

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

By Matthew D. Merrill, Brett J. Valentine, and Kristin O. Dennen

Chapter A of

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

Edited by Brett J. Valentine and Kristin O. Dennen

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Introduction

Coal exploration drill-hole data from over 24,000 wells in 10 States are discussed by State in the chapters of this report, and the data are provided in an accompanying spreadsheet. The drill holes were drilled between 1962 and 1984 by Phillips Coal Company, a division of Phillips Petroleum Company (Phillips). The data were donated to the U.S. Geological Survey (USGS) in 2001 by the North American Coal Corporation, which purchased the Phillips assets as part of a larger dataset. Under the terms of the agreement with North American Coal Corporation, the data were deemed proprietary until February 2011, a period of 10 years after the donation (Appendix). Now that the required period of confidentiality has passed, the data have been digitized from tabulated data files to create unified and spatially consistent coal exploration drill-hole maps and reports for the States of Alabama, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, and Texas. The data are made publically available by this report.

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. The drill-hole locations in State coordinate plane projections 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. The maps and data were then reprojected into a North American Datum of 1983 geographic coordinate system.

Data

The data provide locally dense drill-hole coverage (fig. A1) for the Gulf of Mexico coal region, the southern part of the Appalachian coal region, and North and South Carolina. A regional stratigraphic chart with major and minor coal-bearing formations in the Gulf of Mexico coal region is shown in figure A2. Each of the 10 State reports (chapters B–K, this volume) has a map of the State with drill-hole coverage that includes drill holes where coal was found and drill holes where there was no coal. In addition, a list of counties is included in each State report with the number of drill holes for each county, and an appendix in each State report directs the reader to a spreadsheet with tabulated coal thickness data. When available, electric log probe depths and indications of core sampling are also included in the tabulated data. The coal thickness data from the State reports have been uploaded to the USGS National Coal Resources Data System UStratigraphic (USTRAT) database, part of the National Coal Resources Data System (NCRDS) at energy.usgs.gov/Tools/NationalCoalResourcesDataSystem.aspx.

Conclusions

The data provided in the State reports (chapters B–K) compliment NCRDS State shallow coal resources data because the data include both coal and “no-coal” drill-hole information, whereas the NCRDS accepts only coal thickness data points. The coal thickness data in the spreadsheet(s) that accompany each report reflect corrections for duplicates, mislabeling, and incorrect locations identified by the computer programs used to upload the data to NCRDS. For the States of North and South Carolina, the reports include “no-kaolinite” drill-hole locations as well as “no-coal” drill-hole locations because kaolinite is an economic resource in these States.

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/.

