

ute quadrangle maps. Through a grant from the Ohio Air Quality Development Authority, the washability of Ohio's coal is presently being investigated by the traditional float-sink method as well as by petrographic methods. Fluidized-bed combustors are a promising means of burning high-sulfur coals, and the Division of Geological Survey has proposed a study to evaluate the effectiveness of Ohio's carbonate rocks as sulfur dioxide sorbents in these combustors. Results from this study will contribute to cost reductions in the removal of sulfur dioxide and should increase the utilization of Ohio's high-sulfur coal.

**WILLIAMSON, ALLEN D., and DAVID A. WILLIAMS,** Kentucky Geol. Survey, Henderson, Ky.

#### Coal and Coal Developments in Western Kentucky

Total coal resources for the Western Kentucky coalfield are estimated to be almost 38 billion tons; however, mineable reserves may be as low as 12 billion tons.

The Western Kentucky coalfield is separated into three discrete districts, each with a distinct coal-bed nomenclature. The Madisonville district, which is the largest, contains most of the coal mines and reserves; however, most coal mined in this district does not meet

current EPA emission standards. The Morgantown district contains much less coal, but the coal is generally shallower and of higher quality. Much of the coal in this district contains 1 to 3% sulfur and 11.5 to 13 thousand Btu's per pound. The Hancock County coal district contains a limited amount of low-sulfur, high Btu coal.

Coal production for 1978 was almost 40 million tons, most of which was mined from the Western Kentucky No. 9 (Springfield of Illinois) coal bed in the Madisonville district. Recent studies indicate that mineability of the No. 9 and other coal beds is adversely affected by Pennsylvanian paleochannels. Although precise delineation of these paleochannels is very difficult, some prediction of general channels trends can be made.

In the Morgantown and Hancock County districts, coal beds are lenticular and commonly associated with sandstone paleochannels. Delineation of the sandstone channels is a considerable aid in exploration for these discontinuous beds.

Past coal-mining activity in western Kentucky has been concentrated around the rim of the Illinois basin; however, future activity will move northward and westward toward the deeper part of the Western Kentucky coalfield. A limited amount of subsurface data indicates that substantial resources from several coal beds remain in the deeper parts of the Western Kentucky coalfield.