

## **STRUCTURAL PROFILES OF THE WESTERN BALKAN—FOREBALKAN REGION, BULGARIA**

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The Balkan Mountains and Fore-Balkan foothills of Bulgaria bisect the country laterally, separating the Moesian Platform in the north from the Srednagorian Plain and Rhodope Mountains in southern Bulgaria. The Balkan-Fore-Balkan thrust and fold belt evolved from a basin which began with early Triassic intracratonic rifting. The basin was contracted by multiphase compression that propagated the Balkan-Fore-Balkan fold and thrust belt northward onto the southern edge of the Moesian Platform during the early Cretaceous (Aptian-Austrian phase), Paleocene (Laramian phase), and middle Eocene (Illyrian phase).

Two balanced cross sections of the western part of the Balkan-Fore-Balkan province of Bulgaria presented here illustrate the regional thrust-fold belt style of deformation. Well, seismic, and surface mapping data were used in construction of the cross sections. The Balkan-Fore-Balkan belt displays a narrow and thin foredeep. The foredeep sediments are involved in the external structuring of the belt. The northern limit of foreland deformation approximates the southern edge of shelf sediments of the stable Moesian Platform. North vergence of asymmetric anticlines and thrusts predominates but local backthrusts are inferred at Teteven Anticlinorium. Folded thrusts are indicated by the data. Illyrian phase compression often includes out-of-sequence thrusting and reactivation of pre-existing faults. Angular unconformities between stratigraphic units locally constrain the timing of deformation and can be projected along strike.

Palinspastic reconstruction of the cross sections provide a perception of the precursor basin. Previous investigations have implied that inversion of basin-forming normal faults was the predominate structural mechanism in the Balkan-Fore-Balkan region. However, the available data suggest low-angle thrust faulting is the prevalent style of deformation. Total shortening is estimated to be 25-40%.