Drill Hole No. 865.** Elevation 490'  
Location: SE¼, Sec. 8, T. 6 S., R. 16 W.  
County: Hot Spring  
Logged by: R. L. Cole 10/79.

0'- 9' Sand, orange to red, fine, with clay binder  
9'- 25' Gravel, pea to large cobble, with fine, coarse sand  
25'- 27' Sand, red to orange, fine  
27'- 60' Clay, buff light tan, sandy  
60'- 89' Clay, gray-green, micaceous, sandy  
89'-141' Clay, gray to brown, lignitic, sandy, micaceous  
141'-144' Clay, dark brown, lignitic  
144'-150' Clay, gray to brown, sandy, micaceous  
T. D.: 150'

**Drill Hole No. 866.** Elevation 480'  
Location: NE¼, Sec. 16, T. 6 S., R. 16 W.  
County: Hot Spring  
Logged by: W. L. Prior 10/79.

0'- 11' Gravel, pebble size, with sand, light brown, clayey  
11'- 40' Clay, light gray to brown, sandy, with lignite 1" - 3" thick @ 40'  
40'-150' Sand, very fine to silt size, with lignite particles and minor clay, light gray  
T. D.: 150'

**Drill Hole No. 867.** Elevation 180'  
Location: NE¼, Sec. 21, T. 7 S., R. 19 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 20' Clay, light gray, sandy

20'- 95' Gravel, pebble to cobble size, with sand, very coarse, salt and pepper  
95'- 96' Ironstone  
T. D.: 96'

**Drill Hole No. 868.** Elevation 182'  
Location: SW¼, Sec. 14, T. 7 S., R. 19 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 27' Gravel, pebble to cobble size, with sand, very coarse  
27'- 30' Siderite and limonite cemented gravel  
T. D.: 30'

**Drill Hole No. 869.** Elevation 187'  
Location: SE¼, Sec. 24, T. 7 S., R. 19 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 27' Gravel, pebble to cobble size, with sand, very coarse  
27'- 35' Sand, very coarse, some pebble size gravel  
35'- 40' Clay, bluish-gray, montmorillonite  
T. D.: 40'

**Drill Hole No. 870.** Elevation 262'  
Location: SE¼, Sec. 20, T. 7 S., R. 18 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 5' Gravel, cobble to boulder size, with sand, gray, coarse  
5'- 21' Sand, clayey, medium  
21'- 30' Clay, bluish-gray, montmorillonitic  
T. D.: 30'

**Drill Hole No. 871.** Elevation 280'  
Location: SE¼, Sec. 16, T. 7 S., R. 18 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 15' Gravel, pebble to cobble size, with sand, very coarse and minor clay, light gray  
15'- 30' Sand, very coarse, with some pebble size gravel  
30'- 50' Sand, coarse to fine, with minor clay, gray to tan  
50'- 90' Sand, fine, with minor gray clay, with lignite traces, with a 1" layer of limonite @ 69'  
90'-134' Sand, medium, clayey, with lignite traces and ¼" - 1" layers of siderite limonite  
134'-150' Clay, dark gray, montmorillonitic  
T. D.: 150'

**Drill Hole No. 872.** Elevation 270'  
Location: NE¼, Sec. 27, T. 7 S., R. 18 W.  
County: Clark  
Logged by: W. L. Prior 10/79.

0'- 10' Gravel, pebble to boulder size, with sand, very coarse  
10'- 17' Clay, white to gray, sandy and lignitic  
17'- 19' Lignite, black to brown, soft to hard  
19'- 28' Sand, fine, lignitic with clay, gray to brown  
28'- 40' Clay, blue to gray, montmorillonite

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

Core Interval

14'6" - 17'10"

Recovered: Lost:

3' 4"

14'6" 14'11" lignite, black to brown, soft  
 14'11" 15'2" clay, grayish brown, lignitic  
 15'2" - 16'6" lignite, black, hard, fissile  
 16'6" - 16'10" lost  
 16'10" 17'10" lignite, brownish black, soft  
 T. D.: 40'

**Drill Hole No. 873.** Elevation 285'  
 Location: NW¼, Sec. 35, T. 7 S., R. 18 W.  
 County: Clark  
 Logged by: W. L. Prior 10/79.

0' 3' Sand, gray, clayey  
 3' 20' Gravel, pebble to cobble size, with sand, coarse, with minor clay, red  
 20' 35' Clay, bluish gray, montmorillonite  
 T. D.: 35'

**Drill Hole No. 874.** Elevation 285'  
 Location: SW¼, Sec. 2, T. 8 S., R. 18 W.  
 County: Clark  
 Logged by: W. L. Prior 10/79.

0' 25' Gravel, pebble to cobble size, with sand, very coarse, with minor clay, red  
 25' 30' Clay, bluish gray, montmorillonite  
 T. D.: 30'

**Drill Hole No. 875.** Elevation 245'  
 Location: NE¼, Sec. 10, T. 8 S., R. 18 W.  
 County: Clark  
 Logged by: W. L. Prior 10/79.

0' 30' Gravel, pebble to cobble size, with sand, coarse, with minor clay, red  
 30' 35' Sand, medium  
 35' 44' Clay, grayish brown, lignitic  
 44' 46' Lignite, black, 8" thick, with 16" of clay  
 46' 50' Clay, gray  
 50' 66' Sand, gray, fine, lignite 4" thick, black, @ 63'  
 66' 70' Clay, bluish green, montmorillonite  
 T. D.: 70'

**Drill Hole No. 876.** Elevation 215'  
 Location: SE¼, Sec. 9, T. 8 S., R. 18 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 2' Sand, orange, fine, with clay binder  
 2' 4' Sand, tan, fine, with clay binder  
 4' 10' Gravel, pea to small cobble size, with sand, fine  
 10' 20' Sand, tan, fine, with 1" pea gravel @ 15'  
 20' 35' Clay, grayish brown, sandy, micaceous, lignitic  
 35' 40' Clay, green, sticky  
 T. D.: 40'

**Drill Hole No. 877.** Elevation 200'  
 Location: SE¼, Sec. 14, T. 11 S., R. 21 W.  
 County: Nevada  
 Logged by: R. L. Cole 10/79.

0' 8' Sand, yellow, fine  
 8' 14' Clay, yellow brown, sandy  
 14' 15' Clay, gray light blue, glauconitic, sandy  
 T. D.: 15'

**Drill Hole No. 878.** Elevation 205'  
 Location: NE¼, Sec. 13, T. 11 S., R. 21 W.  
 County: Nevada  
 Logged by: R. L. Cole 10/79.

0' 10' Sand, tan to brown, fine  
 10' 14' Clay, tan to dark brown, with fine sand  
 14' 24' Clay, dark gray to green, sandy, glauconitic  
 24' 25' Clay, greenish blue, sandy, glauconitic  
 T. D.: 25'

**Drill Hole No. 879.** Elevation 221'  
 Location: SE¼, Sec. 34, T. 10 S., R. 20 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 2' Sandy loam  
 2' 6' Clay, light gray, sandy  
 6' 14' Clay, light brown to tan, sandy, micaceous  
 14' 24' Sand, light gray, micaceous, with some clay binder, grayer color with depth  
 24' 25' Clay, light green to green, slightly sandy, micaceous  
 T. D.: 25'

**Drill Hole No. 880.** Elevation 256'  
 Location: NW¼, Sec. 26, T. 10 S., R. 20 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 8' Sand, orange, fine  
 8' 27' Gravel, small pea to small cobble size, with brown sand, fine  
 27' 30' Clay, grayish green to light blue, slightly sandy, glauconitic  
 T. D.: 30'

**Drill Hole No. 881.** Elevation 235'  
 Location: SE¼, Sec. 22, T. 10 S., R. 20 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 8' Sand, brown, fine  
 8' 25' Clay, brown, slightly sandy  
 25' 37' Clay, dark brown to black, sandy, lignitic  
 37' 40' Clay, light gray to blue, glauconitic  
 T. D.: 40'

**Drill Hole No. 882.** Elevation 300'  
 Location: NW¼, Sec. 15, T. 9 S., R. 19 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 25' Sand, dark red to orange, very fine to fine, with clay binder  
 25' 45' Sand, coarse to very coarse, salt and pepper, with some fine sand and clay  
 45' 70' Sand, gray, fine

70' 110' Clay, sandy, grayish-brown, 6" of lignite @ 70'  
 110' 150' Clay light gray to blue-gray, sandy, with lignitic stringers  
 T. D.: 150'

**Drill Hole No. 883.** Elevation 325'  
 Location: SE¼, Sec. 15, T. 9 S., R. 19 W.  
 County: Clark  
 Logged by: R. L. Cole 10/79.

0' 37' Sand, red to orange, fine  
 37' 75' Sand, very coarse to pea gravel size, with sand, orange, fine  
 75' 90' Clay, gray, sandy  
 90' 99' Clay, gray to dark brown, lignitic, with 6" of lignite @ 93'  
 99' 100' Clay, green to bluish-gray, slightly sandy  
 T. D.: 100'

**Drill Hole No. 884.** Elevation 290'  
 Location: NW¼, Sec. 27, T. 17 S., R. 18 W.  
 County: Union  
 Logged by: W. L. Prior 10/79.

0' 18' Clay, light gray to light brown, with silt  
 18' 20' Sand, medium, salt and pepper  
 20' 26' Clay, light gray, with sand, fine  
 26' 40' Clay, gray to brown, with lignite traces, montmorillonitic, with 1" of lignite, black, firm @ 36'6"  
 40' 102' Clay, gray, silty, montmorillonitic, with lignite traces, with ½" lignite, black, firm @ 85'  
 102' 118' Clay, gray, sandy, micaceous, with lignite traces  
 118' 145' Sand, medium, salt and pepper, with minor clay, gray  
 145' 150' Clay, brown, sandy, with lignite traces  
 T. D.: 150'

**\*Drill Hole No. 885.** Elevation 150'  
 Location: NW¼, Sec. 4, T. 19 S., R. 12 W.  
 County: Union  
 Logged by: W. L. Prior 10/79.

0' 5' Sand, orange, medium, with minor clay, red  
 5' 29' Sand, medium, salt and pepper, micaceous  
 29' 52' Sand, medium, salt and pepper, with minor clay, white, kaolinitic with lignite 2" thick black, hard, @ 51', siderite, 1" thick @ 51'8"  
 52' 126' Clay, gray to brown, silty, with lignite stringers, micaceous, with lignite 6" thick, brown, firm @ 58', siderite 5" thick @ 125'  
 126' 142' Sand, fine, clay, micaceous and lignitic, 3" of siderite @ 141'  
 142' 150' Clay, greenish-brown, sandy, glauconitic, lignitic, micaceous  
 T. D.: 150'

**Drill Hole No. 886.** Elevation 140'  
 Location: NW¼, Sec. 25, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: W. L. Prior 10/79.

0' 15' Clay, light gray to tan, sandy  
 15' 45' Clay, beige, with some hematite and limonite stringers ¼" to ½" thick  
 45' 55' Clay, gray, with lignite traces

\* Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

55'-70' Sand, fine, with gray clay, lignite traces  
 70'-141' Sand, salt and pepper, very fine, micaceous, with lignite traces  
 141'-150' Clay, gray, sandy, with lignite particles  
 T. D.: 150'

**Drill Hole No. 887.** Elevation 142'  
 Location: NE¼, Sec. 23, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: W. L. Prior 10/79.

0'-50' Clay, light brown to gray, sandy, and micaceous  
 50'-99' Sand, salt and pepper, medium, micaceous, with minor gray clay  
 99'-109' Clay, gray, sandy, micaceous, trace of lignite  
 109'-120' Sand, salt and pepper, fine, micaceous, with gray clay stringers and some lignite stringers  
 120'-140' Clay, brown, sandy, glauconitic, 8" siderite @ 121', and 4" @ 128'  
 140'-150' Sand, fine, micaceous, with gray clay stringers, 2" siderite @ 144', and 1" @ 146'  
 T. D.: 150'

**\*Drill Hole No. 888.** Elevation 150'  
 Location: NW¼, Sec. 14, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: W. L. Prior 10/79.

0'-70' Clay, gray, sandy and micaceous  
 70'-90' Sand, salt and pepper, medium, micaceous  
 90'-106' Sand, salt and pepper, fine, micaceous, with trace of lignite and intermittent siderite from 93'-104'  
 106'-110' Clay, greenish-brown, sandy, glauconitic and micaceous  
 110'-141' Sand, salt and pepper, fine, micaceous, trace of lignite, minor clay, and 3" siderite @ 122'  
 141'-150' Clay, greenish-brown, sandy, glauconitic and lignitic  
 T. D.: 150'

**Drill Hole No. 889.** Elevation 150'  
 Location: SW¼, Sec. 10, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'-5' Clay, red, with some medium sand  
 5'-33' Clay, light gray, sticky  
 33'-41' Sand, salt and pepper, fine, micaceous  
 41'-51' Clay, light gray, with fine sand  
 51'-100' Sand, salt and pepper, fine, micaceous, with some clay stringers  
 100'-110' Sand, salt and pepper, fine, micaceous  
 110'-132' Clay, gray, lignitic, sandy and micaceous  
 132'-150' Clay, greenish-brown, sandy, micaceous and glauconitic  
 T. D.: 150'

**\*Drill Hole No. 890.** Elevation 100'  
 Location: SE¼, Sec. 8, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'-20' Clay, gray to tan, sandy

20'-118' Sand, salt and pepper, medium, micaceous with 2" lignite @ 78'  
 118'-128' Clay, greenish brown, sandy, micaceous and glauconitic, 2" lignite @ 119' and 3" siderite @ 125'  
 128'-135' Sand, fine, micaceous, with greenish brown clay  
 135'-150' Clay, gray-brown, sandy, lignite traces with some glauconite  
 T. D.: 150'

**\*Drill Hole No. 891.** Elevation 100'  
 Location: SE¼, Sec. 7, T. 19 S., R. 11 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-17' Clay, cream to light gray, sandy, micaceous  
 17'-42' Clay, dark brown to green, sandy, slightly micaceous  
 42'-65' Sand, light gray-brown, very fine, salt and pepper  
 65'-75' Clay, light greenish gray, slight sand, micaceous  
 75'-150' Sand, gray, very fine, with some gray clay seams  
 T. D.: 150'

**\*Drill Hole No. 892.** Elevation 110'  
 Location: NE¼, Sec. 13, T. 19 S., R. 12 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-5' Clay, gray to yellow brown, sandy  
 5'-20' Clay, cream to light gray, sandy  
 20'-47' Clay, gray-brown, sandy  
 47'-150' Sand, gray, with isolated gray-green clay seams between 130' and 150'  
 T. D.: 150'

**Drill Hole No. 893.** Elevation 110'  
 Location: NE¼, Sec. 14, T. 19 S., R. 12 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-70' Sand, light brown and gray, very fine to fine  
 T. D.: 70'

**Drill Hole No. 894.** Elevation 110'  
 Location: SE¼, Sec. 10, T. 19 S., R. 12 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-2' Clay, dark orange-red, sandy  
 2'-28' Clay, cream to light gray, sandy  
 28'-63' Sand, tan to light brown, very fine  
 63'-120' Sand, tan to gray, very fine, with 2" siderite @ 65'  
 T. D.: 120'

**Drill Hole No. 895.** Elevation 185'  
 Location: NW¼, Sec. 16, T. 18 S., R. 16 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-3' Clay, reddish brown, sandy  
 3'-29' Sand, gray to cream, with a clay binder  
 29'-115' Clay, green to dark green, slightly sandy, with isolated sand seams  
 115'-150' Clay, green, with silt, and 5" siderite @ 125'  
 T. D.: 150'

**Drill Hole No. 896.** Elevation 170'  
 Location: NE¼, Sec. 20, T. 18 S., R. 16 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-3' Sand, dark tan to brown, very fine  
 3'-70' Clay, green to dark green, sandy, glauconitic, 3" siderite @ 25'  
 70'-150' Clay, dark green, slightly sandy and silty, with 2' siderite @ 85'  
 T. D.: 150'

**Drill Hole No. 897.** Elevation 205'  
 Location: SE¼, Sec. 19, T. 18 S., R. 16 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'-17' Sand, salt and pepper, medium, with light gray clay  
 17'-23' Clay, tan to light gray, silty  
 23'-29' Sand, salt and pepper, medium, micaceous  
 29'-60' Clay, greenish-gray, sandy, glauconitic, with lignite stringers  
 60'-90' Clay, blue-gray, silty, glauconitic, lignite traces  
 90'-112' Sand, salt and pepper, fine, micaceous, with some clay stringers  
 112'-129' Clay, greenish-gray, sandy, glauconitic  
 129'-143' Sand, salt and pepper, fine, micaceous, with dark gray clay stringers  
 143'-150' Clay, greenish gray, sandy, glauconitic  
 T. D.: 150'

**Drill Hole No. 898.** Elevation 220'  
 Location: SE¼, Sec. 25, T. 18 S., R. 17 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'-5' Sand, brown, very fine, slight clay  
 5'-50' Clay, light buff to gray, slightly sandy, with some brown sand seams interbedded, 2" siderite @ 26', 3" @ 28'  
 50'-150' Clay, gray-green, slightly silty, 5" siderite @ 115'  
 T. D.: 150'

**Drill Hole No. 899.** Elevation 225'  
 Location: NW¼, Sec. 36, T. 18 S., R. 17 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'-12' Clay, buff to light tan, with slight sand and silt  
 12'-18' Clay, tan to light gray, slightly sandy  
 18'-25' Clay, brown to dark gray, sandy  
 25'-55' Clay, dark gray-green, sandy  
 55'-150' Clay, dark gray, slight silt, interbedded with sand stringers, 3" siderite @ 64', 2" @ 72'  
 T. D.: 150'

**\*Drill Hole No. 900.** Elevation 270'  
 Location: NW¼, Sec. 2, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'-3' Clay, buff, orange, sandy  
 3'-8' Clay, buff, light brown, sandy  
 8'-18' Sand, gray, very fine, lignite traces @ 9'

\*Electric logs available



## ARKANSAS LIGNITE INVESTIGATIONS

18'- 21' Clay, medium to light brown, sandy  
 21'- 25' Clay, buff, sandy  
 25'- 28' Sand, orange, very fine  
 28'- 40' Clay, gray, with interbedded seams of sand  
 40'-110' Clay, gray-green, sandy, glauconitic, 4" siderite @ 105'  
 110'-115' Clay, gray, with intermittent siderite  
 T. D.: 115'

**Drill Hole No. 901.** Elevation 245'  
 Location: SE¼, Sec. 3, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'- 20' Sand, gray, very fine, with yellow ironstone  
 20'- 70' Clay, gray, sandy, glauconitic  
 70'-130' Clay, gray green, sandy, with 1" siderite @ 89', 1" at 95'  
 130'-150' Clay, gray, with isolated seams of sand interbedded  
 T. D.: 150'

**Drill Hole No. 902.** Elevation 200'  
 Location: SE¼, Sec. 9, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'- 11' Sand, gray, very fine  
 11'- 70' Clay, gray-green, sandy, silty, with 3" siderite @ 35'  
 70'-150' Clay, gray, with silt  
 T. D.: 150'

**Drill Hole No. 903.** Elevation 218'  
 Location: SW¼, Sec. 16, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'- 9' Clay, light brown, sandy  
 9'- 15' Clay, tan, silty  
 15'- 45' Sand, salt and pepper, medium, micaceous, with brown clay stringers  
 45'- 70' Sand, salt and pepper, fine, micaceous, with clay and lignite stringers  
 70'-110' Clay, greenish-gray, silty, glauconitic, with lignite sand stringers  
 110'-130' Sand, salt and pepper, fine, micaceous, with lignite traces  
 130'-150' Clay, gray, sandy, montmorillonitic, with some sand and lignite stringers  
 T. D.: 150'

**Drill Hole No. 904.** Elevation 173'  
 Location: SE¼, Sec. 19, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'- 17' Clay, orange to gray brown, sandy  
 17'- 50' Clay, gray-green, sandy, glauconitic, with fine sand  
 50'- 58' Sand, salt and pepper, fine  
 58'- 80' Clay, greenish gray, montmorillonitic, with fine sand  
 80'-140' Sand, salt and pepper, medium, slightly lignitic, with a 10' bed of greenish-gray clay @ 104'  
 140'-150' Clay, greenish-gray, sandy, glauconitic  
 T. D.: 150'

**Drill Hole No. 905.** Elevation 190'  
 Location: NW¼, Sec. 30, T. 19 S., R. 17 W.  
 County: Union  
 Logged by: R. L. Cole 11/79.

0'- 5' Clay, buff to orange, sandy  
 5'- 15' Clay, buff to gray, sandy  
 15'- 21' Sand, brown, very fine  
 21'- 63' Sand, gray, very fine, micaceous  
 63'- 115' Clay, green, very sandy, slightly micaceous  
 115'- 150' Sand, gray green, very fine, with interbedded seams of gray clay  
 T. D.: 150'

**Drill Hole No. 906.** Elevation 175'  
 Location: SW¼, Sec. 35, T. 19 S., R. 18 W.  
 County: Union  
 Logged by: W. L. Prior 11/79.

0'- 30' Clay, orange to dark gray, sandy  
 30'- 50' Clay, greenish-gray, sandy, glauconitic, montmorillonitic, trace of lignite @ 33'  
 50'- 69' Sand, salt and pepper, medium, micaceous, glauconitic  
 69'- 125' Clay, dark gray, sandy, glauconitic, montmorillonitic, siderite @ 73'  
 125'- 150' Sand, salt and pepper, fine, micaceous, with clay stringers, 3" siderite @ 134', 1" @ 139'  
 T. D.: 150'

**Drill Hole No. 907. (GW)** Elevation 215'  
 Location: NE¼, Sec. 15, T. 13 S., R. 14 W.  
 County: Calhoun  
 Logged by: R. L. Cole 11/79.

0'- 7' Sand, orange, very fine to fine, with clay binder  
 7'- 13' Sand, orange, fine, with 2' pea gravel @ 9'  
 13'- 27' Gravel, pea, with gray clay, and fine sand, water table @ 17'  
 27'- 60' Clay, green, sandy, micaceous  
 60'- 67' Lignite, black, hard, conchoidal fracture, with gray clay  
 67'- 132' Clay, green to light brown, slightly sandy and silty  
 132'- 140' Sand, gray green, very fine  
 140'- 227' Sand, very fine to fine, interbedded with clay seams, intermittent siderite between 180' 185'  
 227'- 300' Sand, gray, very fine, becoming silty @ 270', 2" siderite @ 289'  
 T. D.: 300'

**Drill Hole No. 908. (GW)** Elevation 203'  
 Location: SW¼, Sec. 11, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: R. L. Cole 11/79.

0'- 17' Sand, tan to light brown, fine, with clay binder  
 17'- 27' Gravel, pea, with coarse sand  
 27'- 31' Clay  
 31'- 36' Lignite, black, hard, conchoidal fracture  
 36'- 42' Clay, brown, lignitic  
 42'- 91' Clay, green, slightly sandy and micaceous  
 91'- 101' Lignite and brown lignitic clay  
 101'- 208' Sand, gray brown, very fine, silty, with gray clay stringers  
 208'- 230' Sand, gray, very fine, less silt  
 T. D.: 230'

**Drill Hole No. 909. (GW)** Elevation 230'  
 Location: SE¼, Sec. 15, T. 13 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. L. Prior 12/79.

0'- 10' Sand, with pea gravel  
 10'- 40' Sand, medium to fine  
 40'- 98' Sand, salt and pepper, medium to fine  
 98'-115' Clay, gray, montmorillonitic, with lignite traces  
 115'-123' Sand, salt and pepper, medium, with trace of lignite @ 120'  
 123'-155' Clay, gray, sandy, montmorillonitic  
 155'-175' Sand, salt and pepper, very fine, micaceous, with 2' lignite @ 165'  
 175'-181' Sand, very fine, lignitic, silty  
 181'-190' Clay, gray to brown, glauconitic, silty, with traces of lignite  
 190'-230' Sand, salt and pepper, lignitic, very fine, with 2" siderite @ 212'  
 230'-300' Sand, salt and pepper, very fine, micaceous, with some gray clay stringers  
 T. D.: 300'

**Drill Hole No. 910. (GW)** Elevation 165'  
 Location: NE¼, Sec. 29, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. L. Prior 12/79.

0'- 12' Sand, red, medium, with clay binder  
 12'- 20' Sand, orange, medium  
 20'- 28' Sand, medium, with some pea gravel  
 28'- 38' Lignite, black and firm  
 38'- 45' Clay, gray, montmorillonitic, silty  
 45'- 50' Sand, salt and pepper, medium, micaceous, with trace of glauconite  
 50'- 66' Clay, gray-green, montmorillonitic  
 66'- 77' Clay, gray-brown, lignitic  
 77'- 78' Lignite, brown, soft  
 78'- 82' Sand, salt and pepper, very fine, micaceous  
 82'-110' Clay, gray-green, montmorillonitic, with a trace of lignite @ 86'  
 T. D.: 110'

**Drill Hole No. 911. (GW)** Elevation 150'  
 Location: SE¼, Sec. 21, T. 14 S., R. 13 W.  
 County: Calhoun  
 Logged by: W. L. Prior 12/79.

0'- 31' Sand, coarse, with pebble size gravel  
 31'- 35' Lignite, black, soft, with some lignitic brown clay  
 35'- 43' Clay, gray, montmorillonitic  
 43'- 46' Clay, brown, lignitic, silty  
 46'- 58' Clay, greenish-gray, montmorillonitic, silty, micaceous, with lignite traces  
 58'- 66' Lignite, black, soft, silty  
 66'- 95' Clay, brownish gray, silty, montmorillonitic  
 95'-123' Sand, salt and pepper, medium, micaceous  
 123'-125' Lignite, black, soft  
 125'-133' Clay, gray, montmorillonitic  
 133'-143' Sand, salt and pepper, very fine, micaceous, with lignite traces  
 143'-150' Clay, gray, montmorillonitic  
 T. D.: 150'

+ (GW) U.S.G.S. Ground Water Observation Well

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 912.** Elevation 321'  
Location: SE¼, Sec. 9, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 15' Sand, fine, yellow-brown, with minor clay
- 15'- 35' Clay, light gray to gray, with some sand
- 35'- 40' Clay, dark grayish-green, slightly silty  
T. D.: 40'

**Drill Hole No. 913.** Elevation 265'  
Location: NW¼, Sec. 16, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 3' Sand, orange red, fine
- 3'- 33' Clay, buff to light gray, iron stained, with some fine sand @ 25'
- 33'- 37' Clay, light tan to cream color
- 37'- 40' Clay, dark grayish-green  
T. D.: 40'

**\*Drill Hole No. 914.** Elevation 250'  
Location: NE¼, Sec. 20, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 7' Clay, light tan with slight red staining
- 7'- 27' Clay, red, slight sand
- 27'- 44' Clay, buff-light tan, with slight sand
- 44'- 87' Sand, tan, very fine to fine
- 87'- 90' Clay, dark grayish-green, sticky  
T. D.: 90'

**\*Drill Hole No. 915.** Elevation 235'  
Location: NE¼, Sec. 29, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 10' Sand, tan, very fine, with clay binder
- 10'- 24' Clay, light grayish-brown, sandy
- 24'- 29' Clay, reddish-brown, silty
- 29'- 36' Sand, medium, light salt and pepper
- 36'- 43' Clay, light gray to reddish brown, sandy
- 43'- 90' Sand, brown, medium to fine, salt and pepper
- 90'-100' Sand, gray-brown, salt and pepper, coarse
- 100'-105' Clay, light gray to reddish brown
- 105'-120' Clay, bluish-green  
T. D.: 120'

**\*Drill Hole No. 916.** Elevation 240'  
Location: NE¼, Sec. 32, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 5' Sand, tan, with clay binder, fine
- 5'- 8' Sand, gray, with clay binder, fine
- 8'- 23' Sand, tan, with some clay
- 23'- 55' Clay, light tan, with some sand
- 55'-150' Sand, tannish-brown  
T. D.: 150'

**\*Drill Hole No. 917.** Elevation 245'  
Location: NE¼, Sec. 5, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 17' Clay, tan, sandy

- 17'- 36' Sand, orange to tan, medium to fine
- 36'- 51' Clay, reddish-orange, with minor silt
- 51'- 67' Sand, very fine, silty
- 67'-125' Sand, coarse, salt and pepper
- 125'-140' Clay, bluish-gray with ironstone @ 140'  
T. D.: 140'

**\*Drill Hole No. 918.** Elevation 265'  
Location: NE¼, Sec. 8, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 15' Clay, tan to light gray, sandy
- 15'- 76' Clay, red to brown, silty, with some minor sand
- 76'-150' Sand, brownish red, medium to coarse  
T. D.: 150'

**Drill Hole No. 919.** Elevation 240'  
Location: NE¼, Sec. 17, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 15' Clay, light gray to gray, sandy
- 15'- 45' Clay, red to brown, silty, with sand stringers
- 45'-115' Sand, brown, medium  
T. D.: 115'

**Drill Hole No. 920.** Elevation 248'  
Location: NE¼, Sec. 20, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 5' Clay, brown, silty
- 5'- 30' Clay, reddish brown, with minor sand
- 30'- 41' Clay, reddish brown, with fine sand and silt
- 41'- 51' Silt, light brown
- 51'- 70' Sand, medium, salt and pepper, micaceous, with minor clay
- 70'-135' Sand, brown, coarse, salt and pepper, micaceous  
T. D.: 135'

**Drill Hole No. 921.** Elevation 247'  
Location: SE¼, Sec. 21, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 13' Clay, light brown to gray, sandy with iron stain
- 13'- 60' Sand, reddish brown, medium to fine, with minor clay
- 60'-110' Sand, reddish brown, medium to coarse, silty
- 110'-120' Sand, red to brown, very coarse, with some gravel  
T. D.: 120'

**\*Drill Hole No. 922.** Elevation 251'  
Location: SE¼, Sec. 19, T. 3 N., R. 8 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 8' Clay, gray, silty
- 8'- 37' Clay, reddish brown, silty and sandy
- 37'- 55' Sand, medium, micaceous
- 55'- 75' Clay, gray to green, silty

- 75'- 79' Sand, medium to coarse, micaceous, salt and pepper
- 79'- 90' Sand, very coarse, with gravel  
T. D.: 90'

**\*Drill Hole No. 923.** Elevation 242'  
Location: SE¼, Sec. 24, T. 3 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 10' Clay, orange to red, silty, sandy
- 10'- 15' Sand, fine, salt and pepper, micaceous, with clay binder
- 15'- 28' Silt, brown, sandy, with minor clay
- 28'- 52' Sand, fine, salt and pepper, micaceous
- 52'- 60' Sand, coarse, salt and pepper
- 60'- 80' Sand, very fine, with silt and minor clay
- 80'-105' Sand, very coarse  
T. D.: 105'

**\*Drill Hole No. 924.** Elevation 240'  
Location: SE¼, Sec. 23, T. 3 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 10' Clay, reddish brown, silty and sandy
- 10'- 99' Sand, medium, light salt and pepper, micaceous, with lignite traces @ 70'
- 99'-105' Sand, very coarse  
T. D.: 105'

**\*Drill Hole No. 925.** Elevation 250'  
Location: SW¼, Sec. 22, T. 3 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 25' Clay, brown to dark red, sandy, with sand seams
- 25'- 65' Sand, dark red, very fine to fine, with some clay and silt
- 65'- 90' Sand, gray, fine, with silt and clay
- 90'-110' Sand, gray to light blue, carbonaceous, fine
- 110'-120' Clay, grayish-blue  
T. D.: 120'

**\*Drill Hole No. 926.** Elevation 260'  
Location: SW¼, Sec. 21, T. 3 N., R. 10 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

- 0'- 30' Clay, brown to red, sandy
- 30'- 80' Clay, brown, sandy and silty
- 80'- 90' Clay, grayish-green, slightly silty  
T. D.: 90'

**Drill Hole No. 927.** Elevation 265'  
Location: NW¼, Sec. 21, T. 3 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

- 0'- 12' Clay, red to gray, sandy, micaceous
- 12'- 23' Sand, medium, salt and pepper with lignite traces
- 23'- 32' Clay, gray to brown, sandy
- 32'- 44' Sand, coarse, salt and pepper with clay, light gray
- 44'- 50' Clay, dark bluish-gray  
T. D.: 50'

\*Electric logs available

**ARKANSAS LIGNITE INVESTIGATIONS**

**Drill Hole No. 928.** Elevation 296'  
Location: NW¼, Sec. 17, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

0'- 12' Clay, brown to pink, sandy  
12'- 28' Clay, light gray, silty  
28'- 30' Clay, dark blue gray, sticky  
T. D.: 30'

**Drill Hole No. 929.** Elevation 314'  
Location: SW¼, Sec. 8, T. 3 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

0'- 5' Clay, red brown, silty  
5'- 18' Clay, red gray, sandy  
18'- 20' Clay, blueish gray, sticky  
T. D.: 20'

**\*Drill Hole No. 930.** Elevation 320'  
Location: SE¼, Sec. 30, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

0'- 10' Clay, red brown, sandy  
10'- 36' Clay, red to light gray, sandy  
36'- 40' Sand, red, coarse  
40'- 45' Clay, light gray, sandy  
45'- 72' Sand, red medium, with light  
gray clay  
72'- 80' Clay, gray green, sticky  
T. D.: 80'

**Drill Hole No. 931.** Elevation 310'  
Location: SE¼, Sec. 29, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

0'- 22' Clay, tan, sandy  
22'- 52' Sand, fine, tan to gray, with  
some clay  
52'- 60' Clay, dark gray, sticky  
T. D.: 60'

**Drill Hole No. 932.** Elevation 310'  
Location: NW¼, Sec. 24, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

0'- 2' Clay, red, sandy  
2'- 8' Clay, yellow, slightly sandy  
8'- 18' Clay, tan to gray, slightly sandy  
18'- 30' Clay, dark gray, sticky  
T. D.: 30'

**Drill Hole No. 933.** Elevation 304'  
Location: SW¼, Sec. 25, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: W. L. Prior 3/80

0'- 10' Clay, brown, sandy  
10'- 18' Clay, light gray, silty  
18'- 25' Sand, medium salt and pepper  
25'- 34' Clay, gray brown  
34'- 50' Clay, gray, sticky  
T. D.: 50'

**Drill Hole No. 934.** Elevation 365'  
Location: SE¼, Sec. 28, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

0'- 44' Clay, gray, sandy  
44'- 50' Clay, gray, sticky  
T. D.: 50'

**\*Drill Hole No. 935.** Elevation 280'  
Location: NW¼, Sec. 31, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

0'- 15' Clay, red, sandy  
15'- 73' Clay, tan, glauconitic, sandy  
73'- 80' Clay, gray green, sticky  
T. D.: 80'

**Drill Hole No. 936.** Elevation 265'  
Location: NW¼, Sec. 32, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: R. L. Cole 3/80

0'- 11' Clay, red to brown, sandy  
11'- 70' Sand, fine, brown with some  
silt  
70'-120' Sand and silt, fine, tan  
120'-130' Clay, gray green, sticky  
T. D.: 130'

**Drill Hole No. 937.** Elevation 253'  
Location: SW¼, Sec. 12, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 4' Sand, fine, tan with tan clay  
4'- 15' Clay, tan with fine sand  
15'- 20' Sand, fine, orange  
20'- 30' Clay, brown, silty micaceous  
with fine sand  
30'- 50' Clay, gray silty, sticky  
T. D.: 50'

**Drill Hole No. 938.** Elevation 252'  
Location: SW¼, Sec. 8, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 5' Clay, orange with fine sand  
5'- 26' Sand, fine gray  
26'- 79' Sand, fine to medium, orange  
to tan  
79'- 85' Clay, gray, sticky  
T. D.: 85'

**Drill Hole No. 939.** Elevation 220'  
Location: NW¼, Sec. 15, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 10' Silt, tan with tan clay  
10'- 15' Clay, cream with silt  
15'- 20' Clay, tan to orange, silty  
20'- 84' Sand, fine to medium, tan  
84'- 85' Clay, tan, sandy  
85'-110' Sand, fine to medium, tan  
T. D.: 110'

**Drill Hole No. 940.** Elevation 230'  
Location: NE¼, Sec. 14, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 25' Clay, light tan, silty  
25'-100' Sand, fine to medium, tan  
T. D.: 100'

**Drill Hole No. 941.** Elevation 230'  
Location: NE¼, Sec. 13, T. 4 N., R. 8 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 3' Silt, tan  
3'- 11' Clay, gray silty  
11'- 20' Clay, orange

20'- 21' Sand, medium, tan  
21'- 35' Clay, orange  
35'-115' Sand, medium to fine, tan  
T.D.: 115'

**Drill Hole No. 942.** Elevation 295'  
Location: SE¼, Sec. 12, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 5' Clay, red with fine sand  
5'- 10' Sand, fine to medium, red with  
clay  
10'- 15' Sand, fine to medium, tan with  
clay stringers  
15'- 23' Clay, gray, sticky  
T. D.: 23'

**Drill Hole No. 943.** Elevation 301'  
Location: NW¼, Sec. 25, T. 4 N., R. 9 W.  
County, Lonoke  
Logged by: J. M. Howard 3/80

0'- 5' Silt, brown with clay layers  
5'- 17' Clay, light gray, silty  
17'- 20' Sand, fine to medium, tan  
20'- 30' Clay, light gray to cream  
30'- 32' Clay, dark gray, sticky  
T. D.: 32'

**\*Drill Hole No. 944.** Elevation 308'  
Location: NW¼, Sec. 31, T. 2 S., R. 12 W.  
County, Saline  
Logged by: W. L. Prior 4/80

0'- 1' Clay, brown, sandy  
1'- 28' Clay, cream, sandy  
28'- 32' Clay, light brown, sandy  
32'- 85' Clay, gray, sandy  
85'-140' Sand, fine to medium, salt and  
pepper, micaceous with gray  
clay  
140'-150' Sand, medium  
Core interval 8'-18'  
Recovered: Lost:  
10' 0'  
8'-12' Clay, cream, light tan  
with some sand  
12'-15'6" Clay, cream to light  
tan with some sand and 1" to  
2" of iron stained sand at 13'  
6" and 15'6"  
15'6"-16" Clay, iron stained  
with some sand  
16'-18' Clay, tan modeled with  
some iron stains, sandy  
T. D.: 150'

**\*Drill Hole No. 945.** Elevation 296'  
Location: SE¼, Sec. 19, T. 2 S., R. 12 W.  
County, Saline  
Logged by: R. L. Cole 4/80

0'- 6' Sand, fine, light gray  
6'- 35' Clay, tan with brown sand  
35'-150' Sand, fine, gray with some  
clay beds  
T.D.: 150'

**\*Drill Hole No. 946.** Elevation 282'  
Location: NE¼, Sec. 20, T. 2 S., R. 12 W.  
County, Saline  
Logged by: R. L. Cole 4/80

0'- 12' Sand, fine, brown  
12'- 89' Clay, tan, sandy  
89'-150' Sand, fine to medium, tan  
T. D.: 150'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 947.** Elevation 290'  
Location: NE $\frac{1}{4}$ , Sec. 16, T. 2 S., R. 12 W.  
County, Saline  
Logged by: R. L. Cole 4/80

0'- 60' Sand, very fine to fine, orange,  
silty  
T. D.: 60'

**\*Drill Hole No. 948.** Elevation 258'  
Location: SW $\frac{1}{4}$ , Sec 10, T. 2 S., R. 12 W.  
County, Saline  
Logged by: R. L. Cole 4/80

0'- 15' Sand, fine, brown, silty  
15'-150' Sand, fine, gray, silty and  
lignitic  
T. D.: 150'

**Drill Hole No. 949.** Elevation 260'  
Location: NW $\frac{1}{4}$ , Sec. 11, T. 2 S., R. 12 W.  
County, Saline  
Logged by: R. L. Cole 4/80

0'- 9' Clay, tan, sandy  
9'- 14' Sand, tan, with some clay  
14'- 29' Clay, gray, sandy  
29'- 98' Sand, gray, fine  
T. D.: 98'

**\*Drill Hole No. 950.** Elevation 343'  
Location: NW $\frac{1}{4}$ , Sec. 7, T. 3 S., R. 12 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 68' Sand, fine, brown with some  
clay  
68'-111' Clay, dark brown gray, sandy  
111'-150' Sand, fine, gray  
T. D.: 150'

**Drill Hole No. 951.** Elevation 265'  
Location: SE $\frac{1}{4}$ , Sec. 24, T. 3 S., R. 13 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 25' Clay, gray, sandy  
25'- 30' Sand, coarse, with gravel  
T. D.: 30'

**Drill Hole No. 952.** Elevation 292'  
Location: NE $\frac{1}{4}$ , Sec. 2, T. 4 S., R. 13 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 15' Gravel with sand  
T. D.: 15'

**\*Drill Hole No. 953.** Elevation 321'  
Location: NW $\frac{1}{4}$ , Sec. 3, T. 4 S., R. 14 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 34' Clay, gray, sandy  
34'- 38' Clay, gray, sandy, lignitic  
38'- 46' Clay, dark brown, lignitic  
46'-121' Clay, green, sandy  
121'-150' Sand, very fine to fine grain,  
tan  
T. D.: 150'

**Drill Hole No. 954.** Elevation 262'  
Location: SW $\frac{1}{4}$ , Sec. 1, T. 5 S., R. 15 W.  
County, Grant

Logged by: R. L. Cole 4/80  
0'- 30' Gravel, sandy  
T. D.: 30'

**Drill Hole No. 955.** Elevation 268'  
Location: SE $\frac{1}{4}$ , Sec. 1, T. 5 S., R. 15 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 15' Clay, tan, sandy  
15'- 25' Gravel, sandy  
T. D.: 25'

**\*Drill Hole No. 956.** Elevation 340'  
Location: NW $\frac{1}{4}$ , Sec. 27, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: R. L. Cole 4/80

0'- 11' Clay, tan, silty  
11'- 16' Sand, very fine, red, silty  
16'-107' Sand, fine, light brown, silty  
107'-110' Lignite, black with clay  
110'-120' Sand, tan, very fine, lignitic  
120'-150' Clay, dark brown, lignitic  
with some fine sand  
T. D.: 150'

**\*Drill Hole No. 957.** Elevation 380'  
Location: SW $\frac{1}{4}$ , Sec. 21, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: R. L. Cole 4/80

0'- 21' Sand, very fine, red  
21'-107' Sand, very fine to fine, tan,  
silty  
107'-150' Sand, fine, dark brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 958.** Elevation 400'  
Location: SW $\frac{1}{4}$ , Sec. 20, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 4/80

0'- 24' Sand, medium with some clay  
24'- 30' Clay, cream  
30'- 45' Sand, fine  
45'- 61' Sand, medium, brown, lignitic  
with thin seams of lignite and  
carbonate from 57' to 61'  
61'- 80' Clay, pink, sandy, lignitic  
80'-130, Sand, fine, lignitic with some  
gray clay  
130'-150' Sand, medium with some clay  
and traces of lignite  
T. D.: 150'

**\*Drill Hole No. 959.** Elevation 347'  
Location: SE $\frac{1}{4}$ , Sec. 19, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 4/80

0'- 10' Gravel and coarse sand  
10'- 70' Sand, fine, gray  
70'-110' Sand, medium, gray  
110'-150' Sand, coarse, lignitic with some  
clay  
T. D.: 150'

**\*Drill Hole No. 960.** Elevation 295'  
Location: SW $\frac{1}{4}$ , Sec. 9, T. 5 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 4/80

0'- 4' Sand, brown  
4'- 12' Clay, gray, silty with ironstone  
concretions

12'- 15' Clay, brown, sandy  
15'- 60' Clay, dark gray, sandy mica-  
ceous with ironstone concre-  
tions, glauconitic  
60'- 86' Clay, dark gray, micaceous, 4"  
of carbonate at 84'  
86'-134' Clay, dark gray, sandy, glau-  
conitic, fossiliferous  
134'-136' Clay, brown, lignitic, 6" lignite  
at 134'  
136'-150' Clay, brown, lignitic, sandy  
T. D.: 150'

**\*Drill Hole No. 961.** Elevation 335'  
Location: SW $\frac{1}{4}$ , Sec. 20, T. 5 S., R. 13 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 1' Sand, fine, red  
1'- 7' Gravel, sandy  
7'- 25' Clay, buff, sandy  
25'-132' Clay, gray, silty with siderite  
layers  
132'-150' Silt, gray  
T. D. 150'

**\*Drill Hole No. 962.** Elevation 240'  
Location: NW $\frac{1}{4}$ , Sec. 25, T. 5 S., R. 14 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 21' Clay, tan, sandy  
21'- 80' Sand, fine, brown  
80' 150' Sand, fine to medium, brown  
with some clay  
T. D.: 150'

**\*Drill Hole No. 963.** Elevation 260'  
Location: SW $\frac{1}{4}$ , Sec. 24, T. 6 S., R. 15 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 7' Clay, tan, sandy  
7'- 13' Clay, brown, lignitic  
13'- 19' Clay, green  
19'- 27' Sand, very fine, tan, silty  
27'-100' Clay, gray, sandy  
100'-150' Sand, very fine, gray  
T. D.: 150'

**\*Drill Hole No. 964.** Elevation 275'  
Location: NW $\frac{1}{4}$ , Sec. 31, T. 6 S., R.14 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 47' Clay, tan, sandy  
47'- 49' Clay, brown, interbedded lignite  
49'- 80' Clay, green, sandy  
T. D.: 80'

**\*Drill Hole No. 965.** Elevation 305'  
Location: NE $\frac{1}{4}$ , Sec. 32, T. 4 S., R. 13 W.  
County, Grant  
Logged by: R. L. Cole 4/80

0'- 19' Clay, gray, sandy  
19'- 69' Clay, dark gray, glauconitic  
with siderite layers and 6" of  
lignite at 69'  
69'-111' Sand, fine to very fine, gray  
111'-150' Clay, green, silty  
T. D.: 150'

\*Electric logs available

**ARKANSAS LIGNITE INVESTIGATIONS**

**\*Drill Hole No. 966.** Elevation 270'  
 Location: NW¼, Sec. 29, T. 4 S., R. 13 W.  
 County, Grant  
 Logged by: R. L. Cole 4/80

0'- 18' Clay, brown, sandy  
 18'- 43' Sand, fine, brown  
 43'-117' Clay, green, glauconitic, sandy  
 117'-150' Silt, gray  
 T. D.: 150'

**\*Drill Hole No. 967.** Elevation 310'  
 Location: NE¼, Sec. 20, T. 3 S., R. 14 W.  
 County, Grant  
 Logged by: R. L. Cole 4/80

0'- 60' Sand, buffed gray with gray clay  
 60'-100' Sand, brown, lignitic with isolated lignite and clay seams  
 100'-150' Sand, brown, lignitic with some silty clay  
 T. D.: 150'

**\*Drill Hole No. 968.** Elevation 280'  
 Location: SE¼, Sec. 5, T. 5 S., R. 11 W.  
 County, Grant  
 Logged by: R. L. Cole 4/80

0'- 3' Sand, fine, red  
 3'- 4' Gravel, pea to small cobble size  
 4'- 8' Clay, tan, sandy  
 8'- 27' Clay, green, sandy  
 27'- 55' Sand, very fine to fine, greenish gray, silty  
 55'-100' Clay, gray, sandy, glauconitic at 71'  
 100'-150' Clay, olive green, silty, sticky  
 T. D.: 150'

**Drill Hole No. 969.** Elevation 230'  
 Location: NW¼, Sec. 14, T. 9 S., R. 11 W.  
 County, Cleveland  
 Logged by: W. L. Prior 4/80

0'- 2' Gravel, pea size, coarse sand  
 2'- 10' Clay, gray, sandy  
 Core Interval 10'-50'  
 Recovered: 20' Lost: 20'  
 10'- 20' Clay, gray, sticky, ironstaining and minor sand at 19'  
 20'- 36' Clay, brown with minor yellow ironstain, silty and micaceous  
 36'- 38' Clay, sandy, ironstain and gypsum vein, brown and gray transition zone  
 38'- 50' Clay, dark greenish black, micaceous, silty  
 T. D.: 50'

**Drill Hole No. 970.** Elevation 325'  
 Location: NE¼, Sec. 22, T. 3 S., R. 11 W.  
 County, Jefferson  
 Logged by: W. L. Prior 4/80

0'- 14' Clay, tan, sandy,  
 14'- 21' Sand, medium, salt and pepper  
 21'- 27' Clay, brown, silty, micaceous  
 27'- 55' Clay, dark greenish gray, micaceous, traces of lignite at 32'  
 55'-150' Clay, dark greenish gray, micaceous, glauconitic, sandy with a 2" siderite layer at 142'  
 T. D.: 150'

**Drill Hole No. 971.** Elevation 256'  
 Location: NE¼, Sec. 33, T. 4 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 27' Sand, very fine to fine, buffed gray with some clay  
 27'- 40' Sand, fine to medium, salt and pepper, coarse at 32'  
 T. D.: 40'

**Drill Hole No. 972.** Elevation 315'  
 Location: NW¼, Sec. 9, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 20' Sand, brown to orange, very fine with some gravel  
 T. D.: 20'

**Drill Hole No. 973.** Elevation 300'  
 Location: SE¼, Sec. 17, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 7' Clay, orange, sandy  
 7'- 11' Gravel, pea to cobble size  
 11'- 16' Sand, coarse, salt and pepper  
 16'- 30' Sand, fine, orange  
 T. D.: 30'

**Drill Hole No. 974.** Elevation 320'  
 Location: SE¼, Sec. 19, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 10' Sand, fine, brown with gravel  
 10'- 19' Clay, buff, ironstained, sandy  
 19'- 30' Sand, gray, medium coarse to very coarse  
 T. D.: 30'

**\*Drill Hole No. 975.** Elevation 380'  
 Location: NE¼, Sec. 14, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 8' Clay, orange, sandy  
 8'- 11' Gravel, pea to small cobble size  
 11'- 25' Clay, brown, sandy  
 25'- 37' Sand, very fine to fine, brown  
 37'- 62' Sand, gray, fine  
 62'- 94' Sand, gray, fine with some clay  
 94'-118' Clay, dark brown, sandy  
 118'-134' Sand, fine, gray  
 134'-150' Clay, dark brown  
 T. D.: 150'

**\*Drill Hole No. 976.** Elevation 295'  
 Location: NW¼, Sec. 14, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 5' Sand, fine, brown  
 5'- 9' Clay, tan, sandy  
 9'- 33' Sand, fine, brown  
 33'- 42' Clay, dark brown, lignitic with lignite seams  
 42'-150' Sand, fine, brown with some brown clay and lignite traces  
 T. D.: 150'

**\*Drill Hole No. 977.** Elevation 367'  
 Location: SE¼, Sec. 9, T. 6 S., R. 17 W.

County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 15' Sand, fine, orange with some clay  
 15'- 22' Gravel, pea size  
 22'- 45' Sand, fine, gray  
 45'-150' Clay, dark brown, sandy micaceous  
 T. D.: 150'

**\*Drill Hole No. 978.** Elevation 360'  
 Location: NE¼, Sec. 8, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: R. L. Cole 5/80

0'- 11' Sand, fine, tan  
 11'- 58' Clay, dark brown, micaceous, sandy, lignitic  
 58'- 68' Clay, dark brown, micaceous, lignitic with isolated seams of sand  
 68'- 72' Clay, green, glauconitic, micaceous  
 72'- 80' Clay, blueish green, sticky, micaceous, glauconitic  
 T. D.: 80'

**Drill Hole No. 979.** Elevation 370'  
 Location: NE¼, Sec. 8, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/80

0' 3' Sand, coarse and cobble size gravel  
 3'- 10' Clay, gray, sandy  
 Core Interval 10'-30'  
 Recovered: 5'6" Lost: 14'6"  
 10'- 20' Core lost cutting indicate lignitic clay with sand stringers  
 20'- 24'6" Lost probably sand  
 24'6" - 30' Clay, brown, lignitic, sandy and micaceous  
 T. D.: 30'

**Drill Hole No. 980.** Elevation 375'  
 Location: NE¼, Sec. 8, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/80

0'- 25' Sand, medium, orange  
 25'- 30' Clay, brown, lignitic  
 Core Interval 30'-40.  
 Recovered: 4'6" Lost: 6'6"  
 30'- 40' Sand, brown, lignitic, micaceous  
 T. D.: 40'

**\*Drill Hole No. 981.** Elevation 480'  
 Location: NE¼, Sec. 16, T. 6 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/80

0'- 4' Clay, cream  
 4' 11' Sand, fine, 1" lignite and lignitic clay at 9'  
 11'- 30' Clay, brown, lignitic with lignite seams  
 30'-106' Sand, fine, micaceous, salt and pepper, traces of lignite  
 106'-109' Clay, grayish green  
 109'-150' Sand, fine, micaceous, salt and pepper with gray clay  
 T. D.: 150'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 982.** Elevation 480'  
Location: NE¼, Sec. 16, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 10' Clay, cream to light brown, sticky, 1" of lignite at 9'  
Core interval 10'-30'  
Recovered: 10' Lost: 10'  
10'- 20' Clay, lost  
20'- 23' Clay, sticky, light brown, lignitic  
23'- 28' Clay, buff, some silt, minor ironstains  
28'- 30' Clay, buff, sandy  
T. D.: 30'

**\*Drill Hole No. 983.** Elevation 500'  
Location: NE¼, Sec. 18, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 3' Gravel, cobble size with coarse sand  
3'- 10' Clay, buff to brown, ironstain  
10'- 15' Clay  
15'- 20' Clay, buff to light tan, silty  
20'- 32' Clay, buff, silty with traces of lignite  
32'- 39' Sand, medium with greenish clay  
39'- 42' Clay, greenish gray with minor amounts of sand  
42'- 47' Lignite, brown, firm  
47'- 90' Clay, cream to greenish brown with traces of lignite, sandy  
90'-108' Clay, greenish gray, sandy,  
108'-120' Sand, very fine, gray, micaceous  
120'-130' Clay, greenish gray, sticky  
130'-150' Sand, fine, micaceous  
Core interval 10'-20'  
Recovered: 5' Lost: 5'  
10'-15' Clay, lost due to gravel  
15'-20' Clay, buff to light tan with some silt and minor ironstain  
T. D.: 150'

