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# Overpressure and its relation to petroleum accumulation in the fold-thrust belts on the northern side of TIENSHAN OROGEN

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OVERPRESSURE AND ITS RELATION TO PETROLEUMACCUMULATION IN THE FOLD-THRUST BELTS ON THE NORTHERN SIDE OF TIENSHAN OROGEN
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Abstract: Measured formation pressure, well-log and mud weight data show that there are overpressures in the fold-thrust belts on the northern side of Tienshan Orogen. Vertically, overpressure distribution is not directly related to the burial depth, it is mainly controlled by stratigraphic horizons, especially the lower Tertiary Anjihaihe Formation has the most evident control over the overpressures. Horizontally, overpressure occur in the 3 structural belts in the fold-thrust belts, but there are differences in the east and in the west. in the eastern part overpressures occur in the Anjihaihe Formation only, while in the western part, they occur not only in the Anjihaihe Formation, but also in the Shawan and Ziniguanzi Formation. Analysing the relationship between the well test data and overpressures in the fold-thrust belts, it can be found that the distribution of oil and gas reservoirs are closely related to the overpressures. Being affected by faulting, and due to the differences in mechanism of relationship between overpressures and preservation of oil and gas reservoirs, the distribution of overpressures and oil and gas reservoirs cannot be corresponding to one another. As a whole, however, oil and gas would be ready to be reservoired in the normally pressured zone below the moderately abnormal pressured or overpressures zone, which would, therefore, be the favorable target of petroleum exploration; while the over pressured zone with relatively high formation pressure coefficient is unfavorable for oil/gas reservoir.