

The current USGS analytical scheme will constitute the basic characterization of each sample. This scheme includes determining moisture, ash, heat value, sulfur forms, ash fusion temperatures, and the concentrations of about 60 major, minor, and trace elements (fig. 2). ASTM standard coal characteristics (for example, carbon, hydrogen, nitrogen, oxygen calorific value, and sulfur form data) will be generated by either commercial laboratories or by participating utilities. Additional sample characterization (for example, mineralogy, modes of occurrence determinations, leaching behavior, fouling characteristics) will be used to address the specific coal-quality issues in different regions. Overall, the number of samples collected, the supplementary characterization, and the number of core samples obtained will be determined by the level of project funding. It is anticipated that at least 1,000 coal samples will be collected and analyzed under the NaCQI project.

Sample collection began in 1998; sample collection and characterization will require three years. University and other coal research organizations will participate in NaCQI to help address relevant technological, environmental, economic, and geologic problems related to coal quality. NaCQI will follow uniform policies for respecting the confidentiality requirements of all participants.

Anticipated products of the NaCQI project will have importance on a national scale. The data resulting from NaCQI will lead to better understanding of patterns and trends of coal characteristics on a regional scale for each of the major coal basins. This knowledge should result in more reliable prediction and planning for developing the nation's coal resources in a manner that will best safeguard air and water quality.

Existing USGS Coal Quality Database

The data generated by the NaCQI project will augment the coal quality information collected by the USGS since the mid-1970's (fig. 3).

The USGS maintains COALQUAL, the largest existing database that contains coal-quality information on U.S. coal beds. The database is available as a USGS Open-File Report (Bragg and others, 1998). Information in this database can be used to locate coal having quality characteristics desirable for specific technological uses and for environmental compatibility.

International Coal Quality Database

The USGS, in cooperation with many coal-producing countries, will create a database that contains coal-quality

information on an international basis. The primary focus of this effort will be to obtain information on the quality characteristics of coal beds which are currently being mined and burned in other countries. The database will provide coal-quality information beneficial to the source country as well as to U.S. companies interested in finding markets for coal-related products and services. The information contained in this database will also provide a more accurate picture of the composition of emissions from coal burning, worldwide.

References

Bragg, L.J., and others, 1998, U.S. Geological Survey Coal Quality (COALQUAL) Database; Version 2.0: U.S. Geological Survey Open-File Report 97-134, available on the World Wide Web at URL <http://energy.er.usgs.gov/products/databases/coalqual/intro.htm>.

Energy Information Administration, 1997a, Annual Energy Review 1996: U.S. Department of Energy report DOE/EIA-0384 (96), 400 p.

Energy Information Administration, 1997b, Annual Energy Outlook 1998: U.S. Department of Energy report DOE/EIA-0383 (98), 227 p.



Figure 3. Coal sample localities from COALQUAL (the U.S. Geological Survey geochemical database), July 1994. COALQUAL is part of the USGS National Coal Resources Data System.

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