**Drill Hole No. 984.** Elevation 500'  
Location: NE¼, Sec. 18, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 4' Gravel with coarse sand  
Core interval 4'-30'  
Recovered: 14' Lost: 12'  
4'- 10' Clay, buff to light gray, clay sandy from 9'-10'  
10'- 16'7" Lost, clay, sandy  
16'7"-20' Clay, sandy, buff colored with heavy ironstains  
20'-24'6" Clay, brown, ironstain, lignitic toward the bottom  
24'6"-30' No recovery  
T. D.: 30'

**\*Drill Hole No. 985.** Elevation 379'  
Location: NE¼, Sec. 1, T. 5 S., R. 17 W.  
County, Hot Spring  
Logged by: R. L. Cole 5/80

0'- 5' Sand, fine, red to brown  
5'- 18' Sand, fine, yellow to brown, some clay  
18'- 20' Sand, fine, gray with gray clay at 20'

20'- 22' Lignite, soft black, friable with gray clay  
22'- 26' Sand, fine, gray to brown with lignitic seams  
26'- 71' Sand, fine, light tan  
71'-130' Sand, fine, gray with lignitic parting  
130'-150' Sand, fine, tan, ironstain, yellow brown throughout, possible clay seams at 135'  
T. D.: 150'

**Drill Hole No. 986.** Elevation 490'  
Location: NW¼, Sec. 29, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: R. L. Cole 5/80

0'- 12' Gravel, pea to cobble size  
12'- 53' Sand, medium to coarse, red-yellow  
53'- 74' Sand, fine, gray, silty  
74'- 76' Lignite, black, firm  
76'- 89' Sand, fine, grayish brown, slight amount of clay and silt  
89'- 91' Clay, gray  
91'- 95' Lignite, black, hard  
95'-110' Sand, gray to brown  
T. D.: 110'

**\*Drill Hole No. 987.** Elevation 497'  
Location: SE¼, Sec. 23, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: R. L. Cole 5/80

0'- 25' Gravel, pea to cobble size with coarse sand  
25'- 32' Clay, tan to light brown, sandy  
32'- 72' Clay, green, lignitic  
72'-118' Sand, fine with clay seams  
118'-150' Sand, fine, gray  
T. D.: 150'

**Drill Hole No. 988.** Elevation 271'  
Location: SW¼, Sec. 24, T. 4 S., R. 17 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 7' Clay, brown, sandy  
7'- 10' Clay, tan, sandy  
10'- 12' Sand, medium, tan  
12'- 30' Gravel, pebble size with coarse sand  
30'- 43' Gravel, pea size with some lignite  
43'- 46' Clay, gray green  
46'- 58' Sand, fine, salt & pepper  
58'- 65' Clay, blue, sticky  
T. D.: 65'

**Drill Hole No. 989.** Elevation 295'  
Location: SW¼, Sec. 17, T. 5 S., R. 17 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 20' Gravel, pebble size with coarse sand  
20'- 23' Clay, brown, lignitic  
23'- 25' Clay, blue gray, sticky  
T. D.: 25'

**Drill Hole No. 990.** Elevation 230'  
Location: SE¼, Sec. 35, T. 5 S., R. 18 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/80

0'- 12' Clay, red, sandy  
12'- 19' Sand, fine, tan

19'- 33' Gravel, pebble size, medium sand  
33'- 40' Clay, dark bluish gray with minor pyrite  
T. D.: 40'

**Drill Hole No. 991.** Elevation 280'  
Location: SE¼, Sec. 16, T. 7 S., R. 18 W.  
County, Clark  
Logged by: R. L. Cole 6/80

0'- 11' Gravel, small cobble size with coarse seams  
11'- 32' Sand, very coarse to coarse with some pea gravel and isolated clay sand  
32'- 50' Clay, dark grayish, sticky  
T. D.: 50'

**Drill Hole No. 992.** Elevation 245'  
Location: NE¼, Sec. 10, T. 8 S., R. 18 W.  
County, Clark  
Logged by: R. L. Cole 6/80

0'- 5' Gravel, pea size with coarse sand  
5'- 25' Sand, fine, red  
25'- 30' Gravel, pea size with coarse sand  
30'- 40' Sand, fine, yellow brown with some clay binder  
40'- 53' Sand, fine, brown, isolated gray clay seams  
53'- 55' Lignite, soft, brown with lignitic clay  
55'- 85' Clay, dark grayish  
T. D.: 85'

**\*Drill Hole No. 993.** Elevation 270'  
Location: NE¼, Sec. 30, T. 8 S., R. 17 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 18' Gravel, pea to cobble size with coarse red sand  
18'- 88' Clay, brown, sandy, lignitic and micaceous  
88'-103' Sand, fine to medium, dark salt and pepper, micaceous with lignite traces  
103'-115' Clay, greenish brown, sandy, lignitic, micaceous, 5" of siderite at 112'  
115'-118' Sand, fine, micaceous  
118'-123' Clay, brown, lignitic, sandy and micaceous  
123'-150' Sand, fine, micaceous, lignitic  
T. D.: 150'

**\*Drill Hole No. 994.** Elevation 188'  
Location: NE¼, Sec. 7, T. 9 S., R. 17 W.  
County, Dallas  
Logged by: R. L. Cole 6/80

0'- 13' Sand, fine, orange brown with some pea gravel  
13'- 15' Sand, fine, light brown with very coarse sand and pea gravel  
15'- 56' Clay, brown, sandy, lignitic, 4" of siderite at 56'  
56'-138' Sand, fine, gray  
138'-150' Clay, greenish gray, glauconitic  
T. D.: 150'

\*Electric logs available

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**\*Drill Hole No. 995.** Elevation 305'  
Location: NE¼, Sec. 16, T. 8 S., R. 17 W.  
County, Dallas  
Logged by: R. L. Cole 6/80

0'- 5' Gravel, pea with orange sand  
5'- 7' Sand, orange, fine  
7'- 11' Clay, light brown, lignitic, sandy  
11'- 25' Sand, fine, light brown  
25'- 78' Clay, dark gray, sandy with thin  
siderite layers  
78'- 92' Clay, brown, lignitic, sandy  
92'-150' Sand, fine, gray  
T. D.: 150'

**\*Drill Hole No. 996.** Elevation 285'  
Location: SE¼, Sec. 19, T. 8 S., R. 16 W.  
County, Dallas  
Logged by: R. L. Cole 6/80

0'- 5' Clay, orange with fine sand  
5'- 38' Sand, fine,  
some clay stringers at 38'  
38'- 40' Sand, fine, gray  
40'- 73' Clay, gray to dark gray, sandy,  
glauconitic  
73'-150' Sand, fine, gray, lignitic at 93'  
T. D.: 150'

**\*Drill Hole No. 997.** Elevation 165'  
Location: NW¼, Sec. 20, T. 9 S., R. 17 W.  
County, Dallas  
Logged by: R. L. Cole 6/80

0'- 12' Sand, fine, yellow with slight  
clay binder  
12'- 36' Clay, gray with sand, sandier  
with depth  
36'- 37' Gravel, pea  
37'- 59' Clay, brown, lignitic, glau-  
conitic, sandy, 2½" of very hard  
siderite at 58'  
59'-110' Sand, fine grain with some clay  
seams  
110'-150' Sand, fine, silty  
T. D.: 150'

**\*Drill Hole No. 998.** Elevation 155'  
Location: SE¼, Sec. 4, T. 10 S., R. 17 W.  
County, Dallas  
Logged by: R. L. Cole 6/80

0'- 17' Clay, buff to tan, mottled red,  
sandy  
17'- 33' Sand, fine, gray to tan, slightly  
silty  
33'- 43' Gravel, pea, with very coarse  
sand  
43'- 46' Sand, medium, gray, with  
gray clay  
46'- 50' Gravel, pea, with coarse sand  
50'-105' Clay, gray to brown, sandy,  
silty, micaceous with isolated  
sand seams from 50' - 80'  
103'-110' Sand, fine, gray  
110 Clay, dark brown, lignitic,  
sandy, micaceous  
T. D.: 110'

**\*Drill Hole No. 999.** Elevation 144'  
Location: NW¼, Sec. 34, T. 10 S., R. 17 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 9' Sand, medium, tan  
9'- 12' Clay, light gray, sandy  
12'- 35' Gravel, cobble - pebble size  
with medium sand  
35'- 45' Clay, brown, sandy, lignitic  
45'- 50' Clay, brownish gray, micaceous,  
silty  
50'- 67' Clay, brown, glauconitic, with  
8" of siderite at 57'

\*Electric logs available

67'- 80' Clay, brown, sandy, lignitic,  
micaceous  
80'-104' Sand, medium, micaceous with  
minor clay, brown, lignitic  
104'-145' Clay, brown, sandy micaceous  
104'-150' Sand, fine to medium, micaceous  
T. D.: 150'

**\*Drill Hole No. 1000.** Elevation 263'  
Location: NE¼, Sec. 22, T. 10 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 1' Gravel, pebble size and sand,  
medium  
1'- 22' Clay, red to white with iron  
staining, sandy  
22'- 35' Sand, medium to coarse, yellow,  
iron staining  
35'- 86' Clay, gray, sandy, lignite traces  
86'-108' Sand, medium, salt and pepper,  
micaceous  
108'-150' Clay, gray, sandy, traces of  
lignite  
T. D.: 150'

**\*Drill Hole No. 1001.** Elevation 282'  
Location: SE¼, Sec. 24, T. 10 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 12' Gravel, pebble size with coarse  
sand  
12'- 22' Clay, white-pink-yellow, heavy  
iron staining  
22'- 38' Sand, coarse with some pea size  
gravel  
38'- 60' Clay, dark gray, sandy,  
micaceous with lignite traces,  
with sand and ironstone at  
56'-58'  
60'- 82' Sand and clay seams alternating,  
sand medium, clay dark gray,  
micaceous, lignite traces  
82'-124' Clay, dark gray, sandy with  
lignite traces  
124'-138' Sand, fine, salt and pepper  
138'-140' Clay, dark gray with lignite  
traces  
140'-150' Sand, fine, salt and pepper,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1002.** Elevation 210'  
Location: NW¼, Sec. 5, T. 10 S., R. 15 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 8' Sand, medium, salt and pepper  
8'- 20' Clay, light gray, sandy  
20'- 27' Gravel, pea size with coarse  
sand  
27'- 30' Clay, dark gray, sandy  
30'- 62' Sand, coarse, salt and pepper  
with pea size gravel  
62'-140' Clay, dark gray, lignite traces,  
with 1" of siderite at 125'  
140'-150' Sand, fine, salt and pepper,  
micaceous with minor gray  
clay  
T. D.: 150'

**Drill Hole No. 1003.** Elevation 192'  
Location: NW¼, Sec. 26, T. 9 S., R. 17 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 8' Clay, brown, sandy  
8'- 22' Gravel, pea to pebble size with  
coarse sand  
22'- 45' Gravel, pebble to small cobble  
size with coarse sand

45'- 62' Gravel, pea to small pebble  
size with coarse sand  
62'-150' Sand, fine, salt and pepper,  
with 5" of siderite at 35', 4" of  
siderite at 130', and 5" of  
siderite at 142'  
T. D.: 150'

**\*Drill Hole No. 1004.** Elevation 250'  
Location: SE¼, Sec. 6, T. 10 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/80

0'- 8' Clay, very sandy, white to red,  
weathered  
8'- 34' Clay, dark gray, sandy, lignite  
traces  
34'- 37' Sand, medium, salt and pepper  
37'- 45' Clay, gray, sandy, glauconitic  
with lignite traces  
45'- 67' Sand, fine, micaceous, salt and  
pepper  
67'- 70' Clay, gray, sandy, lignite traces  
70'-105' Sand, medium to fine, salt and  
pepper, micaceous  
105'-140' Clay, gray, sandy, lignite traces,  
micaceous, with lignitic clay at  
115', 5" to 6" of soft, black,  
lignite at 120', and 12" of sand,  
fine, micaceous at 121'  
140'-150' Clay, gray, lignitic, sandy last  
3"  
T. D.: 150'

**\*Drill Hole No. 1005.** Elevation 320'  
Location: SW¼, Sec. 14, T. 9 S., R. 19 W.  
County, Clark  
Logged by: R. L. Cole 7/80

0'- 45' Sand, red, fine with some clay  
binder, lignitic at 17'  
45'- 72' Sand, very coarse, pea gravel,  
some buff clay at 60'  
72'- 95' Clay, buff, sandy  
95'-105' Clay, gray  
105'-110' Sand, gray to brown, fine  
110' Clay, gray, sticky  
T. D.: 110'

**Drill Hole No. 1006.** Elevation 220'  
Location SE¼, Sec. 32, T. 9 S., R. 19 W.  
County, Clark  
Logged by: R. L. Cole 7/80

0' 15' Sand, yellow to buff-gray,  
fine, with some fine stained  
sand  
Core Interval 15'-25'  
Recovered: Lost:  
10' 0'  
15'- 19' Clay, gray, slight silty, sand  
from 15'-16', fine, yellow  
19'- 22' Clay, buff, slightly sandy  
21'- 25' Clay, dark gray, slightly sandy  
T. D.: 25'

**\*Drill Hole No. 1007.** Elevation 259'  
Location: NE¼, Sec. 20, T. 10 S., R. 19 W.  
County, Clark  
Logged by: R. L. Cole 7/80

0'- 5' Sand, fine, brown to light red  
brown  
5'- 32' Clay, buff to gray, sandy  
32'- 45' Clay, brown, sandy, lignitic,  
black from 35'-37'  
45'- 65' Clay, gray to green, silty, sandy  
65'- 95' Sand, blue-gray to green, silty  
95'-110' Sand, blue-gray with isolated  
gray clay seams  
110'-130' Clay, green, silty, sandy  
130'-150' Clay, gray, sandy  
T. D.: 150'

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**\*Drill Hole No. 1008.** Elevation 305'  
 Location: SW¼, Sec. 18, T. 10 S., R. 13 W.  
 County, Dallas  
 Logged by: R. L. Cole 7/80

0'- 3' Sand, gray, fine with some clay  
 3'- 15' Sand, brown-orange, fine, with some clay  
 15'- 35' Clay, light brown-gray, sandy  
 35'- 65' Sand, gray, silty  
 65'-110' Clay, gray, sandy  
 110'-120' Clay, green, sticky  
 T. D.: 120'

**Drill Hole No. 1009.** Elevation 310'  
 Location: SE¼, Sec. 32, T. 8 S., R. 15 W.  
 County, Dallas  
 Logged by: R. L. Cole 7/80

0'- 10' Clay, buff to gray  
 10'- 45' Sand, fine, gray  
 45'- 50' Sand, fine, gray with some gray clay seams  
 50'-130' Sand, fine, gray, tight, with slight silt  
 T. D.: 130'

**\*Drill Hole No. 1010.** Elevation 490'  
 Location: NW¼, Sec. 29, T. 7 S., R. 15 W.  
 County, Dallas  
 Logged by: R. L. Cole 7/80

0'- 30' Gravel, pea to small cobble with coarse sand  
 30'- 47' Clay, gray, sandy  
 47'- 84' Sand, fine, gray with intermittent gray clay seams and a trace of lignite at 68'  
 84'-114' Clay, green-gray, lignitic  
 114'-119' Clay, dark brown, lignitic and some lignite  
 119'-150' Clay, gray-green  
 T. D.: 150'

**\*Drill Hole No. 1011.** Elevation 190'  
 Location: NW¼, Sec. 34, T. 7 S., R. 13 W.  
 County, Dallas  
 Logged by: R. L. Cole 7/80

0'- 2' Gravel, pea (road material)  
 2'- 32' Clay, gray, silty with some sand  
 32'- 45' Gravel, pea with very coarse gray to white sand  
 45'- 68' Clay, dark gray-green with some sand  
 68'- 70' Sand, fine, gray  
 70'- 90' Clay, gray to dark gray  
 90'-130' Clay, brown-gray, lignitic  
 130'-150' Clay, gray-brown, sandy  
 T. D.: 150'

**\*Drill Hole No. 1012.** Elevation 235'  
 Location: SW¼, Sec. 10, T. 8 S., R. 13 W.  
 County, Cleveland  
 Logged By: R. L. Cole 7/80

0'- 30' Sand, fine, gray with clay seams  
 30'-100' Clay, gray-brown, sandy  
 100'-150' Clay, dark green, sandy  
 T. D.: 150'

**\*Drill Hole No. 1013.** Elevation 200'  
 Location: SE¼, Sec. 9, T. 10 S., R. 12 W.  
 County, Cleveland  
 Logged by: R. L. Cole 7/80

\*Electric logs available

0'- 15' Clay, buff-light tan, sandy  
 15'- 38' Clay, dark gray-green, sandy, micaceous, some glauconite, intermittent gray sand seams  
 38'- 51' Sand, fine, gray-green with lignite traces at 38'  
 51'- 57' Clay, dark brown, lignitic with 2" of siderite at 54'  
 57'-103' Clay, green, sandy, varies to dark green with depth  
 103'-108' Clay, dark brown, lignitic and lignite stringers  
 108'-120' Clay, dark brown, sandy with some sand seams  
 120'-150' Sand, brown  
 T. D.: 150'

**Drill Hole No. 1014.** Elevation 150'  
 Location: SW¼, Sec. 33, T. 9 S., R. 11 W.  
 County, Cleveland  
 Logged by: R. L. Cole 7/80

0'- 10' Gravel, pea with coarse sand  
 10'- 35' Clay, light gray, sandy  
 35'- 70' Clay, dark gray, some sand  
 70'- 83' Sand, dark gray-brown  
 83'- 94' Clay, dark gray, sandy  
 94'- 99' Clay, dark brown, lignitic with lignite seams  
 99'-125' Clay, green to dark green, sandy  
 125'-130' Clay, dark brown, lignitic, sandy at 130'  
 T. D.: 130'

**\*Drill Hole No. 1015.** Elevation 250'  
 Location: SE¼, Sec. 3, T. 8 S., R. 11 W.  
 County, Cleveland  
 Logged by: W. L. Prior 7/80

0'- 7' Clay, buff white, sandy  
 7'- 18' Clay, brown, sandy, iron-stained  
 18'- 50' Clay, dark greenish gray, silty, micaceous  
 50'- 60' Clay, dark gray, sandy with shell fragments  
 60'- 80' Sand, fine, salt and pepper, glauconitic, micaceous  
 80'-120' Clay, dark, sandy, with possible shell fragments  
 120'-150' Clay, gray, sandy  
 T. D.: 150'

**\*Drill Hole No. 1016.** Elevation 250'  
 Location: SW¼, Sec. 23, T. 8 S., R. 11 W.  
 County, Cleveland  
 Logged by: W. L. Prior 7/80

0'- 37' Clay, brown, sandy  
 37'-142' Clay, dark greenish gray, silty, micaceous, few shell fragments, minor fine sand, glauconitic, micaceous  
 142'-146' Sand, fine, salt and pepper, glauconitic  
 146'-150' Clay, gray, sandy with minor siderite  
 T. D.: 150'

**\*Drill Hole No. 1017.** Elevation 252'  
 Location: NE¼, Sec. 8, T. 11 S., R. 11 W.  
 County, Cleveland  
 Logged by: W. L. Prior 7/80

0'- 7' Clay, brown to light gray, iron-stained, sandy with ironstone  
 7'- 16' Sand, clayey, green, glauconitic with shell fragments, well

16'- 25' cemented at 2", siderite at 15'  
 Clay, gray, glauconitic with silt, 2" of siderite at 18'  
 25'- 67' Clay, dark gray with minor fine sand, micaceous and minor glauconite  
 67'- 70' Sand, fine, salt and pepper, micaceous, glauconitic  
 70'- 80' Clay, gray with fine sand, minor glauconite  
 80'- 85' Clay, gray to brown, lignitic  
 85'-150' Clay, light gray, sandy with silt, lignite traces, micaceous  
 T. D.: 150'

**\*Drill Hole No. 1018.** Elevation 240'  
 Location: SE¼, Sec. 36, T. 11 S., R. 12 W.  
 County, Cleveland  
 Logged by: W. L. Prior 7/80

0'- 10' Clay, sandy, red, iron-stained and ironstone  
 10'- 15' Sand, medium to coarse  
 15'- 25' Clay, light tan to brown, contains ironstone  
 25'- 50' Clay, gray to green, silty, micaceous  
 50'-135' Clay, greenish gray, sandy, 5" of siderite at 82"  
 135'-145' Clay, brown, lignitic, sandy  
 145'-150' Clay, grayish green, sandy  
 T. D.: 150'

**\*Drill Hole No. 1019.** Elevation 182'  
 Location: SW¼, Sec. 19, T. 13 S., R. 11 W.  
 County, Bradley  
 Logged by: W. L. Prior 7/80

0'- 11' Sand, medium  
 11'- 13' Clay, gray, sandy  
 13'- 26' Sand, medium, salt and pepper, micaceous  
 26'- 45' Clay, brownish gray, sandy  
 45'-150' Clay, gray-green, with lignitic brown clay, minor silty stringers, siderite at 150'  
 T. D.: 150'

**\*Drill Hole No. 1020.** Elevation 180'  
 Location: NW¼, Sec. 10, T. 13 S., R. 11 W.  
 County, Bradley  
 Logged by: W. L. Prior 7/80

0'- 10' Sand, medium, micaceous  
 10'-150' Clay, gray with fine-medium sand stringers, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1021.** Elevation 205'  
 Location: SE¼, Sec. 1, T. 13 S., R. 11 W.  
 County, Bradley  
 Logged by: W. L. Prior 7/80

0'- 25' Clay, white to light gray, 10" of brown lignitic clay at 15'  
 25'- 30' Clay, light gray, minor brown staining lignitic material  
 30'- 40' Clay, greenish-gray, sandy, micaceous  
 40'-101' Sand, coarse, salt and pepper, micaceous  
 101'-150' Clay, green, glauconitic, sandy  
 T. D.: 150'



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**\*Drill Hole No. 1022.** Elevation 280'  
Location: NW¼, Sec. 8, T. 13 S., R. 10 W.  
County, Bradley  
Logged by: W. L. Prior 7/80

0'- 5' Clay, tan to red, sandy, ironstone  
5'- 15' Clay, tan, sandy  
15'- 25' Sand, medium, micaceous  
25'- 40' Clay, tan, sandy, 6" of black hard lignite at 36'  
40'- 60' Clay, dark, greenish-gray with sand stringers  
60'- 90' Sand, coarse, greenish-gray, salt and pepper  
90'-105' Clay, brown, lignitic, sandy  
105'-150' Clay, green, slick, silty, glauconitic  
T. D.: 150'

**Drill Hole No. 1023.** Elevation 210'  
Location: SE¼, Sec. 1, T. 13 S., R. 11 W.  
County, Bradley  
Logged by: W. L. Prior 7/80

0'- 5' Clay, tan, silty  
5'- 15' Lost clay, gray with minor iron-staining  
15'- 25' Clay, light to buff, iron-staining and sandy in last 2'  
Core Interval 16'-25'  
Recovered: 9' Lost: 1'  
15'-16' Lost.  
15'-18' clay, sandy, red stained  
18'-23' clay, light gray to buff, firm to soft  
23'-25' clay, buff, sandy, minor iron-staining  
T. D.: 25'

**Drill Hole No. 1024.** Elevation 245'  
Location: SE¼, Sec. 30, T. 12 S., R. 7 W.  
County, Drew  
Logged by: W. L. Prior 7/80

0'- 5' Clay, brick red with minor sand  
5'- 15' Lost  
15'- 32' Clay, brown-yellow, iron-stained, minor, silty, units micaceous  
32'- 35' Clay, dark green-gray, micaceous  
Core Interval-A 21'-25'  
Recovered: 4' Lost: 6'  
15'-21' lost  
21'-25' clay, brown-yellow, iron-stained, silty, micaceous  
Core Interval-B 30'-35'  
Recovered: 5' Lost: 5'  
25'-30' lost  
30'-32' clay, brown-yellow, iron-stained, silty, micaceous  
32'-35' clay, dark green-gray, micaceous  
T. D.: 35'

**Drill Hole No. 1025.** Elevation 245'  
Location: NW¼, Sec. 26, T. 13 S., R. 7 W.  
County, Drew  
Logged by: W. L. Prior 7/80

0'- 5' Clay, brown, sandy, silty  
5'- 15' Cored, clay  
15'- 25' Core Interval-A 5'-15'  
Recovered: 4' Lost: 6'  
5'-11' lost

11'-13. 8" clay, buff, silty  
13' 8"-14' clay, iron-stained  
14'-15' clay, light brown, micaceous  
Core Interval-B 20'-25'  
Recovered: 5' Lost: 5'  
15'-20' lost  
20'-22' clay, gray to light brown  
22'-25' clay, silty, dark brown, iron-staining at 24'  
T. D.: 25'

**\*Drill Hole No. 1026.** Elevation 245'  
Location: NE¼, Sec. 1, T. 14 S., R. 10 W.  
County, Bradley  
Logged by: W. L. Prior 7/80

0'- 1' Gravel, pebble  
1'- 12' Clay, brown to pink, sandy  
12'- 20' Clay, dark brown, sandy with coarse sand  
20'- 30' Clay, gray, sandy with fine sand  
30'- 85' Clay, dark greenish-gray, silty  
85'-150' Clay, blueish gray, silty, micaceous  
T. D.: 150'

**\*Drill Hole No. 1027.** Elevation 230'  
Location: NE¼, Sec. 11, T. 14 S., R. 10 W.  
County, Bradley  
Logged by: W. L. Prior 7/80

0'- 35' Sand, red, coarse  
35'- 45' Gravel, pebble, with coarse sand  
45'- 55' Clay, buff to brown, sandy  
55'- 80' Clay, dark gray, sandy  
80'- 83' Sand, fine, dark, salt and pepper with some pea size gravel  
83'-150' Clay, blue-green to brown, silty  
T. D.: 150'

**\*Drill Hole No. 1028.** Elevation 235'  
Location: NE¼, Sec. 15, T. 14 S., R. 10 W.  
County, Bradley  
Logged by: W. L. Prior 7/80

0'- 9' Sand, red, coarse  
9'- 25' Sand, coarse with pea gravel  
25'- 41' Clay, gray-green, lignitic traces, sandy  
41'- 65' Clay, gray, lignitic with 2-4" soft black lignite at 42'  
65'-145' Clay, green-gray with brown lignitic clay seams; ¼" siderite and minor fine sand at 76' and 1" of siderite at 135'  
145'-150' Clay, blue-green with some brown lignitic clay  
T. D.: 150'

**\*Drill Hole No. 1029.** Elevation 208'  
Location: NE¼, Sec. 21, T. 14 S., R. 10 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 16' Sand, fine, gray-brown with some clay  
16'- 18' Clay, dark brown-black, lignitic  
18'- 30' Clay, dark gray-green, some sand  
30'- 31' Clay, dark brown, lignitic  
31'- 80' Clay, green-light green

80'-128' Clay, dark gray-green, sandy, silty with 8" of siderite at 116' and intermittent siderite from 89'-119'  
128'-150' Clay, dark gray, silty  
T. D.: 150'

**\*Drill Hole No. 1030.** Elevation 195'  
Location: SE¼, Sec. 29, T. 14 S., R. 10 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 8' Sand, light brown, iron-stained  
8'- 12' Gravel, pea  
12'- 20' Clay, gray-green  
20'- 30' Clay, greenish-gray, sandy  
30'- 60' Clay, dark gray, sandy  
60'-150' Clay, dark gray, sandy, 6" of siderite at 84'  
T. D.: 150'

**\*Drill Hole No. 1031.** Elevation 175'  
Location: NW¼, Sec. 14, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 3' Sand, yellow-brown, fine, some pea gravel  
3'- 5' Clay, buff-pink, sandy  
5'- 32' Sand, gray, fine with some silt  
32'- 90' Clay, dark green-gray, sticky, sandy with depth  
90'-105' Sand, fine, gray-black, salt and pepper, micaceous  
105'-150' Clay, dark gray, sticky  
T. D.: 150'

**\*Drill Hole No. 1032.** Elevation 165'  
Location: NE¼, Sec. 22, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 5' Sand, yellow-brown, fine  
5'- 10' Sand, tan, fine  
10'- 20' Gravel, pea, with coarse sand  
20'- 35' Clay, gray, sandy  
35'- 60' Clay, dark green-gray, silty  
60'-150' Clay, green, sticky, silty  
T. D.: 150'

**\*Drill Hole No. 1033.** Elevation 160'  
Location: NW¼, Sec. 27, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 30' Sand, fine, gray with 3' of gravel at 24'  
30'- 65' Clay, brown-green, sandy, lignite at 42'  
65'-101' Clay, light green, sticky  
101'-120' Clay, dark green, silty  
120'-150' Sand, fine, gray with silt  
T. D. 150'

**\*Drill Hole No. 1034.** Elevation 145'  
Location: NE¼, Sec. 32, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 9' Sand, fine, gray  
9'- 13' Sand, fine, pink  
13'- 35' Sand, fine, gray to brown  
35'- 49' Gravel, pea with some sand  
49'- 62' Clay, dark gray, sandy  
62'- 72' Clay, dark brown, lignitic  
72'-150' Clay, medium green, silty, sticky  
T. D. 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1035.** Elevation 140'  
Location: SE $\frac{1}{4}$ , Sec. 31, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 5' Sand, fine, gray brown  
5'- 15' Gravel, pea with coarse sand  
15'- 45' Clay, gray, sandy  
45'- 80' Clay, dark brown, lignitic  
80'-150' Clay, dark gray, sandy, silty  
T. D.: 150'

**Drill Hole No. 1036.** Elevation 145'  
Location: NE $\frac{1}{4}$ , Sec. 1, T. 16 S., R. 12 W.  
County, Bradley  
Logged by: R. L. Cole 7/80

0'- 5' Sand, fine, gray  
5'- 20' Sand, fine to medium, gray  
20'- 35' Gravel, pea with coarse sand  
35'- 60' Clay, dark gray green, sticky  
60'-125' Clay, dark gray, sticky  
T. D.: 125'

**Drill Hole No. 1037.** Elevation 104'  
Location: NW $\frac{1}{4}$ , Sec. 12, T. 16 S., R. 12 W.  
County, Bradley  
Logged by: W. L. Prior: 8/80

0'- 6' Sand, medium  
6'- 19' Clay, buff, sandy  
19'- 39' Sand, fine, light salt and pepper  
39'- 49' Gravel, pea to pebble  
49'-120' Clay, grayish brown with lignite  
traces, 5" of siderite at 95'  
120'-136' Sand, fine, salt and pepper,  
micaceous  
136'-150' Clay, buff, sandy  
T. D.: 150'

**\*Drill Hole No. 1038.** Elevation 100'  
Location: NW $\frac{1}{4}$ , Sec. 14, T. 16 S., R. 12 W.  
County, Bradley  
Logged by: W. L. Prior 8/80

0'- 18' Clay, light gray to brown, sandy  
18'- 40' Sand, fine to medium,  
micaceous  
40'- 70' Clay, light gray, silty with minor  
sand stringers  
70'-115' Clay, dark gray with lignite  
traces, sticky, 7" of siderite  
at 101'  
115'-150' Sand, fine, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1039.** Elevation 197'  
Location: SW $\frac{1}{4}$ , Sec. 3, T. 15 S., R. 11 W.  
County, Bradley  
Logged by: W. L. Prior 8/80

0'- 10' Sand, medium with some brown  
clay  
10'- 28' Gravel, pea with coarse sand  
28'- 97' Clay, brown to dark gray with  
medium salt and pepper sand  
and lignite traces  
97'- 99' Clay, brown, lignitic, 6" of  
soft black lignite at 98'  
99'-108' Clay, blue-green, sticky  
108'-150' Clay, greenish gray, glauconitic  
T. D.: 150'

**\*Drill Hole No. 1040.** Elevation 97'  
Location: NW $\frac{1}{4}$ , Sec. 22, T. 16 S., R. 12 W.  
County, Bradley  
Logged by: W. L. Prior 8/80

0'- 38' Clay, brown to gray, sandy  
38'- 52' Gravel, pea to pebble with  
medium sand  
52'- 68' Gravel, pebble with minor  
brown clay  
68'- 90' Clay, brown to buff, sandy with  
lignite traces  
90'-120' Sand, medium, salt and pepper  
120'-135' Clay, brown to gray, sandy  
with 7" of siderite at 122'  
135'-150' Sand, medium, salt and pepper  
with minor clay stringers  
T. D.: 150'

**\*Drill Hole No. 1041.** Elevation 240'  
Location: NW $\frac{1}{4}$ , Sec. 7, T. 18 S., R. 14 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 5' Sand, medium with minor red  
clay  
5'- 15' Clay, gray to red, sandy  
15'- 30' Sand, medium  
30'- 81' Clay, white to buff, sandy  
with sand layers  
81'-135' Sand, medium to fine with  
white clay stringers  
135'-150' Clay, dark gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1042.** Elevation 220'  
Location: NE $\frac{1}{4}$ , Sec. 25, T. 18 S., R. 13 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 6' Sand, medium  
6'- 15' Clay, gray to brown, sandy  
15'- 20' Clay, brown lignitic with  
6" of soft black lignite at 16'  
20'- 27' Clay, gray, sandy  
27'- 91' Clay, blueish green, sticky  
with 2" of siderite at 48'  
91'- 96' Sand, fine, salt and pepper  
96'-133' Clay, green with minor fine  
sand and 2" of siderite at 105'  
133'-150' Clay, green to brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 1043.** Elevation 220'  
Location: SE $\frac{1}{4}$ , Sec. 23, T. 18 S., R. 14 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 9' Sand, medium  
9'- 16' Clay, gray to brown, sandy  
16'- 50' Clay, blue-gray to brown  
50'- 80' Clay, dark gray, sandy  
80'-150' Clay, dark gray to green with  
minor sand stringers and white  
chalky clay stringers  
T. D.: 150'

**\*Drill Hole No. 1044.** Elevation 150'  
Location: NW $\frac{1}{4}$ , Sec. 25, T. 19 S., R. 11 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 4' Sand, medium  
4'- 12' Clay, tan to red, iron-stained,  
ironstone and sandy  
12'- 48' Clay, light brown with minor  
ironstone  
48'- 85' Clay, greenish-gray, sandy with  
lignite traces  
85'-150' Clay, greenish-gray with fine  
sand and silt layers, 2" of  
siderite at 117', 4" of siderite  
at 125', 3" of siderite at 130',  
5" of siderite at 135'  
T. D.: 150'

**\*Drill Hole No. 1045.** Elevation 160'  
Location: SE $\frac{1}{4}$ , Sec. 8, T. 19 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 25' Sand, medium with light gray  
clay  
25'- 50' Clay, dark gray, sandy,  
glauconitic  
50'-135' Sand, medium, salt and pepper,  
micaceous  
135'-150' Clay, dark gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1046.** Elevation 150'  
Location: SW $\frac{1}{4}$ , Sec. 16, T. 19 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 15' Sand, medium, red  
15'- 25' Clay, buff, sandy  
25'- 45' Sand, medium  
45'- 65' Clay, gray, sandy with 4"  
black hard lignite at 58'  
65'-125' Sand, medium, micaceous  
125'-150' Sand, medium with minor  
gray clay  
T. D.: 150'

**\*Drill Hole No. 1047.** Elevation 150'  
Location: NW $\frac{1}{4}$ , Sec. 28, T. 19 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 11/80

0'- 2' Sand, medium  
2'- 15' Clay, gray to red, sandy with  
some ironstone  
15'- 33' Clay, blue-green, glauconitic,  
sandy, 1" of hard black lignite  
at 24'  
33'- 50' Clay, brown, silty, lignitic  
with 2" of soft black lignite  
at 43' and 2" of soft black  
lignite at 47'  
50'- 72' Clay, grayish-green  
72'- 82' Clay, gray to brown, sandy  
82'-105' Sand, fine, salt and pepper,  
micaceous  
105'-115' Clay, gray, sandy  
115'-120' Clay, sandy with hard siderite,  
glauconitic stringers  
120'-126' Clay, gray to brown, sandy  
with 1" of siderite at 124'  
126'-146' Sand, medium to fine, salt and  
pepper, micaceous, glauconitic  
with 8" of siderite at 145'  
146'-150' Clay, brown, sandy  
T. D.: 150'

**\*Drill Hole No. 1048.** Elevation 150'  
Location: SE $\frac{1}{4}$ , Sec. 33, T. 19 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 11/80

0'- 15' Clay, brown to gray with some  
minor iron-staining and sandy  
ironstone  
15'- 47' Clay, gray, sandy with 8" of  
soft black lignite at 18'  
47'- 60' Sand, medium, salt and pepper  
with minor gray clay  
60'- 90' Sand, medium, salt and pepper  
(water)  
90'-125' Clay, gray, very sandy with 4"  
of siderite at 92', 10" of siderite  
at 104', 20" of siderite at 114',  
and 7" of siderite at 118'  
125'-150' Clay, dark greenish-gray, sandy,  
glauconitic  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1049.** Elevation 109'  
Location: NE $\frac{1}{4}$ , Sec. 34, T. 18 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 19' Clay, buff, sandy  
19'- 42' Sand, medium with clay binder  
42'- 70' Clay, gray, sandy layers with  
5" of siderite at 62'  
70'-105' Sand, medium, salt and pepper  
with clay stringers and 3" of  
siderite at 73'  
105'-125' Clay, light gray, silty with sand  
stringers  
T. D.: 125'

**\*Drill Hole No. 1050.** Elevation 110'  
Location: SW $\frac{1}{4}$ , Sec. 25, T. 18 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 8' Sand, medium, red  
8'- 19' Sand, medium with white  
to red clay stringers  
19'- 25' Clay, buff to red, sandy  
25'- 50' Clay, bluish gray to dark gray  
with 1" of soft black lignite at  
27'  
50'- 60' Sand, medium with 1" of soft  
black lignite at 58'  
60'-150' Clay, brown to gray, sandy,  
lignitic with 2" of siderite at  
84', 1" of siderite at 89', 1" of  
siderite at 96' and 4" of siderite  
at 99'  
T. D.: 150'

**\*Drill Hole No. 1051.** Elevation 135'  
Location: SW $\frac{1}{4}$ , Sec. 22, T. 18 S., R. 11 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 65' Sand, medium with red to white  
clay layers  
65'- 72' Clay, gray, sandy with medium  
sand layers  
72'-115' Sand, medium, lignitic,  
micaceous, with minor  
gray clay stringers  
115'-150' Sand, medium, micaceous with  
lignite traces  
T. D.: 150'

**\*Drill Hole No. 1052.** Elevation 140'  
Location: NW $\frac{1}{4}$ , Sec. 29, T. 18 S., R. 11 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 15' Clay, light brown, minor iron-  
staining, sandy  
15'- 35' Clay, tan, to gray, silty  
35'-140' Clay, dark gray, sandy, sandier  
at 97' with 2" of siderite at  
135' and 2" at 138'  
140'-150' Clay, gray, sandy with 3"  
siderite layers  
T. D.: 150'

**\*Drill Hole No. 1053.** Elevation 150'  
Location: SE $\frac{1}{4}$ , Sec. 20, T. 18 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 10' Sand, medium to fine with  
minor red clay  
10'- 22' Clay, light gray with iron-  
staining  
22'- 38' Sand, fine, micaceous with clay  
stringer at 34'  
38'- 50' Clay, gray  
50'- 79' Clay, gray, silty with minor  
medium sand, micaceous  
79'-110' Sand, medium to fine,

micaceous with lignite traces  
and 4" of siderite at 107'  
110'-150' Clay, dark brownish gray, sandy  
with siderite layers at 116' and  
6" of siderite at 121' and 5" of  
siderite at 123'  
T. D. 150'

**Drill Hole No. 1054.** Elevation 170'  
Location: SW $\frac{1}{4}$ , Sec. 17, T. 18 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 18' Sand, medium, salt and pepper  
18'- 39' Clay, light gray with some  
minor ironstone with sand  
stringers  
39'- 59' Sand, medium, salt and pepper  
59'- 62' Clay, dark gray, sandy  
62'- 69' Clay, dark brown, lignitic  
with 11" of soft black lignite  
at 66'  
69'- 89' Clay, greenish-blue  
89'-101' Clay, grayish-green with  
medium sand stringers and 6"  
of soft black lignite at 97'  
101'-110' Clay, dark brown, lignitic  
with firm black lignite stringers  
110'-144' Clay, greenish gray  
144'-150' Sand, medium, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1055.** Elevation 200'  
Location: NE $\frac{1}{4}$ , Sec. 7, T. 18 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 10' Sand, medium with minor red  
clay  
10'- 88' Sand, medium  
88'-150' Clay, gray, sandy with lignite  
traces and 7" of siderite at  
105', 6" of siderite at 112' and  
6" of siderite at 115'  
T. D.: 150'

**\*Drill Hole No. 1056.** Elevation 150'  
Location: SE $\frac{1}{4}$ , Sec. 31, T. 17 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 5' Sand, medium  
5'- 25' Clay, buff  
25'- 40' Clay, buff, sandy  
40'- 50' Sand, fine, micaceous  
50'- 95' Clay, buff with fine micaceous  
sand  
95'-136' Sand, medium, light salt and  
pepper  
136'-145' Clay, white to buff  
145'-150' Sand, medium  
T. D.: 150'

**\*Drill Hole No. 1057.** Elevation 150'  
Location: NE $\frac{1}{4}$ , Sec. 30, T. 17 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 2' Sand, medium, red  
2'- 20' Clay, buff, sandy with  
iron-staining  
20'- 29' Clay, brown, lignitic, sandy  
29'- 79' Clay, brown-gray, silty with  
lignite traces and  $\frac{1}{2}$ " firm  
brown lignite at 70' and 10" of  
soft black lignite at 77'  
79'- 85' Sand, fine, micaceous  
85'-122' Clay, gray with brown sandy  
lignite stringers  
122'-128' Sand, fine, micaceous, lignitic  
128'-150' Clay, gray, sandy, lignitic  
with 13" of siderite at 137'  
T. D.: 150'

**\*Drill Hole No. 1058.** Elevation 150'  
Location: SE $\frac{1}{4}$ , Sec. 18, T. 17 S., R. 12 W.  
County, Union  
Logged by: W. L. Prior 8/80

0'- 20' Sand, medium  
20'- 42' Clay, buff to tan with 5" of  
hard brown lignite at 38'  
42'- 60' Sand, fine, micaceous  
60'- 83' Clay, buff to brown, lignitic,  
sandy with 5" of firm black  
lignite at 70' and 5" of soft  
brown lignite at 78'  
83'- 95' Sand, very fine, micaceous  
95'-105' Clay, buff to brown with 11"  
of soft black lignite at 98'  
105'-120' Sand, very fine, micaceous with  
clay stringers  
120'-150' Clay, gray, sandy, lignitic with  
1" of siderite at 149'  
T. D.: 150'

**Drill Hole No. 1059.** Elevation 143'  
Location: SW $\frac{1}{4}$ , Sec. 8, T. 17 S., R. 12 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 12' Clay, gray  
12'- 18' Sand, fine  
18'- 44' Clay, gray, silty with some fine  
sand beds up to 1" thick  
44'- 59' Clay, brown, silty, lignitic  
from 57'-59'  
59'- 67' Silt, brown, carbonaceous  
67'- 71' Clay, dark gray, silty  
71'-150' Sand, fine, gray, silty with some  
gray clay  
T. D.: 150'

**\*Drill Hole No. 1060.** Elevation 140'  
Location: NE $\frac{1}{4}$ , Sec. 5, T. 17 S., R. 12 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 25' Sand, fine, light gray  
25'- 40' Clay, brown, silty  
40'- 80' Sand, fine, gray with some clay  
80'-150' Clay, gray with fine sand  
T. D.: 150'

**\*Drill Hole No. 1061.** Elevation 85'  
Location: SE $\frac{1}{4}$ , Sec. 29, T. 16 S., R. 12 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 27' Sand, fine, brown  
27'- 48' Sand, medium, gray  
48'- 60' Sand, medium, gray with gravel  
60'-150' Clay, gray, silty with some  
fine sand  
T. D.: 150'

**\*Drill Hole No. 1062.** Elevation 160'  
Location: SE $\frac{1}{4}$ , Sec. 6, T. 17 S., R. 12 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 20' Clay, light brown, sandy  
20'- 40' Clay, light brown, sandy  
40'- 48' Clay, brown, silty  
48'- 65' Clay, gray, silty  
65'- 70' Clay, gray, silty with 6" of  
lignite  
70'- 80' Sand, gray, fine  
80'- 85' Sand, fine, with gray clay and  
4" of lignite  
85'-110' Clay, gray, silty  
110'-150' Sand, gray, fine with gray clay  
T. D.: 150'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1063.** Elevation 185'  
Location: NE $\frac{1}{4}$ , Sec. 12, T. 17 S., R. 13 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 24' Clay, sandy, brown to gray  
24'- 33' Clay, brown, silty, lignitic  
33'- 40' Sand, fine, gray  
40'- 75' Clay, gray, silty with fine sand  
75'- 94' Clay, brown, silty, lignitic  
94'- 96' Lignite  
96'-112' Sand, gray, fine with gray  
silty clay  
112'-118' Clay, brown, sandy, lignitic  
118'-  
T. D.: 118'

**\*Drill Hole No. 1064.** Elevation 195'  
Location: NE $\frac{1}{4}$ , Sec. 11, T. 17 S., R. 13 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 75' Clay, brown to gray with silt  
and fine sand  
75'- 83' Sand, fine, gray  
83'-150' Clay and silt with some fine  
sand  
T. D.: 150'

**\*Drill Hole No. 1065.** Elevation 190'  
Location: NE $\frac{1}{4}$ , Sec. 15, T. 17 S., R. 13 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 18' Sand, fine, gray and brown  
with gray clay stringers  
18'- 22' Clay, silty, brown, lignitic  
22'- 34' Clay, gray, silty  
34'- 36' Lignite  
36'- 44' Clay, gray with fine sand  
44'- 45' Lignite  
45'- 91' Clay, gray with fine sand and  
6" of lignite at 89'  
91'-150' Sand, gray with gray clay  
T. D.: 150'

**\*Drill Hole No. 1066.** Elevation 200'  
Location: SE $\frac{1}{4}$ , Sec. 17, T. 17 S., R. 13 W.  
County, Union  
Logged by: B. F. Clardy 8/80

0'- 15' Sand, fine, brown to gray with  
gray clay  
15'- 20' Clay, silty, brown, lignitic  
20'- 25' Clay, gray, with fine sand  
25'- 43' Sand, fine, gray  
43'- 85' Clay, gray, silty with gray fine  
sand  
85'-120' Clay, gray, with silt and fine  
sand  
120'-135' Sand, fine, gray, with gray clay  
135'-150' Clay, gray, silty, with fine sand  
T. D.: 150'

**\*Drill Hole No. 1067.** Elevation 140'  
Location: SW $\frac{1}{4}$ , Sec. 18, T. 17 S., R. 13 W.  
County, Union  
Logged by: J. D. McFarland, III 9/80

0'- 10' Clay, gray and orange, silty  
10'- 16' Clay, gray, lignitic, silty  
16'- 22' Clay, gray, silty  
22'- 23' Clay, gray, lignitic, silty  
23'- 25' Clay, gray, silty  
25'- 50' Clay, gray, lignitic  
50'- 65' Clay, gray, silty  
65'- 70' Siderite 2 beds, 8", 1' clay,  
7" siderite

70'-100' Clay, gray, silty  
100'-110' Clay, gray, silty, gradational  
with above  
110'-120' Silt, gray, with lots of clay,  
gradational with above  
120'-150' Clay, silt, gray  
T. D.: 150'

**\*Drill Hole No. 1068.** Elevation 140'  
Location: SW $\frac{1}{4}$ , Sec. 13, T. 17 S., R. 14 W.  
County, Union  
Logged by: J. D. McFarland, III 9/80

0'- 7' Clay, tan and orange, silty  
with clay  
7'- 35' Sand, fine, tan and orange  
with clay, micaceous  
35'- 40' Clay, gray to brown, lignitic,  
silty  
40'- 73' Sand, tan to gray to brown,  
lignitic, clayey  
73'- 78' Clay, gray to green, lignitic  
78'- 80' Clay, gray, silty, with siderite  
stringers from 85'-82'  
80'-100' Clay, brown to green  
100'-110' Clay, gray to brown, silty  
110'-150' Clay, brown, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1069.** Elevation 180'  
Location: SE $\frac{1}{4}$ , Sec. 15, T. 17 S., R. 14 W.  
County, Union  
Logged by: J. D. McFarland, III 9/80

0'- 20' Clay, gray to orange, silty  
20'- 30' Clay, gray to brown, silty  
30'-150' Clay, gray, silty, 6" of siderite  
at 33', 3" of siderite at 65',  
and 6" of siderite at 72'  
T. D.: 150'

**\*Drill Hole No. 1070.** Elevation 240'  
Location: NE $\frac{1}{4}$ , Sec. 21, T. 17 S., R. 14 W.  
County, Union  
Logged by: J. D. McFarland, III 9/80

0'- 18' Sand, fine, orange, trace of clay  
18'- 60' Sand, fine, orange to white  
60'-120' Sand, fine, orange to white  
with trace of clay  
120'-150' Clay, gray, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1071.** Elevation 205'  
Location: SW $\frac{1}{4}$ , Sec. 20, T. 17 S., R. 14 W.  
County, Union  
Logged by: J. D. McFarland, III 9/80

0'-105' Sand, fine, orange to buff,  
clayey, lignitic  
105'-150' Sand, dark gray, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1072.** Elevation 190'  
Location: SW $\frac{1}{4}$ , Sec. 19, T. 19 S., R. 15 W.  
County, Union  
Logged by: J. D. McFarland, III 9/90

0'- 16' Sand, orange to brown, clayey  
16'- 65' Clay, buff to orange, sandy  
65'- 68' Clay, dark gray, silty  
68'- 90' Sand, fine, buff to orange,  
clayey  
90'-150' Sand, fine, buff to gray, clayey,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1073.** Elevation 200'  
Location: NW $\frac{1}{4}$ , Sec. 23, T. 18 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior 9/80

0'- 3' Sand, medium  
3'- 9' Clay, brown to tan with minor  
orange iron-staining, sandy  
9'- 29' Clay, gray with minor iron-  
staining, sandy  
29'- 60' Sand, fine with 10" of firm  
black lignite at 45'  
60'-150' Sand, fine with white clay and  
lignite stringers and 12" of hard  
black lignite at 140'  
T. D.: 150'

**\*Drill Hole No. 1074.** Elevation 262'  
Location: SE $\frac{1}{4}$ , Sec. 33, T. 18 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior 9/80

0'- 15' Clay, buff, sandy with minor  
iron-staining  
15'- 52' Clay, buff, sandy, micaceous  
52'-101' Sand, fine, micaceous  
101'-130' Sand, fine to medium, salt and  
pepper with 2" of lignite  
at 125'  
130'-150' Sand, medium, micaceous,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1075.** Elevation 195'  
Location: NE $\frac{1}{4}$ , Sec. 35, T. 18 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior 9/80

0'- 10' Sand, red, fine  
10'- 36' Clay, buff, sandy, silty with  
minor iron-staining  
36'- 40' Sand, fine  
40'- 43' Clay, buff, sandy  
43'- 82' Sand, medium to fine, micaceous  
82'-150' Clay, brownish-gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1076.** Elevation 220'  
Location: NE $\frac{1}{4}$ , Sec. 2, T. 19 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior 9/80

0'- 10' Sand, medium with red to buff  
clay stringers  
10'-100' Sand, medium with buff clay  
stringers  
100'-108' Clay, buff, sandy  
108'-116' Sand, medium micaceous  
116'-122' Clay, buff to gray  
122'-150' Sand, medium with buff clay  
stringers and 1" hard black  
lignite at 128' and 3" black  
lignite at 148'  
T. D.: 150'

**\*Drill Hole No. 1077.** Elevation 180'  
Location: NW $\frac{1}{4}$ , Sec. 12, T. 19 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior

0'- 8' Sand, medium  
8'- 20' Clay, buff, sandy  
20'- 35' Clay, gray, silty  
35'- 55' Sand, medium  
55'-100' Clay, gray, sandy with 2" of  
siderite at 95'  
100'-150' Clay, brownish-gray, sandy,  
glauconitic with 1" of siderite  
at 144'  
T. D.: 150'

\*Electric logs available

**ARK ANSAS LIGNITE INVESTIGATIONS**

**\*Drill Hole No. 1078.** Elevation 200'  
 Location: SW¼, Sec. 18, T19 S., R. 14 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 20' Clay, red to buff, sandy  
 20'- 50' Clay, light brown, silty and sandy  
 50'- 90' Sand, fine, micaceous  
 90'-133' Clay, gray to brown, lignitic  
 133'-150' Sand, fine  
 T. D.: 150'

**Drill Hole No. 1079.** Elevation 190'  
 Location: NW¼, Sec. 30, T. 19 S., R. 14 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 17' Sand, medium  
 17'-110' Sand, medium with clay stringers, lignitic  
 110'-150' Sand, medium  
 T. D.: 150'

**\*Drill Hole No. 1080.** Elevation 180'  
 Location: NE¼, Sec. 31, T. 19 S., R. 14 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 3' Sand, medium, orange  
 3'- 15' Clay, gray to red, sandy  
 15'- 30' Sand, medium  
 30'-115' Clay, light gray, silty  
 115'-135' Sand, fine with gray clay stringers, lignitic  
 135'-150' Clay, gray, silty, sandy  
 T. D.: 150'

**\*Drill Hole No. 1081.** Elevation 350'  
 Location: NE¼, Sec. 36, T. 17 S., R. 18 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 9' Clay, orange to buff, sandy  
 9'- 27' Sand, medium  
 27'- 32' Lignite, black, hard to soft  
 32'- 38' Clay, brown, lignitic  
 38'- 70' Clay, greenish gray, sandy, micaceous, glauconitic with traces of lignite  
 70'-110' Clay, greenish gray, glauconitic  
 110'-150' Clay, blueish gray with fine sand  
 Core interval 27'- 37'  
 Recovered: Lost:  
 9' 1'  
 27'-28' Lost  
 28'-32' lignite  
 32'-33' lignitic clay  
 33'-37' clay, greenish gray, sandy, micaceous  
 T. D.: 150'

