

## Stratigraphy of the Atokan-Desmoinesian Riverton Shale (formerly Riverton Formation) in Southwest and West-central Missouri, and, Correlation of Riverton Coal Beds in Missouri to Riverton Coal Beds in Kansas.

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A refined geologic column of the Riverton Shale (formerly Riverton Formation) in southwest and west-central Missouri shows the Riverton to contain five persistent coal beds that correlate with Riverton coal beds in Kansas; they probably also are present in Oklahoma. These coals offer potential for coal bed methane in the three states. In Missouri, the Riverton overlies a basal section of conglomerate, sandstone, shale, and a rare thin coal; the section rests unconformably on Mississippian-age or older bedrock. The Riverton Shale varies in thickness from 3 m to 30 m. The lower part is mostly dark-gray thickly-laminated shale with lenticular-bedded sandstone and two persistent coal beds. The upper part is mostly gray shale and clay with three persistent coal beds. Additionally, there are other coals of local extent. The five persistent coal beds are seldom all present at any one place. In this report, these coals are numbered 1 through 5 in ascending order. Coal 1 correlates with the Riverton coal of Kansas. Coals 2, 3, 4, and 5 correlate with the Dw, Cw, Bw, and Aw coals, respectively, of Kansas. The Riverton straddles the Atokan-Desmoinesian boundary; the coals yield an assemblage of spores associated with the age boundary in the Illinois basin (Peppers, personal communication). Three factors influence the variability and thickness of the Riverton: 1) paleo-relief of older bedrock, 2) structures active during sedimentation, and 3) filled scours by younger rocks. When these factors are considered, Riverton coal beds can be correlated regionally and among the three states.