

Structural Style and Kinematic Evolution of the Central Rocky Mountain Foothills, British Columbia and Alberta, Canada

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Abstract

The change in structural style of the Canadian Rocky Mountain Thrust and Fold Belt from thrust-dominated in the south to fold-dominated in the north reflects a northward decrease in the overall competency of the deformed stratigraphic section. The transition in structural styles occurs over a broad area between Athabasca River (53°15' N) and Peace River (56° N). This study focuses on the transitional, central segment of the Canadian Rocky Mountain Foothills in the region straddling the BC-Alberta border. In this area the exposed Foothills form a fold-dominated, fold and thrust belt. In the east, deformation at surface dies out eastward over a broad zone, and subtle folds commonly mark its eastern limit. In the west, the boundary with the Rocky Mountains structural subprovince varies from a well defined thrust with significant stratigraphic separation to a detachment zone in Jurassic shales formed above plunging folds in Paleozoic and Triassic strata.