**\*Drill Hole No. 1082.** Elevation 240'  
 Location: SW¼, Sec. 23, T. 17 S., R. 15 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 60' Sand, medium with minor buff to red clay  
 60'-103' Sand, medium with buff clay and black lignite stringers  
 103'-115' Clay, greenish gray, lignitic, with black lignite stringers  
 115'-150' Sand, medium, micaceous with greenish gray lignitic clay  
 T. D.: 150'

**\*Drill Hole No. 1083.** Elevation 191'  
 Location: NW¼, Sec. 30, T. 19 S., R. 17 W.

\*Electric logs available

County, Union  
 Logged by: W. L. Prior 9/80

0'- 2' Sand, medium  
 2'- 10' Clay, buff, silty  
 10'- 20' Sand, medium with buff clay stringers  
 20'- 65' Sand, medium with brown clay, lignitic, sandy  
 65'-120' Clay, gray-green, sandy with lignite stringers and ¼" of siderite at 118'  
 120'-140' Clay, greenish gray, glauconitic, sandy  
 140'-150' Clay, greenish gray  
 T. D.: 150'

**\*Drill Hole No. 1084.** Elevation 213'  
 Location: SW¼, Sec. 16, T. 19 S., R. 17 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 3' Clay, orange, sandy  
 3'- 19' Clay, buff, sandy  
 19'- 45' Sand, medium  
 45'- 65' Clay, green to brown, sandy, lignitic  
 65'-150' Clay, brownish-gray, sandy with 3" of siderite at 93', 4" of siderite at 95' and 6" of siderite at 135'  
 T. D.: 150'

**\*Drill Hole No. 1085.** Elevation 210'  
 Location: SE¼, Sec. 9, T. 18 S., R. 16 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 8' Sand, fine  
 8'- 58' Sand, medium with minor buff clay stringers  
 58'- 65' Sand with lignite stringers  
 65'-150' Clay, gray to dark brown, silty, lignitic with 1" of siderite at 68' and 3" of siderite at 129'  
 T. D.: 150'

**\*Drill Hole No. 1086.** Elevation 290'  
 Location: NW¼, Sec. 27, T. 17 S., R. 18 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 20' Clay, buff, sandy  
 20'- 29' Sand, medium  
 29'- 40' Clay, gray to brown, lignitic  
 40'- 65' Clay, gray to buff, lignitic  
 65'- 75' Sand, fine  
 75'-100' Clay, gray, sandy, lignitic  
 100'-150' Sand, fine, clayey, lignitic  
 T. D.: 150'

**\*Drill Hole No. 1087.** Elevation 290'  
 Location: SW¼, Sec. 28, T. 17 S., R. 17 W.  
 County, Union  
 Logged by: W. L. Prior 9/80

0'- 25' Clay, buff, sandy  
 25'- 28' Clay, brown, sandy, lignitic  
 28'- 32' Clay, greenish-gray, silty, lignitic  
 32'- 36' Clay, brown, lignitic  
 36'- 91' Clay, greenish-gray with brown lignitic clay stringers and 10" of siderite at 88'  
 91'-150' Clay, gray, fine sand, lignitic  
 T. D.: 150'

**\*Drill Hole No. 1088.** Elevation 230'  
 Location: SW¼, Sec. 25, T. 17 S., R. 17 W.  
 County, Union  
 Logged by: W. L. Prior, 9/80

0'- 9' Clay, buff, sandy  
 9'- 21' Clay, buff to brown, sandy  
 21'- 35' Clay, gray, sandy  
 35'- 75' Sand, medium, salt and pepper, glauconitic, brown to gray lignitic clay  
 75'- 76' Sand with 4" hard black lignite seam  
 76'- 92' Sand, medium, salt and pepper with gray to brown lignitic clay  
 92'-101' Sand, medium, micaceous, lignitic  
 101'-135' Clay, gray, silty, lignitic  
 135'-141' Sand, fine with gray clay with siderite stringers  
 141'-150' Clay, gray, silty  
 T. D.: 150'

**\*Drill Hole No. 1089.** Elevation 207'  
 Location: NW¼, Sec. 20, T. 16 S., R. 14 W.  
 County, Union  
 Logged by: W. L. Prior 10/80

0'- 25' Sand, orange to tan clay  
 25'- 60' Clay, light gray, sandy  
 60'- 90' Sand, medium  
 90'-120' Clay, dark gray, silty, lignitic  
 120'-150' Clay, gray, silty  
 T. D.: 150'

**\*Drill Hole No. 1090.** Elevation 190'  
 Location: NE¼, Sec. 36, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: W. L. Prior 10/80

0'- 8' Sand, medium, orange  
 8'- 20' Clay, buff, sandy  
 20'- 55' Sand, fine, buff clay with 2" of soft black lignite at 49'  
 55'-110' Clay, dark gray to brown, lignitic, silty  
 110'-150' Clay, gray, silty  
 T. D.: 150'

**\*Drill Hole No. 1091.** Elevation 220'  
 Location: NE¼, Sec. 34, T. 17 S., R. 16 W.  
 County, Union  
 Logged by: W. L. Prior 10/80

0'- 6' Sand, medium to fine  
 6'- 25' Clay, buff, sandy  
 25'- 30' Clay, dark brownish-gray, lignitic  
 30'- 82' Clay, dark gray, silty, siderite at 80'  
 82'-117' Clay, gray, fine sand  
 117'-133' Sand, fine, gray clay  
 133'-140' Clay, gray, lignitic  
 140'-150' Sand, medium, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1092.** Elevation 165'  
 Location: SW¼, Sec. 33, T. 16 S., R. 15 W.  
 County, Union  
 Logged by: W. L. Prior 10/80

0'- 3' Clay, buff to orange, sandy  
 3'- 10' Clay, buff, sandy  
 10'- 75' Sand, medium, salt and pepper  
 75'-140' Clay, gray with dark brown lignitic clay stringers and 2" of siderite at 134'  
 140'-150' Clay, gray, sticky with siderite stringers  
 T. D.: 150'

## ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1093.** Elevation 175'  
Location: NW¼, Sec. 19, T. 16 S., R. 15 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 7' Clay, buff to pink, sandy  
7'-105' Sand, medium to fine with buff clay  
105'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1094.** Elevation 180'  
Location: SW¼, Sec. 11, T. 16 S., R. 16 W.  
County, Union  
Logged by W. L. Prior 10/80

0'- 65' Sand, medium with buff clay  
65'-150' Clay, greenish gray, silty, lignitic with 5" of siderite at 145'  
T. D.: 150'

**\*Drill Hole No. 1095.** Elevation 140'  
Location: NW¼, Sec. 8, T. 16 S., R. 16 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 20' Sand, medium with buff clay  
20'- 65' Clay, grayish green  
65'-100' Sand, medium, glauconitic, micaceous  
100'-110' Clay, grayish green, glauconitic, sandy with 6" of siderite at 106'  
110'-135' Sand, medium, glauconitic, micaceous with greenish-gray clay stringers  
135'-150' Clay, greenish gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1096.** Elevation 188'  
Location: NW¼, Sec. 18, T. 16 S., R. 16 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 1' Sand, medium  
1'- 20' Clay, red to buff, sandy  
20'- 31' Sand, fine, micaceous  
31'- 42' Clay, gray, silty with fine micaceous sand  
42'- 55' Clay, gray, sandy with lignite stringers  
55'-118' Sand, fine with gray clay and lignite stringers  
118'-130' Clay, gray, sandy with lignite stringers  
130'-150' Sand, fine to medium micaceous with clay binder and lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1097.** Elevation 204'  
Location: NE¼, Sec. 23, T. 16 S., R. 17 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 10' Clay, buff, sandy  
10'- 20' Sand, medium, micaceous  
20'- 40' Clay, gray to brown, sandy  
40'- 98' Sand, medium, micaceous, lignitic  
98'-105' Clay, dark gray, silty  
105'-120' Sand, fine with gray clay stringers  
120'-150' Clay, dark gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1098.** Elevation 190'  
Location: NE¼, Sec. 22, T. 16 S., R. 17 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 5' Sand, medium  
5'- 15' Clay, buff, sandy  
15'- 25' Clay, brown to gray with sand stringers  
25'- 55' Sand, medium, micaceous with greenish gray clay layers  
55'- 75' Clay, greenish gray, sandy with lignite stringers  
75'-105' Sand, medium, micaceous  
105'-110' Clay, dark gray, sandy  
110'-150' Sand, fine, micaceous with dark gray clay stringers  
T. D.: 150'

**\*Drill Hole No. 1099.** Elevation 211'  
Location: SW¼, Sec. 21, T. 16 S., R. 17 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 20' Sand, medium  
20'- 40' Sand, medium with clay stringers, lignitic  
40'- 65' Sand, medium, salt and pepper  
65'-150' Clay, gray, silty with sand stringers, lignitic, with 4" of siderite at 78", siderite zones at 75", and 8" of siderite at 106"  
T. D.: 150'

**\*Drill Hole No. 1100.** Elevation 220'  
Location: SW¼, Sec. 20, T. 16 S., R. 17 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 7' Clay, orange to buff, sandy  
7'- 75' Sand, medium, salt and pepper, micaceous, glauconitic  
75'-150' Clay, greenish gray, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1101.** Elevation 170'  
Location: SW¼, Sec. 19, T. 16 S., R. 17 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 5' Sand, medium  
5'- 15' Clay, brown, sandy  
15'- 30' Clay, greenish gray, silty  
30'-150' Clay, greenish gray, sandy, micaceous with 6" of siderite at 147"  
T. D.: 150'

**\*Drill Hole No. 1102.** Elevation 235'  
Location: SE¼, Sec. 26, T. 16 S., R. 18 W.  
County, Union  
Logged by: W. L. Prior 10/80

0'- 15' Clay, buff to orange, sandy  
15'-150' Sand, medium, micaceous, salt and pepper with clay stringers  
T. D.: 150'

**Drill Hole No. 1103.** Elevation 172'  
Location: SE¼, Sec. 28, T. 9 S., R. 17 W.  
County, Dallas  
Logged by: G. Ludwig 10/80

0'- 5' Sand, fine to medium  
5'- 34' Sand and gravel  
34'- 53' Clay, gray with 6" of siderite at 53'  
53'-125' Clay, silty, sandy, carboniferous  
125'-127' Sand, fine, silty  
127'-175' Silt, sandy

175'-205' Clay, gray  
205'-230' Sand, fine, silty  
230'-256' Silt and clay, gray  
256'-275' Sand, fine to medium  
275'-300' Sand, fine with clay stringers  
T. D.: 300'

**\*Drill Hole No. 1104.** Elevation 171'  
Location: SE¼, Sec. 28, T. 9 S., R. 17 W.  
County, Dallas  
Logged by: G. Ludwig 10/80

0.- 30' Sand, silty, yellow-brown  
30'- 38' Gravel, sandy  
38'- 60' Clay, gray, carboniferous with 3" of siderite at 60'  
60'- 85' Sand, fine, silty with clay stringers  
85'-159' Clay and silt, lignitic, brown  
159'-195' Sand, fine, clayey  
195'-230' Sand, fine to medium  
230'-245' Sand, fine with 6" of siderite at 245'  
245'-255' Clay and silt  
255'-262' Sand, fine  
262'-282' Clay and silt  
T. D.: 282'

**\*Drill Hole No. 1105.** Elevation 300'  
Location: NE¼, Sec. 8, T. 14 S., R. 19 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 7' Clay, buff to orange with minor ironstone, sandy  
7'- 70' Clay, greenish gray with brown lignitic clay stringers, sandy  
70'- 92' Clay, dark greenish gray, sticky  
92'- 99' Sand, fine, micaceous, salt and pepper  
99'-135' Clay, dark gray, silty  
135'-150' Clay, dark greenish gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1106.** Elevation 280'  
Location: NE¼, Sec. 3, T. 14 S., R. 19 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 20' Sand, orange, medium  
20'- 30' Clay, gray, sandy with 3" of hard black lignite at 27'  
30'-150' Clay, gray with medium sand layers  
T. D.: 150'

**\*Drill Hole No. 1107.** Elevation 245'  
Location: SW¼, Sec. 21, T. 13 S., R. 19 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 3' Sand, fine  
3'- 14' Clay, buff, minor ironstone and fine sand  
14'- 16' Sand, fine  
16'-150' Sand, medium to coarse with firm black lignite at 70"  
T. D.: 150'

**\*Drill Hole No. 1108.** Elevation 285'  
Location: SE¼, Sec. 33, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 39' Clay, buff to yellow, sandy with minor ironstone stringers and 2" of red clay at 15'  
39'- 56' Clay, dark gray with fine sand  
56'- 80' Sand, medium  
T. D.: 80'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1109.** Elevation 352'  
Location: NW¼, Sec. 14, T. 12 S., R. 19 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 10' Sand, fine, iron-stained  
10'- 20' Sand, fine with thin ilmonite  
cemented layers  
20'- 70' Sand, fine with thin white clay  
seams  
70'- 80' Clay, cream with fine sand  
80'- 90' Clay, gray, silty with 5" of  
siderite at 87'  
90'-135' Sand, fine, gray  
135'-145' Clay, dark gray to brown  
145'-150' Sand, fine, cemented in layers  
T. D.: 150'

**\*Drill Hole No. 1110.** Elevation 290'  
Location: NW¼, Sec. 31, T. 11 S., R. 19 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 8' Sand, fine, tan  
8'- 40' Silt, dark brown, micaceous  
with brown clay binder  
40'- 60' Sand, fine, dark brown, silty  
60'- 90' Clay, dark brown, silty  
90'-108' Clay, dark brown  
108'-150' Sand, fine, brown  
T. D.: 150'

**\*Drill Hole No. 1111.** Elevation 260'  
Location: NE¼, Sec. 30, T. 12 S., R. 18 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 20' Sand, fine, with orange clay  
binder  
20'- 38' Sand, fine, tan  
38'- 40' Silt, dark brown, lignitic  
40'- 41' Clay, cream silty  
41'- 90' Clay, gray, silty  
90'-100' Sand, fine, gray  
100'-150' Clay, gray, silty  
Core Interval 40'-50'  
Recovered: Lost:  
10' 0'  
40'-50' clay, light gray, lignitic,  
silty  
T. D.: 150'

**\*Drill Hole No. 1112.** Elevation 240'  
Location: NE¼, Sec. 4, T. 13 S., R. 18 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 5' Sand, mottled with clay  
5'- 14' Sand, tan, fine  
14'- 15' Clay, tan  
15'- 20' Sand, fine, tan, lignitic  
20'- 30' Sand, fine, tan  
30'- 58' Clay, gray, silty  
58'- 60' Lignite  
60'- 75' Clay, blue gray, silty  
75'- 76' Lignite  
76'-106' Clay, gray with 6" of siderite  
at 81'  
106'-110' Sand, fine, gray, clayey  
110'-150' Sand, fine, gray  
T. D.: 150'

**Drill Hole No. 1113.** Elevation 251'  
Location: SW¼, Sec. 12, T. 13 S., R. 18 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 5' Sand, tan to orange, fine

\*Electric logs available

5'- 10' Clay, cream to white, silty  
10'- 20' Clay, gray, silty with fine sand  
20'- 37' Sand, fine, silty with gray clay  
binder  
37'- 38' Lignite  
38'- 52' Sand, fine, tan  
52'- 57' Clay, gray, lignitic  
57'- 70' Sand, fine, gray, silty  
70'-133' Clay, gray  
133'-150' Sand, fine, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1114.** Elevation 135'  
Location: SW¼, Sec. 21, T. 13 S., R. 17 W.  
County, Ouachita  
Logged by: J. M. Howard 11/80

0'- 5' Sand, fine, tan  
5'- 10' Sand, fine with gray clay seams  
10'- 30' Silt, brown, fine,  
termination with sand and brown  
clay layers  
30'- 55' Clay, gray to brown, silty  
55'- 70' Sand, fine, gray  
70'-127' Clay, brown to gray, silty,  
127'-129' Sand, fine, gray  
129'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1115.** Elevation 118'  
Location: NE¼, Sec. 31, T. 15 S., R. 16 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 18' Sand, medium with gray clay  
18'- 40' Clay, gray, sandy  
40'- 51' Sand, medium, micaceous, salt  
and pepper with minor greenish  
gray clay  
51'- 78' Clay, greenish gray, sandy,  
lignitic  
78'-150' Sand, medium to fine,  
micaceous, glauconitic with  
greenish gray clay and 6" of  
siderite at 95'  
T. D.: 150'

**\*Drill Hole No. 1116.** Elevation 190'  
Location: SW¼, Sec. 11, T. 15 S., R. 17 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 60' Sand, medium with minor gray  
clay  
60'-150' Clay, gray, lignitic, salt  
and pepper sand layers,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1117.** Elevation 235'  
Location: NE¼, Sec. 27, T. 14 S., R. 17 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 18' Sand, medium, micaceous  
18'-150' Clay, dark gray to greenish gray,  
sandy, silty with 2" of siderite  
at 85'  
T. D.: 150'

**\*Drill Hole No. 1118.** Elevation 170'  
Location: NW¼, Sec. 11, T. 14 S., R. 17 W.

County, Ouachita  
Logged by: W. L. Prior

0'- 5' Sand, fine, micaceous  
5'- 30' Clay, dark gray, sandy,  
micaceous  
30'-150' Clay, greenish gray, sandy,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1119.** Elevation 160'  
Location: NW¼, Sec. 25, T. 13 S., R. 17 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 9' Clay, orange to buff, sandy with  
ironstone  
9'- 50' Clay, gray, sandy, micaceous  
50'- 65' Clay, greenish gray, sandy,  
silty  
65'- 88' Sand, medium, micaceous  
88'- 93' Clay, brown, lignitic  
93'-105' Clay, gray, silty with brown  
clay lignite stringers  
105'-130' Clay, brown, lignitic  
130'-150' Clay, green with minor sand  
stringers, lignitic  
T. D.: 150'

**\*Drill Hole No. 1120.** Elevation 123'  
Location: SW¼, Sec. 11, T. 12 S., R. 17 W.  
County, Ouachita  
Logged by: W. L. Prior 11/80

0'- 5' Loam, brown, sandy  
5'- 40' Sand, medium  
40'- 54' Gravel, pea with medium sand  
54'- 60' Clay, dark gray, sandy  
60'- 75' Clay, gray, sticky  
75'-120' Sand, medium to fine, salt  
and pepper, micaceous  
120'-150' Sand, medium, micaceous,  
firm black lignitic logs at 135'  
T. D.: 150'

**\*Drill Hole No. 1121.** Elevation 350'  
Location: SE¼, Sec. 12, T. 13 S., R. 23 W.  
County, Nevada  
Logged by: W. L. Prior 11/20

0'- 15' Clay, orange to gray, sandy  
with minor ironstone  
15'- 27' Clay, gray, sandy  
27'- 33' Clay, dark to black gray  
33'- 48' Sand, fine, salt and pepper,  
micaceous with minor greenish  
gray clay  
48'- 60' Clay, gray to buff  
60'- 69' Clay, light greenish gray with  
minor sand stringers and 2"  
of soft brown lignite at 63'  
69'- 71' Clay, brown, lignite  
71'-150' Clay, light to dark gray with  
lignitic clay stringers and 4"  
of siderite at 93'  
T. D.: 150'

**\*Drill Hole No. 1122.** Elevation 330'  
Location: NW¼, Sec. 17, T. 13 S., R. 22 W.  
County, Nevada  
Logged by: W. L. Prior 11/80

0'- 15' Sand, medium with orange clay  
15'- 45' Sand, medium salt and pepper  
45'-140' Clay, greenish gray, silty with  
sand stringers  
140'-150' Sand, fine, micaceous, lignitic  
T. D.: 150'

## ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1123.** Elevation 380'  
Location: NW¼, Sec. 25, T. 13 S., R. 22 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 9' Sand, medium with ironstone  
9'- 19' Clay, buff, sandy with 2" of  
Ironstone at 18'  
19'- 60' Clay, brownish gray, silty with  
sand stringers  
60'- 77' Sand, medium, salt and pepper,  
micaceous  
77'-150' Clay, brown, sandy with lignite  
traces and 2" of siderite at 103'  
and 5" of siderite at 124'  
T. D.: 150'

**\*Drill Hole No. 1124.** Elevation: 400'  
Location: SW¼, Sec. 20, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 8' Sand, medium  
8'- 30' Clay, brown, silty  
30'- 85' Clay, brown, sandy, micaceous  
with 4" of siderite at 57'  
85'-120' Sand, medium, micaceous  
120'-150' Clay, brown, silty with sand  
stringers, micaceous  
T. D.: 150'

**\*Drill Hole No. 1125.** Elevation 300'  
Location: SE¼, Sec. 26, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 20' Sand, medium, micaceous  
20'- 85' Sand, medium, micaceous with  
buff to gray clay stringers and  
10" of soft black sandy lignite  
at 57'  
85'-125' Clay, gray, sandy with lignitic  
clay stringers  
125'-130' Clay, gray, sticky  
130'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1126.** Elevation 310'  
Location: SE¼, Sec. 30, T. 13 S., R. 20 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 7' Clay, orange to buff, sandy  
7'- 25' Clay, greenish gray, lignitic  
25'- 60' Clay, greenish gray, lignitic  
with sand stringers  
60'-100' Clay, greenish gray, silty  
100'-150' Sand, medium, micaceous,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1127.** Elevation 300'  
Location: NE¼, Sec. 3, T. 14 S., R. 20 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 11' Clay, orange to buff, sandy  
11'- 25' Clay, brown, lignitic, sandy  
25'- 45' Clay, greenish gray, sandy  
stringers, and 1" of siderite at  
33'  
45'-130' Sand, fine, micaceous, lignitic  
with 4" of buff lignite seams at  
125'  
T. D.: 150'

\*Electric logs available

**\*Drill Hole No. 1128.** Elevation 290'  
Location: NW¼, Sec. 6, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: W. L. Prior 12/80

0'- 10' Sand, fine  
10'- 20' Clay, buff to brown, lignitic  
20'- 75' Sand, medium, micaceous with  
buff clay stringers  
75'- 90' Clay, dark gray to brown,  
lignitic with 11" of firm black  
lignite at 84'  
90'-116' Sand, medium, salt and pepper,  
micaceous with greenish gray  
stringers  
116'-125' Clay, dark brown, lignitic with  
12" of hard black lignite at 123'  
125'-130' Clay, blue-green with ironstone  
T. D.: 130'

**Drill Hole No. 1129.** Elevation 370'  
Location: SW¼, Sec. 33, T. 13 S., R. 21 W.  
County, Nevada  
Logged by: B. F. Clardy 12/80

0'- 12' Clay, brown, silty, sandy  
12'- 60' Clay, gray, silty, sandy  
60'- 72' Sand, fine with blue gray clay  
72'- 95' Clay, blue gray, sandy  
95'-110' Sand, fine, gray, clayey  
110'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1130.** Elevation 230'  
Location: SW¼, Sec. 21, T. 18 S., R. 28 W.  
County, Miller  
Logged by: W. L. Prior 2/81

0'- 18' Sand with red to buff clay  
and 6" of ironstone at 15'  
18'- 30' Clay, greenish gray, sandy  
30'- 40' Clay, brownish gray, sandy  
with 6" of firm black lignite at  
31'  
40'-135' Clay sandy, micaceous with  
lignite stringers and 10" of  
siderite at 125'  
135'-150' Clay, brown to green, sandy,  
glauconitic with 4" of siderite  
at 148'  
T. D.: 150'

**\*Drill Hole No. 1131.** Elevation 390'  
Location: NE¼, Sec. 4, T. 18 S., R. 28 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 13' Sand, medium red, clayey  
13'- 21' Clay, brown to gray, sandy  
21'- 80' Clay, grayish green, sandy to  
sticky, lignitic  
80'-110' Clay, gray to brown, sandy,  
lignitic  
110'-130' Clay, gray, sandy, lignitic  
130'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1132.** Elevation 350'  
Location: NE¼, Sec. 18, T. 19 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 18' Clay, red, sandy with ironstone  
18'- 24' Clay, buff, sandy  
24'- 35' Clay, dark brown to gray  
35'- 50' Clay, green to gray, sandy,  
glauconitic  
50'- 73' Clay, brown, sandy, lignitic

73'-140' Sand, medium, salt and pepper,  
lignitic  
140'-150' Sand, medium with buff clay  
and lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1133.** Elevation 315'  
Location: NE¼, Sec. 22, T. 19 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 12' Clay, red, sandy  
12'- 25' Sand, medium  
25'- 29' Clay, buff to brown  
29'- 34' Clay, dark brownish gray, sandy  
34'- 50' Clay, dark gray to green, sandy,  
glauconitic  
50'- 61' Clay, tan, silty  
61'- 85' Sand, medium, salt and pepper  
85'-100' Sand, medium with gray clay  
stringers  
100'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1134.** Elevation 235'  
Location: NW¼, Sec. 27, T. 19 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 55' Sand, medium orange to yellow  
55'- 75' Clay, dark gray  
75'- 90' Sand, medium, salt and pepper  
lignitic  
90'-100' Sand and gray clay layers  
100'-105' Clay, gray with lignite stringers  
105'-150' Sand, fine with clay binder  
T. D.: 150'

**\*Drill Hole No. 1135.** Elevation 240'  
Location: SW¼, Sec. 3, T. 20 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 3' Clay, red to buff  
3'- 13' Sand, medium, orange  
13'- 26' Clay, brown to gray, lignitic  
with 6" of soft black lignite  
at 25'  
26'- 40' Sand, fine, salt and pepper  
40'- 60' Clay, gray to brown, lignitic  
60'- 72' Sand, fine, micaceous  
72'- 78' Clay, brown, lignitic  
78'-131' Clay, greenish gray  
131'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1136.** Elevation 330'  
Location: NW¼, Sec. 10, T. 19 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 25' Clay, red to yellow to buff,  
sandy with minor ironstone  
25'- 55' Clay, greenish gray, silty, lignitic  
with 3" of siderite at 54'  
55'- 60' Clay, bluish green with siderite  
layers, glauconitic  
60'- 70' Clay, greenish gray, glauconitic  
and sandy  
70'- 85' Clay, gray, sandy, micaceous  
85'-100' Sand, medium, salt and pepper,  
micaceous  
100'-112' Sand, medium, micaceous,  
clayey  
112'-135' Sand, medium, salt and pepper,  
micaceous  
135'-150' Clay, gray, lignitic with 2"  
of siderite at 145'  
T. D.: 150'



ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1137.** Elevation 245'  
Location: SE 1/4, Sec. 22, T. 18 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 5' Clay, brown to red, sandy  
5'- 12' Sand, medium  
12'- 45' Clay, dark red  
45'- 55' Clay, light gray to tan  
55'- 75' Clay, gray to green  
75'-100' Sand, medium, micaceous, salt  
and pepper with woody material  
100'-110' Gravel, pea with coarse sand  
Core Interval 10'-30'  
Recovered: Lost:  
6' 14'  
10'-24' Lost  
24'-30' Clay, red, silty, iron-  
stained.  
T. D.: 110'

**\*Drill Hole No. 1138.** Elevation 255'  
Location: SW 1/4, Sec. 34, T. 17 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 17' Clay, gray with red staining,  
silty  
17'- 25' Clay, orange red with iron-  
staining, sandy  
25'- 35' Clay, orange red, sandy,  
micaceous  
35'- 60' Clay, buff to light gray, sandy  
60'- 81' Sand, medium, salt and pepper  
81'- 90' Gravel, pea with gray to brown  
clay, lignitic  
90'- 92' Clay, green to gray, sandy,  
glaucconitic with siderite layers  
92'-130' Clay, green, glauconitic, sandy,  
lignitic  
130'-140' Sand, medium, clayey,  
glaucconitic with minor siderite  
140'-150' Clay, green, glauconitic, sandy  
with siderite layers  
T. D.: 150'

**\*Drill Hole No. 1139.** Elevation 290'  
Location: SW 1/4, Sec. 9, T. 17 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 65' Sand, medium to coarse with  
red clay  
65'- 80' Gravel, pea, clayey with brown  
lignitic sand  
80'-105' Clay, brown, sandy, lignitic,  
glaucconitic with ironstone  
105'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1140.** Elevation 365'  
Location: NE 1/4, Sec. 8, T. 16 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 3/81

0'- 70' Sand, coarse with minor clay  
70'-140' Clay, brown, sandy, lignitic  
with 6" of siderite at 76', 4"  
at 97', 5" at 99', 2" at 125',  
and 4" at 135'  
140'-146' Sand, fine, micaceous  
146'-150' Clay, brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 1141.** Elevation 345'  
Location: NW 1/4, Sec. 10, T. 16 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 5' Gravel, pebble, clayey, sandy  
5'- 11' Sand, red to buff clay, ironstone  
at 5' 6"  
11'- 25' Clay, tan to brown, sandy,  
lignitic  
25'- 40' Clay, gray to brown, glauconitic  
40'- 45' Sand, fine, salt and pepper  
45'- 90' Clay, brown, sandy, lignitic  
with 2" of siderite at 64'  
90'- 95' Sand, fine, micaceous, salt and  
pepper  
95'-120' Clay, dark brown, sandy  
120'-130' Sand, fine, micaceous, clayey  
130'-140' Clay, brown, sandy, lignitic  
140'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1142.** Elevation 360'  
Location: NE 1/4, Sec. 24, T. 16 S., R. 27 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 70' Sand, fine, clayey with 2" of  
ironstone at 40'  
70'-104' Clay, brown, sandy, lignitic  
104'-130' Sand, fine, micaceous, salt and  
pepper  
130'-142' Clay, brown, lignitic, sandy,  
micaceous  
142'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1143.** Elevation 340'  
Location: NW 1/4, Sec. 20, T. 16 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 30' Sand, coarse, clayey with 5"  
of ironstone at 25'  
30'- 36' Clay, light gray  
36'- 81' Sand, medium, clayey  
81'-104' Clay, tan to brown, sandy,  
lignitic  
104'-150' Clay, green to brown, lignitic,  
sandy, glauconitic  
T. D.: 150'

**\*Drill Hole No. 1144.** Elevation 348'  
Location: NE 1/4, Sec. 20, T. 16 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 15' Sand, coarse, clayey  
15'- 24' Clay, yellow, sandy with  
ironstone  
24'- 30' Clay, gray, lignitic  
30'- 60' Clay, gray, lignitic, sandy  
60'- 72' Sand, fine, micaceous, salt and  
pepper  
72'- 80' Clay, gray, lignitic with 7"  
of siderite at 76' and 3"  
of siderite at 77'  
80'- 90' Sand, fine, micaceous  
90'-100' Sand, fine, clayey, lignitic  
100'-150' Clay, brown, sandy, lignitic,  
glaucconitic  
T. D.: 150'

**Drill Hole No. 1145.** Elevation 360'  
Location: NW 1/4, Sec. 22, T. 16 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 30' Sand, coarse, clayey  
30'- 50' Sand, coarse with pea gravel  
50'- 75' Clay, gray, sandy, lignitic  
75'-102' Sand, fine, micaceous  
102'-104' Siderite and ironstone with  
soft black lignite

104'-120' Sand, medium to coarse,  
glaucconitic  
T. D.: 120'

**Drill Hole No. 1146.** Elevation 223'  
Location: NW 1/4, Sec. 24, T. 16 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 5' Clay, dark brown, sandy  
5'- 25' Clay, brown to dark gray  
25'- 50' Sand, coarse with pea gravel  
T. D.: 50'

**Drill Hole No. 1147.** Elevation 219'  
Location: NW 1/4, Sec. 1, T. 17 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 18' Clay, brown, silty,  
18'- 40' Sand, coarse with pea gravel  
T. D.: 40'

**\*Drill Hole No. 1148.** Elevation 240'  
Location: NE 1/4, Sec. 18, T. 16 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 5' Sand, fine  
5'- 12' Clay, orange red, silty  
12'- 17' Sand, medium to fine  
17'- 35' Clay, orange red  
35'- 47' Sand, fine, micaceous  
47'- 69' Clay, orange to brown  
69'- 92' Sand, coarse with pea gravel  
92'-140' Clay, gray with buff clay  
stringers and 6" of siderite at  
117'  
140'-150' Sand, medium to fine,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1149.** Elevation 310'  
Location: NW 1/4, Sec. 14, T. 16 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 27' Clay, light gray to buff, silty,  
sandy  
27'- 88' Sand, medium  
88'- 98' Sand, medium, clayey  
98'-110' Clay, gray, lignitic  
110'-120' Clay, gray, silty, sandy  
120'-150' Clay, gray, silty with 2"  
of siderite at 125'  
T. D.: 150'

**\*Drill Hole No. 1150.** Elevation 252'  
Location: SE 1/4, Sec. 7, T. 16 S., R. 23 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 13' Clay, buff, sandy  
13'- 20' Clay, reddish orange  
20'- 24' Sand, fine  
24'- 36' Clay, brown to green  
36'- 42' Sand, medium to coarse  
42'- 52' Gravel, pebble, clayey  
52'- 65' Clay, greenish gray, sandy,  
lignitic  
65'- 70' Clay, brown, sandy, lignitic  
70'- 85' Clay, gray to brown, sandy,  
lignitic  
85'-117' Clay, brown, sandy, lignitic  
117'-125' Sand, fine, micaceous  
125'-150' Clay, brown, lignitic, sandy  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1151.** Elevation 320'  
Location: SE¼, Sec. 11, T. 16 S., R. 23 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 15' Sand, coarse  
15'-108' Clay, dark gray to brown, silty, sandy, lignitic with 3" of siderite at 96'  
118'-120' Sand, fine, micaceous  
120'-140' Clay, gray to brown, lignitic  
140'-150' Sand, fine, micaceous, clayey  
T. D.: 150'

**\*Drill Hole No. 1152.** Elevation 275'  
Location: NW¼, Sec. 6, T. 16 S., R. 22 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 22' Clay, light gray, sandy with ironstone and staining at 15'  
22'- 43' Clay, dark grayish brown, silty  
43'- 70' Clay, gray, silty, lignitic, sandy  
70'-130' Clay, grayish brown, sandy, lignitic, silty  
130'-150' Clay, gray to brown, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1153.** Elevation 304'  
Location: NE¼, Sec. 19, T. 15 S., R. 22 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 7' Sand, coarse, red  
7'- 15' Clay, brown to tan, lignitic  
15'- 18' Clay, gray, glauconitic  
18'- 52' Sand, fine, micaceous, glauconitic, clayey  
52'- 60' Clay, brown, lignitic  
60'- 98' Sand, medium, glauconitic  
98'-150' Sand, clayey, silty  
T. D.: 150'

**\*Drill Hole No. 1154.** Elevation 258'  
Location: NE¼, Sec. 7, T. 18 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 4' Clay, light brown, sandy  
4'- 30' Clay, reddish orange, clayey  
30'- 45' Clay, reddish orange plastic  
45'- 80' Sand, very fine to silt size, micaceous  
80'-100' Sand, fine, clayey  
100'-115' Sand, coarse with pea gravel  
115'-120' Clay, brown to gray, sandy, lignitic  
120'-150' Sand, fine  
Core Interval 10'-20'  
Recovered: Lost:  
8½' 1½'  
10'-20' Clay, orange red plastic  
T. D.: 150'

**\*Drill Hole No. 1155.** Elevation 217'  
Location: NW¼, Sec. 1, T. 17 S., R. 26 W.  
County, Miller  
Logged by: W. L. Prior 4/81

0'- 15' Clay, brown to dark red  
15'- 30' Sand, medium  
30'- 50' Sand, coarse with pea gravel  
50'- 86' Sand, fine, micaceous, clayey, lignitic  
86'- 95' Clay, dark gray  
95'-105' Silt, sandy, micaceous  
105'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1156.** Elevation 379'  
Location: NE¼, Sec. 34, T. 15 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 4/81

0'- 30' Gravel, pebble to small cobble, sandy, clayey  
30'- 32' Sand, fine, clayey  
32'- 47' Clay, gray, sandy with 2" of soft black lignite at 42'  
47'- 52' Sand, fine, micaceous  
52'-100' Clay, gray, sandy, lignitic  
100'-117' Clay, gray, sandy, clayey, lignitic with 9" of hard lignite at 106'  
117'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1157.** Elevation 241'  
Location: SW¼, Sec. 22, T. 19 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 7' Clay, brown to gray, sandy  
7'- 25' Clay, brownish red, silty  
25'- 28' Sand, fine  
28'- 30' Clay, orange red  
30'- 90' Sand, fine to medium, micaceous  
90'- 97' Sand, coarse  
97'-120' Clay, dark greenish gray, glauconitic with 4" of siderite at 111'  
120'-128' Sand, medium, micaceous  
128'-145' Clay, dark gray, lignitic  
145'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1158.** Elevation 242'  
Location: NE¼, Sec. 36, T. 19 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 10' Clay, buff to orange, sandy, silty  
10'- 50' Sand, fine to medium, micaceous  
50'- 68' Clay, bluish gray, sandy  
68'-140' Clay, greenish blue, sandy, glauconitic, lignitic with 4" of siderite at 79', 3" at 83', 5" at 102' and 5" at 125'  
140'-150' Clay, greenish gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1159.** Elevation 240'  
Location: NE¼, Sec. 29, T. 19 S., R. 23 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 15' Sand, medium to fine, micaceous  
15'- 41' Clay, orange red to buff, plastic, silty  
41'- 49' Sand, medium  
49'- 70' Clay, dark greenish gray, sandy, lignitic, glauconitic with 3" of siderite at 55'  
70'- 95' Clay, dark gray, silty, sandy, lignitic with 4" of siderite at 84' and 3" at 94'  
95'-100' Sand, fine  
100'-115' Clay, gray, sandy, glauconitic with 6" of siderite at 105' and 4" at 113'  
115'-150' Sand, medium, clayey, silty, glauconitic with 4" of siderite at 135' and 3" at 140'  
T. D.: 150'

**Drill Hole No. 1160.** Elevation 248'  
Location: NW¼, Sec. 32, T. 18 S., R. 23 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 80' Sand, fine, orange  
T. D.: 80'

**\*Drill Hole No. 1161.** Elevation 252'  
Location: SW¼, Sec. 7, T. 18 S., R. 23 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 2' Sand, medium  
2'- 10' Clay, light gray to buff, sandy  
10'- 40' Sand, fine, micaceous  
40'- 49' Sand, coarse  
49'- 70' Sand, coarse, clayey  
70'- 80' Sand, coarse with pea gravel  
80'- 95' Clay, greenish gray, sandy with 3" of siderite at 85'  
95'-120' Clay, greenish gray, sandy, clayey, lignitic with 2" of siderite at 114'  
120'-140' Sand, medium, clayey  
140'-150' Clay, grayish brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 1162.** Elevation 280'  
Location: NE¼, Sec. 25, T. 17 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 22' Sand, medium, micaceous  
22'- 35' Sand, coarse with pea gravel  
35'- 70' Clay, dark greenish gray, sandy, lignitic  
70'-125' Clay, dark gray, silty, lignitic with 2" of siderite at 116'  
125'-141' Sand, medium, micaceous, salt and pepper  
141'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1163.** Elevation 305'  
Location: NE¼, Sec. 24, T. 17 S., R. 24 W.  
County, Lafayette  
Logged by: W. L. Prior 5/81

0'- 25' Sand, fine, micaceous  
25'- 45' Clay, cream, plastic  
45'- 58' Gravel, pea, sandy  
58'- 80' Clay, brown, lignitic  
80'-120' Sand, fine, micaceous, salt and pepper, lignitic with 2" of siderite at 109'  
120'-150' Sand, fine, micaceous, clayey, glauconitic  
T. D.: 150'

**Drill Hole No. 1164.** Elevation 210'  
Location: NE¼, Sec. 17, T. 19 S., R. 26 W.  
County, Lafayette  
Logged by: G. W. Colton 5/81

0'- 16' Clay, reddish brown to yellow green,  
16'- 22' Clay, brown to reddish brown  
22'- 42' Clay, dark gray to reddish brown, micaceous, silty  
42'- 65' Sand, fine, reddish brown, micaceous  
65'- 78' Sand, fine, light gray  
78'- 96' Clay, medium gray  
96'-105' Sand, medium to fine, clayey, lignitic  
105'-115' Clay, sandy, lignitic  
115'-143' Sand, medium, lignitic  
143'-150' Clay, medium gray, sandy  
T. D.: 150'

\*Electric logs available

## ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1165.** Elevation 330'  
Location: SW¼, Sec. 29, T. 14 S., R. 24 W.  
County, Hempstead  
Logged by: W. L. Prior 5/81

0'- 4' Clay, tan, sandy  
4'- 22' Clay, dark brown, lignitic  
22'- 30' Clay, tan, sandy, silty, 1" of  
Ironstone at 28'  
30'- 45' Sand, medium to fine  
45'- 74' Clay, brown, silty, lignitic  
74'-110' Sand, medium, micaceous,  
salt and pepper, glauconitic  
110'-118' Sand, medium, micaceous,  
clayey  
118'-127' Clay, brown, sandy, lignitic  
127'-130' Sand, medium, micaceous  
130'-138' Clay, brown, lignitic with 8"  
of soft black lignite at 136'  
138'-147' Clay, blue to gray, clayey  
147'-150' Clay, greenish blue  
T. D.: 150'

**\*Drill Hole No. 1166.** Elevation 390'  
Location: NW¼, Sec. 5, T. 14 S., R. 24 W.  
County, Hempstead  
Logged by: W. L. Prior 7/81

0'- 12' Sand, fine, red  
12'- 21' Clay, buff to red  
21'- 30' Sand, fine  
30'- 67' Sand, medium  
67'- 80' Clay, dark gray with 3" of  
hard black lignite at 71'  
80'- 81' Clay, greenish gray, micaceous  
81'- 83' Lignite, black, hard  
83'-122' Clay, greenish gray, micaceous  
122'-139' Clay, blue-green, lignitic  
139'-143' Clay, dark gray, lignitic  
143'-150' Clay, blue-green, lignitic  
Core Interval 80'-90'  
Recovered: 4'4" Lost: 5'8"  
80'-81' clay, gray, sticky  
81'-82' clay, brown, lignitic  
82'-83' lignite hard conchoidal  
fracture  
83'-84' sand, grayish green,  
medium, micaceous  
T. D.: 150'

**\*Drill Hole No. 1167.** Elevation 350'  
Location: NW¼, Sec. 21, T. 13 S., R. 24 W.  
County, Hempstead  
Logged by: G. W. Colton 7/81

0'- 13' Road fill  
13'- 51' Sand, tan, fine, micaceous  
51'- 55' Clay, gray  
55'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1168.** Elevation 400'  
Location: NE¼, Sec. 3, T. 14 S., R. 25 W.  
County, Hempstead  
Logged by: G. W. Colton 7/81

0'- 13' Sand, tan  
13'-146' Clay, light gray to dark gray  
with 4" of siderite at 62' and  
5" of lignite at 75'  
146'-150' Lignite, clayey  
T. D.: 150'

**\*Drill Hole No. 1169.** Elevation 320'  
Location: NE¼, Sec. 20, T. 14 S., R. 23 W.  
County, Hempstead  
Logged by: W. L. Prior 7/81

\*Electric logs available

0'- 9' Clay, sandy, ironstone  
9'- 40' Clay, chocolate brown, lignitic,  
sandy  
40'- 46' Sand, medium to fine, clayey  
46'- 62' Clay, greenish brown, silty  
62'- 70' Clay, brown, lignitic, sandy  
70'- 80' Sand, fine, micaceous, lignitic  
80'-130' Clay, brown, lignitic, sandy  
with 5" of siderite at 115'  
130'-150' Clay, brown, lignitic, sandy,  
micaceous, silty  
T. D.: 150'

**\*Drill Hole No. 1170.** Elevation 340'  
Location: NE¼, Sec. 29, T. 14 S., R. 24 W.  
County, Hempstead  
Logged by: G. W. Colton 7/81

0'- 8' Sand  
8'-150' Clay, gray to light gray,  
silty, lignitic with 1" of  
siderite at 88" and 12" of  
lignite at 132"  
T. D.: 150'

**\*Drill Hole No. 1171.** Elevation 375'  
Location: NW¼, Sec. 18, T. 13 S., R. 23 W.  
County, Hempstead  
Logged by: W. L. Prior 7/81

0'- 11' Clay, buff to red, sandy,  
ironstone at 10'  
11'- 45' Clay, cream to tan, silty, sandy,  
with minor ironstone  
45'- 52' Sand, medium, micaceous  
52'- 62' Clay, brownish gray, sandy  
62'- 80' Sand, medium, greenish gray,  
salt and pepper  
80'-150' Clay, dark gray, silty with  
siderite stringers  
T. D.: 150'

**\*Drill Hole No. 1172.** Elevation 315'  
Location: SE¼, Sec. 29, T. 13 S., R. 23 W.  
County, Hempstead  
Logged by: G. W. Colton 7/81

0'- 16' Road fill, clayey  
16'- 82' Clay, light gray to brownish  
gray, lignitic, with 2" of siderite  
at 55'  
82'- 83' Lignite  
83'-130' Clay, light greenish gray to  
medium light gray, lignitic  
130'-132' Lignite  
132'-134' Clay, medium light gray  
134'-139' Lignite and clay  
139'-150' Clay, medium light gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1173.** Elevation 310'  
Location: NE¼, Sec. 33, T. 13 S., R. 23 W.  
County, Hempstead  
Logged by: G. W. Colton 7/81

0'- 4' Road fill  
4'- 6' Clay, white, ironstone  
6'- 10' Sand, tan  
10'- 39' Clay, white to chocolate  
brown, lignitic,  
Lignite  
39'- 40' Sand, tan  
40'- 51' Clay, gray, lignitic  
51'- 55' Sand, tan  
55'-150' Clay, light gray to medium gray,  
lignitic with 3" of siderite  
at 62', 15" at 135' and 8" at  
145"  
T. D.: 150'

**\*Drill Hole No. 1174.** Elevation 385'  
Location: SW¼, Sec. 29, T. 14 S., R. 22 W.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'-105' Sand, red to tan, clayey  
105'-150' Clay, red to brown, lignitic  
with 10" of siderite at 129"  
and 1" at 144"  
T. D.: 150'

**\*Drill Hole No. 1175.** Elevation 335'  
Location: SE¼, Sec. 7, T. 15 S., R. 22 W.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'- 35' Clay, tan  
35'- 40' Sand, tan  
40'-150' Clay, medium gray to light gray,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1176.** Elevation 335'  
Location: SW¼, Sec. 36, T. 14 S., R. 23 W.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'- 42' Sand, fine, light tan, clayey,  
lignitic  
42'-111' Clay, medium brown to light  
brown, lignitic, clayey  
111'-150' Sand, fine, tan, micaceous,  
silty  
T. D.: 150'

**\*Drill Hole No. 1177.** Elevation 310'  
Location: SE¼, Sec. 27, T. 23 W., R. 14 S.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'- 19' Sand, fine, tan, clayey  
19'- 85' Clay, brown to gray, lignitic and  
3" of siderite at 76"  
85'-150' Sand, medium, tan, micaceous,  
salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1178.** Elevation 397'  
Location: SE¼, Sec. 16, T. 15 S., R. 21 W.  
County, Colombia  
Logged by: G. W. Colton 7/81

0'- 12' Clay, white, ironstained  
12'- 22' Sand, fine, tan  
22'-100' Clay, light gray to gray, sandy,  
lignitic  
100'-132' Sand, light gray, lignitic  
132'-150' Clay, gray, clayey, lignitic with  
3" of siderite at 147"  
T. D. 150'

**\*Drill Hole No. 1179.** Elevation 325'  
Location: NW¼, Sec. 33, T. 14 S., R. 21 W.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'- 14' Sand, fine, tan,  
14'-150' Clay, white to light gray,  
ironstained, lignitic  
with 12" of siderite at 98"  
T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1180.** Elevation 355'  
Location: SW¼, Sec. 4, T. 15 S., R. 21 W.  
County, Nevada  
Logged by: G. W. Colton 7/81

0'- 18' Sand, fine, tan  
18'-147' Clay, gray, lignitic, with 8"  
of siderite at 49' and 2" at 88'  
147'-150' Sand, fine, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1181.** Elevation 355'  
Location: SW¼, Sec. 28, T. 15 S., R. 21 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 9' Sand, tan, medium, ironstone  
9'- 29' Clay, white to gray, lignitic  
29'- 30' Sand, tan, medium  
30'-111' Clay, gray to green, silty,  
lignitic  
111'-117' Silt, gray to salt and pepper,  
lignitic  
117'-130' Clay, gray, lignitic  
130'-150' Silt, gray to salt and pepper,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1182.** Elevation 360'  
Location: NE¼, Sec. 8, T. 16 S., R. 21 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'-129' Clay, white to greenish gray,  
lignitic, sandy  
129'-150' Silt, gray to salt and pepper,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1183.** Elevation 280'  
Location: SW¼, Sec. 26, T. 16 S., R. 21 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'-150' Clay, tan to gray, ironstone,  
silty, with 3" of siderite at 45'  
and 7" at 119'  
T. D.: 150'

**\*Drill Hole No. 1184.** Elevation 262'  
Location: NW¼, Sec. 17, T. 16 S., R. 22 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 3' Road fill  
3'- 10' Clay, white to tan, ironstone  
10'- 18' Sand, tan  
18'- 20' Clay, gray  
20'- 38' Sand, tan with 3" of siderite  
at 35'  
38'- 40' Clay, gray  
40'- 48' Sand, fine, tan, micaceous,  
clayey  
48'-150' Clay, gray, lignitic, silty  
T. D.: 150'

**\*Drill Hole No. 1185.** Elevation 285'  
Location: NE¼, Sec. 13, T. 16 S., R. 22 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 26' Clay, tan to gray, ironstone  
26'- 30' Sand, fine, gray, lignitic  
30'-150' Clay, gray, lignitic, silty,  
ironstone with 2" of siderite  
at 97' and 4" at 109'  
T. D.: 150'

**\*Drill Hole No. 1186.** Elevation 300'  
Location: SE¼, Sec. 14, T. 16 S., R. 22 E.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'-133' Clay, gray, ironstone, silty,  
iron-stained, lignitic  
133'-150' Silt, salt and pepper, lignitic  
T. D.: 150'

**\*Drill Hole No. 1187.** Elevation 233'  
Location: NE¼, Sec. 26, T. 15 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 8' Sand, medium, tan, ironstone  
8'- 33' Clay, gray, iron-stained,  
sandy  
33'- 82' Sand, medium, tan,  
lignitic  
82'-123' Clay, sandy, lignitic,  
with 2" of siderite at 117'  
123'-150' Silt, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1188.** Elevation 215'  
Location: SW¼, Sec. 26, T. 15 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 6' Road fill  
6'- 14' Clay, gray, ironstone  
14'- 52' Sand, fine, gray, ironstone,  
clayey, lignitic  
52'-150' Clay, gray, lignitic, silty,  
sandy  
T. D.: 150'

**\*Drill Hole No. 1189.** Elevation 285'  
Location: SE¼, Sec. 34, T. 15 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 7/81

0'- 15' Sand, fine, tan, iron-stained  
15'- 32' Clay, red to gray, sandy  
32'- 42' Silt, tan, clayey, sandy  
42'- 68' Clay, gray, sandy, lignitic  
68'-104' Sand, fine, salt and pepper,  
clayey with 2" of siderite at 68'  
104'-150' Clay, silty  
T. D.: 150'

**\*Drill Hole No. 1190.** Elevation 270'  
Location: NE¼, Sec. 4, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'-150' Clay, gray, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1191.** Elevation 385'  
Location: NE¼, Sec. 8, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'-150' Clay, gray, iron-stained, sandy,  
lignitic, silty  
T. D.: 150'

**\*Drill Hole No. 1192.** Elevation 370'  
Location: NW¼, Sec. 17, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 11' Clay, tan to gray  
11'- 14' Sand, medium, tan  
14'-150' Clay, brown to gray, lignitic,  
silty  
T. D.: 150'

**Drill Hole No. 1193.** Elevation 353'  
Location: SE¼, Sec. 19, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 50' Clay, gray to brown, silty, iron-  
stained, lignitic  
50'-108' Sand, fine, gray, salt and pepper  
108'-144' Clay, red to gray, silty, lignitic  
144'-150' Sand, clayey, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1194.** Elevation 360'  
Location: SE¼, Sec. 30, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 26' Sand, orange, coarse with clay  
stringers  
26'-150' Clay, brown to gray, lignitic  
silty, sandy, sticky  
T. D.: 150'

**\*Drill Hole No. 1195.** Elevation 310'  
Location: NE¼, Sec. 10, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 5' Sand, red, coarse  
5'-150' Clay, tan to gray, silty, lignitic,  
sandy with 6" of siderite at 144'  
T. D.: 150'

**\*Drill Hole No. 1196.** Elevation 290'  
Location: NW¼, Sec. 13, T. 16 S., R. 20 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 3' Sand, red, clayey  
3'-150' Clay, red to gray, sandy, lignitic,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1197.** Elevation 305'  
Location: SW¼, Sec. 18, T. 16 S., R. 19 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 55' Sand, medium, micaceous,  
clayey  
55'-150' Clay, gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1198.** Elevation 260'  
Location: SE¼, Sec. 21, T. 16 S., R. 19 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 10' Clay, buff, sandy  
10'- 17' Sand, medium, micaceous  
17'- 37' Clay, gray, sandy  
37'- 50' Sand, medium, salt and pepper,  
micaceous, lignitic  
50'-150' Clay, brown, sandy  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1199.** Elevation 300'  
Location: SE $\frac{1}{4}$ , Sec. 27, T. 16 S., R. 19 W.  
County: Columbia  
Logged by: W. L. Prior 8/81

0'- 45' Sand, medium, micaceous  
45'- 67' Clay, gray, lignitic, ironstone  
67'- 70' Sand, fine, salt and pepper  
70'- 80' Clay, gray, lignitic  
80'-130' Clay, gray, sandy with 2" of siderite at 126'  
130'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1200.** Elevation 265'  
Location: SW $\frac{1}{4}$ , Sec. 17, T. 17 S., R. 18 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 11' Clay, red, sandy  
11'- 49' Sand, medium with 3" of black lignite at 38'  
49'- 52' Clay, gray  
52'- 75' Sand, medium, lignitic  
75'- 85' Clay, gray, lignitic  
85'-150' Clay, brown, lignitic, silty with 2" of siderite at 123'  
T. D.: 150'