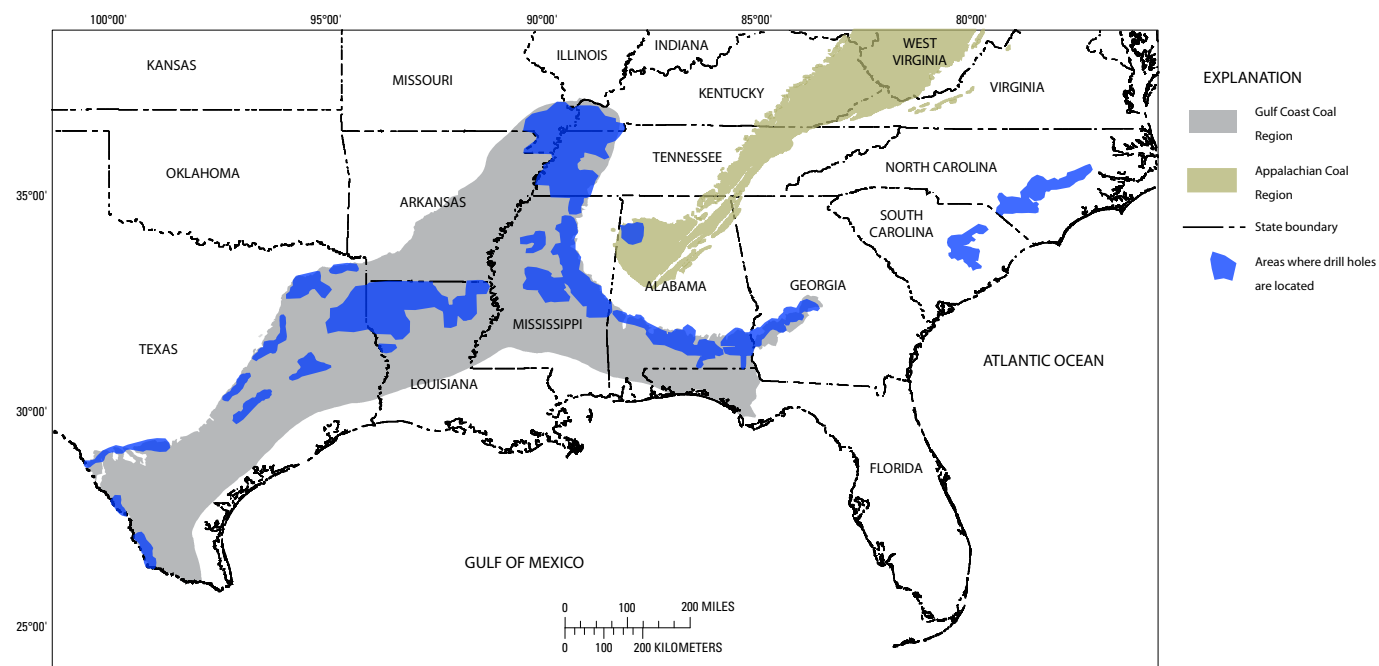
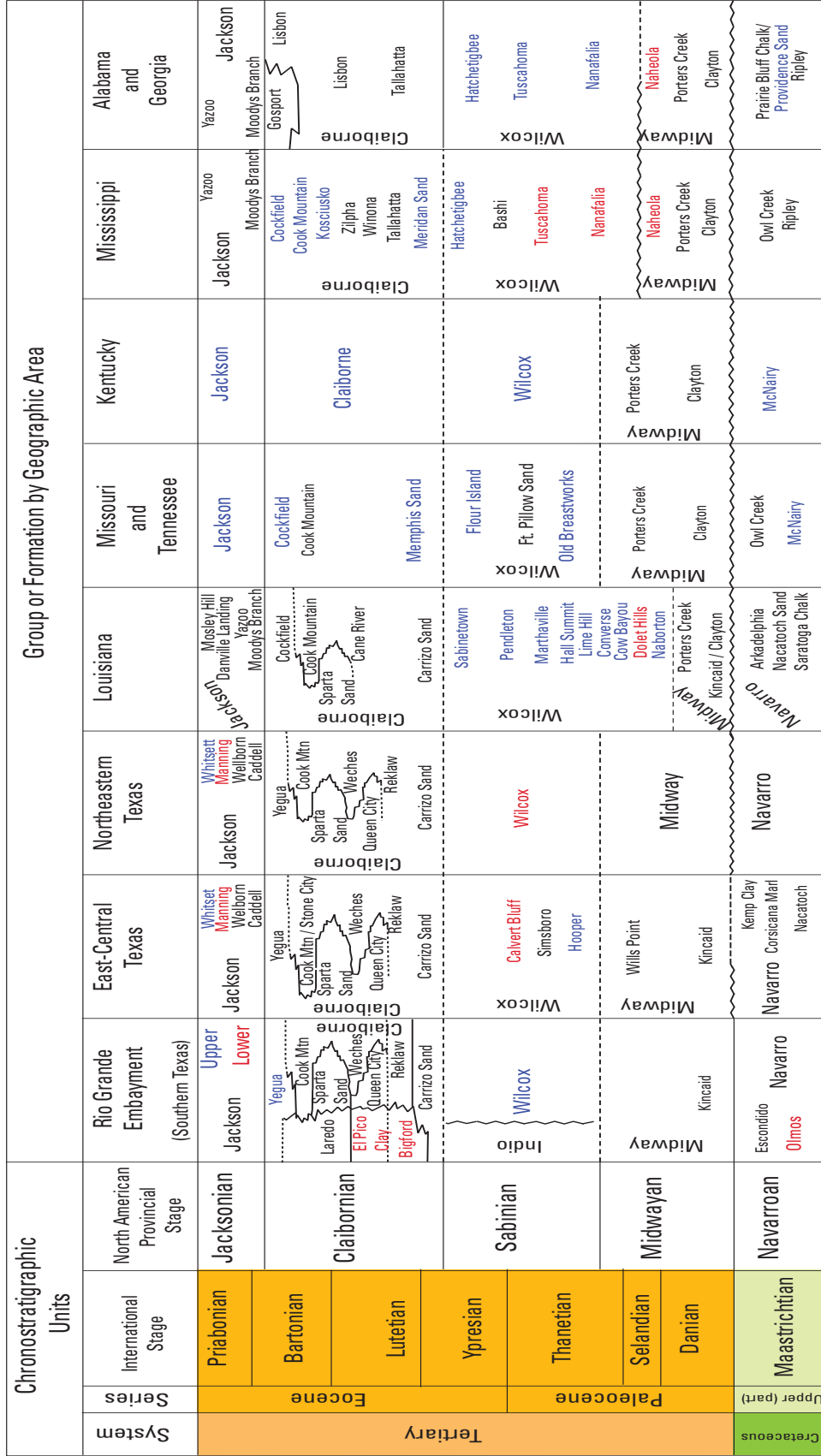


