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## **The structural characteristics of the northern part of Adana Basin, southern Turkey**

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The Adana basin reflects a Mediterranean type depression which developed on margin of the Tauride Terrane, a fold-thrust belt in Alpine-Himalayan Orogenic Belt. The sequential infill of the Adana Basin unconformably overlies the stacking tectonostratigraphic units of the Tauride fold-thrust Belt pertaining to the Palaeozoic, Mesozoic and early Palaeogene ages. The basin-fill at northern part is represented from bottom to top by alluvial fan deposits of Late Oligocene (?) - Early Miocene Gildirli Formation and succeeded upward by a disconformably overlying transgressive sequence comprising Kaplankaya, Karaisalı, Cingöz and Güvenç formations of Burdigalian-Serravalian age including shallow to basinal marine clastics and carbonates. The sequence conformably ends at the top by upward shallowing marine Gövdelidağ Formation of Middle to Late Miocene age.

Throughout the closure history of the Southern Neo-Tethys, the final continent-continent collision was developed between Tauride-Anatolide Platform and Afro-Arabian plate in late Middle Miocene (at the end of Serravallian) and formed Bitlis-Zagros Suture Zone (BZSZ) along the southeast and southern part of Turkey. The Miocene infill of Adana Basin impressibly reflects the effects of this collision which was characterized by the development of a series of close to tight and asymmetric to overturned anticlines and synclines verging to NW, W to SE and E directions mostly in Cingöz Formation. They are sometimes offset by outcrop-scale reverse or regional scale thrust faults verging in the same directions. Away from the basin margin the interlimb angle of the folds are greater than those of the area near the margin.

The pre-thrusting extensional normal fault planes were tilted and steepened, but not inverted. In contrast, the depositional contacts between the basement rocks and overlying Miocene units were tilted, steepened and inverted at basin margin along which Palaeozoic and Mesozoic units of the Taurides were thrust over Kaplankaya and Cingöz formations.

These folding and thrusting events were ensued during Late Miocene post-collisional intracontinental compressional deformation as a response to this final continent-continent collision.

**Keywords:** Adana Basin, northern margin, compressional deformation, folding, thrusting.