**\*Drill Hole No. 1201.** Elevation 325'  
Location: NE $\frac{1}{4}$ , Sec. 3, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 38' Clay, gray to tan, sandy, iron-stained  
38'-106' Sand, tan to salt and pepper, lignitic  
106'-150' Clay, gray, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1202.** Elevation 240'  
Location: SE $\frac{1}{4}$ , Sec. 16, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'-150' Clay, gray, ironstone, sandy, lignitic with 4" of siderite at 69", 4" at 95" and 1" at 144"  
T. D.: 150'

**\*Drill Hole No. 1203.** Elevation 230'  
Location: NE $\frac{1}{4}$ , Sec. 20, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 7' Clay, gray  
7'- 15' Sand, fine, gray  
15'-150' Clay, sandy, silty lignitic with 2" of siderite at 51", 3" at 64",  $\frac{1}{2}$ " at 108" and 2" at 142"  
T. D.: 150'

**\*Drill Hole No. 1204.** Elevation 275'  
Location: SE $\frac{1}{4}$ , Sec. 18, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 97' Clay, gray, silty, sandy, lignitic  
97'-101' Sand, fine, gray  
101'-150' Clay, gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1205.** Elevation 305'  
Location: NE $\frac{1}{4}$ , Sec. 24, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 5' Road fill  
5'- 30' Sand, gray, clayey  
30'-106' Clay, gray, sandy, lignitic  
106'-109' Sand, medium, gray to salt and pepper  
109'-150' Clay, gray, sandy, silty, lignitic  
T. D.: 150'

**\*Drill Hole No. 1206.** Elevation 304'  
Location: SE $\frac{1}{4}$ , Sec. 14, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 12' Sand, clayey  
12'-150' Clay, gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1207.** Elevation 325'  
Location: SE $\frac{1}{4}$ , Sec. 15, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'-150' Clay, gray, lignitic, silty with 6" of siderite at 103"  
T. D.: 150'

**\*Drill Hole No. 1208.** Elevation 325'  
Location: SE $\frac{1}{4}$ , Sec. 16, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 35' Sand, brown, ironstone, clayey  
35'-150' Clay, green to gray, sandy, lignitic and 5" of siderite at 55"  
T. D.: 150'

**\*Drill Hole No. 1209.** Elevation 317'  
Location: SW $\frac{1}{4}$ , Sec. 17, T. 17 S., R. 20 W.  
County, Columbia  
Logged by: G. S. Colton 8/81

0'-150' Clay, white to gray, ironstone, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1210.** Elevation 324'  
Location: SE $\frac{1}{4}$ , Sec. 6, T. 18 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 6' Sand, medium  
6'- 18' Clay, white, ironstained, silty  
18'- 35' Sand, medium, gray  
35'-150' Clay, white to gray, iron-stained, lignitic with 2" of siderite at 98"  
T. D.: 150'

**\*Drill Hole No. 1211.** Elevation 290'  
Location: NE $\frac{1}{4}$ , Sec. 11, T. 19 S., R. 20 W.  
County, Columbia  
Logged by: G. W. Colton 8/81

0'- 11' Sand, medium  
11'- 18' Clay, gray, sandy, lignitic  
18'-150' Clay, gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1212.** Elevation 230'  
Location: NW $\frac{1}{4}$ , Sec. 26, T. 18 S., R. 19 W.  
County, Columbia  
Logged by: W. L. Prior 8/81

0'- 12' Clay, red to buff, sandy  
12'- 32' Clay, gray, silty, sandy with 1" of lignite at 15'

32'-150' Clay, brown to gray, silty, lignitic, sandy  
T. D.: 150'

**\*Drill Hole No. 1213.** Elevation 245'  
Location: SE $\frac{1}{4}$ , Sec. 19, T. 19 S., R. 18 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 5' Sand, medium  
5'- 20' Sand, buff to red  
20'- 73' Sand, medium, salt and pepper, clayey  
73'- 78' Clay, gray  
78'- 90' Sand, medium, salt and pepper  
90'-150' Clay, gray, lignitic with 7" of siderite at 112" and 2" at 114"  
T. D.: 150'

**\*Drill Hole No. 1214.** Elevation 295'  
Location: SE $\frac{1}{4}$ , Sec. 13, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 4' Sand, medium  
4'- 40' Clay, buff, sandy  
40'-150' Sand, medium, salt and pepper  
T. D.: 150'

**Drill Hole No. 1215.** Elevation 230'  
Location: NW $\frac{1}{4}$ , Sec. 20, T. 16 S., R. 18 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 19' Clay, buff, sandy  
19'- 23' Sand, medium  
23'- 24' Lignite, firm, black  
24'-150' Clay, gray to brown, silty with siderite stringers  
T. D.: 150'

**\*Drill Hole No. 1216.** Elevation 250'  
Location: SW $\frac{1}{4}$ , Sec. 35, T. 17 S., R. 19 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 4' Sand, medium  
4'- 45' Clay, buff to gray, sandy, lignitic with 2" of soft black lignite at 30'  
45'-150' Clay, brown to gray, silty, sandy, lignitic with 2" of siderite at 55" and 2" at 103"  
T. D.: 150'

**\*Drill Hole No. 1217.** Elevation 270'  
Location: NE $\frac{1}{4}$ , Sec. 26, T. 17 S., R. 22 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 22' Sand, medium, clayey  
22'-100' Clay, brown to green, lignitic, sandy  
100'-120' Sand, medium, lignitic  
120'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1218.** Elevation 270'  
Location: SW $\frac{1}{4}$ , Sec. 8, T. 18 S., R. 22 W.  
County, Columbia  
Logged by: W. L. Prior 9/81

0'- 18' Clay, red, sandy  
18'- 91' Sand, fine  
91'-140' Clay, gray with 3" of siderite at 107"  
T. D.: 140'

\*Electric logs available

**ARKANSAS LIGNITE INVESTIGATIONS**

**Drill Hole No. 1219.** Elevation 270'  
 Location: SE¼, Sec. 2, T. 20 S., R.23 W.  
 County, Columbia  
 Logged by: W. L. Prier 9/81

0'- 10' Clay red, sandy  
 10'- 55' Clay, buff, silty  
 55'- 64' Sand, fine  
 64'- 80' Sand, coarse with pea gravel  
 T. D.: 80'

**Drill Hole No. 1220.** Elevation 225'  
 Location: NE¼, Sec. 18, T. 19 S., R. 22 W.  
 County, Columbia  
 Logged by: W. L. Prier 9/81

0'- 7' Clay, buff, sandy  
 7'- 25' Clay, red, sticky, sandy  
 25'- 75' Sand, fine  
 75'- 80' Sand, coarse with pea gravel  
 80'- 95' Clay, gray to green, sandy with siderite stringers  
 95'-150' Clay, gray, sandy, glauconitic  
 T. D.: 150'

**\*Drill Hole No. 1221.** Elevation 289'  
 Location: SE¼, Sec. 26, T. 18 S., R. 22 W.  
 County, Columbia  
 Logged by: W. L. Prier 9/81

0'- 10' Sand, medium  
 10'- 42' Clay, buff to yellow, sandy  
 42'- 60' Clay, gray, silty, micaceous  
 60'- 80' Clay, gray, sandy, micaceous, lignitic  
 80'-120' Sand, medium, salt and pepper, clayey  
 120'-150' Clay, gray, lignitic  
 T. D.: 150'

**\*Drill Hole No. 1222.** Elevation 230'  
 Location: NE¼, Sec. 32, T. 18 S., R. 21 W.  
 County, Columbia  
 Logged by: W. L. Prier 9/81

0'- 16' Sand, medium  
 16'- 28' Clay, buff  
 28'- 60' Sand, medium, clayey  
 60'- 69' Sand, medium, clayey, lignitic with 2" of siderite at 75'  
 69'- 86' Clay, gray, sandy, glauconitic with 5" of siderite at 82'  
 86'- 96' Clay, gray, sandy with 2" of siderite at 95'  
 96'-108' Sand, fine, salt and pepper, micaceous  
 108'-144' Clay, gray, sandy, lignitic with 4" of siderite at 140'  
 144'-150' Sand, fine, micaceous  
 T. D.: 150'

**\*Drill Hole No. 1223.** Elevation 250'  
 Location: NE¼, Sec. 6, T. 20 S., R. 21 W.  
 County, Columbia  
 Logged by: W. L. Prier 9/81

0'- 40' Clay, buff to gray, sandy  
 40'- 61' Sand, medium, glauconitic, clayey, lignitic  
 61'-120' Clay, gray, sandy with siderite stringers  
 120'-150' Clay, gray, glauconitic, lignitic, sandy  
 T. D.: 150'

**\*Drill Hole No. 1224.** Elevation 320'  
 Location: SE¼, Sec. 34, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: G. W. Colton 9/81

0'-150' Clay light gray to greenish gray, sandy, lignitic with 4" of siderite at 86'  
 T. D.: 150'

**\*Drill Hole No. 1225.** Elevation 280'  
 Location: NW¼, Sec. 10, T. 19 S., R. 21 W.  
 County, Columbia  
 Logged by: G. W. Colton 9/81

0'- 11' Clay, gray, sandy  
 11'- 34' Sand, medium, tan, lignitic  
 34'- 40' Clay, gray, sandy, lignitic  
 40'- 56' Sand, medium, gray, lignitic  
 56'- 90' Clay, gray, lignitic  
 90'- 94' Silt, clayey  
 94'-150' Clay, gray, silty  
 T. D.: 150'

**\*Drill Hole No. 1226.** Elevation 288'  
 Location: NW¼, Sec. 20, T. 19 S., R. 20 W.  
 County, Columbia  
 Logged by: G. W. Colton 9/81

0'- 37' Clay, gray, ironstained, lignitic with 2" of siderite at 29' and 2" at 31'  
 37'- 41' Lignite, clayey  
 41'-150' Clay, gray, with 12" of siderite at 84'  
 T. D.: 150'

**\*Drill Hole No. 1227.** Elevation 125'  
 Location: SW¼, Sec. 2, T. 11 S., R. 17 W.  
 County, Ouachita  
 Logged by: W. L. Prier 9/81

0'- 5' Sand, coarse, pebble gravel  
 5'- 12' Clay, gray, sandy, micaceous  
 12'- 21' Sand, medium  
 21'- 47' Sand, coarse, pea gravel  
 47'- 56' Clay, tan, glauconitic  
 56'-150' Clay, brown, silty, lignitic, sandy with siderite stringers  
 T. D.: 150'

**\*Drill Hole No. 1228.** Elevation 147'  
 Location: NW¼, Sec. 14, T. 11 S., R. 17 W.  
 County, Ouachita  
 Logged by: W. L. Prier 9/81

0'- 20' Clay, brown, sandy  
 20'- 60' Sand, coarse to medium, pebble gravel, clayey  
 60'- 78' Clay, gray to brown, lignitic, sandy  
 78'- 84' Sand, fine with clay stringers  
 84'- 95' Clay, brown with siderite seams  
 T. D.: 95'

**\*Drill Hole No. 1229.** Elevation 140'  
 Location: SW¼, Sec. 23, T. 11 S., R. 17 W.  
 County, Ouachita  
 Logged by: W. L. Prier 9/81

0'- 46' Sand, medium to coarse with clay binder and pea gravel  
 46'- 60' Clay, white to brown, sandy, lignitic  
 60'- 85' Sand, medium, salt and pepper  
 85'- 97' Clay, brown to gray, lignitic  
 97'- 99' Sand, medium  
 99'-150' Clay, gray, lignitic, glauconitic with 4" of siderite at 104'  
 T. D.: 150'

**\*Drill Hole No. 1230.** Elevation 138'  
 Location: SE¼, Sec. 26, T. 11 S., R. 17 W.  
 County, Ouachita  
 Logged by: W. L. Prier 10/81

0'- 7' Sand, fine, silty  
 7'- 25' Clay, brown, sandy  
 25'- 45' Sand, coarse  
 45'- 50' Clay, buff with 4" of lignite at 47'  
 50'-125' Clay, gray to buff  
 125'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1231.** Elevation 124'  
 Location: SW¼, Sec 1, T. 12 S., R. 17 W.  
 County, Ouachita  
 Logged by: G. W. Colton 10/81

0'- 46' Sand, fine, tan  
 46'- 58' Clay, gray, lignitic  
 58'- 66' Lignite, clayey  
 66'-140' Clay, gray, lignitic, Sand, fine, tan  
 Core interval 60'-64'  
 Recovered: Lost:  
 4' 0'  
 60'-64' lignite  
 T. D.: 150'

**Drill Hole No. 1232.** Elevation 115'  
 Location: SW¼, Sec 31, T. 12 S., R. 16 W.  
 County, Ouachita  
 Logged by: O. A. Wise 10/81

0'- 28' Sand, medium, brown  
 28'- 32' Gravel, pea  
 32'-150' Sand, medium to coarse, brown to white, clayey  
 T. D.: 150'

**\*Drill Hole No. 1233.** Elevation 115'  
 Location: SW¼, Sec. 24, T. 12 S., R. 17 W.  
 County, Ouachita  
 Logged by: O. A. Wise 10/81

0'- 5' Clay, sandy  
 5'- 37' Sand, medium to coarse, brown to tan  
 37'- 67' Gravel, sandy with 2" of lignite at 48'  
 67'- 75' Clay, silty  
 75'-150' Sand, silty  
 T. D.: 150'

**\*Drill Hole No. 1234.** Elevation 105'  
 Location: SW¼, Sec. 12, T. 13 S., R. 17 W.  
 County, Ouachita  
 Logged by: W. L. Prier 10/81

0'- 22' Clay, brown, sandy  
 22'- 49' Sand, coarse with pea gravel  
 49'- 54' Clay, gray, sandy, lignitic  
 54'- 65' Sand, medium, lignitic  
 65'- 80' Clay, gray, lignitic, sandy  
 80'-115' Sand, medium, lignitic  
 T. D.: 115'

**\*Drill Hole No. 1235.** Elevation 130'  
 Location: SW¼, Sec. 9, T. 13 S., R. 16 W.  
 County, Ouachita  
 Logged by: W. L. Prier 10/81

0'- 20' Sand, medium, clayey  
 20'- 43' Sand, medium with gravel  
 43'-150' Clay, gray, sandy  
 T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1236.** Elevation 140'  
Location: NW¼, Sec. 25, T. 12 S., R. 16 W.  
County, Ouachita  
Logged by: W. L. Prior 10/81

0'- 6' Clay, brown, sandy  
6'- 17' Sand, fine, gray  
17'- 18' Clay, red, sandy  
18'- 25' Sand, medium, clayey  
25'- 43' Sand, coarse, pebble gravel  
43'-135' Clay, gray, lignitic, sandy  
135'-150' Sand, fine, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1237.** Elevation 250'  
Location: NW¼, Sec. 13, T. 11 S., R. 16 W.  
County, Ouachita  
Logged by: W. L. Prior 10/81

0'- 50' Sand, coarse, pebble gravel  
50'- 80' Clay, gray, sandy with 3" of  
siderite at 59' and 3" at 78'  
80'-100' Sand, fine, salt and pepper,  
lignitic  
100'-103' Clay, gray, sandy, lignitic  
103'-150' Clay, brown, lignitic, sandy  
T. D.: 150'

**\*Drill Hole No. 1238.** Elevation 135'  
Location: SW¼, Sec. 22, T. 12 S., R. 16 W.  
County, Ouachita  
Logged by: W. L. Prior 10/81

0'- 16' Clay, tan, sandy, silty  
16'- 20' Sand, fine, clayey  
20'- 30' Clay, tan, sandy  
30'- 36' Sand, coarse, pea gravel  
36'- 45' Clay, gray  
45'- 50' Sand, fine, salt and pepper  
50'- 53' Clay, gray, lignitic  
53'- 62' Sand, medium, salt and pepper  
62'- 70' Clay, gray, sandy, lignitic  
70'- 95' Sand, medium, salt and pepper  
95'-110' Clay, gray, sandy  
110'-120' Clay, gray, sticky  
120'-150' Sand, fine, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1239.** Elevation 160'  
Location: NW¼, Sec. 36, T. 11 S., R. 16 W.  
County, Ouachita  
Logged by: W. L. Prior 10/81

0'- 42' Sand, medium to coarse, clayey,  
pebble gravel  
42'-150' Clay, gray, sandy, lignitic  
T. D.: 150'

**\*Drill Hole No. 1240.** Elevation 165'  
Location: NW¼, Sec. 7, T. 12 S., R. 15 W.  
County, Ouachita  
Logged by: W. L. Prior 10/81

0'- 20' Sand, coarse, pebble gravel  
20'- 35' Clay, gray, sandy, lignitic  
35'- 40' Sand, fine, salt and pepper,  
clayey  
40'- 45' Clay, gray, sandy  
45'- 60' Sand, fine, salt and pepper,  
clayey, lignitic  
60'-117' Clay, gray, sandy, lignitic  
117'-150' Clay, gray to brown, sticky,  
lignitic  
T. D.: 150'

\*Electric logs available

**\*Drill Hole No. 1241.** Elevation 215'  
Location: SE¼, Sec. 5, T. 12 S., R. 15 W.  
County, Ouachita  
Logged by: W. L. Prior 11/81

0'- 15' Sand, gray, medium  
15'- 50' Sand, coarse, brown, pebble  
gravel  
50'- 81' Clay, gray, sandy, lignitic  
with 2" of siderite at 52'  
81'-137' Sand, fine, micaceous, lignitic  
137'-141' Clay, gray  
141'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1242.** Elevation 225'  
Location: NW¼, Sec. 4, T. 12 S., R. 15 W.  
County, Ouachita  
Logged by: W. L. Prior 11/81

0'- 38' Sand, medium to coarse, clayey,  
pebble gravel  
38'- 47' Clay, gray  
47'- 90' Sand, fine, clayey, lignitic  
90'-150' Clay, gray, sandy with siderite  
stringers  
T. D.: 150'

**\*Drill Hole No. 1243.** Elevation 230'  
Location: NE¼, Sec. 34, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: W. L. Prior 11/81

0'- 10' Sand, medium, gray, pebble  
gravel  
10'- 15' Clay, brown, sandy, pebble  
gravel  
15'- 36' Sand, coarse, pea gravel  
36'- 70' Clay, gray, sandy, lignitic  
70'-120' Sand, fine, lignitic, clayey  
120'-150' Clay, gray, lignitic with 1" of  
siderite at 127'  
T. D.: 150'

**\*Drill Hole No. 1244.** Elevation 170'  
Location: NE¼, Sec. 28, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: W. L. Prior 11/81

0'- 5' Road fill, sand and gravel  
5'- 20' Clay, gray, sandy  
20'- 43' Sand, coarse, pebble gravel  
43'- 45' Clay, gray, lignitic  
45'- 86' Sand, medium to fine, clayey,  
lignitic  
86'-120' Clay, gray, lignitic  
120'-145' Sand, fine, clayey  
T. D.: 145'

**\*Drill Hole No. 1245.** Elevation 229'  
Location: NW¼, Sec 21, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: Q. Baber 11/81

0'- 9' Clay, brown to gray, sandy  
9'- 64' Sand, medium, brown, cobble  
gravel, lignitic  
64'- 85' Clay, gray, siderite at 83'  
85'-102' Sand, fine, salt and pepper,  
lignitic, clayey  
102'-109' Clay, gray, lignitic  
109'-150' Sand, fine, salt and pepper  
clayey, lignitic  
T. D.: 150'

**\*Drill Hole No. 1246.** Elevation 360'  
Location: NW¼, Sec. 6, T. 11 S., R. 13 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 19' Clay, gray, pea gravel  
19'- 35' Sand, medium, salt and pepper  
35'- 45' Clay, sandy, salt and pepper  
45'-102' Sand, fine, salt and pepper,  
lignitic  
102'-125' Clay, lignitic  
125'-150' Clay, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1247.** Elevation 290'  
Location: NW¼, Sec. 15, T. 11 S., T. 14 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 45' Clay, gray, pea gravel  
45'- 87' Sand, medium, salt and pepper,  
clayey  
87'-103' Clay, gray, sandy  
103'-150' Sand, salt and pepper, lignitic  
T. D.: 150'

**\*Drill Hole No. 1248.** Elevation 342'  
Location: NE¼, Sec. 20, T. 11 S., R. 14 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 94' Clay, gray to brown, lignitic,  
sandy  
94'-126' Sand, fine, salt and pepper,  
clayey, lignitic  
126'-150' Clay, brown, to gray, lignitic,  
sandy  
T. D.: 150'

**\*Drill Hole No. 1249.** Elevation 240'  
Location: NE¼, Sec. 18, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: Q. Baber 11/81

0'- 8' Sand, medium, brown  
8'- 27' Clay, brown to gray, pea gravel,  
sandy,  
27'- 48' Sand, coarse, clayey  
48'- 97' Clay, gray, lignitic, sandy  
97'-150' Sand, fine, salt and pepper,  
clayey, lignitic  
T. D.: 150'

**\*Drill Hole No. 1250.** Elevation 240'  
Location: SW¼, Sec. 26, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: Q. Baber 11/81

0'- 41' Clay, brown, pea gravel, sandy  
41'-120' Sand, fine, clayey, lignitic  
120'-150' Clay, gray, sandy, siderite  
stringers, lignitic  
T. D.: 150'

**\*Drill Hole No. 1251.** Elevation 250'  
Location: SW¼, Sec. 25, T. 11 S., R. 15 W.  
County, Ouachita  
Logged by: Q. Baber 11/81

0'- 13' Sand, coarse, orange to red,  
pea to pebble gravel  
13'- 22' Gravel, pea to pebble, clayey  
22'- 62' Clay, gray to brown, lignitic,  
6" of siderite at 54'  
62'- 76' Sand, fine, salt and pepper,  
lignitic, clayey  
76'- 80' Clay, gray, lignitic, sandy, 5"  
of siderite at 80'  
80'-150' Sand, fine, salt and pepper,  
lignitic, clayey  
T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1252.** Elevation 250'  
Location: NW¼, Sec. 25, T. 11 S., R. 15 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 8' Sand, coarse, clayey, pea gravel  
8'- 74' Clay, gray, pea gravel, lignitic  
74'-117' Sand, fine, salt and pepper,  
clayey with 6" of siderite at 74'  
117'-150' Clay, gray, sandy with 1' of  
siderite at 117'  
T. D.: 150'

**\*Drill Hole No. 1253.** Elevation 120'  
Location: SW¼, Sec. 24, T. 13 S., R. 16 W.  
County, Calhoun  
Logged by Q. Baber 11/81

0'- 27' Sand, fine to medium, brown,  
clayey, pea gravel,  
27'- 37' Gravel, pea to pebble size  
37'- 43' Sand, fine, clayey, lignitic  
43'- 53' Clay, gray, lignitic  
53'- 57' Sand, fine, clayey, lignitic  
57'- 62' Clay, gray, lignitic  
62'- 76' Sand, fine, salt and pepper,  
clayey, lignitic  
76'- 82' Clay, brown, lignitic  
82'- 86' Sand, fine, clayey  
86'- 89' Clay, gray, lignitic  
89'-117' Sand, fine, salt and pepper,  
clayey  
117'-125' Clay, brown, lignitic  
125'-134' Sand, fine, salt and pepper,  
lignitic  
134'-138' Clay, brown, lignitic  
138'-150' Sand, fine, salt and pepper,  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1254.** Elevation 150'  
Location: SW¼, Sec. 27, T. 13 S., R. 15 W.  
County, Calhoun  
Logged by Q. Baber 11/81

0'- 6' Sand, fine, brown  
6'- 10' Clay, sandy, pea gravel  
10'- 46' Sand, fine, brown, gravel  
46'- 71' Clay, brown, lignitic, sandy  
with 5" of siderite at 52'  
71'- 78' Sand, fine, salt and pepper,  
lignitic  
78'-121' Clay, gray, sandy, lignitic  
with 3' of siderite at 107'  
121'-136' Sand, medium, clayey, lignitic  
136'-150' Clay, brown to gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1255.** Elevation 120'  
Location: NE¼, Sec. 4, T. 14 S., R. 14 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 35' Sand, medium, red, gravel,  
clayey  
35'- 55. Clay, gray, lignitic  
55'- 66' Sand, fine, salt and pepper,  
lignitic  
66'-115' Clay, gray  
115'-150' Sand, fine, salt and pepper,  
lignitic, clayey  
T. D.: 150'

**\*Drill Hole No. 1256.** Elevation 250'  
Location: SW¼, Sec. 12, T. 11 S., R. 13 W.  
County, Calhoun  
Logged by: Q. Baber 11/81

0'- 19' Clay, red to gray, pea gravel  
19'- 23' Sand, medium, salt and pepper,  
lignitic, 5" of siderite at 22'  
23'-150' Clay, brown to gray, lignitic,  
sandy, 5" of siderite at 81' and  
7" of siderite at 138'  
Core Interval: 10'-20'  
Recovered: Lost:  
8' 2'  
10'-20' Clay, gray, ironstained,  
sandy  
T. D.: 150'

**\*Drill Hole No. 1257.** Elevation 80'  
Location: Center, Sec. 10, T. 16 S., R. 14  
W.  
County, Union  
Logged by: Q. Baber 12/81

0'- 31' Clay, brown to gray, iron-  
stained  
31'- 42' Sand, fine, salt and pepper  
42'- 75' Clay, gray  
75'- 78' Sand, coarse, lignitic  
78'-102' Clay, gray  
102'-133' Sand, coarse  
133'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1258.** Elevation 110'  
Location: SW¼, Sec. 19, T. 15 S., R. 13 W.  
County, Union  
Logged by: W. L. Prior 12/81

0'- 1' Gravel, road fill  
1'- 5' Sand, gray, silty  
5'- 47' Clay, brown to tan, sandy,  
pea gravel  
47'- 50' Sand, fine  
50'- 90' gravel, pea (quartz with black  
novaculite?) sandy  
90'-120' Clay, brown, sandy  
120'-150' Sand, medium, pea gravel  
T. D.: 150'

**Drill Hole No. 1259.** Elevation 130'  
Location: NE¼, Sec. 31, T. 14 S., R. 13 W.  
County, Calhoun  
Logged by: W. L. Prior 12/81

0'- 70' Sand, medium to coarse, clayey,  
pebble to pea gravel  
T. D.: 70'

**\*Drill Hole No. 1260.** Elevation 170'  
Location: SE¼, Sec. 7, T. 14 S., R. 13 W.  
County, Calhoun  
Logged by: W. L. Prior 12/81

0'- 4' Clay, brown, sandy  
4'- 37' Sand, medium, pebble gravel  
37'- 50' Clay, gray, lignitic  
50'- 55' Sand, fine  
55'-128' Clay, gray, lignitic, sandy  
128'-131' Sand, fine with 4" of siderite  
at 129'  
131'-148' Clay, gray, sandy, lignitic  
T. D.: 148'

**\*Drill Hole No. 1261.** Elevation 227'  
Location: SW¼, Sec. 8, T. 13 S., R. 13 W.  
County, Calhoun  
Logged by: W. L. Prior 12/81

0'- 2' Gravel, road fill  
2'- 10' Sand, medium, silty, clayey  
10'- 16' Clay, brown, sandy  
16'- 38' Sand, medium, clayey, pea  
gravel  
38'- 41' Clay, gray  
41'- 43' Lignite, black, clayey  
43'- 69' Clay, gray  
69'- 85' Sand, fine, salt and pepper  
85'-123' Clay, gray, lignitic, clayey,  
glaucconitic  
T. D.: 123'

**\*Drill Hole No. 1262.** Elevation 200'  
Location: NE¼, Sec. 7, T. 13 S., R. 14 W.  
County, Calhoun  
Logged by: Q. Baber 12/81

0'- 44' Sand, medium, orange to  
brown, pea gravel  
44'- 46' Clay, gray  
46'- 47' Sand, fine, salt and pepper  
47'- 64' Clay, gray, sandy, lignitic  
64'-150' Sand, fine, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1263.** Elevation 210'  
Location: SE¼, Sec. 9, T. 13 S., R. 14 W.  
County, Calhoun  
Logged by: Q. Baber 12/81

0'- 24' Sand, fine, brown to buff,  
pea gravel  
24'- 27' Clay, brown, pea gravel  
27'- 42' Sand, fine, brown, pea gravel  
42'- 47' Clay, iron stained, lignitic  
47'- 82' Sand, fine, gray, salt and pepper  
82'-127' Clay, brown, silty, lignitic  
127'-150' Sand, fine, gray, lignitic  
T. D.: 150'

**\*Drill Hole No. 1264.** Elevation 240'  
Location: NE¼, Sec. 7, T. 12 S., R. 13 W.  
County, Calhoun  
Logged by: Q. Baber 12/81

0'- 11' Sand, medium  
11'-101' Clay, gray to brown, sandy, pea  
gravel, lignitic, silty, 1" of  
siderite at 46'  
101'-150' Sand, fine, gray, salt and pepper  
lignitic  
T. D.: 150'

**\*Drill Hole No. 1265.** Elevation 200'  
Location: NW¼, Sec. 4, T. 14 S., R. 13 W.  
County, Calhoun  
Logged by: W. L. Prior 3/82

0'- 7' Sand, coarse, clayey  
7'- 32' Gravel, pebble, sandy  
32'- 45' Clay, gray  
45'- 55' Sand, medium, micaceous  
55'- 82' Clay, gray, lignitic  
82'-150' Sand, fine, micaceous, silty  
T. D.: 150'

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1266.** Elevation 285'  
 Location: SW¼, Sec. 2, T. 13 S., R. 13 W.  
 County, Calhoun  
 Logged by: W. L. Prior 3/82  
 0'- 20' Gravel, pebble, sand  
 20'- 33' Sand, coarse  
 33'- 81' Clay, gray to green, lignitic  
 81'- 91' Silt, clayey  
 91'-150' Clay, green, lignitic, sandy,  
 silty  
 T.D.: 150'

**\*Drill Hole No. 1267.** Elevation 180'  
 Location: NW¼, Sec. 28, T. 12 S., R. 12 W.  
 County, Calhoun  
 Logged by: W. L. Prior 3/82  
 0'- 20' Clay, brown, sandy, gravel  
 20'- 27' Sand, medium, gravel  
 27'- 35' Clay, gray, sandy  
 35'- 62' Sand, medium, salt and pepper  
 clayey  
 62'-107' Clay, gray, silty, sandy  
 107'-130' Sand, fine, silty  
 130'-150' Sand, medium, silty, clayey,  
 siderite, lignitic  
 T.D.: 150'

**\*Drill Hole No. 1268.** Elevation 325'  
 Location: NE¼, Sec. 27, T. 3 S., R. 11 W.  
 County, Jefferson  
 Logged by: W. L. Prior 3/82  
 0'- 6' Sand, medium  
 6'- 20' Clay, brown to light gray,  
 sandy, ironstone  
 20'- 30' Clay, tan, limonite  
 30'- 50' Clay, greenish-gray, sandy,  
 lignitic  
 50'- 64' Sand, medium  
 64'-300' Clay, greenish-gray to blue-  
 green, sandy, mollusca shell  
 fragments, silty, lignitic, glauco-  
 nitic, limestone, pyrite  
 T.D.: 300'

**\*Drill Hole No. 1269.** Elevation 250'  
 Location: NW¼, Sec. 9, T. 3 S., R. 11 W.  
 County, Jefferson  
 Logged by: W. L. Prior 4/82  
 0'- 9' Clay, light gray, sandy  
 9'- 11' Gravel, pebble, sandy  
 11'- 61' Clay, gray to blue-green, lignitic  
 61'- 68' Sand, medium, salt and pepper  
 68'- 88' Clay, gray to blue-green, lignitic  
 88'- 96' Sand, fine, silty, clayey  
 96'-250' Clay, gray, silty, lignitic, 3" of  
 siderite @ 133'  
 250'-300' Sand, fine, micaceous, silty  
 T.D.: 300'

**\*Drill Hole No. 1270.** Elevation 260'  
 Location: NE¼, Sec. 13, T. 2 S., R. 12 W.  
 County, Saline  
 Logged by: Q. Baber 3/82  
 0'- 17' Sand, coarse, pea to pebble  
 size gravel  
 17'- 35' Clay, sandy, greenish-gray to  
 brown  
 35'-155' Sand, fine to coarse, buff to  
 brown, lignitic, pea-size gravel  
 155'-250' Clay, sandy, orange-brown to  
 gray-brown, pea-size gravel,  
 lignitic  
 250'-300' Sand, fine, clayey, lignitic,  
 gray to salt and pepper  
 T.D.: 300'

**Drill Hole No. 1271.** Elevation 260'  
 Location: NE¼, Sec. 35, T. 1 S., R. 12 W.  
 County, Pulaski  
 Logged by: Q. Baber 3/82  
 0'- 55' Clay, gray to brown, sandy,  
 pea-size gravel, iron staining  
 55'-103' Sand, fine to medium, orange-  
 brown to white, pea to pebble  
 size gravel  
 103'-200' Clay, brown to gray, sandy  
 pea-size gravel, iron staining  
 200'-240' Sand, very fine, clayey  
 240'-253' Clay, brown-gray, sandy  
 253'-263' Sand, fine, brown, clayey  
 263'-267' Clay, gray-brown, sandy  
 267'-278' Sand, fine, lignitic  
 278'-300' Clay, sandy, lignitic  
 T.D.: 300'

**Drill Hole No. 1272.** Elevation 320'  
 Location: NE¼, Sec. 11, T. 1 S., R. 12 W.  
 County, Pulaski  
 Logged by: Q. Baber 3/82  
 0'- 80' Clay, sandy, brown-buff,  
 lignitic, iron staining  
 80'- 90' Sand, very fine, brown  
 90'-150' Clay, sandy, brown, lignitic  
 150'-169' Sand, very fine, brown  
 169'-300' Clay, sandy, brown to gray-  
 brown, lignitic, 3" of siderite  
 @ 238", glauconitic  
 T.D.: 300'

**Drill Hole No. 1273.** Elevation 300'  
 Location: NW¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 3/82  
 0'- 48' Sand, medium, gray, lignitic  
 48'- 69' Clay, gray to chocolate  
 brown, sandy, lignitic  
 69'- 85' Sand, fine, brown, lignitic  
 85'- 90' Clay, sandy, gray  
 90'-100' Sand, medium  
 100'-150' Clay, buff-gray to chocolate  
 brown, sandy, lignitic  
 T.D.: 150'

**Drill Hole No. 1274.** Elevation 280'  
 Location: SW¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 3/82  
 0'- 27' Clay, gray, iron stained, sandy  
 27'- 32' Sand, fine, white, pea-size  
 gravel  
 32'-150' Clay, chocolate brown to brown-  
 gray, sandy, lignitic, 4" of  
 siderite @ 108"  
 Core Interval: 30'-40'  
 34'-40' lignite  
 T.D.: 150'

**Drill Hole No. 1275.** Elevation 280'  
 Location: NW¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 3/82  
 0'- 10' Sand, medium, iron stained

10'- 16' Clay, gray, sandy, pea to pebble  
 size gravel  
 16'- 20' Lignite, black, hard, lignitic  
 clay  
 20'-150' Clay, sandy, chocolate brown to  
 gray, lignitic, pea-size gravel,  
 12" of siderite @ 92"  
 Core Interval: 10'-20'  
 16'-20' lignite  
 T.D.: 150'

**Drill Hole No. 1276.** Elevation 330'  
 Location: NW¼, Sec. 17, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 3/82  
 0'- 10' Sand, medium, iron stained  
 10'- 32' Clay, sandy, gray-brown to  
 chocolate brown, lignitic  
 Lignite, black, hard  
 32'- 34' Sand, fine, brown, lignitic  
 34'- 38' Sand, fine, brown, lignitic  
 38'- 40' Clay, chocolate brown, sandy  
 lignitic  
 40'- 68' Sand, fine, gray  
 68'-108' Clay, sandy, lignitic, 4" lignite  
 seam @ 72"  
 108'-118' Sand, fine, brown, lignitic  
 118'-150' Clay, sandy, dark gray, lignitic,  
 3' of siderite @ 136"  
 Core Interval: 30'-40'  
 34'-40' lignite  
 T.D.: 150'

**Drill Hole No. 1277.** Elevation 310'  
 Location: SW¼, Sec. 8, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 5/82  
 0'- 13' Sand, fine, gray, lignitic  
 13'- 22' Clay, sandy, chocolate brown  
 to gray, lignitic  
 22'- 29' Lignite, hard, black, sandy  
 lignitic clay  
 29'- 36' Sand, fine, gray, lignitic  
 36'- 43' Lignite, hard, black  
 43'- 50' Clay, sandy, gray  
 50'- 66' Sand, fine, gray, lignitic  
 66'- 72' Clay, sandy, dark gray  
 72'- 74' Sand, fine, gray  
 74'-130' Clay, sandy, gray to brown,  
 12" of siderite @ 84" and  
 12" of siderite @ 86"  
 130'-150' Sand, fine, brown  
 Core Interval: 20'-40'  
 24'-30' lignite  
 36'-40' lignite  
 T.D.: 150'

**Drill Hole No. 1278.** Elevation 320'  
 Location: SW¼, Sec. 8, T. 3 S., R. 14 W.  
 County, Saline  
 Logged by: Q. Baber 5/82  
 0'- 15' Sand, fine, gray  
 15'- 18' Lignite, hard, black  
 18'- 20' Clay, sandy, buff, lignitic  
 20'- 30' Sand, fine, brown  
 30'- 48' Clay, dark gray, sandy  
 48'- 53' Sand, fine, gray  
 53'- 86' Clay, sandy, gray, lignitic,  
 12" of siderite @ 58"  
 86'-119' Sand, fine, brown, 4" of siderite  
 @ 118"  
 119'-136' Clay, sandy, brown, sand seams  
 136'-150' Sand, fine, brown, 2" of siderite  
 @ 149"  
 Core Interval: 10'-20'  
 15'-18' lignite, black, hard  
 T.D.: 150'

\*Electric logs available

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**Drill Hole No. 1279.** Elevation 340'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: O. Baber 5/82

0'- 15' Sand, fine, brown to gray  
15'- 25' Lignite, hard, black  
25'- 59' Sand, fine, gray, lignitic  
59'-150' Clay, sandy, gray, lignitic,  
5" of pea-size gravel @ 64',  
4" of siderite @ 81', 7" of  
siderite @ 114', 12" of siderite  
@ 140'  
Core Interval: 15' 25'  
15'-25' lignite  
T.D.: 150'

**Drill Hole No. 1280.** Elevation 350'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: O. Baber 5/82

0'- 21' Clay, sandy, brown-gray  
21'- 22' Lignite, hard, black  
22'- 46' Sand, fine, lignitic  
46'- 47' Lignite, hard, black  
47'- 55' Sand, fine, gray, lignitic  
55'- 60' Lignite, hard, black  
60'- 71' Sand, fine, lignitic  
71'-104' Clay, light gray to dark gray,  
lignitic, 12" of siderite @ 103'  
104'-111' Sand, fine, gray  
111'-120' Clay, sandy, dark gray, lignitic,  
12" of siderite @ 112', 7" of  
siderite @ 118'  
120'-150' Sand, fine, gray, clayey  
T.D.: 150'

**\*Drill Hole No. 1281.** Elevation 330'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 10' Sand, fine  
10'- 56' Clay, grayish-brown to brown,  
sandy, micaceous, silty, 2" of  
siderite @ 25', 3" of siderite  
@ 36'  
56'-130' Sand, medium, micaceous,  
clayey, siderite  
130'-150' Clay, sandy, brown to gray  
T.D.: 150'

**\*Drill Hole No. 1282.** Elevation 340'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 30' Sand, medium, micaceous  
30'- 60' Clay, brown, sandy, 3" of  
siderite @ 53'  
60'- 62' Gravel, iron-cemented, pea size  
62'- 80' Clay, brown, sandy, micaceous,  
lignitic  
80'- 120' Sand, medium, micaceous,  
clayey, 4" of siderite @ 113'  
120'-150' Clay, brownish gray to light  
gray, sandy, 2" of siderite  
@ 132'  
T.D.: 150'

**\*Drill Hole No. 1283.** Elevation 340'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 18' Sand, medium

\*Electric logs available

18'- 21' Clay, light gray, 4" of lignite  
@19'  
21'- 35' Sand, medium  
35'- 60' Clay, gray, sandy  
T.D.: 60'

**Drill Hole No. 1284.** Elevation 348'  
Location: NW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 17' Sand, medium  
17'- 18' Lignite, brown, firm  
18'- 20' Clay, brown, lignitic  
20'- 58' Sand, medium to fine, mica-  
ceous  
58'-150' Clay, grayish brown, silty,  
5" of siderite @ 67', 2" of  
siderite @ 75', 8" of siderite  
@ 79', 15" of siderite @ 85'-87'  
T.D.: 150'

**\*Drill Hole No. 1285.** Elevation 350'  
Location: SW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 19' Sand, medium, orange  
19'- 25' Clay, brown, sandy  
25'- 29' Lignite, black, hard, clayey  
29'- 30' Clay, gray, sandy  
30'- 50' Sand, fine, micaceous  
50'- 58' Lignite, black, firm  
58'- 70' Sand, fine, micaceous  
70'- 72' Lignite, black to brown, firm  
72'- 81' Clay, brown to white, sandy,  
lignitic  
81'-100' Sand, medium  
100'-121' Clay, brown to gray, sandy,  
2" of siderite @ 113'  
121'-123' Siderite  
123'-150' Clay, grayish brown, sandy,  
11" of siderite @ 132', 11" of  
siderite @ 142'  
Core Interval-A 21'-30'  
Recovered: Lost  
7' 3'  
20'-23' Lost  
23'-25' Clay, brown, lignitic,  
sandy  
25'-29' Lignite, black, firm  
29'-30' Clay, brown, lignitic  
Core Interval-B 50'-60'  
Recovered: Lost:  
6' 4'  
50'-56' Lignite, black, hard,  
subconcolidal fracture  
56'-60' Lost  
Core Interval-C 70'-80'  
Recovered: Lost:  
6' 4'  
70'-72' Lignite, black, hard,  
subconcolidal fracture  
72'-76' Clay, cream, sandy  
76'-80' Lost  
T.D.: 150'

**\*Drill Hole No. 1286.** Elevation 360'  
Location: SW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 10' Sand, fine, red  
10'- 21' Clay, brown to cream, lignitic  
21'- 40' Sand, fine, lignitic  
40'- 42' Clay, brown, lignitic  
42'- 45' Lignite, black, firm  
45'- 46' Clay, brown, lignitic  
46'- 49' Lignite, black, firm

49'- 68' Sand, fine, micaceous  
68'- 75' Clay, gray  
75'- 80' Lignite, black to chocolate  
brown, firm  
80'- 98' Sand, fine, micaceous  
98'-100' Lignite, black to brown, clayey  
100'-150' Sand, fine, lignitic, clayey,  
1" of siderite @ 141', 8" of  
siderite @ 145'  
Core Interval-A 40'-50'  
Recovered: Lost:  
4' 6'  
40'-46' Lost  
46'-46'4" Clay, gray, sandy  
46'4"-48'4" Lignite, black, firm  
48'4"-50' Clay, gray to brown,  
lignitic, sandy  
Core Interval-B 70'-80'  
Recovered: Lost:  
5½' 4½'  
70'-74'6" Lost  
74'6"-76'8" Clay, gray, sandy  
76'8"-79'8" Lignite, black to  
brown, hard  
79'8"-80' Clay, brown, lignitic  
L.D.: 150'

**\*Drill Hole No. 1287.** Elevation 350'  
Location: SW¼, Sec. 8, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 20' Sand, medium, pea-size gravel  
20'- 67' Clay, brown to gray, lignitic  
67'- 68' Lignite, black, firm  
68'-120' Clay, brown to light gray,  
sandy, lignitic, 2" of siderite  
@ 95', 4" of siderite @ 100'  
120'-150' Sand, fine  
6" of siderite @ 111'  
Core Interval 30'-40'  
Recovered: Lost:  
6' 4'  
30'-34' Lost  
34'-40' Clay, gray to brown,  
sandy, lignitic  
T.D.: 150'

**Drill Hole No. 1288.** Elevation 355'  
Location: NE¼, Sec. 6, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 10' Sand, medium  
10'- 70' Clay, grayish brown to brown,  
sandy, 4" of ironstone @ 25',  
2" of ironstone @ 32', 11" of  
ironstone @ 37'  
70'- 85' Sand, medium, micaceous,  
clayey  
85'-115' Clay, brown, sandy  
115'-150' Sand, medium, clayey  
T.D.: 150'

**\*Drill Hole No. 1289.** Elevation 266'  
Location: SE¼, Sec. 12, T. 3 S., R. 15 W.  
County, Saline  
Logged by: W. L. Prior 5/82

0'- 10' Sand, coarse, pebble gravel  
10'- 20' Clay, dark brown, sandy,  
lignitic, micaceous  
20'- 40' Sand, medium, micaceous,  
clayey  
40'-150' Clay, brown, sandy, lignitic  
T.D.: 150'

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**\*Drill Hole No. 1290.** Elevation 370'  
Location: SE¼, Sec. 12, T. 3 S., R. 15 W.  
County, Saline  
Logged by: W. L. Prior 6/82

0'- 17' Sand, fine  
17'- 95' Clay, gray to brown, sandy, micaceous, lignitic, 4" of ironstone @ 18'  
95'-112' Sand, fine, micaceous  
112'-125' Clay, dark chocolate brown, lignitic, siderite stringers  
125'-150' Sand, fine, micaceous  
T.D.: 150'

**Drill Hole No. 1291.** Elevation 350'  
Location: SW¼, Sec. 13, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 6/82

0'- 23' Gravel, pea, sandy, orange  
23'- 43' Sand, fine, buff  
43'-150' Clay, light gray to gray, sandy, silty, siderite seams  
T.D.: 150'

**\*Drill Hole No. 1292.** Elevation 350'  
Location: SE¼, Sec. 14, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 6/82

0'- 51' Clay, orange to dark gray, sandy, pea gravel, ironstone, 4" of siderite @ 49'  
51'-150' Sand, fine, gray, clay stringers, 6" of siderite @ 72'  
T.D.: 150'

**Drill Hole No. 1293.** Elevation 350'  
Location: SE¼, Sec. 23, T. 3 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 15' Clay, sandy, yellowish brown, pea gravel  
15'- 43' Sand, coarse, yellow, pea gravel  
43'- 70' Clay, sandy, gray, lignitic  
70'- 80' Lignite, brown, soft, sandy  
80'- 86' Clay, sandy, gray  
86'-100' Sand, fine, gray, lignitic  
100'-140' Clay, sandy, gray, 3" of siderite @ 117'  
140'-150' Sand, fine, gray, 7' of siderite @ 143'  
T.D.: 150'

**Drill Hole No. 1294.** Elevation 300'  
Location: NE¼, Sec. 35, T. 3 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 8' Gravel, pebble, sandy, orange  
8'- 87' Clay, sandy, silty, gray, iron stained, lignitic  
87'-113' Sand, fine, gray, 3" of lignite @ 103'  
113'-150' Clay, sandy, gray  
T.D.: 150'

**Drill Hole No. 1295.** Elevation 250'  
Location SE¼, Sec. 35, T. 3 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 13' Gravel, pea, sandy, clayey  
13'- 85' Sand, fine to medium, brown to gray, iron stained, lignitic  
T.D.: 85'

\*Electric logs available

**Drill Hole No. 1296.** Elevation 300'  
Location: NW¼, Sec. 12, T. 4 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 25' Gravel, pea, sandy  
25'- 92' Sand, medium to fine, brown to dark gray, pea gravel, silty  
92'-110' Clay, sandy, dark gray  
T.D.: 110'

**Drill Hole No. 1297.** Elevation 323'  
Location: SE¼, Sec. 12, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 6/82

0'- 11' Sand, fine to medium, clayey pea gravel  
11'- 37' Gravel, pea, sandy  
37'- 43' Clay, brownish gray, lignitic  
43'- 49' Sand, medium, salt and pepper  
49'- 52' Clay, gray  
52'-125' Sand, medium, salt and pepper, clay stringers, lignitic  
T.D.: 125'

**\*Drill Hole No. 1298.** Elevation 310'  
Location: NE¼, Sec. 24, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 6/82

0'- 20' Sand, medium to coarse, pea to pebble gravel, clayey  
20'- 91' Clay, gray to green, lignitic, 1" of lignite @ 25'  
91'-150' Sand, medium, salt and pepper, micaceous, clay stringers, lignitic  
T.D.: 150'

**\*Drill Hole No. 1299.** Elevation 260'  
Location: NW¼, Sec. 30, T. 4 S., R. 14 W.  
County, Grant  
Logged by: W. L. Prior 6/82

0'- 14' Sand, coarse, pebble gravel  
14'- 64' Clay, gray, sandy  
64'- 73' Sand, medium, salt and pepper, micaceous  
73'- 75' Clay, gray, silty  
75'- 79' Sand, medium, clayey, lignitic  
79'-103' Clay, gray, lignitic  
103'-113' Sand, fine, salt and pepper, micaceous  
113'-117' Clay, gray, lignite stringers  
117'-127' Sand, fine, micaceous, clay stringers, lignite stringers  
127'-145' Clay, gray, lignite stringers  
145'-150' Sand, fine, salt and pepper, micaceous  
T.D.: 150'

**\*Drill Hole No. 1300.** Elevation 300'  
Location: NE¼, Sec. 31, T. 4 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 20' Gravel, pea, sandy, orange  
20'- 68' Clay, gray to green, sandy, iron stained  
68'- 74' Sand, fine, gray  
74'-150' Clay, light gray to brown, sandy, lignitic, sand seams, lignite stringers  
T.D.: 150'

**\*Drill Hole No. 1301.** Elevation 290'  
Location: NE¼, Sec. 7, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 7' Gravel, pea, sandy, orange  
7'- 21' Clay, sandy, gray to maroon  
21'- 31' Sand, fine, salt and pepper  
31'- 86' Clay, gray to gray-green, silty, sandy, lignitic, 1" of siderite @ 32'  
86'-104' Sand, fine, salt and pepper  
104'-107' Clay, sandy, gray  
107'-113' Sand, fine, salt and pepper  
113'-150' Clay, gray, sandy, lignitic  
T.D.: 150'

**\*Drill Hole No. 1302.** Elevation 260'  
Location: SW¼, Sec. 8, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 6/82

0'- 12' Gravel, pea, sandy  
12'- 21' Clay, sandy, gray, pea gravel  
21'- 41' Sand, coarse, yellow, pea gravel  
41'- 88' Clay, sandy, gray, lignitic  
88'- 96' Lignite, hard, black, clayey, sandy  
98'-123' Clay, silty, gray  
123'-150' Sand, fine, 1" of siderite @ 128'  
T.D.: 150'

**\*Drill Hole No. 1303.** Elevation 255'  
Location: NW¼, Sec. 20, T. 5 S., R. 14 W.  
County, Grant  
Logged by: W. L. Prior 6/82

0'- 13' Sand, coarse, pea gravel  
13'- 27' Gravel, pebble, sandy, orange  
27'-132' Clay, gray to white, lignitic, sandy, sticky, 4" of lignite @ 66'  
132'-135' Siderite, clayey  
135'-142' Sand, fine, salt and pepper, micaceous  
142'-150' Clay, white to light gray  
T.D.: 150'

**Drill Hole No. 1304.** Elevation 312'  
Location: SE¼, Sec. 5, T. 5 S., R. 14 W.  
County, Grant  
Logged by: G. W. Colton 7/82

0'- 4' road fill, red  
4'- 9' Gravel, sandy, red  
9'- 41' Clay, red to brownish gray, sandy, pebble gravel, silty, iron stained, lignitic  
41'- 48' Sand, fine, salt and pepper  
48'- 71' Clay, green, sandy  
71'-150' Sand, fine, light brown to red, clayey, lignitic  
T.D.: 150'

**Drill Hole No. 1305.** Elevation 170'  
Location: SW¼, Sec. 29, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 15' Sand, medium, brown  
15'- 32' Gravel, pea to pebble, sandy  
32'- 38' Clay, sandy, gray  
38'- 39' Lignite, soft, chocolate brown, lignitic clay  
39'- 78' Clay, gray, silty, sandy  
78'- 79' Lignite, chocolate brown, soft, clayey  
79'-150' Clay, sandy, gray to brown, lignitic  
T.D.: 150'

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\*Drill Hole No. 1306. Elevation 200'  
Location: SE¼, Sec. 32, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 30' Gravel, pea, sandy, brown to yellow  
30'-112' Clay, silty, gray to brown, lignitic, 1" of siderite @ 103'  
112'-150' Sand, fine, salt and pepper, clay seams  
T.D.: 150'

\*Drill Hole No. 1307. Elevation 210'  
Location: NE¼, Sec. 3, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 13' Gravel, pea, sandy, yellow  
13'- 32' Sand, medium, brown  
32'- 42' Clay, gray to green, sandy, lignitic  
42'- 43' Lignite, soft, black  
43'-150' Clay, gray to brown, lignitic, 4" of siderite @ 131'  
T.D.: 150'

\*Drill Hole No. 1308. Elevation 210'  
Location: SE¼, Sec. 2, T. 6 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 10' Sand, medium, yellow  
10'- 15' Gravel, pea, sandy  
15'- 20' Sand, fine, brown  
20'-150' Clay, gray to brown, sandy, lignitic  
T.D.: 150'

\*Drill Hole No. 1309. Elevation 240'  
Location: SE¼, Sec. 1, T. 6 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 28' Sand, medium, brown, clayey, pea gravel  
28'-150' Clay, sandy, gray, lignitic  
T.D.: 150'

\*Drill Hole No. 1310. Elevation 250'  
Location: SE¼, Sec. 6, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 7/82

0'- 5' Sand, medium, orange  
5'- 30' Gravel, pea, sandy, red  
30'- 72' Clay, gray, sandy  
72'- 73' Lignite, hard, black  
73'-150' Clay, gray, sandy, lignitic  
T.D.: 150'

\*Drill Hole No. 1311. Elevation 280'  
Location: SW¼, Sec. 4, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 13' Gravel, pea to pebble, sandy, yellow  
13'-150' Clay, gray, sandy, sticky, silty  
T.D.: 150'

\*Drill Hole No. 1312. Elevation 250'  
Location: NW¼, Sec. 16, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 8' Gravel, pea, sandy  
8'- 21' Clay, sandy, yellow  
21'- 29' Sand, fine, salt and pepper  
29'- 36' Clay, gray, sandy  
36'- 93' Sand, fine, gray

93'- 95' Silt, gray  
95'-150' Sand, fine, salt and pepper, 6" of siderite @ 136'  
T.D.: 150'

