

Shallow Coal Exploration Drill-Hole Data, Georgia

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Chapter C 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 746 wells drilled in Georgia between April and November of 1978 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 Georgia include a map of the State showing areas with drill-hole coverage (fig. C1), a list of data attributes and explanations of the data format (table C1), a list of comments found in the data and descriptions of them (table C2), a list of counties and the number of drill holes for each county (table C3), and tabulated data in spreadsheet format (see appendix C1).

Methods

Annotated topographic field and county highway maps from Phillips, generally at 1:62,500 to 1:100,000 scale, were utilized to generate the drill-hole datasets. Georgia State coordinate plane projection source material from 1927 was 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. To facilitate combining this dataset with datasets for other States, the dataset has been reprojected into a North American Datum of 1983 geographic coordinate system. The shapefile was exported to a spreadsheet (see appendix C1).

Data

The Georgia data provide drill-hole coverage for southwestern Georgia (fig. C1). Drill-hole depths range from 30 to 300 feet with an average depth of 237 feet. For a stratigraphic chart of coal-bearing formations in Georgia, see figure C2. Location error, if present, is the result of those completing the data sheets. The transcription process involved no map digitization; therefore, there are no spatial errors associated with the creation of this dataset. Comparisons between digitized highway map points and their corresponding drill-hole tabulation sheet coordinates indicate that the drilling team accurately determined their locations from local topographic maps. Shapefile attributes include all original raw data with the exception of the landowner information (table C1).

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/.

Appendix C1

The Georgia coal exploration drill-hole dataset in spreadsheet format is available at pubs.usgs.gov/of/2011/1261/Appendices/C1-GA.xls.

C2 Shallow Coal Exploration Drill-Hole Data—AL, GA, KY, LA, MS, MO, NC, SC, TN, TX

Table C1. Attribute titles and data descriptions and formats for the Georgia coal exploration drill-hole dataset.

Attribute title	Data description and format
DRILL-HOLE NAME	Two-letter county code followed by drill-hole number.
COUNTY	County where the drill hole is located.
ELEVATION	Elevation above sea level in feet.
DEPTH_TOTAL	Depth of drill hole in feet.
DEPTH_PROBED	Depth of geophysical probe measurement 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.
COMMENT	Additional information regarding the drill hole. See table C2 for an explanation of comments.

Table C2. Explanation of comments used to describe the Georgia drill-hole dataset (J.A. Luppens, U.S. Geological Survey, written commun., 2009).

Symbol/Comment	Description
?	Questionable data/information.
Inferior	Subjective term used to describe low-quality coal.
Inferior Lignite	Subjective term used to describe low-quality lignite.
Lignite	A low-ranking coal was found during exploration.
NC	Abbreviation for “no coal.” No coal was found during exploration for this drill hole.
No Data	No data was recorded on the original coal exploration maps for this drill hole.
NP	Abbreviation for “not probed.” Geophysical logging never occurred at this location.
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 was recorded.
Partially Inferior Lignite	Used to describe that a portion of the coal bed is of a low quality.

Table C3. Georgia counties and the number of drill holes by county.

County	Number of drill holes
Clay	195
Dooly	7
Houston	37
Macon	77
Marion	1
Peach	16
Quitman	133
Randolph	67
Schley	40
Stewart	43
Sumter	50
Taylor	1
Terrell	8
Webster	71
Total	746

C4 Shallow Coal Exploration Drill-Hole Data—AL, GA, KY, LA, MS, MO, NC, SC, TN, TX

