



Subsidence analysis and its consequences for formation mechanisms of the Qaidam basin

J. Genser

Department of Geography and Geology, University of Salzburg, Hellbrunner Str. 34, A-5020 Salzburg, Austria (johann.genser@sbg.ac.at; fax: ++43-662-8044-621)

The Cenozoic Qaidam basin developed at the north-eastern margin of the Tibetan plateau adjacent to the Altyn Tagh strike-slip fault. The basin displays a scoop-shaped form with migration of the depocentre along the central axis from the north-western margin towards the south-east in time. In the late Cenozoic, ongoing shortening led to folding of the north-western part of the sediment pile.

The basin formed in a compressive setting with SW-NE-directed shortening and lateral decoupling by the Altyn Tagh fault. The main formation mechanism of the basin is lithospheric folding followed by late-stage upper crustal folding. Wavelengths of folds are in accordance with an Early Paleozoic thermal age of basement rocks in the surroundings and probably the base of the basin.