\*Drill Hole No. 1313. Elevation 300'  
Location: SE¼, Sec. 16, T. 4 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 20' Gravel, pea to cobble, sandy, brown  
20'-110' Clay, brown to gray, sandy, lignitic, silty  
110'-120' Sand, fine, gray  
120'-150' Clay, sandy, gray  
T.D.: 150'

\*Drill Hole No. 1314. Elevation 290'  
Location: NW¼, Sec. 23, T. 5 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 7' Sand, medium, orange  
7'- 30' Gravel, pea, medium, sandy  
30'-150' Clay, brown to gray, sandy, lignitic, sand and silt seams  
T.D.: 150'

\*Drill Hole No. 1315. Elevation 250'  
Location: NW¼, Sec. 22, T. 6 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 82

0'- 7' Sand, medium, yellow-brown, clayey  
7'- 12' Clay, orange-red, sandy  
12'- 29' Sand, orange-red, sandy, pea gravel  
29'-108' Clay, gray to brown, sandy, micaceous, silty, glauconitic  
108'- 150' Sand, medium, salt and pepper, micaceous  
T.D.: 150'

\*Drill Hole No. 1316. Elevation 230'  
Location: NW¼, Sec. 21, T. 6 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 8/82

0'- 6' Gravel, pebble, sandy  
6'- 10' Sand, medium, red, clayey  
10'- 23' Clay, reddish-gray to light gray, sandy  
23'- 27' Sand, fine, micaceous  
27'- 51' Clay, grayish-brown to blue-green  
51'- 54' Lignite, black, soft  
54'-125' Clay, bluish green to greenish-gray, lignitic, sandy, micaceous  
125'-130' Sand, fine, salt and pepper, micaceous  
130'-150' Clay, brown to greenish-gray, sandy, lignite stringers  
Core Interval: 49'-59'  
Recovered: Lost:  
9' 1'  
49'-6"-50' Lost  
50'-52' Clay, brown, lignitic  
52'-55'-6" Lignite, black to brown, hard to firm  
55'-6"-58' Clay, gray to brown, lignitic  
58'-59' Lignite, brown, firm  
59'-59'-6" Clay, brown, lignitic  
T.D.: 150'

\*Drill Hole No. 1317. Elevation 227'  
Location: SW¼, Sec. 20, T. 6 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 8/82

0'- 25' Gravel, pebble, sandy  
25'- 37' Clay, light gray to brown, 4" of lignite @ 35'  
37'- 66' Sand, medium, green, micaceous  
66'- 76' Clay, bluish-green to buff  
76'-124' Sand, fine, micaceous, green  
124'-150' Clay, hard, gray, dense  
T.D.: 150'

\*Drill Hole No. 1318. Elevation 220'  
Location: SE¼, Sec. 19, T. 6 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 8/82

0'- 10' Gravel, pebble, sandy  
10'- 17' Sand, coarse, orange-yellow, clayey  
17'- 70' Clay, gray to buff, sandy  
70'- 90' Sand, medium, salt and pepper, clay stringers  
90'-110' Clay, gray, silty, sandy  
110'-115' Sand, fine, micaceous, clay seams  
115'-150' Clay, gray, dense, lignitic  
T.D.: 150'

\*Drill Hole No. 1319. Elevation 230'  
Location: SW¼, Sec. 18, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 28' Gravel, pea, orange, sandy  
28'-111' Clay, gray, sandy, iron staining, ironstone seams  
111'-122' Sand, fine, salt and pepper  
122'-150' Clay, gray, silty  
T.D.: 150'

\*Drill Hole No. 1320. Elevation 210'  
Location: SW¼, Sec. 7, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 17' Gravel, pea, yellow to brown, sandy, clayey  
17'- 83' Clay, gray to blue-gray, silty, sandy, 2" of siderite @ 72'  
83'-112' Sand, fine, salt and pepper, 1" of siderite @ 92'  
112'-115' Clay, gray, sandy  
T.D.: 115'

\*Drill Hole No. 1321. Elevation 210'  
Location: NW¼, Sec. 12, T. 6 S., R. 14 W.  
County, Grant  
Logged by: Q. Baber 8/82

0'- 27' Gravel, cobble to pea, orange, sandy, clay seams  
27'-105' Clay, gray, silty, sandy, 3" of lignite @ 37', 3" of siderite @ 47'  
105'-115' Sand, fine, gray, clay seams  
115'-150' Clay, gray, sandy  
T.D.: 150'

\*Drill Hole No. 1324. Elevation 250'  
Location: SW¼, Sec. 31, T. 5 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 9/82

0'- 12' Sand, medium, orange, pebble gravel  
12'-105' Clay, orange-red to bluish-green, lignitic  
105'-123' Sand, fine, salt and pepper, micaceous, hard  
123'-134' Clay, bluish-gray, hard zones  
T.D.: 134'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1325.** Elevation 286'  
Location: NE¼, Sec. 31, T. 5 S., R. 31 W.  
County, Grant  
Logged by: J. M. Howard 9/82

- 0'- 7' Silt, tan, sandy, clayey
- 7'- 10' Gravel, pebble sized with silty clay
- 10'- 16' Sand, fine to medium, pinkish-gray, clayey, silty with pea sized gravel
- 16'- 27' Sand, medium, tan, silty, with pea sized gravel
- 27'- 65' Clay, dark gray to gray, sandy, silty, micaceous, with sand stringers
- 65'- 70' Clay, gray, silty, with trace of lignite
- 70'-105' Clay, dark gray to gray, sandy silty, micaceous, with sand stringers
- 105'-110' Sand, fine, clayey
- 110'-115' Silt, clayey, brown to green
- 115'-129' Clay, brown to grayish green, silty
- 129'-132' Silt, gray
- 132'-134' Clay, brownish gray to green
- 134'-135' Silt, green
- 135'-140' Clay, light brown, silty
- 140'-142' Silt, green
- 142'-143' Clay, light greenish brown
- 143'-145' Silt, green  
T. D.: 145'

**\*Drill Hole No. 1326.** Elevation 250'  
Location: NW¼, T. 6 S., R. 13 W.  
County, Grant  
Logged by: J. M. Howard 9/82

- 0'- 8' Wood chips, log
- 8'- 25' Sand, light tan, silty, clayey, mottled, with clay stringers
- 25'- 50' Gravel, medium to pea, sandy
- 50'-110' Clay, gray, chocolate-brown to greenish-gray, sandy, silty, lignitic
- 110'-114' Silt, gray, hard
- 114'-115' Silt, gray, hard, 6" of siderite @ 114'
- 115'-127' Clay, gray, silty, lignitic
- 127'-150' Sand, fine, gray, silty, salt and pepper, siderite @ 142'  
T. D.: 150'

**\*Drill Hole No. 1327.** Elevation 223'  
Location: NE¼, Sec. 33, T. 6 S., R. 13 W.  
County, Grant  
Logged by: J. M. Howard 9/82

- 0'- 12' Sand, light tan to tan, medium to coarse, silty, clayey, with some pea gravel
- 12'- 20' Clay, gray, sandy, with pea gravel
- 20'- 22' Sand, fine, gray, with clay stringers
- 22'-142' Clay, gray to brown, silty, with traces of lignite
- 142'-150' Sand, fine, gray, salt and pepper  
Core Interval: 42'-52'  
43'-46" Lignite  
46'-48" Lignite with clay seams  
T. D.: 150'

**\*Drill Hole No. 1328.** Elevation 300'  
Location: NE¼, Sec. 30, T. 5 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 9/82

- 0'- 5' Sand, medium, brown
- 5'- 15' Clay, red, sandy, with pebble gravel

\*Electric logs available

- 15'- 35' Sand, medium, brown
- 35'-150' Clay, brown to gray, sandy, with sand seams. 3" of siderite @ 99'  
T. D.: 150'

**\*Drill Hole No. 1329.** Elevation 250'  
Location: NE¼, Sec. 16, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 9/82

- 0'- 27' Sand, medium, orange, 1" gravel seam @ 24'
- 27'-150' Clay, sandy, silty, gray to buff, with scattered sand seams  
T. D.: 150'

**\*Drill Hole No. 1330.** Elevation 268'  
Location: SE¼, Sec. 5, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 9/82

- 0'- 20' Sand, medium, orange, with pebble sized gravel
- 20'- 37' Clay, brown to gray, sandy
- 37'- 45' Sand, medium, reddish brown, with ironstone partings
- 45'-150' Clay, gray, silty, sandy, lignitic in part, with sand seams  
T. D.: 150'

**\*Drill Hole No. 1331.** Elevation 280'  
Location: SE¼, Sec. 32, T. 5 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 5' Sand, fine, brown
- 5'- 12' Clay, sandy, brown
- 12'- 37' Gravel, pebble sized, sandy
- 37'-150' Clay, sandy, gray, lignitic in part, 6" of siderite @ 58'  
T. D.: 150'

**\*Drill Hole No. 1332.** Elevation 240'  
Location: NW¼, Sec. 4, T. 4 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 12' Sand, medium, brown, clayey
- 12'- 16' Clay, sandy, brown
- 16'- 52' Gravel, pebble-to cobble-sized, sandy, clayey
- 52'-150' Clay, sandy, brown, lignitic, with sand seams  
T. D.: 150'

**\*Drill Hole No. 1333.** Elevation 240'  
Location: SW¼, Sec. 4, T. 4 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 30' Sand, medium, brown, with pebble sized gravel, and clay seams
- 30'- 55' Sand, brown, fine, 8" of lignite @ 43'
- 55'-102' Clay, sandy, brown, with sand seams, traces of lignite
- 102'-150' Sand, fine, brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 1334.** Elevation 240'  
Location: NW¼, Sec. 16, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 10/82

- 0'- 12' Sand, medium, brown
- 12'- 40' Gravel, pea-to pebble-sized, sandy
- 40'- 48' Sand, medium
- 48'- 57' Clay, buff

- 57'-150' Sand, medium, salt and pepper, with clay stringers, lignitic, 2-3" of lignite @ 112'  
T. D.: 150'

**\*Drill Hole No. 1335.** Elevation 230'  
Location: NW¼, Sec. 21, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 10/82

- 0'- 8' Sand, fine, tan
- 8'- 22' Gravel, pea-sized, sandy
- 22'- 55' Clay, gray, sandy, micaceous
- 55'- 78' Sand, medium, salt and pepper, with clay seams
- 95'-149' Sand, fine, salt and pepper, clayey, traces of lignite
- 149'-150' Siderite  
T. D.: 150'

**\*Drill Hole No. 1336.** Elevation 220'  
Location: SW¼, Sec. 21, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 10/82

- 0'- 8' Clay, brown, sandy
- 8'- 27' Gravel, pea to pebble-sized, sandy
- 27'- 35' Clay, yellow brown to gray, sandy, micaceous
- 35'-150' Sand, medium, salt and pepper, micaceous, with lignite stringers and clay seams  
T. D.: 150'

**\*Drill Hole No. 1337.** Elevation 225'  
Location: SW¼, Sec. 28, T. 4 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 10/82

- 0'- 5' Clay, dark gray, sandy
- 5'- 10' Sand, medium, gray, micaceous
- 10'- 30' Gravel, pebble-sized, sandy
- 30'- 35' Clay, grayish-brown
- 35'-126' Sand, medium, micaceous, clayey, lignitic
- 126'-136' Clay, gray
- 136'-150' Sand, medium  
T. D.: 150'

**Drill Hole No. 1338.** Elevation 220'  
Location: NE¼, Sec. 8, T. 5 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 5' Sand, medium, brown, with pebble gravel (road fill)
- 5'- 53' Sand, medium to fine, brown, micaceous, clayey, with pea gravel
- 53'- 56' Clay, sandy, brown
- 56'- 79' Sand, fine, salt and pepper
- 79'- 90' Gravel, pebble-sized, sandy
- 90'- 95' Clay, sandy, gray
- 95'-105' Sand, fine, gray  
T. D.: 105'

**\*Drill Hole No. 1339.** Elevation 230'  
Location: SW¼, Sec. 16, T. 5 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 27' Clay, sandy, gray to brown, iron stained
- 27'- 42' Sand, fine, brown, with pea gravel
- 42'-130' Clay, sandy, brown to gray
- 130'-150' Sand, fine, salt and pepper, with clay seams  
T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1340.** Elevation 230'  
Location: SE¼, Sec. 21, T. 5 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/82

- 0'- 6' Sand and gravel roadfill
- 6'- 16' Clay, brown, sandy, with pebble-sized gravel
- 16'- 27' Clay, brown, sandy
- 27'- 30' Sand, medium, brown
- 30'- 50' Gravel, pebble-sized, with sand, medium
- 50'-145' Sand, fine, gray, with intermittent clay seams  
T. D.: 145'

**\*Drill Hole No. 1341.** Elevation 228'  
Location: SE¼, Sec. 28, T. 5 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 10' Clay, tan, sandy
- 10'- 40' Sand, medium, orange-brown, with clay binder
- 40'- 45' Sand, medium
- 45'- 75' Clay, grayish-brown, sandy
- 75'-150' Sand, fine, micaceous, lignitic, clay seams, 3-4" of lignite @ 144'  
T. D.: 150'

**Drill Hole No. 1342.** Elevation 230'  
Location: SW¼, Sec. 34, T. 5 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 32' Clay, brown to light gray, sandy, iron staining
- 32'- 39' Gravel, pea-sized, sandy
- 39'- 50' Sand, medium, brown
- 50'-150' Sand, fine, gray, 6" of lignite @ 102', traces of lignite @ 105'  
T. D.: 150'

**Drill Hole No. 1343.** Elevation 240'  
Location: SE¼, Sec. 10, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 20' Sand, fine, red
- 20'- 60' Sand, fine, silty, with clay binder
- 60'-110' Sand, medium  
T. D.: 110'

**\*Drill Hole No. 1344.** Elevation 230'  
Location: SE¼, Sec. 15, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 4' Sand, medium
- 4'- 10' Clay, buff to brown, sandy
- 10'- 17' Sand, coarse
- 17'- 20' Gravel, pebble-sized
- 20'- 76' Clay, gray, with lignite traces
- 76'-140' Sand, fine
- 140'-150' Sand, medium, lignitic  
T. D.: 150'

**\*Drill Hole No. 1345.** Elevation 288'  
Location: SE¼, Sec. 16, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 32' Clay, orange to brown, sandy
- 32'- 36' Sand, medium
- 36'-110' Clay, gray to brown, 4" of lignite @ 48', 6" of lignite @ 52', 1" of lignite @ 75'
- 110'-130' Sand, fine, with lignite traces and clay stringers
- 130'-140' Clay, gray, with lignite traces

140'-150' Sand, fine, with lignite traces  
T. D.: 150'

**\*Drill Hole No. 1346.** Elevation 342'  
Location: NE¼, Sec. 17, T. 6 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 11/82

- 0'- 58' Clay, light brown to dark gray, sandy, silty
- 58'-130' Clay, bluish gray to brown, sandy, glauconitic in part
- 130'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1347.** Elevation 290'  
Location: SW¼, Sec. 8, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 9' Gravel, pebble-to cobble-sized
- 9'- 15' Sand, medium, clayey
- 15'- 40' Clay, brownish-gray to greenish-gray, with sand partings, 6" of silt @ 36'
- 40'- 58' Sand, fine, salt and pepper, micaceous
- 58'- 70' Sand, medium, clayey
- 70'- 80' Sand, medium, clayey, with lignite traces
- 80'-112' Clay, gray to greenish-gray, with sand seams and lignite traces
- 112'-150' Sand, fine, salt and pepper, micaceous, lignitic, with clay seams  
T. D.: 150'

**\*Drill Hole No. 1348.** Elevation 350'  
Location: SW¼, Sec. 7, T. 6 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 11/82

- 0'- 6' Gravel, pebble-sized, and sand, medium, orange
- 6'- 42' Clay, light gray, sandy, iron stained
- 42'- 43' Lignite, soft, black
- 43'- 80' Clay, gray, sandy, with lignite traces
- 80'-140' Sand, fine, salt and pepper, with clay streamers  
T. D.: 140'

**\*Drill Hole No. 1349.** Elevation 290'  
Location: NE¼, Sec. 7, T. 6 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 11/82

- 0'- 17' Clay, light gray, sandy, iron stained, gravel first 3', 1" of yellow sand @ 16'
- 17'- 18' Lignite, soft, black
- 18'- 30' Clay, gray, sandy, in part, lignitic, with lignite seams
- 30'- 90' Clay, gray, sandy
- 90'-150' Sand, fine, gray, with lignite traces  
T. D.: 150'

**\*Drill Hole No. 1350.** Elevation 260'  
Location: SW¼, Sec. 3, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 11/82

- 0'- 8' Clay, red mottled to gray
- 8'- 10' Sand, medium

10'- 65' Clay, grayish-tan to buff, and reddish-gray, sandy, silty

65'- 85' Clay, gray, sandy, with lignite traces and 3" of lignite @ 85'

85'-150' Sand, fine to medium, with clay stringers and lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1351.** Elevation 290'  
Location: SW¼, Sec. 4, T. 6 S., R. 15 W.  
County, Grant  
Logged by: W. L. Prior 12/82

- 0'- 12' Gravel, pebble to pea-sized, coarse sand
- 12'- 14' Sand, medium, clayey
- 14'- 25' Clay, buff, sandy
- 25'- 29' Sand, medium
- 29'-110' Clay, buff to light gray, sandy, with lignite traces
- 110'-125' Sand, medium, salt and pepper, micaceous, with traces of lignite
- 125'-150' Clay, buff to light gray, sandy, with traces of lignite  
T. D.: 150'

**\*Drill Hole No. 1352.** Elevation 250'  
Location: SW¼, Sec. 34, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/82

- 0'- 24' Clay, brown, sandy, with sand seams
- 24'- 34' Sand, fine, gray, with lignitic clay seams
- 34'- 56' Clay, brown to gray, sandy, with sand seams
- 56'-150' Clay, gray, sandy, 2" of siderite @ 58', and 6" of siderite @ 87'  
T. D.: 150'

**\*Drill Hole No. 1353.** Elevation 240'  
Location: NE¼, Sec. 1, T. 7 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/82

- 0'- 12' Clay, gray, sandy, iron-stained
- 12'-150' Clay, dark gray to greenish-gray, sandy, glauconitic, 4" of siderite @ 115', 5" of siderite @ 134'  
T. D.: 150'

**\*Drill Hole No. 1354.** Elevation 240'  
Location: NE¼, Sec. 11, T. 7 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/82

- 0'- 28' Clay, gray, sandy, iron-stained
- 28'-150' Clay, blue-gray to gray, sticky, sandy, silty, 4" of siderite @ 137'  
T. D.: 150'

**\*Drill Hole No. 1355.** Elevation 200'  
Location: SE¼, Sec. 17, T. 7 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/82

- 0'- 23' Clay, gray to brown, sandy
- 23'- 78' Clay, dark gray, silty, sandy, 2" of siderite @ 37'
- 78'-114' Sand, fine, gray
- 114'-120' Clay, sandy, lignitic
- 120'-150' Clay, gray, sandy  
T. D.: 150'

\*electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1356.** Elevation 235'  
Location SE¼, Sec. 36, T. 7 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 12/82

- 0'- 15' Clay, buff to mottled red, sandy
- 15'- 23' Clay, brownish-gray with yellow staining
- 23'- 85' Clay, dark greenish-gray, sticky, fossil gastropods @ 75'
- 85'-150' Clay, gray, sandy, micaceous, with gastropods and pelecypods T. D.: 150'

**\*Drill Hole No. 1357.** Elevation 240'  
Location: NE¼, Sec. 31, T. 7 S., R. 11 W.  
County, Grant  
Logged by: W. L. Prior 12/82

- 0'- 20' Clay, gray to orange mottled, sandy
- 20'- 25' Clay, gray, sandy
- 25'- 34' Clay, dark blue-gray
- 34'- 72' Clay, greenish-gray with minor sand, very fine
- 72'- 76' Clay, brown, 1"-3" of lignite and ironstone @ 75'
- 76'-150' Clay, greenish-gray, fossil gastropods @ 96' T. D.: 150'

**\*Drill Hole No. 1358.** Elevation 240'  
Location: NE¼, Sec. 30, T. 7 S., R. 11 W.  
County, Grant  
Logged by: W. L. Prior 12/82

- 0'- 10' Sand, fine
- 10'- 22' Clay, light gray to tan, sandy
- 22'- 62' Clay, dark blue-gray
- 62'-145' Clay, greenish-gray, sandy with minor lignite stringer @ 65', fossils @ 85' T. D.: 145'

**\*Drill Hole No. 1359.** Elevation 500'  
Location: SE¼, Sec. 11, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 2/83

- 0'- 9' Gravel, pebble-sized with coarse sand, orange
- 9'- 14' Sand, fine, orange
- 14'- 29' Clay, light gray, sandy, iron stained
- 29'- 70' Clay, buff to dark gray, sandy
- 70'- 75' Clay, gray, silty
- 75'-150' Clay, gray with fine sand T. D.: 150'

**\*Drill Hole No. 1360.** Elevation 420'  
Location: SE¼, Sec. 16, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 15' Gravel, pea with coarse sand
- 15'- 25' Clay, gray, sandy
- 25'- 35' Sand, fine with intermittent clay seams, gray
- 35'-150' Sand, fine, gray with traces of lignite T. D.: 150'

**\*Drill Hole No. 1361.** Elevation 400'  
Location: NE¼, Sec. 28, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 3/82

- 0'- 3' Gravel, pebble-sized with sand, coarse, orange
- 8'- 14' Sand, tan, fine
- 14'- 18' Clay, sandy, lignitic
- 18'- 73' Sand, fine with traces of lignite
- 73'- 90' Silt with intermittent clay seams and traces of fine sand and lignite
- 90'-150' Sand, gray, fine with traces of lignite, 6" of siderite @ 140' T. D.: 150'

**Drill Hole No. 1362.** Elevation 330'  
Location: SE¼, Sec. 33, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 8' Gravel, pebble-sized with coarse sand
- 8'- 45' Sand, light brown, fine with thin intermittent sandy clay seams, gray
- 45'-125' Clay, gray, sandy
- 125'-150' Sand and silt, gray, fine T.D.: 150'

**\*Drill Hole No. 1363.** Elevation 410'  
Location: SE¼, Sec. 17, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: W. L. Prior 3/83

- 0'- 8' Gravel, pebble-sized
- 8'- 10' Sand, medium with clay, red
- 10'- 21' Clay, black to brown, lignitic, sandy
- 21'- 25' Clay, tan, minor sand
- 25'- 27' Clay, buff
- 27'- 45' Sand, fine
- 45'- 61' Sand, fine, micaceous with clay lignitic stringers
- 61'-117' Clay, brown, lignitic
- 117'-150' Silt with lignitic clay stringers T. D.: 150'

**Drill Hole No. 1364.** Elevation 380'  
Location: SW¼, Sec. 7, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: W. L. Prior 3/83

- 0'- 5' Sand, medium
- 5'- 11' Gravel, pebble-sized
- 11'- 35' Clay, brown, marcasite and pyrite @ 30'
- 35'- 38' Clay, gray
- 38'- 45' Clay, blue-green T. D.: 45'

**\*Drill Hole No. 1365.** Elevation 315'  
Location: SE¼, Sec. 20, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: W. L. Prior 3/83

- 0'- 9' Sand, medium
- 9'- 15' Clay, yellow to brown
- 15'- 17' Clay, dark chocolate brown, sandy, lignitic
- 17'- 20' Sand, medium, lignitic
- 20'- 25' Clay, chocolate brown, sandy lignitic, micaceous
- 25'- 50' Sand, medium, micaceous with lignitic clay stringers
- 50'-115' Sand, fine, micaceous
- 115'-145' Clay, brown, silty with traces of lignite
- 145'-150' Clay, brown to tan, minor cemented zones T.D.: 150'

**\*Drill Hole No. 1366.** Elevation 300'  
Location: NE¼, Sec. 29, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 4' Gravel, pea, coarse sand
- 4'- 12' Clay, light gray, sandy, iron stained
- 12'- 65' Clay, sandy, lignitic with intermittent sand seams
- 65'-117' Sand, fine, brown, silty, with thin intermittent clay seams
- 117'-150' Clay, gray, sandy with traces of lignite T. D.: 150'

**\*Drill Hole No. 1367.** Elevation 279'  
Location: NE¼, Sec. 32, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 10' Gravel, pea, with coarse brown sand
- 10'- 55' Sand, fine, light brown
- 55'- 75' Sand, fine, gray, silty with traces of lignite
- 75'-150' Clay, gray, sandy, silty T. D.: 150'

**\*Drill Hole No. 1368.** Elevation 470'  
Location: SE¼, Sec. 4, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 15' Gravel, cobble-sized with coarse sand, orange
- 15'- 45' Gravel, pea, with coarse sand, orange
- 45'- 95' Sand, fine, gray
- 95'-107' Clay, light gray, sandy
- 107'-140' Sand, fine, gray T. D.: 140'

**\*Drill Hole No. 1369.** Elevation 460'  
Location: SW¼, Sec. 10, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 52' Clay, sand, light gray
- 52'- 62' Sand, fine, light brown
- 62'- 90' Clay, gray, sandy with traces of lignite
- 90'-105' Sand, fine, gray
- 105'-125' Clay, gray, sandy
- 125'-150' Sand, fine, gray with traces of lignite T. D.: 150'

**\*Drill Hole No. 1370.** Elevation 345'  
Location: NE¼, Sec. 14, T. 6 S., R. 17 W.  
County, Hot Spring  
Logged by: Q. Baber 3/83

- 0'- 4' Gravel, pea, with coarse sand
- 4'- 10' Sand, fine with intermittent gray clay seams
- 10'- 27' Sand, brown to gray, fine
- 27'- 30' Lignite, hard, black
- 30'- 32' Clay, sandy, lignitic
- 32'- 90' Sand, fine, gray with traces of lignite
- 90'-105' Clay, sandy, lignitic
- 105'-150' Sand, fine, gray
- Core Interval: 27'-37' Recovered: 2' Lost: 8'
- 28'-30' Lignite, hard, black T. D.: 150'

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1371.** Elevation 370'  
 Location: SE¼, Sec. 22, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 3/83

0'- 10' Clay, gray to orange, sandy  
 10'- 56' Sand, gray, fine  
 56'- 66' Clay, sandy, lignitic  
 66'- 96' Sand, gray, fine, with intermittent clay seams  
 96'-136' Clay, gray, sandy, with thin intermittent sand seams  
 136'-150' Sand, gray, fine  
 T. D.: 150'

**\*Drill Hole No. 1372.** Elevation 400'  
 Location: SE¼, Sec. 27, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 3/83

0'- 45' Sand, fine, orange to light brown  
 45'-150' Sand, fine, with intermittent clay seams, gray, and traces of lignite; siderite @ 59'  
 T. D.: 150'

**Drill Hole No. 1373.** Elevation 450'  
 Location: NW¼, Sec. 24, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 3/83

0'- 14' Gravel, pebble-sized with coarse brown sand  
 14'- 54' Clay, gray, sandy, iron stained, with intermittent sand seams  
 54'-150' Sand, fine, gray, with traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1374.** Elevation 470'  
 Location: NE¼, Sec. 4, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 4/83

0'- 27' Gravel, pebble-sized with coarse orange sand  
 27'- 37' Clay, brown, sandy  
 37'- 47' Sand, fine, brown to gray  
 47'- 83' Clay, gray, sandy, with traces of lignite and intermittent sand seams  
 83'-112' Sand, fine, yellow to light brown, with intermittent clay seams  
 112'-150' Clay, gray, with thin sand seams  
 T. D.: 150'

**\*Drill Hole No. 1375.** Elevation 480'  
 Location: NW¼, Sec. 34, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 3/83

0'- 35' Gravel, pea, with coarse sand, orange  
 35'- 89' Sand, fine, light brown, with intermittent clay seams  
 89'-115' Clay, sandy, lignitic  
 115'-150' Sand, fine, gray, with traces of lignite and intermittent clay seams  
 T. D.: 150'

**\*Drill Hole No. 1376.** Elevation 479'  
 Location: NW¼, Sec. 27, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 4/83

0'- 13' Gravel, pebble-sized with coarse sand, red  
 13'- 18' Clay, yellow, sandy  
 18'- 30' Clay, gray

30'- 35' Clay, gray to tan, sandy, with pyrite  
 35'- 40' Sand, medium, micaceous  
 40'- 60' Sand, fine, with clay seams, gray, and silt seams, buff, with minor pyrite  
 60'- 85' Sand, fine with gray clay seams  
 85'-110' Sand, medium  
 T. D.: 110'

**\*Drill Hole No. 1377.** Elevation 485'  
 Location: NE¼, Sec. 22, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 4/83

0'- 24' Gravel, pebble-sized, with sand, coarse, red  
 24'- 30' Sand, medium, clayey, buff  
 30'- 35' Clay, buff to yellow, sandy  
 35'- 43' Sand, fine  
 43'- 46' Clay, yellow to buff, sandy  
 46'- 50' Clay, buff to tan, sandy  
 50'- 64' Silt with minor sand, fine, and buff clay  
 64'- 85' Clay, brown, with lignite stringers  
 85'-135' Sand, fine to very coarse quartz grit  
 135'-150' Sand, medium  
 T. D.: 150'

**\*Drill Hole No. 1378.** Elevation 410'  
 Location: NE¼, Sec. 15, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 4/83

0'- 55' Sand, fine with minor clay, tan  
 55'-110' Sand, medium to coarse  
 110'-113' Clay, brown, lignitic  
 113'-135' Sand, coarse  
 135'-150' Sand, very coarse granule size, with traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1379.** Elevation 340'  
 Location: SW¼, Sec. 3, T. 5 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 4/83

0'- 5' Sand, light brown, fine  
 5'- 10' Clay, gray, sandy  
 10'- 92' Sand, light brown, fine  
 92'- 97' Clay, brown, lignitic  
 97'-117' Sand, fine, gray  
 117'-127' Clay, lignitic  
 127'-150' Sand, fine, gray  
 T. D.: 150'

**\*Drill Hole No. 1380.** Elevation 330'  
 Location: NE¼, Sec. 11, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 4/83

0'- 17' Sand, fine, gray, 3" of lignite @ 17'  
 17'- 21' Clay, gray, sandy  
 21'- 30' Sand, fine, gray, with traces of lignite  
 30'- 80' Clay, brown, lignitic  
 80'-100' Clay, brown, sandy  
 100'-150' Clay, gray, sandy  
 T. D.: 150'

**\*Drill Hole No. 1381.** Elevation 370'  
 Location: NE¼, Sec. 1, T. 6 S., R. 17 W.  
 County, Hot Spring  
 Logged by: Q. Baber 4/83

0'- 6' Gravel, pebble-sized, with coarse sand  
 6'- 28' Clay, sandy, gray  
 28'- 38' Clay, sandy, lignitic  
 38'- 41' Sand, fine, lignitic  
 41'- 65' Clay, sandy, lignitic, 3" of siderite @ 44'  
 65'-112' Sand, fine, lignitic  
 112'-146' Clay, sandy, lignitic  
 146'-150' Sand, fine, gray  
 T. D.: 150'

**\*Drill Hole No. 1382.** Elevation 407'  
 Location: SE¼, Sec. 31, T. 5 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/83

0'- 20' Sand, fine with minor clay stringers, red  
 20'- 50' Sand, fine with minor clay, gray  
 50'- 69' Clay, gray, with traces of lignite  
 69'- 92' Sand, medium  
 92'-101' Clay, gray, with 1-2" of ironstone @ 92'  
 101'-108' Sand, fine  
 108'-109' Ironstone-cemented zone  
 109'-150' Clay, brown with ironstone-cemented zones  
 T. D.: 150'

**\*Drill Hole No. 1383.** Elevation 459'  
 Location: SW¼, Sec. 32, T. 5 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/83

0'- 35' Clay, tannish-brown  
 35'- 70' Clay, dark gray  
 70'-150' Sand, medium  
 T. D.: 150'

**\*Drill Hole No. 1384.** Elevation 370'  
 Location: SW¼, Sec. 5, T. 6 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/83

0'- 6' Sand, medium  
 6'- 10' Gravel, pebble-sized  
 10'- 53' Sand, medium  
 53'- 60' Clay, gray with traces of lignite and pyrite  
 60'- 90' Clay, gray, with lignite stringers  
 90'-126' Clay, gray to brown, with cemented gravel stringers @ 93' and 97', and an ironstone zone @ 115'  
 126'-150' Clay, greenish-gray, sandy, with cemented stringers @ 145'  
 T. D.: 150'

**\*Drill Hole No. 1385.** Elevation 485'  
 Location: NW¼, Sec. 8, T. 6 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 5/83

0'- 10' Gravel, pebble-sized with sand, medium  
 10'- 15' Clay, tan, sandy  
 15'- 20' Clay, light brown  
 20'- 30' Clay, gray with sandy lignite stringers  
 30'- 60' Clay, gray, with stringers of fine sand  
 60'-110' Sand, medium, salt and pepper, with minor clay stringers  
 110'-148' Sand, fine, and silt with gray clay stringers  
 148'-150' Clay, gray  
 T. D.: 150'

\*Electric logs available



ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1386.** Elevation 515'  
Location: SW¼, Sec. 29, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/83

0'- 2' Gravel, pebble-size  
2'- 4' Clay, tan, sandy  
4'- 46' Gravel, pea to pebble-sized,  
with coarse sand  
46'- 83' Clay, gray, with lignite stringers;  
2-3" of lignite @ 54'  
83'-111' Sand, fine, silty, with gray to  
buff clay stringers  
111'-116' Clay, gray, with traces of  
lignite  
116'-123' Sand, medium  
123'-126' Clay, gray  
126'-150' Sand, medium, with gray  
clay seams  
T. D.: 150'

**\*Drill Hole No. 1387.** Elevation 500'  
Location: NE¼, Sec. 10, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 5/83

0'- 20' Gravel, pebble- to pea-size,  
with medium sand  
20'- 25' Gravel, pea, sandy, with tan  
clay  
25'- 28' Clay, brown, sandy  
28'- 65' Clay, gray, silty, with traces  
of lignite, and 1-2" of black  
lignite @ 62'  
65'- 80' Clay, gray to greenish-gray,  
with traces of lignite and sand  
stringers  
80'-110' Clay, light gray, with traces  
of lignite  
110'-117' Clay, gray, with brown lignitic  
clay stringers  
117'-122' Sand, fine  
122'-140' Clay, gray to greenish-gray,  
with lignite stringers  
140'-150' Sand, medium, clayey, gray  
T. D.: 150'

**\*Drill Hole No. 1388.** Elevation 450'  
Location: NW¼, Sec. 2, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 6/83

0'- 18' Gravel, pea, with coarse sand  
18'- 40' Clay, gray to brown, sandy  
40'- 54' Clay, gray, sticky  
54'- 55' Clay, sandy, lignitic  
55'-125' Clay, sandy, gray, with inter-  
mittent sand seams, and traces  
of lignite  
T. D.: 125'

**\*Drill Hole No. 1389.** Elevation 390'  
Location: NW¼, Sec. 1, T. 6 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 6/83

0'- 5' Sand, coarse, with a few cobbles  
of gravel  
5'- 30' Clay, sandy, gray, with maroon  
iron staining  
30'- 63' Clay, sandy, dark gray  
63'-105' Clay, gray, silty, with siderite  
@ 73'  
105'-110' Sand, fine, salt and pepper  
110'-135' Clay, gray, sandy  
135'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1390.** Elevation 360'  
Location: NW¼, Sec. 36, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 6/83

0'-150' Clay, brown to dark gray,  
sandy  
T. D.: 150'

**\*Drill Hole No. 1391.** Elevation 290'  
Location: NE¼, Sec. 25, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 7/83

0'- 40' Clay, buff-gray to dark greenish-  
gray  
40'-103' Sand, medium, micaceous,  
with 1" lignite stringer @ 55',  
and lignite traces @ 98'  
103'-109' Clay, gray  
109'-139' Sand, medium, micaceous,  
with lignite stringers  
139'-144' Clay, gray, with lignite stringers  
144'-150' Sand, medium, micaceous  
T. D.: 150'

**\*Drill Hole No. 1392.** Elevation 270'  
Location: SW¼, Sec. 24, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 7/83

0'- 9' Gravel, pebble-sized, with minor  
gray clay  
9'- 35' Clay, dark gray, with traces  
of lignite  
35'-119' Sand, medium, salt and pepper,  
micaceous, with small gravel  
@ 105'  
119'-150' Clay, gray, with traces of  
pyrite  
T. D.: 150'

**\*Drill Hole No. 1393.** Elevation 300'  
Location: SW¼, Sec. 23, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 7/83

0'- 13' Sand, medium  
13'- 45' Clay, grayish-brown, with  
traces of lignite, and lignite  
seams @ 41' and 45'  
45'- 60' Sand, fine, with 3-4" of lignite  
and 6" of clay @ 55'  
60'- 70' Clay, gray, with ½" soft, black  
lignite seams  
70'-108' Clay, gray, with traces of lignite  
108'-139' Sand, fine to medium  
139'-150' Clay, buff to gray, with lignite  
stringers  
T. D.: 150'

**\*Drill Hole No. 1394.** Elevation 260'  
Location: SE¼, Sec. 14, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 3' Sand, fine, brown  
3'- 18' Clay, sandy, with intermittent  
lignitic sand seams, with small  
intervals of soft lignite  
18'- 20' Gravel, pea (stream)  
20'- 50' Clay, sandy, with intermittent  
sand seams, and small, soft  
lignite seams  
50'-125' Sand, fine, gray  
125'-150' Clay, gray, sandy, with pyrite  
T. D.: 150'

**\*Drill Hole No. 1395.** Elevation 330'  
Location: NW¼, Sec. 22, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 30' Gravel, pea- to pebble-sized,  
with medium brown sand  
30'- 50' Sand, fine, brown  
50'- 55' Clay, gray  
55'-150' Sand, fine, gray to salt and  
pepper  
T. D.: 150'

**\*Drill Hole No. 1396.** Elevation 500'  
Location: NW¼, Sec. 17, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 15' Gravel, cobble- to pea-sized  
15'- 95' Clay, gray, sandy, with inter-  
mittent thin sand seams  
95'-150' Clay, gray, sandy, with sand  
seams  
T. D.: 150'

**Drill Hole No. 1397.** Elevation 240'  
Location: SE¼, Sec. 13, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 5' Sand, fine, gray  
5'- 8' Clay, gray, sandy  
8'- 12' Gravel, pea, with fine, gray  
sand  
12'-150' Sand, fine, salt and pepper  
T. D.: 150'

**\*Drill Hole No. 1398.** Elevation 255'  
Location: SW¼, Sec. 11, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 20' Clay, brown, sandy  
20'-150' Sand, fine, gray, with 3' clay  
seam from 52'-55'  
T. D.: 150'

**\*Drill Hole No. 1399.** Elevation 285'  
Location: SW¼, Sec. 2, T. 5 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 7/83

0'- 20' Sand, fine, brown to gray,  
with 6" of pea gravel @ 13'  
20'-150' Sand, fine, gray  
T. D.: 150'

**\*Drill Hole No. 1400.** Elevation 290'  
Location: SE¼, Sec. 34, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 8/83

0'- 8' Clay, red to buff  
8'- 20' Clay, light gray, with sand  
stringers  
20'- 60' Clay, gray  
60'- 90' Clay, gray, with traces of lignite  
90'- 95' Sand, fine  
95'-100' Clay, brown, lignitic  
100'-106' Clay, buff to brown, with  
lignite stringers  
106'-108' Sand, medium  
109'-110' Clay, gray  
110'-116' Sand, fine, clayey  
116'-138' Clay, gray  
138'-150' Sand, fine  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1401.** Elevation 290'  
 Location: NW¼, Sec. 27, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 8/83

0'- 5' Sand, fine, brown  
 5'- 12' Clay, gray  
 12'- 18' Gravel, pea, with sand  
 18'- 33' Sand, fine, brown to gray  
 33'- 35' Gravel, pea, with fine sand  
 35'-150' Sand, fine, gray, with inter-  
 mittent sandy gray clay seams  
 to 85'  
 T. D.: 150'

**\*Drill Hole No. 1402.** Elevation 310'  
 Location: NW¼, Sec. 3, T. 5 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 8/83

0'- 15' Sand, fine, brown, with inter-  
 mittent, thin clay seams  
 15'- 87' Sand, fine, gray, with thin  
 sandy clay seams  
 87'-150' Clay, gray, sandy, with 1" of  
 siderite @ 138'  
 T. D.: 150'

**\*Drill Hole No. 1403.** Elevation 375'  
 Location: SW¼, Sec. 33, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 10/83

0'- 6' Gravel, cobble-sized  
 6'- 85' Sand, fine, brown to gray  
 85'-100' Sand, fine, lignitic, with traces  
 of lignite  
 105'-127' Clay, lignitic, sticky  
 127'-150' Clay, gray, sandy  
 T. D.: 150'

**\*Drill Hole No. 1404.** Elevation 515'  
 Location: SW¼, Sec. 32, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 8/83

0'- 3' Gravel, cobble-sized  
 3'- 10' Clay, red and gray mottled  
 10'- 14' Clay, gray, with brown lignitic  
 stringers  
 14'- 30' Clay, greenish-gray, silty  
 30'- 45' Clay, gray, with traces of  
 lignite  
 45'- 50' Sand, medium to coarse, with  
 brown clay stringers and lignite  
 stringers  
 50'- 66' Clay, greenish-gray, with lignite  
 stringers and brown lignitic  
 clay, and 10" of soft, black  
 lignite with lignitic brown clay  
 @ 64'  
 66'- 75' Clay, brown, lignitic, with  
 greenish-gray clay stringers  
 75'-108' Clay, greenish-gray, with lignite  
 stringers, and 6" of hard, black  
 lignite @ 89'  
 108'-150' Sand, fine, with lignite stringers  
 and clay seams  
 T. D.: 150'

**\*Drill Hole No. 1405.** Elevation 520'  
 Location: SW¼, Sec. 5, T. 5 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 8/83

0'- 10' Gravel, pebble- to pea-sized  
 10'- 23' Gravel, pea to pebble-sized,  
 with coarse sand

23'- 28' Clay, tan, sandy  
 28'- 32' Clay, brown, lignitic  
 32'- 41' Clay, greenish-gray, with lignite  
 stringers  
 41'- 44' Clay, greenish-gray, with light  
 brown clay layers  
 44'- 48' Clay, brown, lignitic  
 48'-110' Clay, greenish-gray, with lignite  
 stringers  
 110'-115' Clay, gray, with lignite stringers  
 and fine sand  
 115'-150' Sand, fine, with lignite stringers  
 and minor gray clay  
 T. D.: 150'

**\*Drill Hole No. 1406.** Elevation 520'  
 Location: SE¼, Sec. 25, T. 4 S., R. 17 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 8/83

0'- 21' Gravel, cobble-sized  
 21'- 25' Clay, tan, sandy  
 25'- 45' Clay, brownish-gray, with  
 traces of sandy lignite  
 45'- 55' Clay, gray, with traces of lignite  
 55'- 60' Sand, fine  
 60'- 70' Clay, tannish-gray  
 70'-115' Clay, tan to gray, with brown,  
 lignitic clay @ 92', 4" of black  
 lignite @ 98', and lignite stringers  
 115'-129' Sand, fine, lignitic  
 129'-131' Clay, buff to tan, with 4" of  
 hard, chocolate-brown lignite  
 @ 130'  
 131'-150' Sand, fine, with lignite stringers,  
 and 4" of soft, black lignite  
 @ 146'  
 T. D.: 150'

**\*Drill Hole No. 1407.** Elevation 530'  
 Location: NW¼, Sec. 5, T. 5 S., R. 16 W.  
 County, Hot Spring  
 Logged by: W. L. Prior 8/83

0'- 19' Gravel, pebble-sized, with  
 coarse sand  
 19'- 27' Clay, light gray  
 27'- 36' Clay, dark gray, sandy, with  
 traces of lignite  
 36'- 47' Clay, gray to greenish-gray,  
 sandy, with minor mica and  
 traces of lignite  
 47'- 51' Clay, chocolate-brown, lignitic  
 51'- 64' Clay, greenish-gray, with traces  
 of lignite  
 64'- 66' Clay, chocolate-brown, lignitic  
 66'- 94' Clay, greenish-gray, with lignite  
 stringers  
 94'-110' Clay, gray, sandy, with traces  
 of lignite  
 110'-143' Sand, fine, with gray clay  
 stringers  
 143'-150' Clay, gray, with lignite stringers  
 T. D.: 150'

**\*Drill Hole No. 1408.** Elevation 255'  
 Location: SW¼, Sec. 11, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 9/83

0'- 6' Sand, fine, brown  
 6'- 25' Clay, gray, sandy  
 25'- 75' Sand, fine, gray, with traces  
 of lignite  
 75'- 85' Clay, lignitic  
 85'-115' Clay, gray, sticky  
 115'-150' Clay, gray, sandy, with inter-  
 mittent sand seams  
 T. D.: 150'

**\*Drill Hole No. 1409.** Elevation 245'  
 Location: SE¼, Sec. 12, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 9/83

0'- 20' Clay, tan, sandy, iron-stained  
 20'- 45' Gravel, pea  
 45'- 50' Clay, lignitic  
 50'- 85' Clay, brown, sandy  
 85'-150' Sand, fine, gray, with traces  
 of lignite, 6" of siderite @ 132',  
 and 4" of siderite @ 144'  
 T. D.: 150'

**\*Drill Hole No. 1410.** Elevation 330'  
 Location: SE¼, Sec. 17, T. 4 S., R. 16 W.  
 County, Hot Spring  
 Logged by: Q. Baber 9/83

0'-150' Sand, fine, brown, with traces  
 of lignite  
 T. D.: 150'

**\*Drill Hole No. 1411.** Elevation 247'  
 Location: NE¼, Sec. 7, T. 4 S., R. 15 W.  
 County, Grant  
 Logged by: W. L. Prior 9/83

0'- 20' Sand, fine, orange  
 20'- 25' Sand, very coarse, with granules  
 25'- 33' Gravel, pea, with some iron-  
 stone  
 33'- 38' Clay, brown, lignitic  
 38'- 52' Sand, medium, with lignite  
 stringers and hard carbonate  
 zones  
 52'- 55' Clay, gray, with lignite stringers  
 55'- 90' Clay, brown, sandy, lignitic,  
 with hard carbonate zones  
 @ 80' and 85'  
 90'-125' Sand, medium, lignitic, with  
 hard carbonate stringers  
 125'-150' Sand, coarse, with lignite  
 stringers, and hard carbonate  
 layer @ 147'  
 T. D.: 150'

**\*Drill Hole No. 1412.** Elevation 242'  
 Location: SW¼, Sec. 8, T. 4 S., R. 15 W.  
 County, Grant  
 Logged by: W. L. Prior 9/83

0'- 4' Sand, fine, with white clay  
 4'- 5' Clay, orange, sandy  
 5'- 17' Clay, brown, silty to sandy  
 17'- 33' Sand, medium, with pebble-  
 sized gravel  
 33'- 38' Clay, brown to buff, with  
 sandy lignite stringers  
 38'- 43' Clay, grayish-brown, sandy  
 43'- 90' Sand, medium, salt and pepper,  
 micaceous  
 90'- 98' Sand, medium, with brown,  
 lignitic clay stringers  
 98'-150' Clay, grayish-brown, lignitic,  
 with some sand and silt string-  
 ers  
 T. D.: 150'

**\*Drill Hole No. 1413.** Elevation 250'  
 Location: SW¼, Sec. 6, T. 4 S., R. 15 W.  
 County, Grant  
 Logged by: W. L. Prior 9/83

0'- 6' Silt, with fine sand  
 6'- 13' Clay, tannish-brown, silty,  
 sandy  
 13'- 20' Sand, medium, brown

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

20'- 25' Sand, coarse, yellow, with  
Ironstone @ 25'  
25'- 27' Clay, greenish-gray, sandy  
27'- 40' Clay, brown, sandy, lignitic  
40'- 50' Sand, fine, micaceous, with  
lignitic brown clay stringers  
50'-121' Sand, fine, micaceous  
121'-138' Clay, dark grayish-brown,  
with traces of lignite  
138'-150' Sand, fine, micaceous, with  
cemented zones  
T. D.: 150'

**\*Drill Hole No. 1414.** Elevation 290'  
Location: SW¼, Sec. 10, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 9/83

0'- 10' Clay, white, sandy  
10'- 69' Sand, medium, with some  
granule-sized grains  
69'- 70' Ironstone  
70'-110' Clay, buff to dark grayish-  
brown, sandy, lignitic  
110'-150' Sand, medium, micaceous,  
with lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1415.** Elevation 255'  
Location: SW¼, Sec. 31, T. 3 S., R. 15 W.  
County, Saline  
Logged by: W. L. Prior 9/83

0'- 3' Clay, white, silty, sandy  
3'- 15' Clay, tan, sandy  
15'- 21' Sand, fine  
21'- 27' Sand, coarse, yellow, with pea  
gravel  
27'- 29' Clay, buff  
29'- 75' Sand, fine, micaceous, with  
lignitic chocolate-brown clay  
stringers, and some pyrite  
75'-150' Sand, medium, micaceous,  
with chocolate-brown clay  
T. D.: 150'

**Drill Hole No. 1416.** Elevation 390'  
Location: SW¼, Sec. 17, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 9/83

0'- 12' Clay, gray, sandy  
12'-150' Sand, fine, gray  
T. D.: 150'

**Drill Hole No. 1417.** Elevation 256'  
Location: NE¼, Sec. 31, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 9/83

0'- 25' Sand, medium, brown to  
orange  
25'- 55' Gravel, pebble-sized, with  
medium sand  
55'-150' Clay, sandy, lignitic, with  
intermittent thin sand seams,  
and siderite layers @ 95' and  
115'  
T. D.: 150'

**Drill Hole No. 1418.** Elevation 280'  
Location: SE¼, Sec. 5, T. 4 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 9/83

0'- 25' Sand, fine, brown  
25'- 62' Clay, sandy, lignitic  
62'-107' Sand, fine, lignitic  
107'-150' Clay, gray, sandy  
T. D.: 150'

**Drill Hole No. 1419.** Elevation 300'  
Location: NE¼, Sec. 27, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 9/83

0'- 15' Clay, gray, sticky, with some  
Iron staining  
15'- 87' Clay, gray to brown, sandy  
87'-150' Sand, fine, brown  
T. D.: 150'

**Drill Hole No. 1420.** Elevation 273'  
Location: SE¼, Sec. 33, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 9/83

0'- 15' Clay, brown, sandy  
15'- 28' Gravel, pebble-sized, with  
brown, sandy clay  
28'- 90' Clay, sandy, lignitic, with  
intermittent sand seams  
90'-150' Sand, fine, gray, with inter-  
mittent thin clay seams and  
siderite stringers  
T. D.: 150'

**\*Drill Hole No. 1421.** Elevation 315'  
Location: SE¼, Sec. 28, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 9/83

0'- 3' Clay, tan to brown  
3'- 9' Sand, medium  
9'- 27' Clay, dark brown, lignitic,  
sandy  
27'- 33' Sand, fine  
33'- 40' Clay, dark brown, lignitic,  
with fine sand stringers  
40'- 48' Clay, dark brown, lignitic  
48'- 60' Sand, medium  
60'- 70' Clay, dark brown, lignitic,  
with sand stringers  
70'- 90' Sand, fine, micaceous  
90'-110' Clay, dark brown, lignitic  
110'-130' Clay, greenish-gray, sticky  
130'-150' Sand, fine, micaceous  
T. D.: 150'

**\*Drill Hole No. 1422.** Elevation 350'  
Location: SE¼, Sec. 21, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: W. L. Prior 9/83

0'- 10' Sand, coarse, red, with 2" of  
Ironstone @ 3'  
10'- 92' Clay, gray, micaceous, with  
fine sand  
92'-100' Sand, medium, salt and pepper  
100'-110' Sand, coarse, salt and pepper,  
with granule-sized quartz particles  
110'-138' Sand, coarse, and pea gravel,  
all quartz  
138'-150' Clay, brownish-gray, with Ilme-  
stone zones @ 145'

Core Interval-A 20'-30'  
Recovered: 3' Lost: 7'  
26'-27' Clay, gray  
27'-27'5" Sand, fine, mica-  
ceous, with clay stringers  
27'5"-29' Clay, gray, sandy

Core Interval-B 30'-40'  
Recovered: 0' Lost: 10'

Core Interval-C 40'-45'  
Recovered: 5' Lost: 0'  
40'-42'6" Clay, gray  
42'6"-45' Clay, gray, sandy,  
micaceous  
T. D.: 150'

**\*Drill Hole No. 1423.** Elevation 400'  
Location: NE¼, Sec. 16, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 10/83

0'- 25' Clay, gray, sandy, Iron-stained  
25'- 72' Clay, dark gray, sandy, with  
siderite stringers  
72'- 92' Clay, gray, sandy, with inter-  
mittent sand seams and siderite  
beds  
92'- 98' Chert (?)  
T. D.: 98'

**Drill Hole No. 1424.** Elevation 300'  
Location: NW¼, Sec. 23, T. 3 S., R. 16 W.  
County, Hot Spring  
Logged by: Q. Baber 10/83

0'- 9' Sand, coarse, with pea gravel  
@ 7'-9'  
9'- 27' Clay, sandy, lignitic  
27'-150' Clay, gray, slightly sandy,  
with siderite stringers @ 56'  
T. D.: 150'

**Drill Hole No. 1425.** Elevation 262'  
Location: SW¼, Sec. 20, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 10/83

0'- 4' Sand, fine, brown, with inter-  
mittent gray, sandy clay  
4'- 8' Clay, brown, sandy  
8'- 25' Clay, gray, sandy, Iron-stained  
25'- 27' Pea gravel, with coarse, brown  
sand  
27'- 65' Clay, sandy, lignitic, with  
intermittent sand seams  
65'- 95' Clay, brown, sandy  
95'-150' Clay, silty, with intermittent  
sand seams  
T. D.: 150'

**Drill Hole No. 1426.** Elevation 260'  
Location: SE¼, Sec. 21, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 10/83

0'- 20' Clay, brown, sandy, with  
pea gravel @ 5'-7'  
20'- 30' Pea gravel with coarse sand  
30'- 40' Clay, sandy, lignitic, with 4"  
of siderite @ 34'  
40'-150' Sand, fine, gray, with siderite  
layers  
T. D.: 150'