Figure A1. Regional map showing drill-hole locations.



Explanation

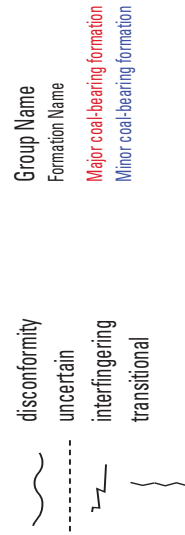


Figure A2. Generalized stratigraphic chart showing major and minor coal-bearing formations in the Mississippi Embayment and Gulf Coast Plain (modified from Warwick and others, 1997; Ogg and others, 2008).

Appendix A. The North American Coal Corporation letter describing confidentiality agreements.

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February 14, 2001

Mr. Peter Warwick
Geologist
United States Geological Survey
956 National Center
Reston, VA 20192

Dear Mr. Warwick:

We are hereby transmitting to the United States Geological Survey various coal related information for use in the National Coal Resource Data System. The information is stored in 59 file boxes and 81 map boxes.

The information concerns the following states:

Alaska	Kentucky	Oklahoma
Alabama	Louisiana	Oregon
Arkansas	Maryland	Rhode Island
Arizona	Maine	South Carolina
California	Michigan	South Dakota
Colorado	Missouri	Tennessee
Florida	Mississippi	Texas
Georgia	Montana	Utah
Iowa	North Carolina	Washington
Idaho	North Dakota	West Virginia
Illinois	Nebraska	Wyoming
Indiana	New Jersey	Virginia
Kansas	New Mexico	

There is also information concerning Puerto Rico, Trinidad, Canada, and South America.

We would like this information to be held as proprietary for a period of ten years, as shown by the attached sheet.

Mr. Peter Warwick
February 14, 2001
Page 2 of 2

A photocopy of a computer printout showing an inventory of the map boxes is enclosed. The items highlighted in pink have been removed and are not included in this transmittal. We do not have an inventory of the file boxes.

Please call me if you have any questions.

Sincerely,

THE NORTH AMERICAN COAL CORPORATION



James D. Flint
Staff Geologist

JDF:lrh
Enclosure

cc: T. D. Aderman (w/o enclosures)
T. A. Koza (w/o enclosures)
C. A. Moseley (w/o enclosures)

CLASSIFICATION OF USGS NCRDS STRATIGRAPHIC DATA

- I. Public Domain - All data and point locality can be released to anyone.
- II. Pending Validation - Data that will become either Public Domain or Proprietary upon validation. These data are available for inspection and use by USGS and State Survey personnel under confidentiality agreements.
- III. Proprietary - Company Confidential data and/or locality have been provided by a Private Company and written agreements as to access of the data are on record. These data are available for inspection and use by USGS and State Survey personnel under confidentiality agreements.
 1. Definite Release - Data and locality will be released after 10 years.
 2. Indefinite Release - Data can be used under the following restrictions by authorized USGS, Federal, or State Agency users:
 - a. Locality shown as a point only, without attribution or identification.
 - b. Locality shown as mine name only.
 - c. Locality not revealed in any form; data are used for compilations or interpretive map production.