

# **Shallow Coal Exploration Drill-Hole Data, Mississippi**

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Chapter F of

**Shallow Coal Exploration Drill-Hole Data—Alabama, Georgia,  
Kentucky, Louisiana, Mississippi, Missouri, North Carolina,  
South Carolina, Tennessee, and Texas**

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## Introduction

Coal exploration drill-hole data from 2,789 wells drilled in Mississippi between 1975 and 1976 by Phillips Coal Company, a division of Phillips Petroleum Company (Phillips), are discussed in this chapter, and the data are provided in an accompanying spreadsheet. The data are part of a larger dataset donated to the U.S. Geological Survey by the North American Coal Corporation, which purchased Phillips assets in 2001 (see chapter A, this volume). The data in 10 State reports have been digitized from field maps to create unified and spatially consistent coal exploration drill-hole datasets for each of the States (chapters B–K, this volume). Data for Mississippi include a map of the State showing areas with drill-hole coverage (fig. F1), a list of data attributes and explanations of the data format (table F1), a list of comments found in the data and descriptions of them (table F2), a list of counties and the number of drill holes for each county (table F3), and tabulated data in spreadsheet format (see appendix F1).

## Methods

Annotated field and county highway maps from Phillips, at scales from 1:62,500 to 1:100,000, were utilized to display the original data. Drill-hole locations in Mississippi 1927 State coordinate plane projection were digitized from hardcopy maps into a geographic information system using ArcMap™ software from the Environmental Systems Research Institute, Inc. (ESRI). Fiducial marks and county boundaries served as reference points. Maps were scanned and georeferenced; drill-hole locations were digitized, and shapefile attribute values were populated with data from the maps. Once the digitizing of the maps was complete, the spatial data were then projected into a North American Datum of 1983 geographic coordinate system in order to standardize all of the Phillips datasets into a common projection. The shapefile data were exported to a spreadsheet (see appendix F1).

## Generalized Coal Geology of Mississippi

This dataset explores resources in the Gulf Coast coal region of Mississippi (fig. F2). Coal-bearing strata in this region includes the Claiborne Group (Cockfield, Cook Mountain, Kosciusko, and Meridan Sand Formations), Wilcox Group (Hatchetigbee, Tuscahoma, and Nanafalia Formations), and the Midway Group (Naheola Formations) (Warwick and others, 1997).

## Data

The Mississippi data provide drill-hole coverage in eastern Mississippi (fig. F1). Location error, due to the reduced resolution and generalized nature of highway maps, is expected to be  $\pm 0.25$  miles. Shapefile attributes include all original raw data from the Phillips coal drill-hole location maps (table F1). The shapefile was exported to a spreadsheet (see appendix F1).

## References Cited

- Ogg, J.G., Ogg, Gabi, and Gradstein, F.M., 2008, *The concise geologic time scale*: Cambridge, U.K., Cambridge University Press, 184 p.
- Warwick, P.D., SanFilipo, J.R., Crowley, S.S., Thomas, R.E., and Freid, J., comps., and Tully, J.K., digital comp., 1997, *Map showing outcrop of the coal-bearing units and land use in the Gulf Coast coal region*: U.S. Geological Survey Open-File Report 97–172, 1 sheet, accessed April 20, 2011, at [pubs.usgs.gov/of/1997/of97-172/](http://pubs.usgs.gov/of/1997/of97-172/).

## Appendix F1

The Mississippi coal exploration drill-hole dataset in spreadsheet format is available at [pubs.usgs.gov/of/2011/1261/Appendices/F1-MS.xls](https://pubs.usgs.gov/of/2011/1261/Appendices/F1-MS.xls).

**Table F1.** Attribute titles and data descriptions and formats for the Mississippi coal exploration drill-hole dataset.

Attribute title	Data description and format
DRILL-HOLE NAME	A one- or two-letter county code followed by the drill-hole number.
COUNTY	County where the drill hole is located.
ELEVATION	Elevation above sea level in feet.
LATITUDE	Decimal degree location values given to 4 decimal places.
LONGITUDE	Decimal degree location values given to 4 decimal places.
X_C	Thickness of coal for bed number X in decimal feet.
X_CP	Thickness of coal and partings combined for bed number X in decimal feet.
X_DEPTH	Top depth of bed number X in feet.
COMMENT	Additional information regarding the drill hole.

**Table F2.** Explanation of comments used to describe the Mississippi drill-hole dataset (J.A. Luppens, U.S. Geological Survey, written commun., 2009).