**Drill Hole No. 1427.** Elevation 245'  
Location: NW¼, Sec. 27, T. 3 S., R. 15 W.  
County, Saline  
Logged by: Q. Baber 10/83

0'- 23' Gravel, pebble-sized, with  
medium sand  
23'- 63' Clay, sandy, lignitic  
63'- 85' Clay, sticky, lignitic, with  
4" of siderite @ 64'  
85'-150' Clay, brown, sandy  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1428.** Elevation 300'  
Location: NW¼, Sec. 26, T. 3 S., R. 15 W.  
County, Grant  
Logged by: Q. Baber 10/83

- 0'- 5' Gravel, pebble-sized, with coarse sand
- 5'- 45' Sand, fine, brown
- 45'- 78' Clay, gray, sticky, with 3" of siderite @ 72'
- 78'-150' Clay, gray, sandy, with siderite stringers @ 89'  
T. D.: 150'

**\*Drill Hole No. 1429.** Elevation 260'  
Location: NW¼, Sec. 3, T. 3 S., R. 15 W.  
County, Saline  
Logged by: W. L. Prior 10/83

- 0'- 18' Gravel, large pebble-sized
- 18'- 26' Sand, fine
- 25'- 48' Sand, medium to coarse, with quartz granules and traces of lignite
- 48'- 80' Sand, medium to coarse, quartz granules, lignitic, with lignite seams, and clay near bottom  
T. D.: 80'

**Drill Hole No. 1430.** Elevation 258'  
Location: SE¼, Sec. 34, T. 2 S., R. 15 W.  
County, Saline  
Logged by: W. L. Prior 10/83

- 0'- 12' Clay, tan
- 12'- 25' Gravel, pea, with coarse sand
- 25'- 40' Clay, brown, lignitic, with fine sand stringers
- 40'- 55' Clay, brown, with traces of lignite
- 55'- 60' Clay, brown, with medium sand and traces of lignite
- 60'- 75' Sand, with brown clay laminations and traces of lignite
- 75'- 80' Sand, medium to coarse, with traces of lignite  
T. D.: 30'

**\*Drill Hole No. 1431.** Elevation 260'  
Location: NW¼, Sec. 6, T. 3 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 11/83

- 0'- 50' Sand, fine, brown, iron-stained, with traces of lignite
- 50'- 97' Clay, gray, sandy, with traces of lignite
- 97'-110' Clay, gray, tight
- 110'-150' Sand, fine, gray, with intermittent clay seams  
T. D.: 150'

**\*Drill Hole No. 1432.** Elevation 310'  
Location: NW¼, Sec. 4, T. 3 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 11/83

- 0'- 70' Sand, fine, light brown
- 70'-150' Clay, sandy, lignitic, with intermittent sand seams  
T. D.: 150'

**\*Drill Hole No. 1433.** Elevation 350'  
Location: NE¼, Sec. 4, T. 3 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 11/83

- 0'- 7' Sand, fine, brown, with 2" of pea gravel @ 7'
- 7'- 17' Sand, fine, light brown
- 17'- 20' Clay, dark gray, sandy, with traces of lignite

- 20'- 21' Lignite, hard, black
- 21'- 45' Clay, light gray, sandy, with intermittent sand seams
- 45'-150' Sand, fine, gray, with some thin lignitic clay seams, and siderite stringers  
T. D.: 150'

**Drill Hole No. 1434.** Elevation 370'  
Location: NE¼, Sec. 9, T. 3 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 11/83

- 0'- 7' Sand, fine, light brown
- 7'- 7' Clay, white  
T. D.: 7'

**\*Drill Hole No. 1435.** Elevation 436'  
Location: SE¼, Sec. 28, T. 2 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 12' Sand, iron-cemented, with minor red to yellow clay
- 12'- 20' Clay, dark gray, micaceous
- 20'- 35' Sand, fine, with white clay
- 35'- 57' Sand, fine, micaceous
- 57'- 67' Clay, gray, with fine sand stringers
- 67'- 74' Clay, dark brownish-gray, with minor micaceous, fine sand
- 74'-144' Sand, fine, with traces of lignite
- 144'-150' Clay, dark brown, lignitic  
T. D.: 150'

**\*Drill Hole No. 1436.** Elevation 416'  
Location: SE¼, Sec. 21, T. 2 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 25' Ironstone and minor gravel
- 25'- 36' Clay, brown, sandy, lignitic
- 36'- 40' Clay, buff to dark gray
- 40'- 70' Clay, white
- 70'- 84' Clay, white, with hard mineral particles (feldspar or weathered nepheline syenite?)
- 84'- 85' Feldspar or nepheline syenite?  
T. D.: 85'

**\*Drill Hole No. 1437.** Elevation 360'  
Location: SW¼, Sec. 34, T. 2 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 6' Ironstone, yellow to dark red
- 6'- 15' Clay, green, sandy, with ironstone
- 15'- 16' Flint? cemented zone, brown
- 16'- 25' Clay, green, sandy, with ironstone zones, and flint bed @ 25'
- 25'- 32' Clay, greenish-brown, sandy
- 32'- 50' Clay, dark brown, with cemented zones
- 50'- 60' Clay, brown, with fine sand stringers
- 60'- 96' Sand, fine, micaceous
- 96'-106' Clay, brown
- 106'-121' Sand, fine
- 121'-130' Clay, brown, with traces of lignite
- 130'-146' Sand, fine
- 146'-150' Clay, brown  
T. D.: 150'

**\*Drill Hole No. 1438.** Elevation 410'  
Location: NW¼, Sec. 2, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 9' Sand, medium, with red clay binder
- 9'- 88' Sand, fine, red
- 88'- 89' Ironstone
- 89'- 90' Clay, buff
- 90'-130' Clay, dark olive-green, micaceous, with cemented zones
- 130'-150' Sand, fine  
T. D.: 150'

**\*Drill Hole No. 1439.** Elevation 335'  
Location: SW¼, Sec. 1, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 10' Sand, medium, with red clay
- 10'-150' Sand, medium, with 1" of soft, black lignite @ 138'  
T. D.: 150'

**\*Drill Hole No. 1440.** Elevation 415'  
Location: NW¼, Sec. 1, T. 3 S., R. 14 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 20' Sand, medium, with minor red clay
- 20'-100' Sand, medium  
T. D.: 100'

**\*Drill Hole No. 1441.** Elevation 400'  
Location: NW¼, Sec. 6, T. 3 S., R. 13 W.  
County, Saline  
Logged by: W. L. Prior 11/83

- 0'- 40' Sand, medium, red
- 40'-130' Clay, dark gray to gray
- 130'-150' Sand, fine  
T. D.: 150'

**\*Drill Hole No. 1442.** Elevation 330'  
Location: NE¼, Sec. 5, T. 3 S., R. 13 W.  
County, Saline  
Logged by: W. L. Prior 5/84

- 0'- 5' Sand, fine, with pebble-sized gravel
- 5'- 8' Clay, buff, sandy
- 8'- 20' Sand, fine, red
- 20'-105' Sand, fine
- 105'-110' Clay, pink, with sand layers
- 110'-129' Sand, medium, with 4" of ironstone @ 124'
- 129'-150' Clay, dark gray, with minor hard carbonate(?) stringers, greenish, sandy clay, and 11" of ironstone @ 140'  
T. D.: 150'

**\*Drill Hole No. 1443.** Elevation 370'  
Location: SW¼, Sec. 17, T. 3 S., R. 13 W.  
County, Saline  
Logged by: W. L. Prior 5/84

- 0'- 3' Clay, red
- 3'- 8' Clay, buff, with minor mica
- 8'- 18' Clay, flesh, with medium sand
- 18'- 45' Sand, medium, dark salt and pepper
- 45'- 60' Sand, medium, with buff clay binder
- 60'- 85' Clay, dark grayish-brown
- 85'-108' Clay, grayish-brown, sandy
- 108'-111' Sand, medium, with minor greenish clay (glauconitic?)
- 111'-150' Clay, gray to green, with traces of lignite  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**Drill Hole No. 1444.** Elevation 330'  
Location: SW¼, Sec. 5, T. 3 S., R. 13 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'- 8' Sand, fine, brown  
8'- 18' Clay, brown, sandy  
18'- 57' Clay, gray, sandy, with traces of lignite  
57'- 70' Clay, green, sticky, with traces of lignite  
70'- 79' Clay, gray, sandy  
79'-150' Sand, fine, brown, with traces of lignite  
T. D.: 150'

**Drill Hole No. 1445.** Elevation 310'  
Location: NW¼, Sec. 13, T. 2 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'- 10' Sand, fine, brown  
10'- 17' Gravel, pea  
17'- 66' Clay, gray, sandy  
66'- Granite  
T. D.: 66'

**Drill Hole No. 1446.** Elevation 410'  
Location: SW¼, Sec. 24, T. 2 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'-103' Sand, fine, brown, with intermittent thin clay seams  
103'-150' Clay, gray, silty  
T. D.: 150'

**Drill Hole No. 1447.** Elevation 420'  
Location: NW¼, Sec. 25, T. 2 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'-150' Sand, fine, brown, with siderite layers and some intermittent clay seams  
T. D.: 150'

**\*Drill Hole No. 1448.** Elevation 410'  
Location: NE¼, Sec. 30, T. 2 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'-104' Sand, fine, brown, iron-stained  
104'- Iron-cemented sand  
T. D.: 104'

**Drill Hole No. 1449.** Elevation 370'  
Location: SE¼, Sec. 13, T. 2 S., R. 14 W.  
County, Saline  
Logged by: Q. Baber 5/84

0'- 3' Gravel, pea  
3'- 10' Clay, white to buff, sandy  
10'- 32' Sand, fine, brown, with traces of lignite  
32'-125' Clay, brown, sandy  
125'-133' Sand, fine, brown  
133'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1450.** Elevation 370'  
Location: NW¼, Sec. 29, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/84

0'- 10' Clay, brown, sandy, iron-stained

10'- 25' Sand, fine, brown  
25'- 37' Clay, gray, sandy  
37'- 42' Sand, fine, gray  
42'- 67' Clay, gray, sandy  
67'-150' Clay, gray to blue-gray, sandy, with traces of lignite  
T. D.: 150'

**\*Drill Hole No. 1451.** Elevation 360'  
Location: NW¼, Sec. 21, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/85

0'- 37' Clay, brown, sandy  
37'- 62' Clay, gray to blue-gray, sandy  
62'-102' Clay, gray, sandy, with traces of lignite  
102'-115' Clay, gray, silty  
115'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1452.** Elevation 350'  
Location: NE¼, Sec. 21, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/84

0'- 50' Sand, fine, brown, with clay stringers  
50'- 70' Clay, gray, sandy  
70'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1453.** Elevation 280'  
Location: NE¼, Sec. 21, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/84

0'- 40' Clay, brown, iron-stained, sandy  
40'- 55' Clay, gray, sandy, with traces of lignite @ 48'  
55'- 90' Clay, gray, silty  
90'- 99' Clay, gray, sandy  
99'-101' Clay, sandy, lignitic  
101'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1454.** Elevation 320'  
Location: SE¼, Sec. 30, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/84

0'- 70' Clay, brown, sandy  
70'- 82' Clay, gray, sandy  
82'-129' Clay, gray, silty  
129'-150' Clay, gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1455.** Elevation 290'  
Location: SE¼, Sec. 36, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 5/84

0'-100' Clay, gray, sandy  
100'-150' Sand, fine, gray, with clay stringers and traces of lignite  
T. D.: 150'

**\*Drill Hole No. 1456.** Elevation 320'  
Location: SW¼, Sec. 35, T. 3 S., R. 14 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 15' Clay, light brown  
15'- 35' Clay, chocolate-brown, lignitic  
35'- 50' Clay, dark gray, with traces of lignite, and fine micaceous sand

50'- 75' Sand, fine, with gray clay stringers  
75'- 90' Clay, gray  
90'-130' Clay, light gray, silty  
130'-150' Sand, fine, gray  
150'-160' Clay, gray, sandy, silty  
T. D.: 160'

**\*Drill Hole No. 1457.** Elevation 320'  
Location: NW¼, Sec. 32, T. 3 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 18' Sand, fine, with minor buff clay  
18'- 28' Clay, dark grayish-brown  
28'- 50' Clay, gray, silty, with traces of lignite  
50'- 75' Clay, greenish-gray, silty, with 4"-5" of thick, black, firm lignite and 2"-3" of brown lignitic clay @ 73'  
75'- 81' Clay, gray, silty  
81'- 89' Sand, fine  
89'-110' Clay, gray, sandy, with lignite stringers  
110'-150' Clay, gray, silty, with traces of lignite  
T. D.: 150'

**\*Drill Hole No. 1458.** Elevation 330'  
Location: SE¼, Sec. 32, T. 3 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 35' Clay, tan  
35'- 80' Clay, dark gray, sandy, with traces of lignite  
80'-115' Clay, light gray, silty, with lignite partings and greenish clay stringers  
115'-150' Clay, light gray, silty, with black lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1459.** Elevation 320'  
Location: SW¼, Sec. 5, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 15' Clay, red mottled, sandy  
15'- 60' Sand, medium, salt and pepper, micaceous  
60'- 75' Clay, dark brown, sandy, with 1"-2" of carbonate @ 66'  
75'-150' Clay, light gray, silty, with 2" of hard, black lignite @ 105', and 3" of carbonate-siderite @ 132'  
T. D.: 150'

**\*Drill Hole No. 1460.** Elevation 290'  
Location: SW¼, Sec. 8, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 10' Clay, tan  
10'- 30' Clay, greenish-gray, sandy  
30'- 57' Clay, gray, with brown and green interbedded clay layers  
57'- 80' Sand, fine, silty, with gray clay binder  
80'-150' Clay, gray and brown, silty  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

\*Drill Hole No. 1461. Elevation 306'  
Location: SW¼, Sec. 17, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 12' Clay, reddish-brown, sandy  
12'- 20' Sand, medium, micaceous,  
with clay stringers  
20'- 49' Clay, buff  
49'- 70' Clay, gray, with minor sand  
70'-142' Clay, gray, silty, with lignite  
particles starting at 90', and  
1"-2" carbonate zone @ 124'  
142'-150' Sand, medium to fine  
T. D.: 150'

\*Drill Hole No. 1462. Elevation 320'  
Location: SW¼, Sec. 4, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 15' Clay, tan, sandy  
15'-150' Clay, gray, silty, with traces  
of lignite, 6" of carbonate  
@ 83', and 2" of carbonate  
@ 144'  
T. D.: 150'

Drill Hole No. 1463. Elevation 335'  
Location: SW¼, Sec. 3, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 18' Clay, mottled red and buff  
18'- 33' Clay, gray  
33'- 40' Sand, medium  
40'- 57' Clay, gray, with traces of  
lignite  
57'- 80' Clay, gray, silty, sandy, with  
traces of lignite  
80'-114' Clay, gray to greenish-gray,  
silty, with 3"-4" of soft, black  
lignite @ 99'  
T. D.: 150'

\*Drill Hole No. 1464. Elevation 283'  
Location: SW¼, Sec. 2, T. 4 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 5/84

0'- 10' Clay, reddish-brown to buff,  
sandy  
10'- 15' Clay, tan, sandy  
15'- 20' Clay, gray, with traces of  
lignite  
20'- 80' Clay, gray, with medium sand  
stringers, lignite stringers,  
and 2" of carbonate @ 63'  
80'- 90' Clay, gray, with fine sand and  
lignite stringers  
90'-150' Clay, gray, silty, with lignite  
stringers  
T. D.: 150'

\*Drill Hole No. 1465. Elevation 340'  
Location: SE¼, Sec. 33, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 6/84

0'- 36' Clay, gray to brown, sandy  
36'-150' Clay, gray, sandy, with traces  
of lignite @ 75'  
T. D.: 150'

Drill Hole No. 1466. Elevation 325'  
Location: SE¼, Sec. 35, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 6/84

0'- 22' Clay, brown, sandy  
22'-150' Clay, gray, sandy, with traces  
of lignite @ 78'  
T. D.: 150'

Drill Hole No. 1467. Elevation 270'  
Location: SW¼, Sec. 35, T. 3 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 6/84

0'- 20' Clay, brown, sandy  
20'-102' Clay, gray, sandy, with traces  
of lignite @ 84'  
102'-150' Clay, gray, silty  
T. D.: 150'

\*Drill Hole No. 1468. Elevation 310'  
Location: NE¼, Sec. 19, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 10' Clay, light gray, with minor  
red iron stain  
10'- 20' Clay, brown  
20'- 55' Sand, fine  
55'- 61' Clay, gray, with traces of  
lignite  
61'- 70' Sand, medium, salt and pepper  
70'- 96' Sand, medium, with brown and  
gray clay layers  
96'-130' Sand, medium to fine, salt and  
pepper  
130'-140' Clay, brownish-gray  
140'-160' Sand, fine  
T. D.: 160'

\*Drill Hole No. 1469. Elevation 270'  
Location: NE¼, Sec. 20, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 12' Clay, yellow to gray, sandy  
12'- 20' Clay, gray  
20'- 30' Clay, greenish-gray, sandy  
30'- 36' Clay, chocolate-brown, lignitic  
36'- 40' Clay, gray, with fine sand  
layers  
40'- 55' Clay, gray, sandy, with inter-  
bedded brown lignitic clay and  
blue-green clay  
55'- 65' Sand, fine  
65'-114' Clay, gray, sandy, silty  
114'-150' Clay, gray, silty, with lignitic  
brown clay layers and minor  
blue-green clay  
T. D.: 150'

Drill Hole No. 1470. Elevation 328'  
Location: NE¼, Sec. 21, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 10' Clay, tan, sandy  
10'- 20' Clay, light gray  
20'- 50' Clay, dark gray  
T. D.: 50'

\*Drill Hole No. 1471. Elevation 330'  
Location: SE¼, Sec. 15, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 18' Clay, red to buff, sandy  
18'- 21' Clay, tannish-gray, sandy  
21'- 50' Clay, dark gray, sandy  
50'- 90' Sand, medium, salt and pepper  
to dark greenish-gray, micaceous  
Clay, chocolate-brown, lignitic  
90'-100' Clay, grayish-brown, with traces  
of lignite  
100'-112'  
112'-135' Clay, gray to blue-green, with  
medium sand stringers

135'-150' Clay, light gray, silty  
T. D.: 150'

\*Drill Hole No. 1472. Elevation 360'  
Location: SE¼, Sec. 11, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 10' Clay, orange to red  
10'- 20' Clay, buff  
20'-150' Clay, dark gray, silty, with minor  
sand  
T. D.: 150'

\*Drill Hole No. 1473. Elevation 321'  
Location: SW¼, Sec. 12, T. 3 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 6/84

0'- 21' Clay, red to buff, with iron-  
stone stringers  
21'- 30' Clay, light gray, sandy  
30'- 70' Clay, gray, with ¼" of lignite  
@ 30'  
70'- 95' Clay, green  
95'-101' Clay, green, interbedded with  
brown clay  
101'-118' Clay, gray, with traces of  
lignite  
118'-132' Sand, fine, salt and pepper  
132'-150' Clay, gray, with traces of  
lignite  
T. D.: 150'

\*Drill Hole No. 1474. Elevation 290'  
Location: NW¼, Sec. 7, T. 3 S., R. 11 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 7' Sand, fine, brown, with small  
sandy clay seams  
7'- 29' Clay, gray, sandy, with inter-  
mittent sand seams  
29'- 77' Clay, blue-gray, silty  
77'- 85' Sand, fine, salt and pepper  
85'- 97' Clay, gray, sandy, with inter-  
mittent sandy lignitic seams  
97'-115' Clay, dark gray, sandy, with  
intermittent sand seams, lignitic  
stringers, and ironstone @ 108'  
115'-125' Clay, sticky, lignitic  
125'-129' Clay, gray, sandy, with traces  
of lignite  
129'-147' Clay, gray, silty, with 4" of  
sandstone @ 146'  
147'-150' Sand, fine, gray  
T. D.: 150'

Drill Hole No. 1475. Elevation 240'  
Location: NE¼, Sec. 6, T. 3 S., R. 11 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 8' Sand, fine, brown  
8'- 17' Clay, gray, sandy, iron-stained  
17'- 21' Sand, brown, coarse  
21'- 28' Clay, dark gray, sandy  
28'- 33' Clay, blue-gray, silty, with  
8" of siltstone @ 30'  
33'- 34' Lignite, soft and clayey  
34'- 38' Clay, blue-gray, sandy  
38'- 52' Sand, greenish-gray, silty,  
clayey  
52'- 53' Clay, black, lignitic, with  
4" of lignite  
53'- 125' Clay, gray, silty, with lignitic  
sections  
125'-130' Clay, dark gray, sandy, silty  
130'-150' Clay, gray, silty, with thin  
intermittent sand seams  
T. D.: 150'

\*Electric logs available

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**Drill Hole No. 1476.** Elevation 240'  
 Location: NE¼, Sec. 5, T. 3 S., R. 11 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 35' Sand, fine, with gray, sandy clay
- 35'- 37' Clay, gray, sandy
- 37'-150' Clay, dark gray, sandy, with intermittent sand seams, 4" of lignite, and 4" of lignitic clay @ 106'  
 T. D.: 150'

**\*Drill Hole No. 1477.** Elevation 245'  
 Location: SE¼, Sec. 25, T. 4 S., R. 13 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 9' Sand, medium, brown
- 9'- 15' Clay, gray, sandy
- 15'-150' Clay, dark gray, silty, with sand stringers, and iron-cemented sand @ 90'-95'  
 T. D.: 150'

**Drill Hole No. 1478.** Elevation 265'  
 Location: NE¼, Sec. 25, T. 4 S., R. 13 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 12' Sand, fine, brown, with thin clay seams
- 12'- 13' Gravel, pebble-sized, with medium sand
- 13'- 26' Clay, gray to blue-gray, silty
- 26'- 41' Clay, gray, sandy, with 2" of siderite @ 32', and 4" of siderite @ 39'
- 41'- 47' Sand, fine, salt and pepper, with thin clay seams
- 47'-150' Clay, gray, silty, with thin sand seams, and 6" of siderite @ 119'  
 T. D.: 150'

**Drill Hole No. 1479.** Elevation 220'  
 Location: SE¼, Sec. 19, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 18' Clay, light gray-brown, sandy
- 18'- 20' Gravel, pea, with coarse sand
- 20'-102' Clay, gray, sandy, with 6" of siderite @ 45', and a lignitic section @ 93'-95'
- 102'-136' Sand, fine, salt and pepper, with thin, sandy clay seams, 8" of hard, black lignite @ 129', and lignitic zone @ 136'-137'
- 136'-150' Clay, gray, sandy, with lignite seams  
 T. D.: 150'

**\*Drill Hole No. 1480.** Elevation 260'  
 Location: SE¼, Sec. 17, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 5' Gravel, pea, with coarse sand
- 5'- 12' Sand, fine, with gray, sandy clay
- 12'- 13' Gravel, pea
- 13'- 45' Clay, gray to dark gray, silty
- 45'- 50' Sand, fine, with gray, sandy

- clay
- 50'- 150' Clay, gray, sandy, with intermittent sand seams, 4" of siderite @ 65', and 4" of siderite @ 112'  
 T. D.: 150'

**\*Drill Hole No. 1481.** Elevation 300'  
 Location: NE¼, Sec. 16, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 11' Sand, medium, orange, iron-stained, with gray, sandy clay
- 11'- 17' Clay, brown to dark gray, silty
- 17'- 45' Clay, dark gray, sandy, with intermittent sand seams
- 45'-150' Clay, gray, silty, with fine, thin sand stringers  
 T. D.: 150'

**\*Drill Hole No. 1482.** Elevation 280'  
 Location: SW¼, Sec. 11, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 7' Sand, fine, brown, with sandy, gray clay seams
- 7'- 12' Clay, gray, silty
- 12'- 22' Clay, brown, silty, iron-stained
- 22'- 32' Clay, silty, dark gray
- 32'-131' Clay, gray, sandy, with 1' of siderite @ 107'
- 131'-150' Clay, gray, silty, with fine sand stringers  
 T. D.: 150'

**\*Drill Hole No. 1483.** Elevation 275'  
 Location: NW¼, Sec. 12, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 4' Sand, fine, light brown
- 4'- 17' Clay, brown, sandy
- 17'- 18' Gravel, pea, with coarse sand
- 18'-132' Clay, dark gray, sandy, silty
- 132'-150' Sand, fine, salt and pepper, with 4" of siderite @ 133', and sandy clay seams  
 T. D.: 150'

**\*Drill Hole No. 1484.** Elevation 280'  
 Location: NE¼, Sec. 12, T. 4 S., R. 12 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 19' Clay, gray, sandy, iron-stained
- 19'- 78' Clay, gray, sandy
- 78'-120' Clay, dark gray, sandy, with shell fragments  
 T. D.: 120'

**\*Drill Hole No. 1485.** Elevation 280'  
 Location: NW¼, Sec. 6, T. 4 S., R. 11 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 12' Sand, medium, brown
- 12'- 13' Gravel, pea
- 13'- 18' Clay, gray to brown to dark gray, sandy

- 18'- 24' Sand, fine, gray, with lignite fragments
- 24'- 42' Clay, dark gray, sandy
- 42'- 52' Clay, gray, sandy, glauconitic, with fossil fragments, white, silty clay seams, intermittent with fine, dark brown sand seams
- 52'-150' Clay, dark gray, sandy, with silt stringers and brown, sandy clay seams, fossil fragments, and 8" of siderite @ 139'  
 T. D.: 150'

**\*Drill Hole No. 1485.** Elevation 330'  
 Location: NE¼, Sec. 32, T. 3 S., R. 11 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 10' Sand, fine, with gray, sandy clay
- 10'- 20' Sand, fine, light brown
- 20'- 58' Clay, gray, sandy, with 6" of hard, black lignite @ 57'
- 58'- 68' Sand, fine, salt and pepper
- 68'-123' Clay, gray, sandy, with intermittent sand seams and shell fragments
- 123'-150' Clay, dark gray, sandy, silty, with shell fragments  
 T. D.: 150'

**\*Drill Hole No. 1487.** Elevation 280'  
 Location: SW¼, Sec. 5, T. 4 S., R. 11 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 12' Clay, gray, sandy, iron-stained
- 12'- 20' Clay, light brown to dark brown, silty
- 20'- 37' Clay, dark gray, silty, sandy
- 37'- 43' Sand, fine, salt and pepper
- 43'-107' Clay, gray, sandy, with thin intermittent sand seams, and 1" of lignite @ 70'
- 107'-150' Clay, dark gray, silty, sandy, with shell fragments  
 T. D.: 150'

**\*Drill Hole No. 1488.** Elevation 275'  
 Location: SW¼, Sec. 5, T. 4 S., R. 11 W.  
 County, Grant  
 Logged by: Q. Baber 10/84

- 0'- 12' Clay, light gray to red, silty, iron-stained
- 12'- 14' Clay, dark brown, sandy, with thin lignitic clay seams @ 14'
- 14'-150' Clay, dark gray to gray, sandy, silty  
 T. D.: 150'

**\*Drill Hole No. 1489.** Elevation 307'  
 Location: NW¼, Sec. 19, T. 4 S., R. 11 W.  
 County, Grant  
 Logged by: W. L. Prior 10/84

- 0'- 5' Sand, medium
- 5'- 10' Clay, gray, with 1"-2" of ironstone @ 9'
- 10'- 20' Sand, fine
- 20'- 50' Clay, greenish-gray, sandy, silty, with traces of lignite
- 50'- 80' Clay, gray
- 80'- 95' Clay, gray, sandy, silty, with fine, micaceous sand stringers
- 95'-150' Clay, gray, silty, with fossil shell fragments, and 1"-2" of carbonate @ 140'  
 T. D.: 150'

\*Electric logs available

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**\*Drill Hole No. 1490.** Elevation 316'  
Location: NW¼, Sec. 30, T. 4 S., R. 11 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 5' Clay, red to white mottled, sandy  
5'- 8' Clay, tannish-buff, silty  
8'- 15' Sand, fine, micaceous  
15'- 21' Clay, gray to brown, sandy, lignitic  
21'- 54' Sand, medium, salt and pepper, lignitic  
54'-103' Clay, greenish-gray, silty  
103'-120' Sand, fine, green  
120'-140' Clay, greenish-gray, silty, with minor brown clay  
140'-150' Clay, gray, with minor sand  
T. D.: 150'

**\*Drill Hole No. 1491.** Elevation 300'  
Location: NE¼, Sec. 36, T. 4 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 8' Clay, red and light gray mottled, sandy  
8'- 16' Sand, fine  
16'- 50' Clay, gray  
50'- 80' Clay, gray, silty, sandy  
80'- 90' Sand, medium, salt and pepper, micaceous  
90'-111' Clay, gray to greenish-gray, sandy, with traces of lignite  
111'-130' Clay, gray, sandy, with brown lignitic stringers  
130'-150' Clay, greenish-gray, with fossil shell fragments, molluscan  
T. D.: 150'

**\*Drill Hole No. 1492.** Elevation 230'  
Location: SE¼, Sec. 10, T. 5 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 8' Sand, coarse, with small pebble-sized gravel  
8'- 9' Clay, tan  
9'- 23' Sand, fine, micaceous, with gray clay stringers  
23'- 30' Clay, gray  
30'- 40' Sand, fine, micaceous, with gray clay layers  
40'-100' Clay, gray, silty, with fossil shell fragments, molluscan, 1"-2" of carbonate/siderite @ 69', 18" of siderite @ 84', and 10" of carbonate cemented sand @ 95'  
100'-132' Clay, gray, silty  
132'-139' Clay, gray, sandy, with brown, lignitic clay, and lignite fragments with sand stringers  
139'-150' Clay, gray, silty, with traces of lignite  
T. D.: 150'

**\*Drill Hole No. 1493.** Elevation 250'  
Location: NE¼, Sec. 14, T. 5 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 12' Clay, red, with pebble-sized gravel and medium sand  
12'- 18' Clay, buff, iron-stained  
18'- 35' Clay, gray, with sand stringers, and 4" of carbonate (siderite) @ 29'  
35'- 62' Clay, gray, with fine, micaceous

62'-110' sand, and 4" of siderite @ 50'  
Clay, gray, silty, with fossil shell fragments (molluscan), 2" of siderite @ 92', 6" of siderite @ 95', and 6" of siderite @ 100'  
110'-130' Clay, gray, silty, with traces of lignite  
130'-150' Sand, salt and pepper, medium, micaceous  
T. D.: 150'

**Drill Hole No. 1494.** Elevation 200'  
Location: NE¼, Sec. 24, T. 5 S., R. 13 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 5' Coarse sand and gravel (road fill)  
5'- 12' Clay, light gray  
12'- 21' Sand, coarse, with pebble-sized quartz gravel  
21'- 35' Clay, gray  
T. D.: 35'

**\*Drill Hole No. 1495.** Elevation 240'  
Location: SW¼, Sec. 19, T. 5 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 3' Clay, reddish-brown  
3'- 11' Gravel, pebble-sized, quartz, with coarse sand  
11'- 58' Clay, gray, (first 12" weathered, buff to brown), with siderite/carbonate stringers @ 51'  
58'-150' Clay, gray, silty, with traces of lignite, fossil shell fragments (molluscan), and 4" of carbonate/siderite @ 102'  
T. D.: 150'

**\*Drill Hole No. 1496.** Elevation 260'  
Location: SW¼, Sec. 4, T. 6 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 8' Sand, fine  
8'- 18' Clay, flesh-tan, sandy  
18'- 60' Clay, gray, silty, sandy, with glauconite stringers, 3" of carbonate/siderite @ 56'  
60'- 90' Clay, greenish-gray, silty, sandy, with fossil shells (molluscan)  
90'- 95' Sand, fine, micaceous  
95'-120' Clay, gray, with fossil shells (molluscan), and glauconite stringers  
120'-150' Clay, gray, with some fossil shells, and 5" of siderite @ 143'  
T. D.: 150'

**\*Drill Hole No. 1497.** Elevation 270'  
Location: SE¼, Sec. 3, T. 6 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 10/84

0'- 17' Clay, tan, iron-stained  
17'- 42' Clay, gray, silty, sandy, glauconitic, with greenish-gray clay stringers  
42'- 50' Sand, fine, glauconitic  
50'- 60' Clay, greenish-gray, sandy, with 4" of hard, black lignite @ 53'  
60'- 70' Clay, gray, interlayered with green clay

70'-110' Clay, gray, silty  
110'-150' Clay, gray, with fossil shells and 5" of sand @ 138'  
T. D.: 150'

**\*Drill Hole No. 1498.** Elevation 295'  
Location: SE¼, Sec. 2, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 5' Sand, medium, clayey, red to gray  
5'- 10' Clay, buff, sandy, silty  
10'- 15' Sand, fine, salt and pepper  
15'- 18' Clay, brown, silty  
18'- 70' Clay, gray, silty, sandy  
70'- 75' Sand, fine, salt and pepper  
75'- 77' Clay, gray, sandy  
77'-100' Clay, dark gray, silty, sandy  
100'-145' Sand, fine, salt and pepper  
145'-150' Clay, gray, sandy, with intermittent sand seams  
T. D.: 150'

**\*Drill Hole No. 1499.** Elevation 270'  
Location: NE¼, Sec. 6, T. 6 S., R. 11 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 5' Sand, medium, buff, with sandy clay stringers  
5'- 10' Clay, buff to brown, sandy  
10'- 17' Clay, brown, silty  
17'- 25' Clay, gray, silty, with sand stringers  
25'- 32' Clay, gray, sandy, with sand stringers  
32'- 40' Sand, fine, salt and pepper  
40'- 49' Clay, gray, sandy, with thin lignitic seams  
49'- 68' Clay, gray-green, silty  
68'- 72' Sand, fine, salt and pepper  
72'-142' Clay, gray, silty, with sand stringers  
142'-150' Sand, fine, salt and pepper, with lignitic stringers  
T. D.: 150'

**\*Drill Hole No. 1500.** Elevation 240'  
Location: NW¼, Sec. 5, T. 6 S., R. 11 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 2' Sand and gravel (road fill)  
2'- 10' Sand, fine, brown  
10'- 32' Clay, gray, sandy, with sand seams  
32'- 92' Clay, dark gray, silty, with sand stringers  
92'-102' Sand, fine, salt and pepper  
102'-150' Clay, gray, sandy, silty, with fossils  
T. D.: 150'

**\*Drill Hole No. 1501.** Elevation 305'  
Location: NW¼, Sec. 4, T. 6 S., R. 11 W.  
County, Jefferson  
Logged by: Q. Baber 10/84

0'- 12' Clay, light gray, sandy, with sand stringers  
12'- 25' Clay, brown, sandy, silty  
25'- 72' Clay, gray, sandy  
72'- 76' Sand, fine, salt and pepper  
76'-150' Clay, gray, sandy, with sand stringers and 1' of lignite @ 106'  
T. D.: 150'

\*Electric logs available



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\*Drill Hole No. 1502. Elevation 240'  
Location: NE¼, Sec. 29, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 16' Clay, gray, sandy, iron-stained  
16'-105' Clay, dark gray, sandy, with  
4" of siderite @ 80'  
105'-110' Sand, fine, gray  
110'-120' Clay, gray, sandy  
120'-150' Clay, gray, silty  
T. D.: 150'

\*Drill Hole No. 1503. Elevation 180'  
Location: SW¼, Sec. 24, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 10/84

0'- 17' Clay, dark gray, sandy, with  
sand seams  
17'- 21' Sand, medium, with pea gravel  
at base  
21'- 28' Clay, green, silty, with sand  
stringers  
28'- 37' Clay, gray, silty, with sand  
seams  
37'- 42' Sand, fine, salt and pepper  
42'- 45' Lignitic seam with 6" of hard,  
black lignite  
45'- 70' Clay, gray, silty, glauconitic  
70'- 89' Sand, fine, salt and pepper  
89'-150' Clay, gray to green, silty,  
glauconitic, with 6" of siderite  
@ 103'  
T. D.: 150'

\*Drill Hole No. 1504. Elevation 200'  
Location: SW¼, Sec. 23, T. 6 S., R. 13 W.  
County, Grant  
Logged by: Q. Baber 11/84

0'- 22' Sand, fine, with light gray,  
sandy clay  
22'- 42' Clay, dark gray, sandy, with  
sand seams  
42'- 50' Clay, dark gray, silty  
50'- 62' Clay, green, silty, with alter-  
nating lignitic seams  
62'-150' Clay, gray to green, silty,  
glauconitic  
T. D.: 150'

\*Drill Hole No. 1505. Elevation 255'  
Location: SW¼, Sec. 22, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/84

0'- 17' Clay, light gray, sandy, iron-  
stained  
17'- 37' Clay, dark gray, silty  
37'- 65' Clay, gray, silty, with sea shells  
65'- 70' Clay, gray, sandy  
70'-150' Clay, gray, silty, with fossils,  
siderite stringers @ 120'-130',  
and sand stringer @ 155'  
T. D.: 150'

\*Drill Hole No. 1506. Elevation 260'  
Location: SW¼, Sec. 23, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/84

0'- 15' Clay, gray, silty, iron-stained,  
with sand stringers  
15'- 17' Clay, light gray, sandy, iron-  
stained  
17'- 27' Sand, fine, brown  
27'- 34' Clay, dark gray, silty  
34'- 92' Clay, dark gray, sandy, with  
sand stringers, and fossil frag-

92'-150' ments @ 84'  
Clay, dark gray, silty, with  
sand stringers  
T. D.: 150'

\*Drill Hole No. 1507. Elevation 268'  
Location: SE¼, Sec. 23, T. 6 S., R. 12 W.  
County, Grant  
Logged by: Q. Baber 12/84

0'- 3' Sand, fine, brown  
3'- 7' Clay, gray, silty  
7'- 10' Clay, light gray, sandy, with  
sand stringers  
10'- 16' Clay, chocolate-brown, sandy  
16'- 24' Clay, dark gray, silty  
24'- 40' Clay, dark gray, sandy, with  
sand stringers  
40'- 62' Sand, fine, salt and pepper  
62'-150' Clay, dark gray, silty, fossilif-  
erous @ 100'  
T. D.: 150'

\*Drill Hole No. 1508. Elevation 223'  
Location: NE¼, Sec. 24, T. 6 S., R. 12 W.  
County, Grant  
Logged by: W. L. Prior 12/84

0'- 8' Clay, tan, sandy  
8'- 10' Gravel, pea  
10'- 12' Clay, brown, iron-stained  
on top  
12'-150' Clay, dark gray, with minor  
silt and sand, carbonate string-  
ers @ 60', fossil shells @ 80',  
and 3" of carbonate @ 130'  
T. D.: 150'

\*Drill Hole No. 1509. Elevation 300'  
Location: NW¼, Sec. 32, T. 10 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 14' Clay, light gray, sandy, iron-  
stained  
14'- 19' Sand, fine, gray  
19'- 22' Clay, dark gray, sandy, with  
organic matter  
22'- 24' Clay, chocolate-brown, sandy  
24'- 28' Clay, birds-eye blue, sandy  
28'- 57' Clay, dark gray, sandy, with  
intermittent sand  
57'- 66' Clay, chocolate-brown, sandy  
66'- 68' Sand, fine, dark gray, glauco-  
nitic  
68'- 79' Clay, dark gray, sandy, with  
8" of lignite @ 78'  
79'- 81' Clay, chocolate-brown, sandy  
81'-150' Clay, light gray, silty, with  
4" of lignite @ 118'  
T. D.: 150'

\*Drill Hole No. 1510. Elevation 400'  
Location: SW¼, Sec. 30, T. 10 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 12' Sand, fine, with thin, inter-  
mittent clay seams  
12'- 17' Clay, light gray, sandy  
17'- 18' Clay, sandy, lignitic  
18'- 60' Clay, dark gray, sandy, with  
6" of lignite @ 59'  
60'- 64' Clay, chocolate-brown, sandy  
64'- 69' Clay, sandy, lignitic, with 8"  
of lignite @ 66'  
69'- 82' Clay, dark gray, sandy to  
silty  
82'-102' Clay, gray, sandy, with 10"  
of siderite @ 88'

102'-150' Clay, dark gray, silty  
T. D.: 150'

\*Drill Hole No. 1511. Elevation 340'  
Location: NE¼, Sec. 35, T. 10 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 7' Clay, sandy, iron-stained  
7'- 10' Clay, gray, sandy  
10'- 47' Sand, fine, with sandy clay  
seam @ 21'  
47'- 53' Clay, gray to birds-eye blue,  
silty  
53'- 88' Clay, dark gray, silty  
88'- 92' Clay, silty, lignitic  
92'- 99' Clay, gray to blue-gray, silty  
99'-107' Sand, fine, salt and pepper  
107'-133' Clay, gray, sandy, with inter-  
mittent sand seams  
133'-150' Sand, fine, dark gray, silty  
T. D.: 150'

\*Drill Hole No. 1512. Elevation 290'  
Location: SW¼, Sec. 34, T. 10 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 3' Sand, road fill  
3'- 21' Clay, gray, sandy, with inter-  
mittent sand seams, and 4"  
of lignite @ 17'  
21'- 39' Clay, blue-gray to dark gray,  
silty  
39'- 41' Sand, fine, with lignitic clay  
seams  
41'- 63' Clay, light gray to chocolate-  
brown, silty, with 2" sand  
seam @ 48'  
63'- 76' Clay, sandy, with thin lignite  
seams  
76'- 91' Clay, dark gray, silty  
91'- 97' Sand, fine, salt and pepper  
97'-108' Clay, light gray, sandy, with  
thin sand and silt seams  
108'-139' Clay, gray, silty, with thin  
sand seams, and 6" of siderite  
@ 128'  
139'-150' Sand, fine, gray  
T. D.: 150'

Drill Hole No. 1513. Elevation 333'  
Location: SE¼, Sec. 27, T. 10 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 9' Sand, fine, orange  
9'- 52' Sand, fine, buff, with thin  
clay seams  
52'-111' Clay, blue-gray, silty  
111'-150' Sand and silt, fine, gray  
T. D.: 150'

Drill Hole No. 1514. Elevation 310'  
Location: NW¼, Sec. 27, T. 10 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 3/85

0'- 5' Sand, fine, gray  
5'- 19' Clay, light gray, silty  
19'- 59' Sand, fine, with sandy clay  
seams, gray  
59'- 69' Clay, gray, silty  
69'-117' Sand, fine, with interbedded  
sandy, gray clay  
117'-118' Clay, sandy, lignitic  
118'-150' Clay, chocolate-brown to  
light gray, silty  
T. D.: 150'

\*Electric logs available

ARKANSAS LIGNITE INVESTIGATIONS

**\*Drill Hole No. 1515.** Elevation 265'  
 Location: NW¼, Sec. 21, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: W. L. Prior 3/85

0'- 6' Clay, brown to gray, sandy  
 6'- 10' Sand, medium, red  
 10'- 13' Clay, yellow  
 13'- 25' Clay, light gray, silty  
 25'- 67' Sand, medium, salt and pepper  
 67'- 69' Clay, brown, lignitic, with lignite seams  
 69'-130' Clay, gray, with minor brown, lignitic clay, and 10" of firm, black lignite @ 75'-76'  
 130'-140' Sand, fine, with minor gray clay  
 140'-150' Clay, gray, with traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1516.** Elevation 235'  
 Location: NW¼, Sec. 20, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: W. L. Prior 3/85

0'- 5' Clay, brownish-gray, sandy, iron-stained  
 5'- 10' Gravel, pebble-sized  
 10'- 15' Clay, light gray, iron-stained  
 15'- 30' Clay, gray to light gray, with fine sand  
 30'- 36' Sand, fine, micaceous, with gray clay stringers  
 36'- 45' Clay, gray, with traces of lignite  
 45'- 83' Sand, fine  
 83'- 85' Clay, gray  
 85'-150' Sand, fine, with 1" lignite stringer @ 86', and small gray clay stringers  
 T. D.: 150'

**\*Drill Hole No. 1517.** Elevation 230'  
 Location: NW¼, Sec. 24, T. 10 S., R. 15 W.  
 County, Dallas  
 Logged by: W. L. Prior 3/85

0'- 6' Clay, brownish-gray, sandy, iron-stained  
 6'- 10' Gravel, pebble-sized, sandy  
 10'- 14' Clay, light gray  
 14'-140' Clay, gray, silty, with 2"-4" lignite seam @ 20' (hard, black)  
 140'-150' Sand, fine, with gray clay stringers  
 T. D.: 150'

**\*Drill Hole No. 1518.** Elevation 266'  
 Location: NE¼, Sec. 17, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: W. L. Prior 3/85

0'- 12' Clay, tan, sandy, silty  
 12'- 20' Clay, light gray, with minor sand  
 20'- 22' Ironstone  
 22'- 40' Sand, fine, micaceous  
 40'- 65' Sand, medium, micaceous, with 2"-4" of black lignite @ 64'  
 65'- 80' Clay, gray  
 80'-150' Clay, gray, with sand stringers and traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1519.** Elevation 300'  
 Location: NE¼, Sec. 8, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: W. L. Prior 3/85

0'- 24' Sand, medium, tan, with clay stringers  
 24'- 50' Clay, light gray  
 50'- 80' Sand, medium  
 80'-150' Clay, gray, with traces of lignite  
 T. D.: 150'

**Drill Hole No. 1520.** Elevation 237'  
 Location: SW¼, Sec. 14, T. 10 S., R. 15 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 5' Sand, fine, brown  
 5'- 9' Clay, gray, silty, iron-stained  
 9'- 29' Clay, light gray, sandy, with intermittent sand stringers  
 29'- 31' Clay, dark gray, silty  
 31'- 40' Clay, gray, sandy, with intermittent sand seams  
 40'- 42' Clay, dark gray, silty, with intermittent sand seams  
 42'- 90' Clay, dark gray, sandy, with sand seams  
 90'-110' Sand, fine, gray, with intermittent sandy clay seams  
 110'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**Drill Hole No. 1521.** Elevation 300'  
 Location: SE¼, Sec. 16, T. 10 S., R. 15 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 18' Sand, fine, brown  
 18'- 45' Sand, fine, gray, with intermittent sandy, gray clay seams  
 45'- 52' Sand, fine, dark gray  
 52'- 80' Clay, gray, sandy  
 80'-110' Sand, fine, gray  
 110'-150' Clay, gray, sandy  
 T. D.: 150'

**Drill Hole No. 1522.** Elevation 290'  
 Location: SE¼, Sec. 17, T. 10 S., R. 15 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 3' Sand, fine, brown  
 3'- 20' Clay, gray, sandy, with sand seams  
 20'- 90' Clay, dark gray, silty to sandy  
 95'-100' Clay, gray, sandy  
 100'-150' Sand, fine  
 T. D.: 150'

**Drill Hole No. 1523.** Elevation 280'  
 Location: SE¼, Sec. 18, T. 10 S., R. 15 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 6' Sand, fine, brown  
 6'- 9' Clay, gray, sandy  
 9'-101' Sand, fine, brown  
 101'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**Drill Hole No. 1524.** Elevation 380'  
 Location: SE¼, Sec. 4, T. 10 S., R. 14 W.

