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**Regional Thin-Skinned Extension in a Foreland Basin: Eastern Black Warrior Basin, Alabama**

The Black Warrior basin of Alabama and Mississippi, the foreland basin of the Appalachian-Ouachita orogenic belt, is of Mississippian and Pennsylvanian age. The regional structure is a southwest-dipping wedge-shaped monocline that is turned up and truncated at the thrust front. The basin is cut by numerous normal faults, most of which formed above a detachment located below the economic coal cycles of the Pennsylvanian Pottsville formation; relatively few faults cut Mississippian and older units. All the extensional faults play an important role in hydrocarbon trapping and production. Faults that cut Mississippian and older units form the traps for conventional oil and gas in Mississippian reservoirs. The thin-skinned faults strongly compartmentalize the Pennsylvanian coalbed methane reservoirs. In the northeastern part of the basin, the normal faults are all thin-skinned, as originally inferred from the area-depth relationships from cross-sections of coalbed methane fields and coal mine maps. The extensional lower detachment is confirmed in outcrop along the upturned southeastern edge of the basin to be within the Fayette coal cycle in the upper portion of the lower Pottsville Formation. The thin-skinned normal faults generally strike northwest, are typically 3-5 miles long and have maximum stratigraphic separations of 400 feet. The basin extension is believed to have formed by flexural bending caused by thrust loading from the Ouachita thrust belt. They occurred late in the orogeny because they cut the syntectonic Pottsville coal cycles with little evidence of growth during deposition, and are cut by Appalachian thrusts.