Uplift History of the Bogda HRnge retrieved from the Foredeep Sequences, Northwestern China

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The Bogda range is the highest mountains of the eastern segment of the Tianshan, extending east-west more than 2000 km in central Asia, which is the Paleozoic orogen and reactivated later. Based on seismic data carried out for hydrocarbon exploration of the foredeep to north the Bogda range, we divided the foredeep sequences into three wedged units separated by two obvious unconformities, which indicate evidently three uplift events of the Bogda range since Late Paleozoic. The upper unit is composed of the Miocene Dushanzi and Quaternary Xiyu Formations. The lower part of the Dushanzi Formation is light yellow coarse sandstone and the upper part is light yellow conglomerate coarsening upward intercalated with sandstone layers. The Quaternary Xiyu Formation is dischronous, gray or dark gray conglomerates. The middle unit comprises the Jurassic Toutunhe, Qigu and Kalazha Formations. The Toutunhe and Qigu Formations are fluvial coarse clastic sandstone intercalated with mudstone. The Kalazha Formation and the base of the Cretaceous are red, brown, unsorted, sub-rounded conglomerate and gritstone. The lower unit consists of the Upper Carboniferous and Lower Permian, which are composed of a series of sequences from marine flysch to terrestrial molasse. The upper rock unit is result of compressional uplift of the Tianshan since Oligocene, contributed to the collision between India and Asia. The middle was maybe induced by collage of the Qiangtang terrain with Asia in Jurassic and/or closure of the Mongolia-Okhotsk Ocean. In the Tiansha, compressional structures formed in Jurassic exist. The lower is ascribed to the closure of the Tanshan Ocean and collision orogeny in late Paleozoic.