County, Dallas  
 Logged by: Q. Baber 3/85

0'- 11' Clay, brown to gray, sandy, with sand stringers  
 11'- 22' Clay, gray to chocolate-brown, silty  
 22'- 24' Clay, sandy, lignitic, with 6" of lignite @ 23'  
 24'- 32' Clay, gray, silty  
 32'- 40' Sand, fine, salt and pepper  
 40'- 75' Clay, dark gray to birds-eye blue to gray, silty  
 75'- 77' Clay, lignitic, with 4" of lignite  
 77'- 83' Clay, gray to blue-gray, silty  
 83'-150' Sand, fine, salt and pepper, with intermittent sandy clay seams  
 T. D.: 150'

**Drill Hole No. 1525.** Elevation 370'  
 Location: NE¼, Sec. 3, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 3' Sand, fine, brown  
 3'- 9' Clay, gray, sandy  
 9'- 24' Clay, gray, silty, with 3" of siderite @ 16'  
 24'- 28' Clay, silty, lignitic  
 28'- 31' Clay, birds-eye blue, silty  
 31'- 82' Clay, gray, silty, with 4" of lignite @ 40'  
 82'- 87' Clay, silty, lignitic  
 87'-150' Clay, gray, silty  
 T. D.: 150'

**Drill Hole No. 1526.** Elevation 312'  
 Location: NE¼, Sec. 2, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: Q. Baber 3/85

0'- 11' Clay, brown to gray, sandy  
 11'- 65' Clay, light gray to dark gray, silty, with 4" of lignite @ 60'  
 65'-110' Clay, blue-gray, silty  
 110'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1527.** Elevation 288'  
 Location: NW¼, Sec. 1, T. 10 S., R. 14 W.  
 County, Dallas  
 Logged by: W. L. Prior 4/85

0'- 5' Clay, light grayish-brown, iron-stained  
 5'- 10' Clay, light gray  
 10'- 24' Clay, variegated brownish-gray and yellow-brown, iron-stained  
 24'- 32' Clay, gray, with traces of lignite  
 32'- 38' Sand, medium, salt and pepper  
 38'- 50' Clay, gray  
 50'- 51' Clay, chocolate-brown, lignitic  
 51'- 52' Lignite, hard, black, with brown clay  
 52'- 54' Clay, chocolate-brown, lignitic  
 54'- 65' Clay, blue-green  
 65'- 89' Clay, gray, sandy  
 89'-103' Sand, fine, with clay stringers  
 103'-120' Clay, chocolate-brown, lignitic  
 120'-130' Sand, fine  
 130'-140' Clay, brown, sandy, with traces of lignite  
 140'-150' Clay, gray, silty  
 T. D.: 150'

\*Electric logs available

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**\*Drill Hole No. 1528.** Elevation 270'  
Location: SW $\frac{1}{4}$ , Sec. 31, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: W. L. Prior 4/85

0'- 10' Clay, flesh, with minor red and yellow iron staining  
10'- 19' Clay, flesh, sandy  
19'- 24' Clay, chocolate-brown, lignitic  
24'- 30' Clay, blue-green to brownish-gray  
30'- 45' Clay, gray, with greenish, fine sand stringers  
45'- 52' Clay, greenish-gray, with 1"-2" of carbonate @ 46'  
52'- 59' Clay, gray, silty  
59'- 62' Clay, chocolate-brown, lignitic  
62'- 67' Clay, blue-green  
67'- 77' Sand, fine, green, with gray clay stringers  
77'- 81' Clay, gray  
81'- 86' Sand, fine, green  
86'- 91' Clay, gray  
91'- 96' Clay, variegated with gray and chocolate-brown lignitic clay  
96'-110' Clay, greenish-gray, with fine, green sand  
110'-140' Clay, gray, with fine sand stringers, and 2" of carbonate @ 134'  
140'-150' Sand, fine  
T. D.: 150'

**\*Drill Hole No. 1529.** Elevation 280'  
Location: NE $\frac{1}{4}$ , Sec. 31, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: W. L. Prior 4/85

0'- 5' Clay, buff, sandy  
5'- 26' Clay, buff to gray  
26'- 38' Clay, brown and gray variegated to blue-green  
38'- 45' Clay, greenish-gray, with traces of lignite  
45'- 47' Clay, gray, with fine sand beds  
47'- 54' Sand, fine, green, salt and pepper  
54'- 56' Clay, blue-green and brown variegated  
56'-110' Clay, blue-green to greenish-gray, with 2"-4" black lignite stringer @ 105' (with some chocolate-brown lignitic clay)  
110'-130' Clay, gray, with lignite stringers and blue-green and brown lignitic clay  
130'-150' Clay, chocolate-brown, lignitic, with lignite stringers and blue-green clay  
T. D.: 150'

**\*Drill Hole No. 1530.** Elevation 270'  
Location: NE $\frac{1}{4}$ , Sec. 32, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: W. L. Prior 4/85

0'- 42' Clay, buff, with yellow limonite staining, sandy  
42'- 87' Clay, gray  
87'- 89' Clay, gray, with brown lignitic clay  
89'-124' Clay, gray, with green, silty clay stringers  
124'-133' Clay, gray, variegated with chocolate-brown, lignitic clay  
133'-140' Sand, fine, with gray clay layers  
140'-150' Clay, gray and brown inter-layered  
T. D.: 150'

\*Electric logs available

**\*Drill Hole No. 1531.** Elevation 250'  
Location: SE $\frac{1}{4}$ , Sec. 33, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: W. L. Prior 4/85

0'- 5' Clay, buff, iron-stained  
5'- 20' Clay, buff to brown  
20'- 35' Clay, dark gray, with traces of lignite  
35'- 60' Clay, greenish-gray, with fine to medium green sand stringers  
60'- 75' Clay, brown to blue-gray  
75'- 90' Clay, brown and gray, variegated  
90'-100' Clay, blue-green with brown clay stringers  
100'-150' Clay, gray  
T. D.: 150'

**\*Drill Hole No. 1532.** Elevation 197'  
Location: SW $\frac{1}{4}$ , Sec. 35, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 20' Clay, light gray, sandy  
20'- 21' Gravel, coarse pebble-sized  
21'- 23' Clay, dark gray, sandy  
23'- 29' Clay, chocolate-brown to gray, silty  
29'- 31' Clay, sandy, lignitic, with dark gray, sandy clay seams  
31'- 49' Clay, gray to chocolate-brown to birds-eye blue, silty  
49'- 90' Clay, dark gray, sandy, with sand stringers  
90'-150' Clay, gray, silty, with sand stringers  
T. D.: 150'

**\*Drill Hole No. 1533.** Elevation 260'  
Location: NE $\frac{1}{4}$ , Sec. 30, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 23' Clay, light gray, sandy  
23'- 31' Clay, dark gray to chocolate-brown, silty  
31'- 33' Clay, silty, lignitic, with hard black lignite stringers  
33'- 56' Clay, dark gray to birds-eye blue, silty  
56'- 63' Sand, fine, gray, with 6" of siderite @ 58'  
63'- 76' Clay, gray, sandy, with sand stringers  
76'- 92' Clay, dark gray, silty, with sand stringers  
92'-150' Clay, birds-eye blue to gray, silty  
T. D.: 150'

**\*Drill Hole No. 1534.** Elevation 255'  
Location: NE $\frac{1}{4}$ , Sec. 9, T. 10 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 28' Clay, gray, sandy, iron-stained  
28'- 56' Clay, dark gray, silty  
56'- 60' Clay, silty, lignitic  
60'-150' Clay, light gray, sandy  
T. D.: 150'

**\*Drill Hole No. 1535.** Elevation 310'  
Location: SE $\frac{1}{4}$ , Sec. 32, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 9' Clay, sandy, with orange sand seams

9'- 33' Sand, fine, orange to brown  
33'- 34' Clay, light gray, silty  
34'-130' Sand, fine, brown, with sandy gray clay seams  
130'-150' Clay, birds-eye blue, silty  
T. D.: 150'

**\*Drill Hole No. 1536.** Elevation 270'  
Location: NW $\frac{1}{4}$ , Sec. 19, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 12' Clay, orange, sandy, with sand seams and 6" of gravel @ 5'  
12'- 59' Sand, fine, brown, with thin silty clay seams  
59'- 67' Clay, dark gray, sandy, with intermittent salt and pepper sand seams  
67'- 75' Clay, dark gray, silty  
75'- 84' Sand, fine, salt and pepper  
84'- 96' Clay, dark gray, silty, with sand seams  
96'- 97' Lignite, hard, black  
97'-112' Sand, fine, salt and pepper, with silty clay seams  
112'-150' Clay, light gray, silty, with thin sand seams  
T. D.: 150'

**\*Drill Hole No. 1537.** Elevation 265'  
Location: NW $\frac{1}{4}$ , Sec. 18, T. 9 S., R. 13 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 6' Sand, fine, brown  
6'- 26' Clay, light gray, silty  
26'- 33' Sand, fine, brown, with sandy clay seams  
33'- 81' Clay, dark gray, sandy, with sand seams, and 4" of lignitic material @ 77'  
81'- 83' Clay, silty, lignitic  
83'-123' Clay, gray, silty, with inter-bedded sand, and lignitic material @ 107'-108'  
123'-132' Clay, light gray, silty  
132'-134' Clay, silty, lignitic  
134'-150' Clay, gray, silty  
T. D.: 150'

**\*Drill Hole No. 1538.** Elevation 265'  
Location: NW $\frac{1}{4}$ , Sec. 1, T. 9 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 7' Sand, fine, brown  
7'- 10' Clay, light gray, sandy  
10'- 21' Clay, gray, silty  
21'- 22' Lignite, hard, black  
22'- 32' Clay, dark gray, silty, with 6" of lignite @ 31'  
32'- 34' Clay, birds-eye blue, silty  
34'- 86' Clay, gray, silty  
86'-120' Sand, fine, salt and pepper  
120'-150' Clay, gray, silty, with sand stringers  
T. D.: 150'

**\*Drill Hole No. 1539.** Elevation 250'  
Location: SE $\frac{1}{4}$ , Sec. 12, T. 9 S., R. 14 W.  
County, Dallas  
Logged by: Q. Baber 4/85

0'- 6' Sand, medium brown, with 6" of gravel @ 6'

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6'- 19' Clay, light gray, silty, iron-stained  
 19'- 38' Clay, dark gray, silty  
 38'- 40' Clay, sandy, lignitic, with 6" of hard, black lignite  
 40'- 49' Sand, fine, lignitic, with thin, hard, black lignite layers  
 49'- 50' Lignite, soft, black  
 50'- 56' Clay, chocolate-brown to gray, silty  
 56'- 73' Clay, birds-eye blue to chocolate brown, silty  
 73'- 86' Sand, fine, salt and pepper, with silty clay stringers  
 86'-107' Clay, gray, silty, with sand stringers  
 107'-125' Sand, fine, salt and pepper, with silty clay stringers  
 125'-150' Clay, gray, silty, with sand stringers  
 T. D.: 150'

**\*Drill Hole No. 1540.** Elevation 250'  
 Location: NW¼, Sec. 36, T. 8 S., R. 14 W. County, Dallas  
 Logged by: Q. Baber 4/85

0'- 45' Clay, light gray, silty  
 45'- 72' Clay, dark gray, silty, with sand seams  
 72'-150' Sand, fine, salt and pepper, with silty, dark gray clay seams  
 T. D.: 150'

**\*Drill Hole No. 1541.** Elevation 240'  
 Location: NE¼, Sec. 26, T. 8 S., R. 14 W. County, Dallas  
 Logged by: Q. Baber 4/85

0'- 4' Sand, fine, brown  
 4'- 31' Clay, light gray, sandy to silty  
 31'- 61' Clay, dark gray, silty  
 61'- 63' Sand, fine, salt and pepper  
 63'- 71' Clay, dark gray, silty  
 71'- 92' Sand, fine, salt and pepper, with silty clay seams  
 92'-130' Clay, dark gray, silty, with sand seams  
 130'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1542.** Elevation 239'  
 Location: NW¼, Sec. 23, T. 8 S., R. 14 W. County, Dallas  
 Logged by: Q. Baber 4/85

0'- 6' Sand, fine, brown  
 6'- 25' Clay, light gray, sandy, with sand seams  
 25'- 73' Clay, dark gray, silty, with 6" of lignite @ 45', and 4" of lignite @ 72'  
 73'- 76' Sand, fine, salt and pepper  
 76'-121' Clay, dark gray, silty  
 121'-150' Sand, fine, salt and pepper, with silty clay seams  
 T. D.: 150'

**Drill Hole No. 1543.** Elevation 270'  
 Location: NE¼, Sec. 15, T. 8 S., R. 14 W. County, Dallas  
 Logged by: W. L. Prior 4/85

0'- 8' Sand, fine, orange  
 8'- 10' Clay, red to gray, sandy  
 10'- 20' Clay, buff  
 20'- 40' Sand, fine to medium  
 40'- 60' Sand, fine, salt and pepper

60'-110' Sand, medium, with minor gray clay stringers  
 T. D.: 110'

**\*Drill Hole No. 1544.** Elevation 150'  
 Location: NW¼, Sec. 32, T. 9 S., R. 17 W. County, Dallas  
 Logged by: W. L. Prior 5/85

0'- 6' Sand and silt, fine  
 6'- 7' Gravel, pea, with fine sand  
 7'- 33' Clay, intermixed gray and brown, sandy  
 33'- 36' Sand, fine, brown, with pea gravel  
 36'- 52' Clay, dark chocolate-brown, with minor sand  
 52'- 65' Clay, dark chocolate-brown, lignitic, with fine sand  
 65'- 95' Sand, fine  
 95'-120' Clay, chocolate-brown, lignitic  
 120'-128' Sand, medium  
 128'-150' Clay, chocolate-brown, with traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1545.** Elevation 140'  
 Location: SE¼, Sec. 36, T. 9 S., R. 18 W. County, Dallas  
 Logged by: W. L. Prior 5/85

0'- 20' Clay, brown, sandy  
 20'- 30' Sand, brown, clayey, with pebble-sized gravel  
 30'- 40' Sand, medium, with some clay, and large, pebble-sized gravel  
 40'- 45' Sand, coarse, with pebble-sized gravel  
 45'- 60' Clay, chocolate-brown, sandy, lignitic  
 60'- 90' Sand, fine, with clay stringers  
 90'-100' Clay, brown, lignitic, with layers of fine sand  
 100'-115' Sand, fine, micaceous, with brown, lignitic clay stringers  
 115'-145' Clay, gray and brown, lignitic, with traces of lignite  
 145'-147' Lignite, hard, black  
 147'-150' Clay, chocolate-brown, with 10" of hard, black lignite  
 T. D.: 150'

**Drill Hole No. 1546.** Elevation 265'  
 Location: NW¼, Sec. 25, T. 9 S., R. 17 W. County, Dallas  
 Logged by: Q. Baber 5/85

0'- 7' Gravel, pebble- to pea-sized, with medium orange sand, and 6" of cobble-sized gravel @ 6'  
 7'- 27' Clay, gray, sandy  
 27'- 78' Sand, fine, gray, with traces of lignite  
 78'-150' Sand, fine, with sandy, gray clay seams, and traces of lignite  
 T. D.: 150'

**\*Drill Hole No. 1547.** Elevation 290'  
 Location: SW¼, Sec. 19, T. 9 S., R. 16 W. County, Dallas  
 Logged by: Q. Baber 6/85

0'- 17' Sand, fine, orange to brown  
 17'- 23' Sand, medium, brown  
 23'- 65' Sand, fine, gray  
 65'-150' Clay, gray to white, sandy, with sand seams, and 4" of hard, black lignite @ 127'  
 T. D.: 150'

**\*Drill Hole No. 1548.** Elevation 150'  
 Location: SW¼, Sec. 14, T. 10 S., R. 17 W. County, Dallas  
 Logged by: Q. Baber 6/85

0'- 3' Sand, fine, brown  
 3'- 8' Clay, brown, silty  
 8'- 24' Sand, fine, brown  
 24'- 32' Gravel, pea, with coarse sand  
 32'- 75' Clay, dark gray, silty, with 8" of siderite @ 74'  
 75'-110' Clay, brown, sandy, glauconitic  
 110'-150' Clay, chocolate-brown, silty, with stringers of fine sand  
 T. D.: 150'

**\*Drill Hole No. 1549.** Elevation 280'  
 Location: SE¼, Sec. 18, T. 9 S., R. 16 W. County, Dallas  
 Logged by: Q. Baber 6/85

0'- 20' Clay, light gray to dark gray, sandy  
 20'- 45' Clay, dark gray, silty, with 2' of sand @ 41'-43', and 6" of black lignite  
 45'- 82' Clay, gray, sandy  
 82'-106' Sand, fine, gray, with lignitic stringers  
 106'-150' Clay, gray, sandy, with lignitic stringers, and intermittent sand seams  
 T. D.: 150'

**Drill Hole No. 1550.** Elevation 295'  
 Location: SW¼, Sec. 8, T. 9 S., R. 16 W. County, Dallas  
 Logged by: Q. Baber 6/85

0'- 20' Clay, light gray, sandy, iron-stained  
 20'- 30' Sand, fine, salt and pepper  
 30'- 70' Clay, gray, sandy  
 70'-140' Sand, fine, gray  
 140'-150' Clay, gray, sandy, with lignitic stringer  
 T. D.: 150'

**\*Drill Hole No. 1551.** Elevation 290'  
 Location: NE¼, Sec. 8, T. 9 S., R. 16 W. County, Dallas  
 Logged by: W. L. Prior 6/85

0'- 12' Sand, medium, red, with minor red clay  
 12'- 42' Sand, fine  
 42'- 48' Clay, gray, with traces of lignite  
 48'- 58' Sand, fine, micaceous  
 58'- 90' Clay, gray, with fine sand  
 90'-100' Sand, fine  
 100'-115' Clay, gray, sandy  
 115'-150' Sand, fine  
 T. D.: 150'

**\*Drill Hole No. 1552.** Elevation 239'  
 Location: NW¼, Sec. 4, T. 9 S., R. 16 W. County, Dallas  
 Logged by: W. L. Prior 6/85

0'- 12' Clay, red, sandy  
 12'- 35' Sand, fine to medium, micaceous  
 35'- 84' Clay, gray, sandy, with traces of lignite  
 84'- 95' Sand, medium, gray salt and pepper  
 95'-105' Clay, gray  
 105'-150' Sand, medium, gray, micaceous  
 T. D.: 150'

\*Electric logs available

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**\*Drill Hole No. 1553.** Elevation 310'  
Location: SE¼, Sec. 6, T. 9 S., R. 15 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 9' Clay, red, sandy  
9'- 12' Clay, white to pink  
12'- 20' Sand, fine  
20'- 30' Clay, white, with yellow iron staining  
30'- 54' Sand, fine, with white clay stringers  
54'- 70' Clay, gray, with traces of lignite, and 10" of hard, black lignite @ 65'  
70'- 90' Sand, fine to medium  
90'-101' Clay, gray, with traces of lignite  
101'-150' Sand, medium, with clay and lignite stringers  
T. D.: 150'

**\*Drill Hole No. 1554.** Elevation 270'  
Location: NW¼, Sec. 7, T. 9 S., R. 15 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 7' Clay, buff, with red iron staining  
7'- 40' Clay, light gray to dark gray  
40'- 55' Clay, gray, with medium, micaceous sand layers  
55'-130' Sand, medium, micaceous, with a 4"-5" lignite log (?) @ 110'  
130'-145' Clay, gray, with siderite layers  
T. D.: 145'

**\*Drill Hole No. 1555.** Elevation 273'  
Location: NE¼, Sec. 13, T. 9 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 5' Clay, red and white mottled, sandy  
5'- 20' Clay, light gray  
20'- 45' Clay, white, interbedded with fine sand  
45'- 55' Sand, fine  
55'- 93' Sand, medium  
93'-100' Clay, white, with yellow iron staining  
100'-130' Sand, medium, with white clay @ 120'  
130'-150' Clay, dark gray and white, with traces of lignite, and 1"-2" of siderite @ 139'6"  
T. D.: 150'

**\*Drill Hole No. 1556.** Elevation 241'  
Location: NW¼, Sec. 24, T. 9 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 4' Clay, brown to tan, sandy  
4'- 15' Clay, tan  
15'- 20' Clay, white, with yellow iron staining  
20'- 24' Sand, medium  
24'- 27' Clay, gray-brown, with traces of lignite  
27'- 72' Sand, fine, micaceous, with gray clay stringers  
72'- 76' Clay, grayish-brown, sandy  
76'- 81' Clay, chocolate-brown, lignitic, with greenish-gray clay beds  
81'-125' Clay, greenish-gray, silty  
125'-150' Sand, fine, micaceous, with gray clay stringers  
T. D.: 150'

\*Electric logs available

**\*Drill Hole No. 1557.** Elevation 232'  
Location: SE¼, Sec. 23, T. 9 S., R. 16 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 10' Clay, white with red iron staining, sandy  
10'- 35' Sand, medium  
35'- 43' Clay, gray, with 2"-3" of hard black lignite @ 42'  
43'- 47' Sand, medium  
47'- 72' Clay, gray, with 1" ironstone layers @ 52' and 53', and siderite layer @ 60'  
72'- 80' Sand, fine, micaceous  
80'- 90' Clay, tan, sandy, with traces of lignite, and some dark gray clay  
90'-100' Sand, medium, micaceous, salt and pepper, with dark organic material  
100'-110' Clay, dark gray and buff mottled, with some ironstone stringers  
T. D.: 110'

**Drill Hole No. 1558.** Elevation 260'  
Location: SW¼, Sec. 26, T. 9 S., R. 16 W.  
County, Dallas  
Logged by: Q. Baber 6/85

0'- 3' Sand, medium, orange  
3'- 7' Gravel, pea, with sandy gray clay  
7'- 20' Sand, fine, with sandy gray clay  
20'- 80' Sand, fine, brown  
T. D.: 80'

**\*Drill Hole No. 1559.** Elevation 260'  
Location: NW¼, Sec. 33, T. 9 S., R. 16 W.  
County, Dallas  
Logged by: Q. Baber 6/85

0'- 4' Gravel, pea, sandy  
4'- 17' Clay, gray, sandy, with sand stringers  
17'- 50' Sand, fine, brown  
50'- 70' Sand, fine, brown, with sandy clay seams, and traces of lignite  
70'-140' Sand, fine, gray, silty, with sandy clay seams, and traces of lignite  
T. D.: 140'

**Drill Hole No. 1560.** Elevation 260'  
Location: SE¼, Sec. 34, T. 8 S., R. 15 W.  
County, Dallas  
Logged by: Q. Baber 6/85

0'- 10' Clay, brown, sandy, iron-stained  
10'- 14' Sand, fine, gray  
14'- 21' Clay, gray, sandy, with intermittent sand seams  
21'- 90' Sand, fine, salt and pepper  
T. D.: 90'

**\*Drill Hole No. 1561.** Elevation 340'  
Location: SW¼, Sec. 35, T. 8 S., R. 15 W.  
County, Dallas  
Logged by: Q. Baber 6/85

0'- 12' Clay, gray, sandy, iron-stained  
12'- 33' Sand, fine, salt and pepper, with thin sandy clay seams  
33'- 81' Clay, light gray, silty  
81'-140' Sand, fine, salt and pepper, silty  
T. D.: 140'

**\*Drill Hole No. 1562.** Elevation 320'  
Location: NW¼, Sec. 36, T. 8 S., R. 15 W.  
County, Dallas  
Logged by: Q. Baber 6/85

0'- 13' Clay, light gray, sandy  
13'- 43' Clay, light gray, silty, with sand stringers  
43'- 48' Clay, silty, lignitic, with traces of lignite  
48'- 61' Clay, gray, silty, with silt stringers  
61'- 92' Silt, fine, gray, with intermittent clay seams  
92'-140' Silt, fine, gray, with sand seams  
T. D.: 140'

**\*Drill Hole No. 1563.** Elevation 315'  
Location: NW¼, Sec. 31, T. 8 S., R. 14 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 12' Clay, buff  
12'- 40' Clay, beige, with yellow ilmenite staining and sand stringers  
40'- 50' Clay, gray, with minor sand  
50'- 60' Clay, blue-green, sticky  
60'- 62' Clay, chocolate-brown, lignitic, with traces of black lignite  
62'- 68' Clay, brownish-gray, with traces of lignite  
68'- 75' Clay, gray, interlayered with light gray, sticky clay  
75'-120' Clay, light gray, sticky, with 1" of siderite (?) @ 117'  
120'-150' Clay, gray, silty, sandy  
T. D.: 150'

**\*Drill Hole No. 1564.** Elevation 325'  
Location: SW¼, Sec. 29, T. 8 S., R. 14 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 11' Clay, red, sandy  
11'- 24' Sand, fine, salt and pepper, with white clay stringers, and 2"-3" of hard black lignite @ 24'  
24'- 25' Clay, chocolate-brown, lignitic  
25'- 30' Clay, gray  
30'- 70' Clay, greenish-gray, silty  
70'- 90' Clay, greenish-gray, with minor sand  
90'-105' Clay, gray to light gray, with traces of lignite, and sand stringers  
105'-120' Sand, fine, salt and pepper, with gray clay layers, and traces of lignite  
120'-140' Clay, gray, with minor sand  
140'-150' Clay, gray  
T. D.: 150'

**\*Drill Hole No. 1565.** Elevation 320'  
Location: SW¼, Sec. 28, T. 8 S., R. 14 W.  
County, Dallas  
Logged by: W. L. Prior 6/85

0'- 85' Sand, medium, salt and pepper, micaceous  
85'- 86' Clay, red, with 3"-4" of hard, black lignite  
86'- 92' Clay, greenish-gray  
92'-100' Clay, red, with a 2"-3" soft, black lignite stringer @ 93'  
100'-115' Clay, reddish-brown, interlayered with white clay  
115'-130' Clay, reddish-brown, with minor gray clay  
130'-150' Clay, reddish brown  
T. D.: 150'

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**\*Drill Hole No. 1566.** Elevation: 265'  
 Location: NW¼, Sec. 19, T. 8 S., R. 16 W.  
 County, Dallas  
 Logged by: Q. Baber 7/85

- 0'- 4' Sand, medium, reddish-brown
- 4'- 6' Clay, gray, sandy, iron-stained
- 6'- 20' Clay, light gray, silty
- 20'- 24' Clay, gray, sandy, with sand stringers and siderite layers
- 24'- 44' Sand, fine, gray
- 44'- 54' Clay, gray, silty
- 54'-150' Silt, fine, gray, with thin silty clay stringers  
 T. D.: 150'

**Drill Hole No. 1567.** Elevation 150'  
 Location: SW¼, Sec. 28, T. 17 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 7/85

- 0'- 8' Sand, medium, orange
- 8'- 11' Gravel, pea
- 11'- 25' Clay, light gray, silty
- 25'- 30' Clay, silty, lignitic, with traces of lignite
- 30'- 70' Clay, gray, silty
- 70'- 90' Sand, fine, salt and pepper
- 90'-150' Clay, gray, silty, with 4" of siderite @ 96'  
 T. D.: 150'

**Drill Hole No. 1568.** Elevation 150'  
 Location: NW¼, Sec. 32, T. 17 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 7/85

- 0'- 5' Gravel, pea, with medium brown sand
- 5'- 10' Clay, brown, silty
- 10'- 45' Sand, fine, brown, with 4" of lignite @ 44'
- 45'-150' Clay, gray to brown, silty, with intermittent fine sand seams  
 T. D.: 150'

**\*Drill Hole No. 1569.** Elevation 125'  
 Location: NW¼, Sec. 31, T. 17 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 7/85

- 0'- 8' Sand, medium, brown, with interbedded pea gravel seams
- 8'- 28' Clay, gray, silty, with a 1' lignitic zone @ 18'
- 28'-100' Clay, gray-brown, silty, with intermittent sand seams
- 100'-150' Sand, fine, salt and pepper  
 T. D.: 150'

**\*Drill Hole No. 1570.** Elevation 145'  
 Location: NW¼, Sec. 29, T. 17 S., R. 8 W.  
 County, Ashley

\*Electric logs available

Logged by: Q. Baber 7/85

- 0'- 13' Sand, medium, with interbedded pea gravel
- 13'- 77' Sand, fine, salt and pepper
- 77'-110' Clay, gray, silty, with intermittent sand seams
- 110'-150' Sand, fine, iron-cemented, with intermittent white, silty, lignitic clay stringers  
 T. D.: 150'

**\*Drill Hole No. 1571.** Elevation 117'  
 Location: SW¼, Sec. 15, T. 18 S., R. 9 W.  
 County, Ashley  
 Logged by: W. L. Prior 7/85

- 0'- 5' Clay, light brown, sandy
- 5'- 20' Clay, brown to light gray, sandy
- 20'- 30' Sand, fine
- 30'- 48' Sand, medium, with ironstone stringers
- 48'-115' Clay, tan to gray, with sand stringers and 8" of ironstone (?) @ 66'
- 115'-150' Sand, fine, with yellow iron-stained clay, micaceous  
 T. D.: 150'

**\*Drill Hole No. 1572.** Elevation 107'  
 Location: SE¼, Sec. 17, T. 18 S., R. 9 W.  
 County, Ashley  
 Logged by: W. L. Prior 7/85

- 0'- 13' Clay, tan, silty
- 13'- 26' Clay, white, silty, sandy
- 26'- 54' Sand, medium, with pea gravel
- 54'- 70' Clay, yellowish-brown to gray
- 70'-117' Sand, medium, with traces of lignite
- 117'-130' Clay, gray, sandy  
 T. D.: 130'

**\*Drill Hole No. 1573.** Elevation 150'  
 Location: SW¼, Sec. 32, T. 18 S., R. 8 W.  
 County, Ashley  
 Logged by: W. L. Prior 7/85

- 0'- 10' Clay, reddish-brown, mottled
- 10'- 30' Clay, orange-red
- 30'- 33' Sand, medium
- 33'- 37' Clay, orange-red
- 37'- 70' Sand, medium, with minor red clay
- 70'-145' Sand, coarse, salt and pepper with dark minerals  
 T. D.: 145'

**Drill Hole No. 1574.** Elevation 160'  
 Location: SE¼, Sec. 16, T. 18 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 8/85

- 0'- 25' Sand, fine, brown

- 25'- 66' Clay, orange, sandy
- 66'- 76' Sand, medium, brown
- 76'- 80' Gravel, pea, with medium sand  
 T. D.: 80'

**Drill Hole No. 1575.** Elevation 130'  
 Location: NW¼, Sec. 5, T. 18 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 8/85

- 0'- 4' Sand, fine, brown
- 4'- 8' Clay, brown, sandy, with lignitic fragments
- 8'- 11' Clay, gray-brown, sandy, with limonite fragments
- 11'- 16' Sand, medium, brown
- 16'- 17' Gravel, pea
- 17'- 30' Sand, medium, brown  
 T. D.: 30'

**\*Drill Hole No. 1576.** Elevation 125'  
 Location: NW¼, Sec. 7, T. 18 S., R. 8 W.  
 County, Ashley  
 Logged by: Q. Baber 8/85

- 0'- 4' Sand, fine, brown
- 4'- 11' Clay, gray, silty
- 11'- 40' Sand, medium, brown
- 40'- 41' Sand, coarse
- 41'- 44' Clay, dark gray-brown, sandy
- 44'- 72' Clay, gray, silty
- 72'- 76' Clay, silty, lignitic, with traces of lignite
- 76'-100' Clay, gray, silty, with lignitic stringers
- 100'-110' Sand, fine, gray
- 110'-150' Silt, fine, gray  
 T. D.: 150'

**\*Drill Hole No. 1577.** Elevation 115'  
 Location: NE¼, Sec. 1, T. 18 S., R. 9 W.  
 County, Ashley  
 Logged by: Q. Baber 8/85

- 0'- 11' Sand, fine, brown, with sandy gray clay stringers
- 11'- 21' Sand, medium, brown
- 21'- 22' Sand, coarse, angular
- 22'- 52' Sand, fine, dark gray, with sandy gray clay seams
- 52'- 81' Silt, fine, brown, with 4" of lignite @ 65'
- 81'- 84' Sand, fine, gray
- 84'-120' Silt, fine, brown
- 120'-136' Sand, fine, iron-cemented
- 136'-150' Silt, fine, gray  
 T. D.: 150'

**Drill Hole No. 1578.** Elevation 150'  
 Location: SW¼, Sec. 25, T. 17 S., R. 9 W.  
 County, Ashley  
 Logged by: Q. Baber 8/85

- 0'- 15' Sand, fine, reddish-brown  
 T. D.: 15'

**APPENDIX C**  
**Analyses of Arkansas Lignite**

ARKANSAS LIGNITE INVESTIGATIONS

TABLE 1 -- PROXIMATE AND ULTIMATE ANALYSES OF LIGNITE IN ARKANSAS

| Locality Number /1 | Thickness (inches) | Site of sample /2 | U. S. Bur. Mines lab No. | Condition /3 | Air-drying loss | Proximate analyses |                 |              |      | Ultimate analyses |                  |      |      |          |        |          | Free swelling index No. | Source of analyses /4 | Remarks |        |         |                                 |   |                   |  |
|--------------------|--------------------|-------------------|--------------------------|--------------|-----------------|--------------------|-----------------|--------------|------|-------------------|------------------|------|------|----------|--------|----------|-------------------------|-----------------------|---------|--------|---------|---------------------------------|---|-------------------|--|
|                    |                    |                   |                          |              |                 | Moisture           | Volatile matter | Fixed carbon | Ash  | Sulphur           | Forms of Sulphur |      |      | Hydrogen | Carbon | Nitrogen |                         |                       |         | Oxygen | Btu/lb. | Initial deformation temperature | Softening temperature                               | Fluid temperature |  |
| 3                  | 81                 | C                 | K-62639                  | 1            |                 | 41.8               | 26.2            | 14.4         | 17.6 | 0.3               | 0.01             | 0.02 | 0.30 | 7.1      | 29.0   | 0.4      | 45.6                    | 5060                  | 2410    | 2460   | 2570    | A                               | NW 1/4, Sec. 18, T. 11 N., R. 4 E. Poinsett County  |                   |  |
|                    |                    |                   |                          | 2            |                 | 44.9               | 24.9            | 30.2         | 0.6  | 0.01              | 0.03             | 0.51 | 4.2  | 49.8     | 0.8    | 14.4     | 8680                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 64.4               | 35.6            | 0.8          | 0.02 | 0.04              | 0.74             | 6.0  | 71.4 | 1.1      | 20.7   | 12430    |                         |                       |         |        |         |                                 |   |                   |  |
| 24                 | 78                 | C                 | K-62641                  | 1            |                 | 43.7               | 21.8            | 15.6         | 18.9 | 0.5               | 0.00             | 0.08 | 0.47 | 7.0      | 24.9   | 0.5      | 48.2                    | 4260                  | 2360    | 2410   | 2530.   | A                               | NE 1/4, Sec. 18, T. 11 N., R. 4 E. Poinsett County  |                   |  |
|                    |                    |                   |                          | 2            |                 | 38.7               | 27.6            | 33.7         | 1.0  | 0.00              | 0.13             | 0.83 | 3.7  | 44.3     | 0.8    | 16.5     | 7560                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 58.4               | 41.6            | 1.5          | 0.00 | 0.20              | 1.25             | 5.6  | 66.8 | 1.2      | 24.9   | 11400    |                         |                       |         |        |         |                                 |   |                   |  |
| 27                 | 27                 | C                 | K-62644                  | 1            |                 | 44.2               | 25.9            | 18.0         | 11.9 | 3.0               | 0.50             | 1.44 | 1.06 | 7.4      | 29.5   | 0.4      | 47.8                    | 5160                  | 1990    | 2040   | 2090    | A                               | SE 1/4, Sec. 9, T. 11 N., R. 4 E. Poinsett County   |                   |  |
|                    |                    |                   |                          | 2            |                 | 46.3               | 32.4            | 21.3         | 5.4  | 0.90              | 2.58             | 1.90 | 4.5  | 52.9     | 0.8    | 15.1     | 9250                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 58.9               | 41.1            | 6.8          | 0.02 | 0.04              | 0.82             | 6.7  | 69.1 | 1.1      | 22.2   | 11750    |                         |                       |         |        |         |                                 |   |                   |  |
| 31                 | 29                 | C                 | K-62640                  | 1            |                 | 34.7               | 26.2            | 13.3         | 25.8 | 0.3               | 0.01             | 0.01 | 0.32 | 6.5      | 27.3   | 0.4      | 39.7                    | 4830                  | 2360    | 2410   | 2530    | A                               | SE 1/4, Sec. 18, T. 11 N., R. 4 E. Poinsett County  |                   |  |
|                    |                    |                   |                          | 2            |                 | 40.1               | 20.4            | 39.5         | 0.5  | 0.01              | 0.02             | 0.49 | 4.0  | 41.8     | 0.6    | 13.6     | 7390                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 66.2               | 33.8            | 0.9          | 0.02 | 0.04              | 0.82             | 6.7  | 69.1 | 1.1      | 22.2   | 12220    |                         |                       |         |        |         |                                 |   |                   |  |
| 35                 | 74                 | C                 | K-62642                  | 1            |                 | 36.8               | 21.7            | 13.3         | 28.2 | 0.4               | 0.01             | 0.01 | 0.37 | 5.8      | 23.1   | 0.6      | 41.9                    | 3740                  | 2630    | 2680   | 2730    | A                               | SE 1/4, Sec. 31, T. 11 N., R. 4 E. Poinsett County  |                   |  |
|                    |                    |                   |                          | 2            |                 | 34.3               | 21.1            | 44.6         | 0.6  | 0.01              | 0.01             | 0.58 | 2.8  | 36.5     | 1.0    | 14.5     | 5910                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 61.9               | 38.1            | 1.1          | 0.02 | 0.02              | 1.05             | 5.0  | 65.8 | 1.8      | 26.3   | 10670    |                         |                       |         |        |         |                                 |   |                   |  |
| 62                 | 18                 | C                 | K-62643                  | 1            |                 | 41.6               | 17.8            | 13.6         | 27.0 | 0.5               | 0.03             | 0.14 | 0.38 | 6.3      | 20.4   | 0.3      | 45.5                    | 3400                  | 2580    | 2630   | 2680    | A                               | SE 1/4, Sec. 28, T. 13 N., R. 4 E. Craighead County |                   |  |
|                    |                    |                   |                          | 2            |                 | 30.5               | 23.3            | 46.2         | 0.9  | 0.04              | 0.24             | 0.65 | 2.8  | 34.9     | 0.6    | 14.6     | 5820                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 56.6               | 43.4            | 1.7          | 0.08 | 0.45              | 1.21             | 5.3  | 64.8 | 1.1      | 27.1   | 10820    |                         |                       |         |        |         |                                 |   |                   |  |
| 68                 | 18                 | C                 | K-62645                  | 1            |                 | 36.3               | 20.0            | 13.3         | 30.4 | 0.3               | 0.01             | 0.04 | 0.20 | 5.9      | 22.9   | 0.4      | 40.1                    | 3910                  | 2410    | 2460   | 2760    | A                               | SE 1/4, Sec. 21, T. 14 N., R. 3 E. Craighead County |                   |  |
|                    |                    |                   |                          | 2            |                 | 31.4               | 20.9            | 47.7         | 0.4  | 0.02              | 0.06             | 0.31 | 2.9  | 36.0     | 0.6    | 12.4     | 6140                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 60.1               | 39.9            | 0.8          | 0.04 | 0.12              | 0.60             | 5.6  | 68.9 | 1.2      | 23.5   | 11740    |                         |                       |         |        |         |                                 |   |                   |  |
| 24                 | 24                 | C                 | K-62646                  | 1            |                 | 40.1               | 20.1            | 19.3         | 20.5 | 1.0               | 0.09             | 0.45 | 0.46 | 6.5      | 27.5   | 0.4      | 44.1                    | 4590                  | 2250    | 2300   | 2350    | A                               | SE 1/4, Sec. 21, T. 14 N., R. 3 E. Craighead County |                   |  |
|                    |                    |                   |                          | 2            |                 | 33.6               | 32.2            | 34.2         | 1.7  | 0.14              | 0.75             | 0.77 | 3.3  | 45.8     | 0.7    | 14.3     | 7660                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 51.0               | 49.0            | 2.5          | 0.22 | 1.14              | 1.17             | 5.1  | 69.7 | 1.1      | 21.6   | 11640    |                         |                       |         |        |         |                                 |   |                   |  |
| 71                 | 31                 | C                 | K-63975                  | 1            |                 | 44.5               | 24.0            | 19.7         | 11.8 | 0.4               | 0.04             | 0.10 | 0.31 | 7.3      | 30.8   | 0.6      | 49.1                    | 5250                  | 2200    | 2250   | 2350    | A                               | SE 1/4, Sec. 19, T. 14 N., R. 3 E. Craighead County |                   |  |
|                    |                    |                   |                          | 2            |                 | 43.3               | 35.4            | 21.3         | 0.8  | 0.07              | 0.17             | 0.55 | 4.3  | 55.5     | 1.0    | 17.1     | 9460                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 55.0               | 45.0            | 1.0          | 0.09 | 0.22              | 0.70             | 5.5  | 70.5 | 1.3      | 21.7   | 12020    |                         |                       |         |        |         |                                 |   |                   |  |
| 73                 | 60                 | C                 | K-63976                  | 1            |                 | 43.8               | 24.4            | 22.2         | 9.6  | 1.4               | 0.08             | 0.91 | 0.43 | 7.3      | 32.8   | 0.5      | 48.4                    | 5620                  | 2010    | 2050   | 2100    | A                               | NE 1/4, Sec. 19, T. 14 N., R. 3 E. Craighead County |                   |  |
|                    |                    |                   |                          | 2            |                 | 43.5               | 39.5            | 17.0         | 2.5  | 0.15              | 1.62             | 0.76 | 4.3  | 58.3     | 0.9    | 17.0     | 9990                    |                       |         |        |         |                                 |   |                   |  |
|                    |                    |                   |                          | 3            |                 | 52.4               | 47.6            | 3.0          | 0.18 | 1.95              | 0.92             | 5.2  | 70.3 | 1.1      | 20.4   | 12040    |                         |                       |         |        |         |                                 |   |                   |  |



|    |    |         |         |      |      |      |      |      |      |      |      |      |      |      |       |       |      |      |      |      |   |   |  |
|----|----|---------|---------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|------|---|---|--|
| 74 | 68 | C       | K-63977 | 1    | 19.4 | 32.0 | 24.4 | 24.2 | 1.0  | 0.05 | 0.50 | 0.42 | 5.3  | 39.7 | 0.7   | 29.1  | 6720 | 2380 | 2430 | 2530 | A   | SE½, Sec. 18, T. 14 N., R. 3 E.<br>Craighead County |  |
|    |    |         |         | 2    | 39.7 | 30.2 | 30.1 | 30.1 | 1.2  | 0.07 | 0.52 | 0.51 | 3.9  | 49.2 | 0.9   | 14.7  | 8340 |      |      |      |   |   |  |
|    |    |         |         | 3    | 56.8 | 43.2 |      | 1.7  | 0.10 | 0.88 | 0.74 | 5.6  | 70.4 | 1.2  | 21.1  | 11920 |      |      |      |      |   |   |  |
| 28 | C  | K-63978 | 1       | 46.3 | 23.8 | 23.9 | 6.0  | 0.2  | 0.01 | 0.01 | 0.15 | 7.4  | 33.7 | 0.5  | 52.2  | 5550  | 2080 | 2110 | 2140 | A    | SE½, Sec. 18, T. 14 N., R. 3 E.<br>Craighead County |   |  |
|    |    |         | 2       | 44.3 | 44.6 | 11.1 | 0.3  | 0.01 | 0.02 | 0.27 | 4.2  | 62.7 | 1.0  | 20.7 | 10330 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 49.8 | 50.2 |      | 0.3  | 0.01 | 0.03 | 0.30 | 4.7  | 70.5 | 1.1  | 23.4 | 11620 |       |      |      |      |      |   |   |  |
| 76 | C  | K-63979 | 1       | 45.3 | 21.5 | 17.8 | 15.4 | 0.8  | 0.01 | 0.01 | 0.74 | 7.1  | 27.3 | 0.4  | 49.0  | 4670  | 2350 | 2400 | 2510 | A    | NE½, Sec. 19, T. 14 N., R. 3 E.<br>Craighead County |   |  |
|    |    |         | 2       | 39.3 | 32.6 | 28.1 | 1.4  | 0.02 | 0.02 | 1.36 | 3.9  | 49.9 | 0.8  | 15.9 | 8540  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 54.7 | 45.3 |      | 1.9  | 0.03 | 0.03 | 1.89 | 5.4  | 69.4 | 1.1  | 22.2 | 11890 |       |      |      |      |      |   |   |  |
| 12 | C  | K-63980 | 1       | 43.5 | 22.2 | 21.7 | 12.6 | 0.2  | 0.01 | 0.02 | 0.15 | 7.0  | 30.4 | 0.4  | 49.4  | 5010  | 2090 | 2140 | 2250 | A    | NE½, Sec. 19, T. 14 N., R. 3 E.<br>Craighead County |   |  |
|    |    |         | 2       | 39.3 | 38.5 | 22.2 | 0.3  | 0.01 | 0.03 | 0.27 | 3.8  | 53.9 | 0.7  | 19.1 | 8870  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 50.6 | 49.4 |      | 0.4  | 0.01 | 0.04 | 0.34 | 4.9  | 69.3 | 0.9  | 24.5 | 11410 |       |      |      |      |      |   |   |  |
| 77 | 24 | C       | K-63981 | 1    | 35.9 | 23.3 | 13.4 | 27.4 | 0.3  | 0.01 | 0.06 | 0.24 | 6.3  | 24.1 | 0.4   | 41.5  | 4130 | 2910 |      |      |   |   |  |
|    |    |         | 2       | 36.4 | 20.8 | 42.8 | 0.5  | 0.01 | 0.10 | 0.37 | 3.6  | 37.7 | 0.6  | 14.8 | 6440  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 63.7 | 36.3 |      | 0.8  | 0.02 | 0.17 | 0.65 | 6.3  | 65.8 | 1.1  | 26.0 | 11260 |       |      |      |      |      |   |   |  |
| 78 | 12 | C       | K-63982 | 1    | 44.7 | 25.4 | 24.7 | 5.2  | 0.3  | 0.01 | 0.29 | 7.6  | 35.0 | 0.5  | 51.4  | 5990  | 2080 | 2110 | 2140 | A    | SW½, Sec. 23, T. 14 N., R. 3 E.<br>Craighead County |   |  |
|    |    |         | 2       | 45.9 | 44.6 | 9.5  | 0.6  | 0.02 | 0.02 | 0.52 | 4.7  | 63.2 | 0.9  | 21.1 | 10820 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 50.7 | 49.3 |      | 0.6  | 0.02 | 0.02 | 0.58 | 5.2  | 69.8 | 1.0  | 23.4 | 11950 |       |      |      |      |      |   |   |  |
| 14 | 18 | C       | K-73195 | 1    | 38.6 | 25.5 | 21.6 | 14.3 | 0.7  | 0.01 | 0.16 | 0.52 | 6.9  | 33.1 | 0.6   | 44.4  | 5726 | 2555 | 2650 | 2755 | A   | SW½, Sec. 28, T. 14 S., R. 21 W.<br>Nevada County   |  |
|    |    |         | 2       | 41.5 | 35.2 | 23.3 | 1.1  | 0.01 | 0.26 | 0.85 | 4.3  | 54.0 | 1.0  | 16.3 | 9330  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 54.2 | 45.8 |      | 1.5  | 0.02 | 0.34 | 1.11 | 5.6  | 70.4 | 1.3  | 21.3 | 12169 |       |      |      |      |      |   |   |  |
| 35 | C  | K-73196 | 1       | 35.3 | 20.0 | 16.6 | 28.1 | 0.4  | 0.01 | 0.07 | 0.30 | 5.9  | 26.0 | 0.5  | 39.1  | 4390  | 2775 | 2800 | 2800 | A    | SW½, Sec. 28, T. 14 S., R. 21 W.<br>Nevada County   |   |  |
|    |    |         | 2       | 30.9 | 25.6 | 43.5 | 0.6  | 0.01 | 0.11 | 0.46 | 3.0  | 40.1 | 0.8  | 12.0 | 6784  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 54.8 | 45.2 |      | 1.0  | 0.02 | 0.20 | 0.81 | 5.4  | 71.0 | 1.3  | 21.2 | 12006 |       |      |      |      |      |   |   |  |
| 35 | 72 | C       | K-70601 | 1    | 41.4 | 30.6 | 18.8 | 9.2  | 0.5  | 0.01 | 0.02 | 0.47 | 7.9  | 36.5 | 0.5   | 45.4  | 6580 | 2080 | 2130 | 2180 | A   | NW½, Sec. 10, T. 19 S., R. 20 W.<br>Columbia County |  |
|    |    |         | 2       | 52.2 | 32.1 | 15.7 | 0.9  | 0.02 | 0.04 | 0.81 | 5.7  | 62.2 | 0.9  | 14.6 | 11226 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 62.0 | 38.0 |      | 1.0  | 0.03 | 0.05 | 0.96 | 6.7  | 73.9 | 1.1  | 17.4 | 13322 |       |      |      |      |      |   |   |  |
| 36 | 42 | C       | K-70602 | 1    | 38.9 | 29.5 | 18.2 | 13.4 | 1.0  | 0.01 | 0.35 | 0.69 | 7.4  | 35.1 | 0.5   | 42.5  | 6384 | 2080 | 2260 | 2420 | A   | SE½, Sec. 16, T. 19 S., R. 20 W.<br>Columbia County |  |
|    |    |         | 2       | 48.3 | 29.8 | 21.9 | 1.7  | 0.01 | 0.58 | 1.13 | 5.1  | 57.5 | 0.8  | 13.0 | 10448 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 61.8 | 38.2 |      | 2.2  | 0.01 | 0.74 | 1.45 | 6.5  | 73.6 | 1.0  | 16.6 | 13374 |       |      |      |      |      |   |   |  |
| 54 | 52 | C       | K-72716 | 1    | 38.4 | 31.8 | 19.2 | 10.6 | 0.4  | 0.01 | 0.10 | 0.33 | 7.4  | 37.4 | 0.6   | 43.6  | 6732 | 2305 | 2415 | 2505 | A   | NE½, Sec. 32, T. 16 S., R. 15 W.<br>Union County    |  |
|    |    |         | 2       | 51.7 | 31.2 | 17.1 | 0.7  | 0.01 | 0.16 | 0.53 | 5.1  | 60.7 | 0.9  | 15.4 | 10930 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 62.4 | 37.6 |      | 0.9  | 0.01 | 0.19 | 0.64 | 6.1  | 73.3 | 1.1  | 18.6 | 13191 |       |      |      |      |      |   |   |  |
| 55 | 36 | C       | K-72717 | 1    | 36.0 | 29.3 | 17.6 | 17.1 | 0.5  | 0.01 | 0.08 | 0.41 | 6.8  | 34.2 | 0.5   | 40.9  | 6142 | 2445 | 2545 | 2655 | A   | SW½, Sec. 29, T. 16 S., R. 15 W.<br>Union County    |  |
|    |    |         | 2       | 45.8 | 27.6 | 26.6 | 0.8  | 0.01 | 0.13 | 0.64 | 4.4  | 53.4 | 0.8  | 14.0 | 9592  |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 62.4 | 37.6 |      | 1.1  | 0.02 | 0.17 | 0.87 | 6.0  | 72.7 | 1.1  | 19.1 | 13076 |       |      |      |      |      |   |   |  |
| 75 | 36 | C       | K-72719 | 1    | 39.0 | 30.2 | 21.8 | 9.0  | 0.5  | 0.01 | 0.12 | 0.34 | 7.2  | 37.6 | 0.6   | 45.1  | 6641 | 2100 | 2195 | 2295 | A   | SW½, Sec. 12, T. 13 S., R. 18 W.<br>Ouachita County |  |
|    |    |         | 2       | 49.6 | 35.6 | 14.8 | 0.8  | 0.01 | 0.19 | 0.55 | 4.8  | 61.6 | 1.0  | 17.0 | 10893 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 58.2 | 41.8 |      | 0.9  | 0.01 | 0.23 | 0.65 | 5.6  | 72.4 | 1.2  | 20.0 | 12789 |       |      |      |      |      |   |   |  |
| 76 | 32 | C       | K-72720 | 1    | 40.8 | 27.7 | 21.7 | 9.8  | 0.4  | 0.01 | 0.09 | 0.33 | 7.5  | 35.3 | 0.6   | 46.3  | 6179 | 2415 | 2505 | 2605 | A   | SW½, Sec. 2, T. 13 S., R. 18 W.<br>Ouachita County  |  |
|    |    |         | 2       | 46.8 | 36.7 | 16.5 | 0.7  | 0.01 | 0.16 | 0.56 | 5.0  | 59.7 | 1.0  | 17.1 | 10433 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 56.1 | 43.9 |      | 0.9  | 0.01 | 0.19 | 0.67 | 6.0  | 71.5 | 1.2  | 20.4 | 12501 |       |      |      |      |      |   |   |  |
| 20 | C  | K-72721 | 1       | 41.4 | 29.2 | 21.5 | 7.9  | 0.5  |      |      |      | 7.5  | 37.0 | 0.7  | 46.5  | 6557  | 2140 | 2245 | 2355 | A    | SW½, Sec. 2, T. 13 S., R. 18 W.<br>Ouachita County  |   |  |
|    |    |         | 2       | 49.8 | 36.7 | 13.5 | 0.8  |      |      |      | 5.0  | 63.1 | 1.1  | 16.5 | 11199 |       |      |      |      |      |   |   |  |
|    |    |         | 3       | 57.6 | 42.4 |      | 0.9  |      |      |      | 5.8  | 73.0 | 1.3  | 19.1 | 12954 |       |      |      |      |      |   |   |  |

See footnotes at the end of the table.