Symbol/Comment	Description
Good Coal	Comment was listed on the original coal exploration maps, but no coal data were recorded. The exact meaning is not clear, but the comment seems to indicate that coal was encountered during exploration and that it was of either a good quality or quantity.
NC	Abbreviation for “no coal.” No coal was found during exploration for this drill hole.
NSL	Abbreviation for “no significant lignite.” Coal may have been found during exploration but because the coal beds were thin (usually less than 2 feet thick) no coal data were recorded.
NP	Abbreviation for “not probed.” Geophysical logging never occurred at this location.

**Table F3.** Mississippi counties and the number of drill holes by county.

<b>County</b>	<b>Number of drill holes</b>
Attala	79
Benton	94
Calhoun	259
Choctaw	282
Grenada	29
Holmes	241
Kemper	326
Lafayette	234
Lauderdale	192
Leake	46
Madison	54
Neshoba	173
Newton	12
Pontotoc	16
Tallahatchie	86
Webster	323
Winston	298
Yazoo	45
Total	2,789

F4 Shallow Coal Exploration Drill-Hole Data—AL, GA, KY, LA, MS, MO, NC, SC, TN, TX

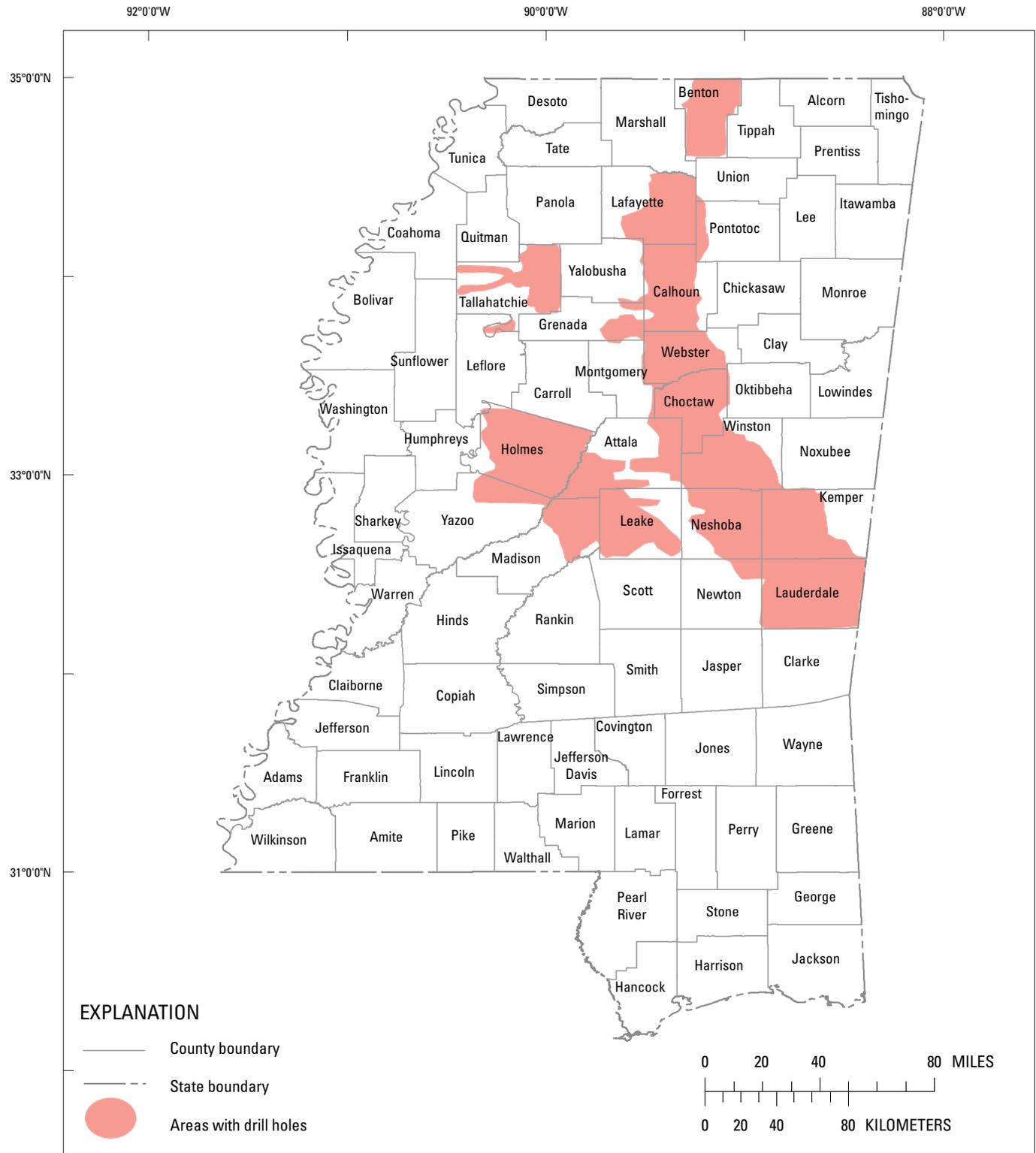
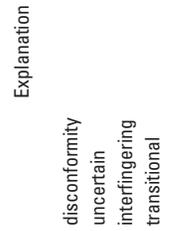
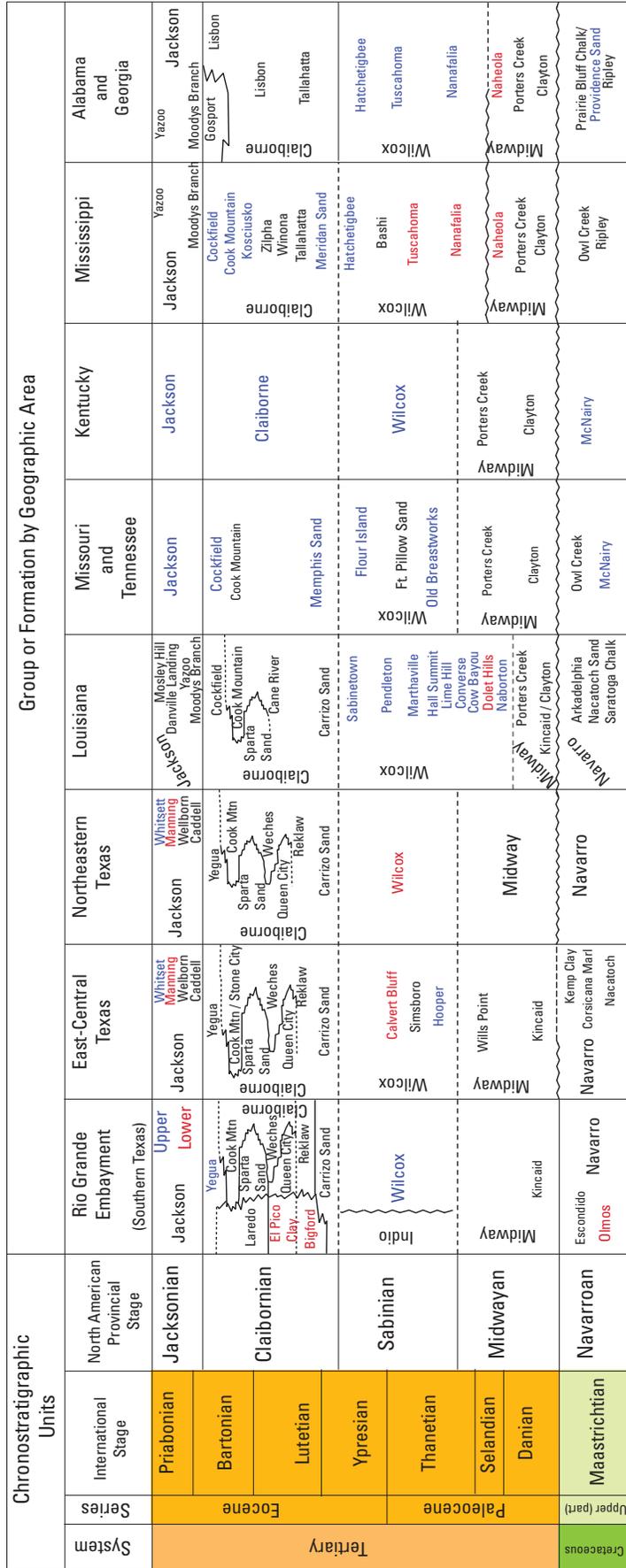


Figure F1. Map of Mississippi showing locations of areas with drill holes.



**Figure F2.** Generalized stratigraphic chart showing major and minor coal-bearing formations in the Mississippi Embayment and Gulf Coastal Plain (modified from Warwick and others, 1997; Ogg and others, 2008).