

## **West-East Transect of Cretaceous Rocks, Central Rocky Mountains to East-Central Great Plains, Utah, Colorado, and Kansas**

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A west-east lithostratigraphic cross section of the Cretaceous rocks from central Utah to western Kansas was prepared as part of the former Western Interior Cretaceous (WIK) project, which was part of the Global Sedimentary Geology Program (GSGP) started in 1989. This transect is similar to one published by Dyman and others (1994, SEPM-RMS, Mesozoic Systems) as a summary paper of the WIK project, but extends further east and is more detailed. Stratigraphic control was provided by 32 geophysical logs and measured sections tied to ammonite and Inoceramus faunal zones. A variable datum was used, including the base of the Castlegate Sandstone for the western part of the section, and the fossil ammonite zone *Baculites obtusus* for the middle and eastern section. Lower Cretaceous units and the Frontier Formation and Mowry Shale were not mapped as individual units, but were composited.

Cretaceous strata along the transect range in thickness from more than 7,000 ft. in the structural foredeep of the western overthrust belt in central Utah, to about 11,000 ft. near the Colorado-Utah border as a result of considerable thickening of the Mesaverde Group, to less than 3,500 ft. in the eastern Denver Basin, Kansas resulting in a condensed section. The basal Mancos Shale rises stepwise across the transect becoming progressively younger to the west as the initial Western Interior Seaway transgressed westward. The section illustrates large scale stratigraphic relations for most of the Western Interior Seaway from central Utah, northwestern to east-central Colorado to west-central Kansas. These strata are predominantly continental and shoreline deposits near the Sevier thrust belt in Utah, prograding and regressive shorelines to the east with associated flooding surfaces, downlapping mudstones, and transgressive parasequence (shoreface) boundaries that correlate to condensed zones across the seaway in central Colorado and eastern Denver Basin.