ARKANSAS LIGNITE INVESTIGATIONS

TABLE 1 -- PROXIMATE AND ULTIMATE ANALYSES OF LIGNITE IN ARKANSAS

| Locality Number /1 | Thickness (inches) | Site of sample /2 | U. S. Bur. Mines lab No. | Condition /3 | Air-drying loss | Proximate analyses |                 |              |      | Ultimate analyses |                  |      |      |          |        |          | Fusibility of ash (° F.) | Free swelling index No. | Source of analyses /4 | Remarks |        |         |   |
|--------------------|--------------------|-------------------|--------------------------|--------------|-----------------|--------------------|-----------------|--------------|------|-------------------|------------------|------|------|----------|--------|----------|--------------------------|-------------------------|-----------------------|---------|--------|---------|---|
|                    |                    |                   |                          |              |                 | Moisture           | Volatile matter | Fixed carbon | Ash  | Sulphur           | Forms of Sulphur |      |      | Hydrogen | Carbon | Nitrogen |                          |                         |                       |         | Oxygen | Btu/lb. | Initial deformation temperature                                     |
| 92                 | 35                 | C                 | K-73197                  | 1            | 14              | 37.9               | 30.2            | 19.1         | 12.8 | 0.5               | 0.02             | 0.04 | 0.46 | 7.0      | 35.7   | 0.5      | 43.5                     | 6393                    | 2645                  | 2755    | 2800   | A       | SW¼, Sec. 17, T. 3 S., R. 14 W. Saline County                       |
|                    |                    |                   |                          | 2            |                 | 48.7               | 30.7            | 20.6         | 0.8  | 0.03              | 0.07             | 0.75 | 4.5  | 57.5     | 0.7    | 15.8     | 10299                    | 2715                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 61.3               | 38.7            | 1.1          | 0.03 | 0.09              | 0.94             | 5.7  | 72.4 | 0.9      | 19.9   | 12968    | 2715                     | 2800                    | 2800                  |         |        |         |   |
| 95                 | 96                 | C                 | K-73198                  | 1            | 11              | 40.2               | 30.8            | 19.2         | 9.8  | 0.5               | 0.02             | 0.06 | 0.45 | 7.1      | 36.2   | 0.5      | 45.8                     | 6380                    | 2155                  | 2265    | 2355   | A       | NW¼, Sec. 8, T. 3 S., R. 14 W. Saline County                        |
|                    |                    |                   |                          | 2            |                 | 51.5               | 32.1            | 16.4         | 0.9  | 0.03              | 0.10             | 0.76 | 4.4  | 60.5     | 0.8    | 16.9     | 10663                    | 2715                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 61.6               | 38.4            | 1.1          | 0.04 | 0.12              | 0.90             | 5.2  | 72.4 | 1.0      | 20.3   | 12759    | 2715                     | 2800                    | 2800                  |         |        |         |   |
| 96                 | 30                 | C                 | K-73199                  | 1            | 30              | 47.9               | 23.4            | 20.3         | 8.4  | 0.6               | 0.01             | 0.06 | 0.50 | 7.5      | 30.9   | 0.4      | 52.2                     | 5318                    | 2155                  | 2245    | 2355   | A       | NW¼, Sec. 8, T. 3 S., R. 14 W. Saline County                        |
|                    |                    |                   |                          | 2            |                 | 44.9               | 39.0            | 16.1         | 1.1  | 0.03              | 0.11             | 0.97 | 4.2  | 59.3     | 0.8    | 18.5     | 10205                    | 2715                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 53.6               | 46.4            | 1.3          | 0.03 | 0.13              | 1.15             | 4.9  | 70.7 | 1.0      | 22.1   | 12163    | 2715                     | 2800                    | 2800                  |         |        |         |   |
| 146                | 36                 | C                 | K-74073                  | 1            | 26              | 35.4               | 14.5            | 7.3          | 42.8 | 0.3               | 0.03             | 0.08 | 0.21 | 5.6      | 13.3   | 0.3      | 37.6                     | 2224                    | 2715                  | 2800    | 2800   | A       | SW¼, Sec. 13, T. 4 S., R. 14 W. Grant County                        |
|                    |                    |                   |                          | 2            |                 | 22.5               | 11.3            | 66.2         | 0.5  | 0.05              | 0.13             | 0.32 | 2.5  | 20.6     | 0.4    | 9.6      | 3441                     | 2715                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 66.6               | 33.4            | 1.5          | 0.14 | 0.37              | 0.95             | 7.5  | 61.1 | 1.3      | 28.5   | 10187    | 2715                     | 2800                    | 2800                  |         |        |         |   |
| 147                | 25                 | C                 | K-74071                  | 1            | 23              | 30.3               | 22.4            | 8.6          | 38.7 | 0.9               | 0.02             | 0.56 | 0.32 | 5.7      | 21.4   | 0.3      | 33.0                     | 3876                    | 2720                  | 2800    | 2800   | A       | SW¼, Sec. 17, T. 19 S., R. 20 W. Columbia County                    |
|                    |                    |                   |                          | 2            |                 | 32.2               | 12.2            | 55.6         | 1.3  | 0.03              | 0.81             | 0.45 | 3.4  | 30.7     | 0.4    | 8.7      | 5563                     | 2720                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 72.5               | 27.5            | 2.9          | 0.07 | 1.81              | 1.02             | 7.7  | 69.0 | 0.9      | 19.6   | 12517    | 2720                     | 2800                    | 2800                  |         |        |         |   |
| A.1                | 50                 | C                 | K-74280                  | 1            | 34              | 40.3               | 32.2            | 21.6         | 5.9  | 0.5               | 0.01             | 0.13 | 0.38 | 7.9      | 39.4   | 0.6      | 45.7                     | 7093                    | 2195                  | 2310    | 2415   | A       | SW¼, Sec. 9, T. 19 S., R. 19 W. Columbia County Hole No. Atlanta 1  |
|                    |                    |                   |                          | 2            |                 | 53.9               | 36.2            | 9.9          | 0.9  | 0.01              | 0.22             | 0.64 | 5.7  | 65.9     | 1.0    | 16.6     | 11874                    | 2195                    | 2310                  | 2415    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 59.9               | 40.1            | 1.0          | 0.01 | 0.25              | 0.71             | 6.3  | 73.2 | 1.1      | 18.4   | 13180    | 2195                     | 2310                    | 2415                  |         |        |         |   |
| S.3                | 65                 | C                 | K-74278                  | 1            | 24              | 38.4               | 32.4            | 19.4         | 9.8  | 0.4               | 0.01             | 0.13 | 0.29 | 7.4      | 37.8   | 0.6      | 44.0                     | 6766                    | 2120                  | 2210    | 2300   | A       | NW¼, Sec. 11, T. 19 S., R. 20 W. Columbia County Hole No. Special 3 |
|                    |                    |                   |                          | 2            |                 | 52.7               | 31.5            | 15.8         | 0.7  | 0.01              | 0.21             | 0.47 | 5.1  | 61.5     | 0.9    | 16.0     | 10988                    | 2120                    | 2210                  | 2300    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 62.6               | 37.4            | 0.8          | 0.01 | 0.25              | 0.56             | 6.0  | 73.0 | 1.1      | 19.0   | 13057    | 2120                     | 2210                    | 2300                  |         |        |         |   |
| 148                | 30                 | C                 | K-74074                  | 1            | 30              | 38.8               | 27.8            | 16.5         | 16.9 | 1.0               | 0.03             | 0.29 | 0.73 | 7.2      | 32.3   | 0.5      | 42.0                     | 5840                    | 2800                  | 2800    | 2800   | A       | NW¼, Sec. 20, T. 19 S., R. 20 W. Columbia County                    |
|                    |                    |                   |                          | 2            |                 | 45.4               | 27.0            | 27.6         | 1.7  | 0.05              | 0.47             | 1.19 | 4.7  | 52.8     | 0.8    | 12.4     | 9535                     | 2800                    | 2800                  | 2800    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 62.8               | 37.2            | 2.3          | 0.06 | 0.65              | 1.64             | 6.5  | 72.9 | 1.1      | 17.1   | 13177    | 2800                     | 2800                    | 2800                  |         |        |         |   |
| 158                | 59                 | C                 | K-74070                  | 1            | 27              | 46.1               | 29.0            | 16.1         | 8.8  | 0.4               | 0.01             | 0.09 | 0.25 | 8.0      | 33.4   | 0.5      | 49.0                     | 6018                    | 2065                  | 2155    | 2255   | A       | SW¼, Sec. 1, T. 19 S., R. 20 W. Columbia County                     |
|                    |                    |                   |                          | 2            |                 | 53.9               | 29.9            | 16.2         | 0.7  | 0.03              | 0.18             | 0.46 | 5.4  | 62.0     | 0.9    | 14.9     | 11168                    | 2065                    | 2155                  | 2255    |        |         |   |
|                    |                    |                   |                          | 3            |                 | 64.3               | 35.7            | 0.8          | 0.03 | 0.21              | 0.55             | 6.4  | 74.0 | 1.1      | 17.8   | 13334    | 2065                     | 2155                    | 2255                  |         |        |         |   |

|     |    |   |         |   |    |      |      |      |      |     |      |      |      |     |      |     |      |       |      |      |      |   |  |
|-----|----|---|---------|---|----|------|------|------|------|-----|------|------|------|-----|------|-----|------|-------|------|------|------|---|--|
| 159 | 47 | C | K-74075 | 1 | 26 | 39.9 | 25.7 | 16.3 | 18.1 | 0.4 | 0.03 | 0.08 | 0.29 | 6.8 | 29.9 | 0.6 | 44.1 | 5184  | 2555 | 2655 | 2745 | A | NW¼, Sec. 6, T. 19 S., R. 19 W.<br>Columbia County   |
|     |    |   |         | 2 |    | 42.7 | 27.1 | 30.2 | 30.2 | 0.7 | 0.05 | 0.14 | 0.48 | 4.0 | 49.7 | 1.0 | 14.4 | 8631  |      |      |      |   |  |
|     |    |   |         | 3 |    | 61.2 | 38.8 |      |      | 0.9 | 0.07 | 0.19 | 0.69 | 5.7 | 71.2 | 1.5 | 20.6 | 12359 |      |      |      |   |  |
| 160 | 43 | C | K-74076 | 1 | 31 | 41.7 | 31.0 | 20.8 | 6.5  | 0.4 | 0.02 | 0.06 | 0.29 | 8.0 | 37.4 | 0.6 | 47.1 | 6740  | 2800 | 2800 | 2800 | A | NW¼, Sec. 5, T. 19 S., R. 19 W.<br>Columbia County   |
|     |    |   |         | 2 |    | 53.3 | 35.5 | 11.2 | 11.2 | 0.6 | 0.04 | 0.11 | 0.51 | 5.7 | 64.2 | 1.0 | 17.2 | 11569 |      |      |      |   |  |
|     |    |   |         | 3 |    | 60.0 | 40.0 |      |      | 0.7 | 0.04 | 0.12 | 0.57 | 6.5 | 72.3 | 1.1 | 19.4 | 13025 |      |      |      |   |  |
| 162 | 65 | C | K-74276 | 1 | 19 | 33.6 | 30.9 | 18.5 | 17.0 | 0.4 | 0.01 | 0.13 | 0.30 | 6.9 | 36.2 | 0.6 | 38.9 | 6550  | 2655 | 2770 | 2800 | A | NW¼, Sec. 4, T. 19 S., R. 19 W.<br>Columbia County   |
|     |    |   |         | 2 |    | 46.5 | 27.9 | 25.6 | 25.6 | 0.7 | 0.01 | 0.20 | 0.45 | 4.8 | 54.6 | 0.8 | 13.6 | 9865  |      |      |      |   |  |
|     |    |   |         | 3 |    | 62.5 | 37.5 |      |      | 0.9 | 0.02 | 0.26 | 0.61 | 6.5 | 73.3 | 1.1 | 18.2 | 13257 |      |      |      |   |  |
| 163 | 72 | C | K-74277 | 1 | 18 | 36.0 | 32.8 | 18.0 | 13.2 | 1.4 | 0.02 | 0.82 | 0.54 | 7.1 | 37.1 | 0.5 | 40.7 | 6673  | 2070 | 2165 | 2245 | A | NE¼, Sec. 3, T. 19 S., R. 19 W.<br>Columbia County   |
|     |    |   |         | 2 |    | 51.2 | 28.2 | 20.6 | 20.6 | 2.2 | 0.03 | 1.28 | 0.85 | 4.8 | 58.0 | 0.8 | 13.6 | 10435 |      |      |      |   |  |
|     |    |   |         | 3 |    | 64.5 | 35.5 |      |      | 2.7 | 0.03 | 1.62 | 1.07 | 6.1 | 73.1 | 1.1 | 17.1 | 13142 |      |      |      |   |  |
| 177 | 34 | C | K-74279 | 1 | 20 | 27.6 | 13.6 | 10.6 | 48.2 | 0.4 | 0.01 | 0.34 | 0.09 | 4.4 | 13.0 | 0.3 | 33.7 | 2254  | 2495 | 2595 | 2700 | A | NW¼, Sec. 2, T. 18 S., R. 19 W.<br>Columbia County   |
|     |    |   |         | 2 |    | 18.8 | 14.5 | 66.6 | 66.6 | 0.6 | 0.01 | 0.48 | 0.12 | 1.9 | 17.9 | 0.4 | 12.6 | 3115  |      |      |      |   |  |
|     |    |   |         | 3 |    | 56.1 | 43.9 |      |      | 1.8 | 0.03 | 1.42 | 0.36 | 5.6 | 53.6 | 1.2 | 37.6 | 9317  |      |      |      |   |  |
| 187 | 38 | C | K-77612 | 1 | 23 | 31.8 | 22.6 | 13.0 | 32.6 | 1.3 | 0.00 | 0.71 | 0.54 | 5.8 | 26.4 | 0.4 | 33.5 | 4681  | 2910 | 2910 | 2910 | A | SW¼, Sec. 26, T. 17 S., R. 18 W.<br>Union County     |
|     |    |   |         | 2 |    | 33.1 | 19.1 | 47.8 | 47.8 | 1.8 | 0.00 | 1.04 | 0.79 | 3.4 | 38.7 | 0.7 | 7.7  | 6863  |      |      |      |   |  |
|     |    |   |         | 3 |    | 63.4 | 36.6 |      |      | 3.5 | 0.01 | 1.99 | 1.52 | 6.4 | 74.0 | 1.3 | 14.7 | 13144 |      |      |      |   |  |
| 188 | 36 | C | K-77613 | 1 | 32 | 38.5 | 25.8 | 15.2 | 20.5 | 0.4 | 0.10 | 0.02 | 0.33 | 6.9 | 28.6 | 0.5 | 43.1 | 5152  | 2710 | 2910 | 2910 | A | NE¼, Sec. 36, T. 17 S., R. 18 W.<br>Union County     |
|     |    |   |         | 2 |    | 42.0 | 24.7 | 33.3 | 33.3 | 0.7 | 0.17 | 0.03 | 0.53 | 4.2 | 46.5 | 0.8 | 14.4 | 8376  |      |      |      |   |  |
|     |    |   |         | 3 |    | 63.0 | 37.0 |      |      | 1.1 | 0.25 | 0.04 | 0.80 | 6.4 | 69.7 | 1.2 | 21.6 | 12553 |      |      |      |   |  |
| 226 | 65 | C | K-77614 | 1 | 19 | 31.8 | 20.5 | 15.9 | 31.8 | 1.4 | 0.11 | 0.74 | 0.56 | 5.5 | 25.2 | 0.5 | 35.5 | 4335  | 2580 | 2630 | 2880 | A | NW¼, Sec. 22 T. 19 S., R. 27 W.<br>Miller County     |
|     |    |   |         | 2 |    | 30.0 | 23.4 | 46.6 | 46.6 | 2.1 | 0.16 | 1.08 | 0.81 | 2.9 | 37.0 | 0.8 | 10.7 | 6356  |      |      |      |   |  |
|     |    |   |         | 3 |    | 56.3 | 43.7 |      |      | 3.9 | 0.30 | 2.03 | 1.53 | 5.4 | 69.3 | 1.4 | 20.0 | 11908 |      |      |      |   |  |
| 245 | 30 | C | K-77615 | 1 | 26 | 38.4 | 21.5 | 19.5 | 20.6 | 0.4 | 0.00 | 0.06 | 0.34 | 6.4 | 28.5 | 0.5 | 43.6 | 4995  | 2200 | 2350 | 2730 | A | SW¼, Sec. 32, T. 13 S., R. 24 W.<br>Hempstead County |
|     |    |   |         | 2 |    | 34.9 | 31.6 | 33.5 | 33.5 | 0.7 | 0.00 | 0.10 | 0.55 | 3.4 | 46.3 | 0.8 | 15.3 | 8115  |      |      |      |   |  |
|     |    |   |         | 3 |    | 52.5 | 47.5 |      |      | 1.0 | 0.00 | 0.16 | 0.83 | 5.1 | 69.6 |     | 23.0 | 12199 |      |      |      |   |  |
| 245 | 30 | C | K-77616 | 1 | 32 | 41.3 | 24.3 | 19.9 | 14.5 | 0.4 | 0.00 | 0.08 | 0.36 | 7.1 | 31.6 | 0.5 | 45.8 | 5573  | 2190 | 2250 | 2370 | A | SW¼, Sec. 32, T. 13 S., R. 24 W.<br>Hempstead County |
|     |    |   |         | 2 |    | 41.3 | 34.0 | 24.7 | 24.7 | 0.7 | 0.01 | 0.13 | 0.61 | 4.2 | 53.8 | 0.9 | 15.6 | 9488  |      |      |      |   |  |
|     |    |   |         | 3 |    | 54.9 | 45.1 |      |      | 1.0 | 0.01 | 0.17 | 0.81 | 5.6 | 71.5 | 1.2 | 20.7 | 12607 |      |      |      |   |  |
| 25  | 25 | C | K-77617 | 1 | 23 | 32.0 | 21.0 | 16.7 | 30.3 | 0.4 | 0.02 | 0.12 | 0.28 | 5.7 | 27.7 | 0.5 | 35.4 | 4680  | 2560 | 2680 | 2910 | A | SW¼, Sec. 32, T. 13 S., R. 24 W.<br>Hempstead County |
|     |    |   |         | 2 |    | 31.0 | 24.4 | 44.6 | 44.6 | 0.6 | 0.02 | 0.18 | 0.42 | 3.1 | 40.7 | 0.8 | 10.2 | 6885  |      |      |      |   |  |
|     |    |   |         | 3 |    | 55.9 | 44.1 |      |      | 1.1 | 0.04 | 0.33 | 0.75 | 5.6 | 73.5 | 1.4 | 18.5 | 12422 |      |      |      |   |  |
| 249 | 30 | C | K-77618 | 1 | 24 | 36.6 | 29.0 | 26.5 | 7.9  | 0.5 | 0.01 | 0.03 | 0.43 | 7.0 | 40.3 | 0.8 | 43.5 | 6946  | 2300 | 2350 | 2450 | A | SW¼, Sec. 25, T. 13 S., R. 25 W.<br>Hempstead County |
|     |    |   |         | 2 |    | 45.8 | 41.7 | 12.5 | 12.5 | 0.7 | 0.01 | 0.05 | 0.68 | 4.6 | 63.6 | 1.2 | 17.3 | 10960 |      |      |      |   |  |
|     |    |   |         | 3 |    | 52.3 | 47.7 |      |      | 0.8 | 0.01 | 0.05 | 0.78 | 5.3 | 72.7 | 1.4 | 19.8 | 12527 |      |      |      |   |  |
| 252 | 45 | C | K-78000 | 1 | 24 | 36.0 | 26.9 | 22.5 | 14.6 | 0.4 | 0.01 | 0.02 | 0.34 | 6.7 | 36.3 | 0.7 | 41.4 | 6228  | 2200 | 2250 | 2440 | A | SE¼, Sec. 3, T. 14 S., R. 25 W.<br>Hempstead County  |
|     |    |   |         | 2 |    | 42.1 | 35.1 | 22.8 | 22.8 | 0.6 | 0.01 | 0.04 | 0.52 | 4.2 | 56.8 | 1.0 | 14.6 | 9739  |      |      |      |   |  |
|     |    |   |         | 3 |    | 54.5 | 45.5 |      |      | 0.7 | 0.01 | 0.05 | 0.68 | 5.4 | 73.6 | 1.3 | 18.9 | 12612 |      |      |      |   |  |
| 266 | 31 | C | K-78001 | 1 | 23 | 40.1 | 21.7 | 24.4 | 13.8 | 0.4 | 0.00 | 0.03 | 0.39 | 7.2 | 33.9 | 0.6 | 44.2 | 5915  | 2190 | 2230 | 2270 | A | NE¼, Sec. 1, T. 10 S., R. 20 W.<br>Clark County      |
|     |    |   |         | 2 |    | 36.2 | 40.8 | 23.0 | 23.0 | 0.7 | 0.01 | 0.04 | 0.66 | 4.5 | 56.5 | 1.0 | 14.2 | 9869  |      |      |      |   |  |
|     |    |   |         | 3 |    | 47.0 | 53.0 |      |      | 0.9 | 0.01 | 0.06 | 0.86 | 5.8 | 73.4 | 1.3 | 18.5 | 12819 |      |      |      |   |  |
| 269 | 36 | C | K-78002 | 1 | 35 | 40.7 | 26.8 | 22.9 | 9.6  | 0.5 | 0.02 | 0.02 | 0.45 | 7.3 | 35.5 | 0.7 | 46.5 | 6205  | 2020 | 2050 | 2080 | A | NW¼, Sec. 6, T. 10 S., R. 19 W.<br>Clark County      |
|     |    |   |         | 2 |    | 45.1 | 38.7 | 16.2 | 16.2 | 0.8 | 0.03 | 0.03 | 0.77 | 4.7 | 59.8 | 1.1 | 17.4 | 10461 |      |      |      |   |  |
|     |    |   |         | 3 |    | 53.8 | 46.2 |      |      | 1.0 | 0.04 | 0.03 | 0.91 | 5.5 | 71.4 | 1.3 | 20.8 | 12479 |      |      |      |   |  |

See footnotes at the end of the table.

ARKANSAS LIGNITE INVESTIGATIONS

TABLE 1 -- PROXIMATE AND ULTIMATE ANALYSES OF LIGNITE IN ARKANSAS

| Locality Number /1 | Thickness (inches) | Site of sample /2 | U. S. Bur. Mines lab No. | Condition /3 | Air-drying loss | Proximate analyses |                 |              |      | Ultimate analyses |                  |      |      |          |        |          | Btu/lb. | Fusibility of ash (°F.) |                                 |                       | Free swelling index No. | Source of analyses /4 | Remarks   |
|--------------------|--------------------|-------------------|--------------------------|--------------|-----------------|--------------------|-----------------|--------------|------|-------------------|------------------|------|------|----------|--------|----------|---------|-------------------------|---------------------------------|-----------------------|-------------------------|-----------------------|---|
|                    |                    |                   |                          |              |                 | Moisture           | Volatile matter | Fixed carbon | Ash  | Sulphur           | Forms of Sulphur |      |      | Hydrogen | Carbon | Nitrogen |         | Oxygen                  | Initial deformation temperature | Softening temperature |                         |                       |   |
| 275                | 39                 | C                 | K-78003                  | 1 2 3        | 25              | 38.3               | 22.3            | 20.1         | 19.3 | 0.2               | 0.01             | 0.01 | 0.17 | 6.5      | 31.0   | 0.6      | 42.5    | 5300                    | 2550                            | 2600                  | 2650                    | A                     | SE 1/4, Sec. 25, T. 9 S., R. 19 W. Clark County   |
| 276                | 42                 | C                 | K-78004                  | 1 2 3        | 29              | 38.6               | 24.2            | 20.6         | 16.6 | 0.4               | 0.00             | 0.17 | 0.26 | 6.6      | 32.3   | 0.6      | 43.4    | 5636                    | 2680                            | 2780                  | 2910                    | A                     | SW 1/4, Sec. 29, T. 9 S., R. 18 W. Clark County   |
| 285                | 32                 | C                 | K-78005                  | 1 2 3        | 28              | 41.7               | 26.3            | 23.4         | 8.6  | 0.6               | 0.00             | 0.09 | 0.49 | 7.3      | 35.6   | 0.7      | 47.3    | 6246                    | 2140                            | 2160                  | 2190                    | A                     | NW 1/4, Sec. 36, T. 9 S., R. 19 W. Clark County   |
| 286                | 96                 | C                 | K-78006                  | 1 2 3        | 9               | 35.2               | 28.8            | 25.9         | 10.1 | 0.6               | 0.01             | 0.09 | 0.45 | 6.8      | 39.6   | 0.6      | 42.4    | 6873                    | 2080                            | 2110                  | 2140                    | A                     | NW 1/4, Sec. 25, T. 9 S., R. 19 W. Clark County   |
| 290                | 24                 | C                 |                          | 1 2 3        | 39.4            | 29.2               | 21.5            | 9.8          | 0.5  | 0.5               | 0.01             | 0.01 | 0.54 | 2.7      | 35.2   | 1.1      | 11.2    | 6450                    | 2260                            | 2340                  | 2410                    | A                     | NW 1/4, Sec. 20, T. 10 S., R. 18 W. Clark County. Analysis by Williams Brothers Laboratory. |
| 297                | 54                 | C                 | K-79853                  | 1 2 3        | 33              | 42.4               | 24.1            | 22.9         | 10.6 | 0.7               | 0.01             | 0.32 | 0.37 | 7.1      | 33.4   | 0.6      | 47.7    | 5759                    | 2430                            | 2480                  | 2780                    | A                     | SW 1/4, Sec. 13, T. 10 S., R. 19 W. Clark County  |
| 298                | 22                 | C                 | K-79854                  | 1 2 3        | 33              | 46.2               | 24.1            | 22.1         | 7.6  | 0.5               | 0.01             | 0.10 | 0.37 | 7.5      | 33.3   | 0.6      | 50.5    | 5703                    | 2060                            | 2110                  | 2160                    | A                     | NW 1/4, Sec. 13, T. 10 S., R. 19 W. Clark County  |
| 304                | 32                 | C                 | K-84800                  | 1 2 3        | 19              | 40.1               | 24.8            | 23.4         | 11.7 | 0.4               | 0.01             | 0.03 | 0.32 | 7.0      | 35.8   | 0.7      | 44.6    | 6124                    | 2050                            | 2100                  | 2300                    | A                     | NE 1/4, Sec. 33, T. 13 S., R. 23 W. Hempstead County  |
| 305                | 31                 | C                 | K-84801                  | 1 2 3        | 8               | 29.6               | 30.1            | 28.5         | 11.8 | 0.6               | 0.01             | 0.07 | 0.50 | 6.2      | 42.1   | 0.9      | 38.4    | 7218                    | 2130                            | 2180                  | 2300                    | A                     | SE 1/4, Sec. 29, T. 13 S., R. 23 W. Hempstead County  |

|     |    |   |         |   |    |      |      |      |      |      |      |      |      |      |      |      |       |       |      |      |      |   |   |
|-----|----|---|---------|---|----|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|---|---|
| 317 | 99 | C | K-84802 | 1 | 10 | 33.0 | 25.0 | 23.4 | 18.6 | 0.5  | 0.01 | 0.05 | 0.43 | 5.8  | 34.1 | 0.6  | 40.4  | 5933  | 2250 | 2300 | 2410 | A | NE½, Sec. 17, T. 13 S., R. 22 W.<br>Nevada County   |
|     |    |   |         | 2 |    |      | 37.3 | 35.0 | 27.7 | 0.7  | 0.01 | 0.08 | 0.64 | 3.3  | 50.9 | 0.8  | 16.6  | 8852  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 51.7 | 48.3 | 4.5  | 1.0  | 0.02 | 0.11 | 0.89 | 4.5  | 70.3 | 1.2  | 23.0  | 12243 |      |      |      |   |   |
| 320 | 40 | C | K-84803 | 1 | 20 | 37.3 | 20.3 | 19.7 | 22.7 | 0.6  | 0.02 | 0.18 | 0.44 | 5.7  | 27.5 | 0.5  | 42.9  | 4678  | 2740 | 2840 | 2910 | A | NW¼, Sec. 11, T. 13 S., R. 23 W.<br>Nevada County   |
|     |    |   |         | 2 |    |      | 32.4 | 31.4 | 36.2 | 1.0  | 0.02 | 0.28 | 0.71 | 2.5  | 43.9 | 0.9  | 15.5  | 7465  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 50.8 | 49.2 | 1.6  | 0.04 | 0.44 | 1.11 | 4.0  | 68.8 | 1.4  | 24.3 | 11705 |       |      |      |      |   |   |
| 342 | 31 | C | K-84804 | 1 | 20 | 39.9 | 28.1 | 20.1 | 11.9 | 0.3  | 0.01 | 0.01 | 0.29 | 7.2  | 35.0 | 0.6  | 45.0  | 6132  | 2250 | 2300 | 2350 | A | SE½, Sec. 32, T. 13 S., R. 18 W.<br>Ouachita County |
|     |    |   |         | 2 |    |      | 46.7 | 33.5 | 19.8 | 0.5  | 0.01 | 0.02 | 0.48 | 4.6  | 58.3 | 1.0  | 15.8  | 10202 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 58.2 | 41.8 | 0.6  | 0.02 | 0.02 | 0.59 | 5.7  | 72.7 | 1.2  | 19.7 | 12726 |       |      |      |      |   |   |
| 361 | 32 | C | K-84805 | 1 | 24 | 41.0 | 29.0 | 23.0 | 7.0  | 0.3  | 0.01 | 0.01 | 0.27 | 7.5  | 37.3 | 0.8  | 47.1  | 6553  | 2130 | 2180 | 2280 | A | NE½, Sec. 32, T. 14 S., R. 19 W.<br>Ouachita County |
|     |    |   |         | 2 |    |      | 49.2 | 38.9 | 11.9 | 0.5  | 0.02 | 0.02 | 0.46 | 5.0  | 63.2 | 1.3  | 18.1  | 11101 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 55.8 | 44.2 | 0.6  | 0.02 | 0.02 | 0.52 | 5.7  | 71.8 | 1.5  | 20.6 | 12606 |       |      |      |      |   |   |
| 390 | 36 | C | K-84806 | 1 | 10 | 31.5 | 29.8 | 20.6 | 18.1 | 0.5  | 0.00 | 0.13 | 0.40 | 6.4  | 36.0 | 0.8  | 38.2  | 6254  | 2230 | 2330 | 2390 | A | SE½, Sec. 6, T. 10 S., R. 11 W.<br>Cleveland County |
|     |    |   |         | 2 |    |      | 43.6 | 30.0 | 26.4 | 0.8  | 0.01 | 0.19 | 0.58 | 4.2  | 52.6 | 1.1  | 14.9  | 9135  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 59.2 | 40.8 | 1.1  | 0.01 | 0.26 | 0.79 | 5.7  | 71.5 | 1.5  | 20.2 | 12414 |       |      |      |      |   |   |
| 398 | 45 | C | K-84807 | 1 | 19 | 37.7 | 29.2 | 15.0 | 18.1 | 0.4  | 0.01 | 0.02 | 0.41 | 7.1  | 31.0 | 0.5  | 42.8  | 5785  | 2250 | 2300 | 2500 | A | SE½, Sec. 31, T. 10 S., R. 12 W.<br>Dallas County   |
|     |    |   |         | 2 |    |      | 46.8 | 24.1 | 29.1 | 0.7  | 0.01 | 0.04 | 0.67 | 4.6  | 49.8 | 0.8  | 15.0  | 9281  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 65.9 | 34.1 | 1.0  | 0.02 | 0.05 | 0.94 | 6.5  | 70.2 | 1.2  | 21.1 | 13081 |       |      |      |      |   |   |
| 410 | 19 | C | K-88838 | 1 | 22 | 27.1 | 23.0 | 10.2 | 39.7 | 0.4  | 0.01 | 0.11 | 0.24 | 5.4  | 24.6 | 0.4  | 29.5  | 4361  | 2675 | 2785 | 2910 | A | NE½, Sec. 4, T. 14 S., R. 14 W.<br>Calhoun County   |
|     |    |   |         | 2 |    |      | 31.5 | 14.1 | 54.4 | 0.5  | 0.01 | 0.15 | 0.33 | 3.3  | 33.7 | 0.5  | 7.5   | 5979  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 69.1 | 30.9 | 1.1  | 0.02 | 0.33 | 0.73 | 7.3  | 74.0 | 1.1  | 16.5 | 13116 |       |      |      |      |   |   |
| 431 | 80 | C | K-84808 | 1 | 16 | 43.2 | 27.9 | 19.1 | 9.8  | 0.9  | 0.01 | 0.19 | 0.65 | 7.5  | 33.4 | 0.6  | 47.7  | 5902  | 2250 | 2290 | 2330 | A | SE½, Sec. 6, T. 13 S., R. 13 W.<br>Calhoun County   |
|     |    |   |         | 2 |    |      | 49.1 | 33.6 | 17.3 | 1.5  | 0.02 | 0.34 | 1.14 | 4.7  | 58.8 | 1.1  | 16.5  | 10387 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 59.4 | 40.6 | 1.8  | 0.03 | 0.41 | 1.38 | 5.7  | 71.1 | 1.4  | 19.9 | 12562 |       |      |      |      |   |   |
| 433 | 71 | C | K-88839 | 1 | 28 | 40.3 | 26.1 | 17.6 | 16.0 | 0.4  | 0.01 | 0.05 | 0.37 | 7.1  | 32.1 | 0.5  | 43.8  | 5595  | 2190 | 2300 | 2410 | A | NE½, Sec. 19, T. 13 S., R. 13 W.<br>Calhoun County  |
|     |    |   |         | 2 |    |      | 43.7 | 29.5 | 26.8 | 0.7  | 0.01 | 0.08 | 0.62 | 4.3  | 53.8 | 0.9  | 13.5  | 9367  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 59.7 | 40.3 | 1.0  | 0.02 | 0.11 | 0.85 | 5.9  | 73.5 | 1.2  | 18.4 | 12801 |       |      |      |      |   |   |
| 440 | 32 | C | K-88840 | 1 | 39 | 44.5 | 28.8 | 17.3 | 9.4  | 0.3  | 0.01 | 0.04 | 0.30 | 8.1  | 33.7 | 0.5  | 48.0  | 6125  | 2000 | 2110 | 2190 | A | NW¼, Sec. 4, T. 14 S., R. 13 W.<br>Calhoun County   |
|     |    |   |         | 2 |    |      | 51.8 | 31.3 | 16.9 | 0.6  | 0.01 | 0.08 | 0.54 | 5.7  | 60.6 | 1.0  | 15.2  | 11030 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 62.3 | 37.7 | 0.7  | 0.01 | 0.09 | 0.64 | 6.8  | 73.0 | 1.2  | 18.2 | 13273 |       |      |      |      |   |   |
| 441 | 68 | C | K-88841 | 1 | 27 | 35.9 | 31.1 | 17.7 | 15.3 | 0.4  | 0.00 | 0.04 | 0.32 | 7.2  | 36.3 | 0.5  | 40.2  | 6566  | 2400 | 2520 | 2610 | A | SW¼, Sec. 3, T. 14 S., R. 13 W.<br>Calhoun County   |
|     |    |   |         | 2 |    |      | 48.5 | 27.7 | 23.8 | 0.6  | 0.00 | 0.07 | 0.49 | 5.1  | 56.7 | 0.8  | 13.0  | 10246 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 63.6 | 36.4 | 0.7  | 0.00 | 0.09 | 0.65 | 6.6  | 74.5 | 1.0  | 17.1 | 13452 |       |      |      |      |   |   |
| 453 | 24 | C | K-88842 | 1 | 26 | 33.2 | 23.3 | 14.2 | 29.3 | 0.4  | 0.01 | 0.06 | 0.33 | 6.0  | 27.4 | 0.4  | 36.5  | 4823  | 2500 | 2610 | 2720 | A | SE½, Sec. 15, T. 13 S., R. 13 W.<br>Calhoun County  |
|     |    |   |         | 2 |    |      | 34.8 | 21.3 | 43.9 | 0.6  | 0.01 | 0.09 | 0.50 | 3.4  | 40.9 | 0.6  | 10.5  | 7220  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 62.1 | 37.9 | 1.1  | 0.02 | 0.16 | 0.89 | 6.1  | 73.0 | 1.1  | 18.6 | 12875 |       |      |      |      |   |   |
| 473 | 50 | C | K-84809 | 1 | 20 | 41.6 | 25.7 | 18.2 | 14.5 | 0.7  | 0.02 | 0.20 | 0.52 | 7.0  | 31.1 | 0.6  | 46.1  | 5520  | 2250 | 2300 | 2510 | A | SW¼, Sec. 20, T. 12 S., R. 13 W.<br>Calhoun County  |
|     |    |   |         | 2 |    |      | 44.1 | 31.1 | 24.8 | 1.3  | 0.03 | 0.34 | 0.90 | 4.1  | 53.2 | 1.0  | 15.6  | 9451  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 58.6 | 41.4 | 1.7  | 0.04 | 0.45 | 1.19 | 5.5  | 70.7 | 1.4  | 20.7 | 12572 |       |      |      |      |   |   |
| 489 | 29 | C | K-84810 | 1 | 19 | 38.3 | 23.3 | 16.3 | 22.1 | 0.7  | 0.02 | 0.07 | 0.58 | 6.6  | 28.0 | 0.6  | 42.1  | 4945  | 2230 | 2280 | 2560 | A | NW¼, Sec. 36, T. 10 S., R. 13 W.<br>Dallas County   |
|     |    |   |         | 2 |    |      | 37.8 | 26.4 | 35.8 | 1.1  | 0.03 | 0.11 | 0.95 | 3.8  | 45.3 | 0.9  | 13.0  | 8021  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 58.9 | 41.1 | 1.7  | 0.04 | 0.17 | 1.47 | 5.9  | 70.7 | 1.5  | 20.3 | 12502 |       |      |      |      |   |   |

ARKANSAS LIGNITE INVESTIGATIONS

TABLE 1 - PROXIMATE AND ULTIMATE ANALYSES OF LIGNITE IN ARKANSAS

| Locality Number /1 | Thickness (inches) | Site of sample /2 | U. S. Bur. Mines lab No. | Condition /3 | Air drying loss | Proximate analyses |                 |              |      | Ultimate analyses |                  |         |         |          |        | Btu./lb. | Free swelling index No. | Source of analyses /4           | Remarks               |                   |        |   |   |  |  |
|--------------------|--------------------|-------------------|--------------------------|--------------|-----------------|--------------------|-----------------|--------------|------|-------------------|------------------|---------|---------|----------|--------|----------|-------------------------|---------------------------------|-----------------------|-------------------|--------|---|---|--|--|
|                    |                    |                   |                          |              |                 | Moisture           | Volatile matter | Fixed carbon | Ash  | Sulphur           | Forms of Sulphur |         |         | Hydrogen | Carbon |          |                         |                                 |                       | Nitrogen          | Oxygen |   |   |  |  |
|                    |                    |                   |                          |              |                 |                    |                 |              |      |                   | Sulphate         | Pyritic | Organic |          |        |          |                         | Initial deformation temperature | Softening temperature | Fluid temperature |        |   |   |  |  |
| 527                | 30                 | C                 | K-88843                  | 1            | 41              | 45.8               | 27.2            | 20.1         | 6.9  | 0.4               | 0.00             | 0.05    | 0.32    | 8.1      | 34.5   | 0.6      | 49.5                    | 6077                            | 2050                  | 2170              | 2250   | A | SW¼, Sec. 3, T. 9 S., R. 13 W. Cleveland County   |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 50.2            | 37.0         | 12.8 | 0.7               | 0.00             | 0.10    | 0.59    | 5.6      | 63.6   | 1.1      | 16.2                    | 11202                           |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 57.6            | 42.2         |      | 0.8               | 0.00             | 0.11    | 0.68    | 6.4      | 72.9   | 1.3      | 18.6                    | 12846                           |                       |                   |        |   |   |  |  |
| 543                | 54                 | C                 | K-88844                  | 1            | 33              | 37.2               | 22.6            | 10.6         | 29.6 | 0.5               | 0.01             | 0.11    | 0.38    |          |        |          |                         | 4122                            | 2690                  | 2800              | 2800   | A | SW¼, Sec. 10, T. 8 S., R. 15 W. Dallas County     |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 36.1            | 16.7         | 47.2 | 0.8               | 0.01             | 0.17    | 0.61    |          |        |          |                         | 6566                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 68.3            | 31.7         |      | 1.5               | 0.02             | 0.33    | 1.16    |          |        |          |                         | 12439                           |                       |                   |        |   |   |  |  |
| 587                | 19                 | C                 | K-88845                  | 1            | 32              | 39.0               | 23.7            | 16.0         | 21.3 | 0.7               | 0.01             | 0.66    | 0.02    | 7.1      | 28.1   | 0.5      | 42.2                    | 4984                            | 2400                  | 2510              | 2590   | A | SW¼, Sec. 36, T. 9 S., R. 17 W. Dallas County     |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 38.9            | 26.1         | 35.0 | 1.1               | 0.01             | 1.08    | 0.03    | 4.6      | 46.1   | 0.8      | 12.4                    | 8170                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 59.8            | 40.2         |      | 1.7               | 0.02             | 1.66    | 0.06    | 7.0      | 70.8   | 1.2      | 19.1                    | 12560                           |                       |                   |        |   |   |  |  |
| 608                | 30                 | C                 | K-88846                  | 1            | 43              | 46.9               | 19.0            | 16.8         | 17.3 | 1.3               | 0.01             | 0.31    | 0.97    | 7.2      | 24.2   | 0.4      | 49.5                    | 4169                            | 2640                  | 2750              | 2910   | A | NE¼, Sec. 3, T. 5 S., R. 14 W. Grant County       |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 35.9            | 31.5         | 32.6 | 2.4               | 0.01             | 0.58    | 1.83    | 3.8      | 45.6   | 0.8      | 14.8                    | 7849                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 53.2            | 46.8         |      | 3.6               | 0.02             | 0.86    | 2.71    | 5.6      | 67.6   | 1.2      | 22.0                    | 11637                           |                       |                   |        |   |   |  |  |
| 624                | 4                  | C                 | K-94824                  | 1            | 33              | 38.3               | 18.1            | 15.2         | 28.4 | 0.5               | 0.01             | 0.09    | 0.42    | 6.3      | 23.4   | 0.5      | 40.8                    | 3981                            | 2510                  | 2620              | 2710   | A | NW¼, Sec. 3, T. 7 S., R. 13 W. Grant County       |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 29.3            | 24.6         | 46.1 | 0.8               | 0.01             | 0.15    | 0.68    | 3.4      | 37.9   | 0.9      | 10.9                    | 6450                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 54.3            | 45.7         |      | 1.6               | 0.02             | 0.28    | 1.25    | 6.3      | 70.3   | 1.6      | 20.2                    | 11958                           |                       |                   |        |   |   |  |  |
| 699                | 36                 | C                 | K-94825                  | 1            | 26              | 34.5               | 31.6            | 23.7         | 10.2 | 0.4               | 0.01             | 0.05    | 0.39    | 7.0      | 40.4   | 0.8      | 41.1                    | 7119                            | 2010                  | 2130              | 2220   | A | NE¼, Sec. 29, T. 15 S., R. 27 W. Miller County    |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 48.2            | 36.2         | 15.6 | 0.7               | 0.01             | 0.06    | 0.60    | 4.9      | 61.7   | 1.2      | 15.9                    | 10864                           |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 57.1            | 42.9         |      | 0.8               | 0.01             | 0.09    | 0.71    | 5.8      | 73.1   | 1.4      | 18.8                    | 12868                           |                       |                   |        |   |   |  |  |
| 700                | 41                 | C                 | K-94826                  | 1            | 33              | 41.2               | 27.4            | 23.4         | 8.0  | 0.5               | 0.00             | 0.02    | 0.52    | 7.4      | 36.3   | 0.8      | 46.9                    | 6162                            | 2110                  | 2190              | 2270   | A | NE¼, Sec. 24, T. 15 S., R. 24 W. Miller County    |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 46.6            | 39.8         | 13.6 | 0.9               | 0.00             | 0.03    | 0.89    | 4.8      | 61.8   | 1.4      | 17.5                    | 10487                           |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 53.9            | 46.1         |      | 1.1               | 0.01             | 0.04    | 1.03    | 5.5      | 72.0   | 1.6      | 20.2                    | 12137                           |                       |                   |        |   |   |  |  |
| 700                | 41                 | C                 | K-94827                  | 1            | 21              | 30.4               | 24.5            | 21.8         | 23.3 | 0.5               | 0.01             | 0.05    | 0.45    | 5.8      | 33.4   | 0.7      | 36.2                    | 5574                            | 2310                  | 2410              | 2490   | A | NW¼, Sec. 27, T. 15 S., R. 27 W. Miller County    |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 35.1            | 31.4         | 33.5 | 0.7               | 0.02             | 0.07    | 0.65    | 3.4      | 48.0   | 1.1      | 13.2                    | 8006                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 52.8            | 47.2         |      | 1.1               | 0.03             | 0.11    | 0.98    | 5.2      | 72.2   | 1.6      | 19.9                    | 12038                           |                       |                   |        |   |   |  |  |
| 738                | 16                 | C                 | K-94828                  | 1            | 36              | 40.8               | 30.8            | 15.1         | 13.3 | 0.5               | 0.01             | 0.02    | 0.48    | 7.8      | 33.4   | 0.5      | 44.5                    | 6135                            | 2590                  | 2670              | 2750   | A | NE¼, Sec. 18, T. 5 S., R. 16 W. Hot Spring County |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 52.0            | 25.6         | 22.4 | 0.9               | 0.02             | 0.03    | 0.81    | 5.6      | 56.4   | 0.8      | 14.0                    | 10360                           |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 66.9            | 33.1         |      | 1.1               | 0.03             | 0.04    | 1.04    | 7.2      | 72.6   | 1.0      | 18.0                    | 13347                           |                       |                   |        |   |   |  |  |
| 742                | 4                  | C                 | K-96823                  | 1            | 30              | 34.3               | 16.0            | 9.0          | 40.7 | 1.0               | 0.01             | 0.60    | 0.34    | 5.2      | 15.3   | 0.3      | 37.6                    | 2571                            | 2790                  |                   |        |   |   |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 24.3            | 13.8         | 61.9 | 1.5               | 0.02             | 0.92    | 0.52    | 2.1      | 23.3   | 0.4      | 10.9                    | 3911                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 63.7            | 36.3         |      | 3.8               | 0.06             | 2.40    | 1.37    | 5.5      | 61.0   | 1.2      | 28.6                    | 10252                           |                       |                   |        |   |   |  |  |
| 749                | 12                 | C                 | K-96824                  | 1            | 26              | 30.1               | 24.8            | 11.3         | 33.8 | 0.4               | 0.02             | 0.15    | 0.22    | 5.6      | 24.9   | 0.4      | 34.9                    | 4591                            | 2240                  | 2350              | 2470   | A | NW¼, Sec. 7, T. 7 S., R. 15 W. Dallas County      |  |  |
|                    |                    |                   |                          | 2            |                 |                    | 35.5            | 16.1         | 48.4 | 0.6               | 0.02             | 0.21    | 0.32    | 3.2      | 35.6   | 0.6      | 11.7                    | 6570                            |                       |                   |        |   |   |  |  |
|                    |                    |                   |                          | 3            |                 |                    | 68.8            | 31.2         |      | 1.1               | 0.05             | 0.41    | 0.62    | 6.2      | 69.0   | 1.1      | 22.7                    | 12732                           |                       |                   |        |   |   |  |  |

|     |    |   |         |   |    |      |      |      |      |     |      |      |      |     |      |     |      |       |      |      |      |   |   |
|-----|----|---|---------|---|----|------|------|------|------|-----|------|------|------|-----|------|-----|------|-------|------|------|------|---|---|
| 833 | 67 | C | K-96825 | 1 | 35 | 45.3 | 28.3 | 19.9 | 6.5  | 0.4 | 0.01 | 0.17 | 0.24 | 7.1 | 34.6 | 0.7 | 50.7 | 6055  | 2240 | 2330 | 2110 | A | NEX, Sec. 25, T. 18 S., R. 13 W.<br>Union County    |
|     |    |   |         | 2 |    |      | 51.7 | 36.5 | 11.8 | 0.8 | 0.02 | 0.31 | 0.44 | 3.8 | 63.3 | 1.3 | 19.1 | 11061 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 58.6 | 41.4 | 0.9  | 0.9 | 0.02 | 0.35 | 0.50 | 4.3 | 71.7 | 1.4 | 21.7 | 12539 |      |      |      |   |   |
| 847 | 58 | C | K-96826 | 1 | 28 | 37.7 | 27.5 | 25.0 | 9.8  | 0.5 | 0.01 | 0.20 | 0.27 | 6.2 | 38.8 | 0.7 | 43.9 | 6714  | 2070 | 2150 | 2230 | A | NW¼, Sec. 28, T. 1 S., R. 21 W.<br>Nevada County    |
|     |    |   |         | 2 |    |      | 44.1 | 40.2 | 15.7 | 0.8 | 0.02 | 0.32 | 0.44 | 3.3 | 62.3 | 1.2 | 16.7 | 10769 |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 52.4 | 47.6 | 0.9  | 0.9 | 0.03 | 0.38 | 0.52 | 3.9 | 73.9 | 1.4 | 19.9 | 12780 |      |      |      |   |   |
| 859 | 36 | C | K-96827 | 1 | 36 | 44.3 | 25.3 | 19.4 | 11.0 | 2.1 | 0.03 | 1.63 | 0.48 | 7.1 | 31.0 | 0.6 | 48.2 | 5350  | 2010 | 2100 | 2190 | A | NE¼, Sec. 7, T. 6 S., R. 17 W.<br>Hot Spring County |
|     |    |   |         | 2 |    |      | 45.4 | 34.8 | 19.8 | 3.8 | 0.05 | 2.92 | 0.86 | 3.8 | 55.7 | 1.1 | 15.7 | 9611  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 56.6 | 43.4 | 4.8  | 4.8 | 0.06 | 3.64 | 1.07 | 4.8 | 69.5 | 1.3 | 19.6 | 11982 |      |      |      |   |   |
| 872 | 28 | C | K-98367 | 1 | 39 | 43.5 | 22.8 | 21.4 | 12.3 | 0.5 | 0.00 | 0.05 | 0.39 | 7.3 | 32.2 | 0.6 | 47.1 | 5636  | 2320 | 2410 | 2500 | A | NE¼, Sec. 27, T. 7 S., R. 18 W.<br>Clark County     |
|     |    |   |         | 2 |    |      | 40.4 | 37.9 | 21.7 | 0.8 | 0.01 | 0.10 | 0.70 | 4.4 | 57.0 | 1.1 | 15.0 | 9970  |      |      |      |   |   |
|     |    |   |         | 3 |    |      | 51.6 | 48.4 | 1.0  | 1.0 | 0.01 | 0.12 | 0.89 | 5.6 | 72.9 | 1.4 | 19.2 | 12737 |      |      |      |   |   |

1. See county location maps.

2. C, core sample.

3. 1, as received; 2, moisture free; 3, moisture and ash free.

4. A, laboratory report for Arkansas lignite investigations.

ARKANSAS LIGNITE INVESTIGATIONS

TABLE 1 - PROXIMATE AND ULTIMATE ANALYSES OF LIGNITE IN ARKANSAS

| Locality Number /1 | Thickness (inches) | Site of sample /2 | U.S.G.S. Lab No. | Condition /3 | Air-drying loss | Proximate analyses |                  |              |      | Ultimate analyses |                  |      |      |          |        |          | Fusibility of ash (°F.) | Free swelling index No. | Source of analyses /4 | Remarks |   |   |  |                       |                   |
|--------------------|--------------------|-------------------|------------------|--------------|-----------------|--------------------|------------------|--------------|------|-------------------|------------------|------|------|----------|--------|----------|-------------------------|-------------------------|-----------------------|---------|---|---|--|-----------------------|-------------------|
|                    |                    |                   |                  |              |                 | Moisture           | Volatiles matter | Fixed carbon | Ash  | Sulphur           | Forms of Sulphur |      |      | Hydrogen | Carbon | Nitrogen |                         |                         |                       |         | Oxygen  | Btu/lb.   | Initial deformation temperature                  | Softening temperature | Fluid temperature |
| 1274               | 72                 | C                 | W216939          | 1            | 19              | 26.8               | 34.7             | 24.9         | 13.7 | 0.7               | 0.01             | 0.14 | 0.53 | 6.9      | 43.6   | 0.6      | 34.6                    | 7858                    | 2120                  | 2470    | 2550  | A   | SW¼, Sec. 17, T. 3 S., R. 14 W.<br>Saline County |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 47.4             | 34.0         | 18.7 | 0.9               | 0.02             | 0.20 | 0.71 | 5.4      | 59.5   | 0.8      | 14.8                    | 10728                   |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 58.3             | 41.8         |      | 1.1               | 0.02             | 0.25 | 0.87 | 6.6      | 73.1   | 1.0      | 18.1                    | 13189                   |                       |         |   |   |  |                       |                   |
| 1279               | 96                 | C                 | W216940          | 1            | 17              | 25.8               | 34.2             | 26.2         | 13.9 | 0.6               | 0.03             | 0.03 | 6.6  | 44.0     | 0.5    | 34.4     | 7742                    | 2660                    | 2700                  | 2730    | A   | NW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 46.0             | 35.3         | 18.7 | 0.8               | 0.04             | 0.04 | 0.74 | 5.0      | 59.3   | 0.7      | 15.5                    | 10427                   |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 56.6             | 43.4         |      | 1.0               | 0.05             | 0.05 | 0.91 | 6.2      | 73.0   | 0.9      | 19.0                    | 12825                   |                       |         |   |   |  |                       |                   |
| 1285               | 48                 | C                 | W216941          | 1            | 9               | 14.5               | 42.7             | 27.3         | 15.5 | 0.6               | 0.01             | 0.02 | 6.0  | 49.6     | 0.7    | 27.6     | 8843                    | 2370                    | 2440                  | 2540    | A   | SW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 49.9             | 31.9         | 18.2 | 0.7               | 0.02             | 0.02 | 0.68 | 5.2      | 58.0   | 0.8      | 17.2                    | 10345                   |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 61.0             | 39.0         |      | 0.9               | 0.02             | 0.02 | 0.84 | 6.3      | 70.9   | 0.9      | 21.0                    | 12643                   |                       |         |   |   |  |                       |                   |
| 76                 | C                  | W216942           | 1                | 15           | 24.3            | 34.4               | 25.7             | 15.7         | 0.6  | 0.01              | 0.02             | 0.17 | 6.1  | 42.3     | 0.6    | 34.8     | 7524                    | 2270                    | 2300                  | 2380    | A   | SW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County |  |                       |                   |
|                    |                    |                   | 2                |              |                 | 45.4               | 33.9             | 20.7         | 0.8  | 0.01              | 0.02             | 0.76 | 4.4  | 55.9     | 0.9    | 17.4     | 9942                    |                         |                       |         |   |   |  |                       |                   |
|                    |                    |                   | 3                |              |                 | 57.3               | 42.7             |              | 1.0  | 0.01              | 0.03             | 0.96 | 5.6  | 70.5     | 1.1    | 21.9     | 12535                   |                         |                       |         |   |   |  |                       |                   |
| 24                 | C                  | W216943           | 1                | 4            | 9.7             | 29.0               | 23.6             | 37.7         | 0.8  | 0.02              | 0.17             | 5.6  | 36.6 | 0.6      | 20.4   | 6429     | 2680                    | 2700                    | 2750                  | A       | SW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County |   |  |                       |                   |
|                    |                    |                   | 2                |              |                 | 32.2               | 26.1             | 41.7         | 0.8  | 0.02              | 0.18             | 6.3  | 3.3  | 40.5     | 0.6    | 13.1     | 7119                    |                         |                       |         |   |   |  |                       |                   |
|                    |                    |                   | 3                |              |                 | 55.2               | 44.8             |              | 1.4  | 0.03              | 0.31             | 1.08 | 5.6  | 69.5     | 1.1    | 22.4     | 12219                   |                         |                       |         |   |   |  |                       |                   |
| 1286               | 24                 | C                 | W216944          | 1            | 6               | 13.2               | 40.4             | 27.6         | 18.8 | 0.6               | 0.02             | 0.02 | 5.6  | 48.0     | 0.7    | 26.3     | 8587                    | 2420                    | 2510                  | 2540    | A   | SW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 46.6             | 31.8         | 21.7 | 0.7               | 0.02             | 0.02 | 0.67 | 4.8      | 55.3   | 0.8      | 16.8                    | 9893                    |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 59.4             | 40.6         |      | 0.9               | 0.03             | 0.03 | 0.85 | 6.1      | 70.6   | 1.0      | 21.5                    | 12628                   |                       |         |   |   |  |                       |                   |
| 624                | 15                 | C                 | W216945          | 1            | 9               | 16.5               | 33.5             | 29.6         | 20.5 | 0.6               | 0.01             | 0.02 | 5.5  | 45.2     | 0.7    | 27.6     | 8106                    | 2800+                   |                       |         |   |   | SW¼, Sec. 8, T. 3 S., R. 14 W.<br>Saline County  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 40.1             | 35.4         | 24.5 | 0.7               | 0.01             | 0.02 | 0.66 | 4.4      | 54.1   | 0.8      | 15.6                    | 9702                    |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 53.1             | 46.9         |      | 0.9               | 0.01             | 0.03 | 0.87 | 5.9      | 71.6   | 1.0      | 20.6                    | 12846                   |                       |         |   |   |  |                       |                   |
| 1316               | 42                 | C                 | W218980          | 1            | 33              | 38.4               | 26.5             | 13.6         | 17.8 | 0.4               | 0.02             | 0.01 | 7.0  | 27.7     | 0.5    | 42.9     | 4956                    | 2270                    | 2350                  | 2440    | A   | NW¼, Sec. 3, T. 7 S., R. 13 W.<br>Grant County  |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 43.0             | 22.0         | 35.0 | 0.7               | 0.03             | 0.01 | 0.69 | 4.4      | 44.9   | 0.7      | 14.2                    | 8046                    |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 66.1             | 33.9         |      | 1.1               | 0.05             | 0.02 | 1.05 | 6.8      | 69.1   | 1.5      | 21.9                    | 12374                   |                       |         |   |   |  |                       |                   |
| 1327               | 36                 | C                 | W218981          | 1            | 36              | 40.4               | 28.4             | 14.0         | 17.2 | 0.7               | 0.02             | 0.11 | 7.4  | 29.5     | 0.4    | 44.8     | 5335                    | 2410                    | 2460                  | 2560    | A   | NW¼, Sec. 21, T. 6 S., R. 13 W.<br>Grant County |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 47.7             | 23.5         | 28.8 | 1.1               | 0.04             | 0.18 | 0.92 | 4.9      | 49.5   | 0.7      | 14.9                    | 8955                    |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 67.0             | 33.0         |      | 1.6               | 0.06             | 0.25 | 1.29 | 6.9      | 69.5   | 1.0      | 21.0                    | 12577                   |                       |         |   |   |  |                       |                   |
| 1327               | 36                 | C                 | W218982          | 1            | 36              | 42.5               | 26.8             | 17.7         | 13.0 | 0.7               | 0.03             | 0.03 | 7.5  | 31.2     | 1.6    | 47.1     | 5464                    | 2340                    | 2400                  | 3520    | A   | NE¼, Sec. 33, T. 6 S., R. 13 W.<br>Grant County |  |                       |                   |
|                    |                    |                   |                  | 2            |                 |                    | 46.7             | 30.8         | 22.6 | 1.2               | 0.06             | 0.06 | 1.04 | 4.7      | 54.3   | 1.0      | 16.2                    | 9505                    |                       |         |   |   |  |                       |                   |
|                    |                    |                   |                  | 3            |                 |                    | 60.3             | 39.7         |      | 1.5               | 0.06             | 0.08 | 1.35 | 6.1      | 70.1   | 1.3      | 21.0                    | 12277                   |                       |         |   |   |  |                       |                   |



|      |    |         |         |    |      |      |      |      |     |      |      |      |     |      |     |      |       |       |      |   |  |
|------|----|---------|---------|----|------|------|------|------|-----|------|------|------|-----|------|-----|------|-------|-------|------|---|--|
| 6    | C  | W218983 | 1       | 34 | 38.6 | 22.2 | 10.6 | 28.6 | 0.5 | 0.03 | 0.04 | 0.41 | 6.6 | 21.8 | 0.3 | 42.1 | 3879  | 2400  | 2670 | A | NE½, Sec. 33, T. 6 S., R. 13 W.<br>Grant County      |
|      |    |         | 2       |    |      | 36.2 | 17.2 | 46.6 | 0.8 | 0.06 | 0.06 | 0.68 | 3.8 | 35.7 | 0.6 | 12.7 | 6321  |       |      |   |  |
|      |    |         | 3       |    |      | 67.8 | 32.2 |      | 1.5 | 0.09 | 0.11 | 1.28 | 7.1 | 66.6 | 1.0 | 23.8 | 11832 |       |      |   |  |
| 1370 | 24 | C       | W225232 | 1  | 29   | 31.3 | 11.7 | 43.9 | 0.9 | 0.06 | 0.10 | 0.78 | 4.9 | 17.1 | 0.2 | 33.0 | 2684  | 2800+ |      | A | NE½, Sec. 14, T. 6 S., R. 17 W.<br>Hot Spring County |
|      |    |         |         | 2  |      |      | 17.0 | 63.9 | 1.4 | 0.08 | 0.15 | 1.13 | 2.0 | 24.8 | 0.3 | 7.5  | 3905  |       |      |   |  |
|      |    |         |         | 3  |      |      | 47.1 | 52.9 | 3.8 | 0.22 | 0.42 | 3.13 | 5.5 | 68.9 | 0.9 | 20.9 | 10828 |       |      |   |  |

1. See county location maps.

2. C, core sample.

3. 1, as received; 2, moisture free; 3, moisture and ash free.

4. A, laboratory report for Arkansas lignite investigations.



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