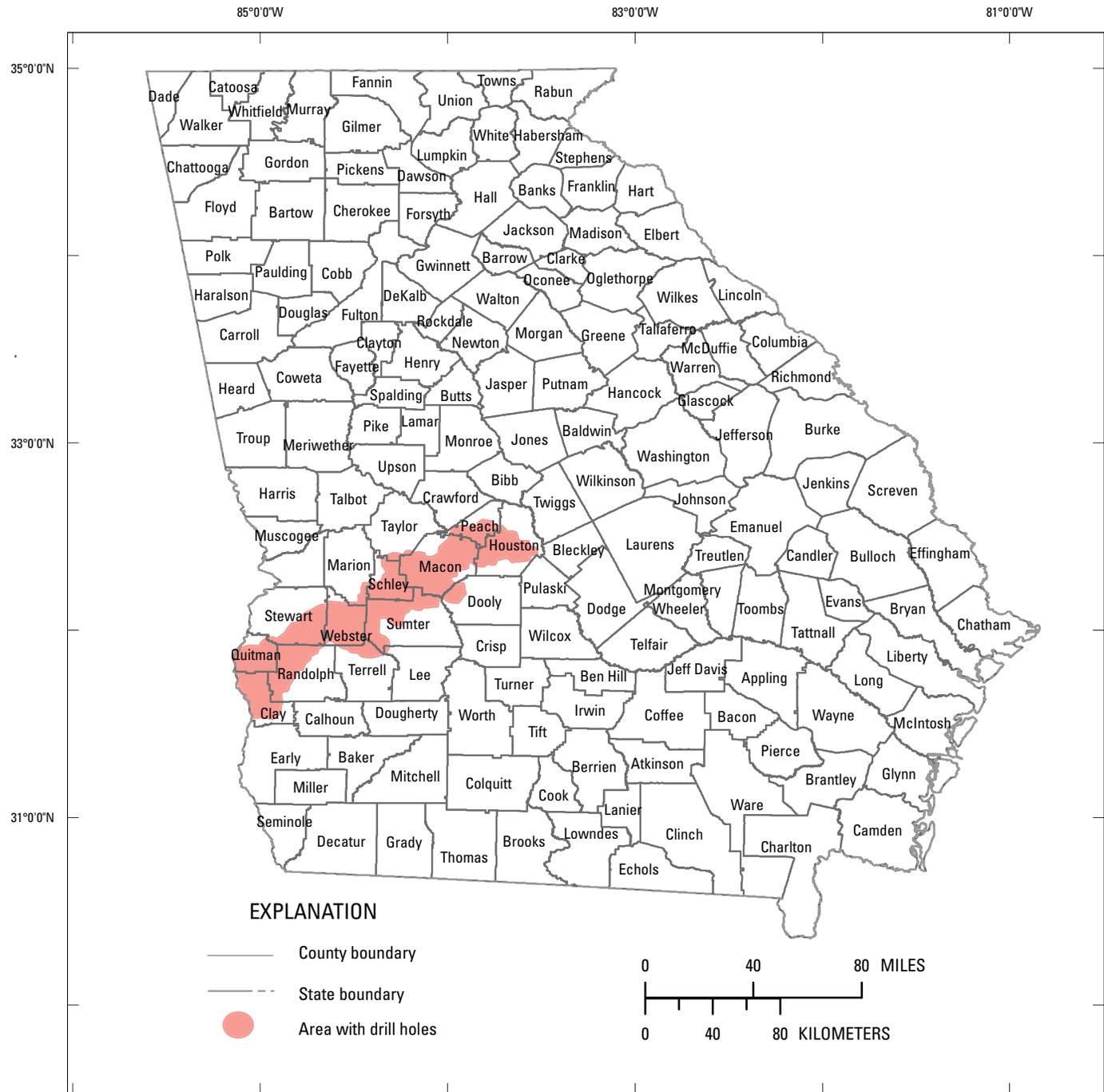
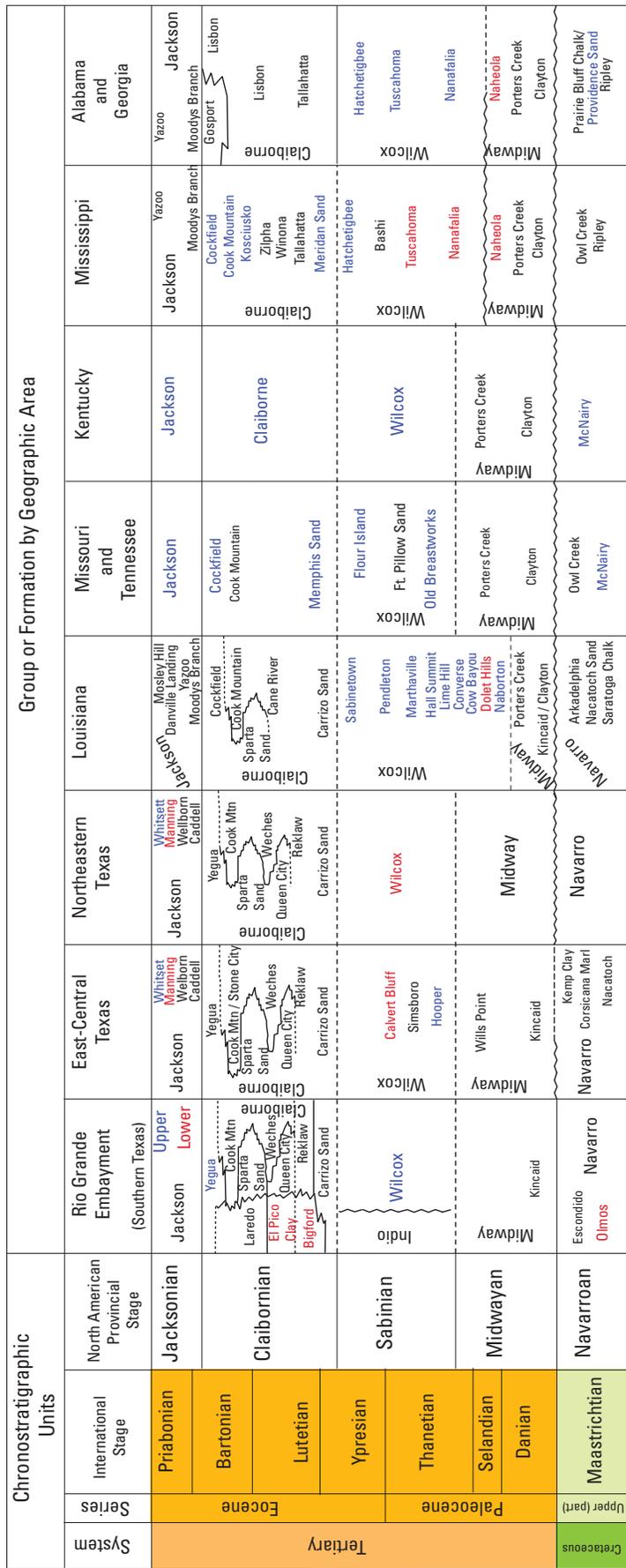


Figure C1. Map of Georgia showing locations of areas with drill holes.



Group Name
 Formation Name
 Major coal-bearing formation
 Minor coal-bearing formation

Figure C2. 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).