

Palynologic Correlation of Late Middle Pennsylvanian Coal Beds in the Central Appalachian Basin, Cortland F. Eble and Stephen F. Greb, Kentucky Geological Survey, University of Kentucky, Lexington, KY 40506, eble@uky.edu, greb@uky.edu; Bascombe M. Blake, West Virginia Geologic and Economic Survey, Morgantown, WV

Late Middle Pennsylvanian strata in the Central Appalachian Basin contain some of the most economically important coal beds and coal zones in the region, including the Haddix, Hazard, Peach Orchard, Broas, Skyline, Kittaning, and Freeport coal beds. Palynological (spore and pollen) data can help with identification and correlation so that more accurate reserve assessments can be made. This is especially true where the interval thins, or coals split into multiple beds.

In eastern Kentucky, late Middle Pennsylvanian strata occur in the Four Corners and overlying Princess Formations of the Breathitt Group. In adjacent West Virginia, correlative rocks are assigned to the upper part of the Kanawha Formation and overlying Charleston Sandstone. In southwestern Virginia, age-equivalent strata occur at the top of the Wise and overlying Harlan Formations. Late Middle Pennsylvanian strata also are found in the Cross Mountain Formation of northeastern Tennessee and the Allegheny Formation of southeastern Ohio.

Stratigraphically important palynomorphs in the late Middle Pennsylvanian include *Torispora securis*, *Murospora kosankei*, *Triquitrites minutus*, *Cadiospora magna*, *Mooreisporites inusitatus*, *Thymospora pseudothiessenii*, and *Schopfites dimorphus*, *Radiizonates difformis*, *Densosporites annulatus*, *Dictyotriletes bireticulatus*, *Vestispora magna*, and *Savitrisporites nux*. These forms help identify and correlate late Middle Pennsylvanian coal beds across the Central Appalachian region.

Coal palynology also helps with interbasinal correlation. Comparison with established spore and pollen assemblage zones indicate a late Atokan through Desmoinesian age for the U.S. Eastern and Western Interior Basins, and the upper part of the Bolsovian and Asturian sub-stages (Westphalian C–D) of western Europe.