

***Characteristics of oil shale bearing basins and metallogenic regularity in Dunmi Fault Belt in Northeast China***

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A series of coal and oil shale bearing basins such as Huadian, Fushun and Meihe basins are developed in the Dunmi Fault belt that is one of the north branches of the Tanlu fracture zone in eastern China. These coal and oil shale resources are important to the energy base in northeast China. The development and distribution of oil shale basins are controlled by dextral strike-slip caused by the oblique subduction of the Pacific plate, and a series of small strike-slip fault basins are formed. The ore-bearing horizons are mainly Paleogene Huadian (Jijuntun, Dalianhe, Shulan and Meihe) Formation, and the deposits are characterized by small scale and high oil yield. Oil shale is mostly associated with coal, lying on the top of the coal, under the coal, or interbedded with coal. Oil shale formed mainly in semi-deep and deep lake environments in fresh or brackish water in the Transgressive Systems Tract (TST) and Highstand Systems Tract (HST), and the lake flooding was beneficial for oil shale formation. There are two climate conditions for oil shale formation, that is, warm and humid, or semi-humid and semi-arid climate, and the characteristics are different. Oil shale formed in warm and humid climate has the features of large thickness, stable distribution, low-middle oil yield and mixed organic matter, as found in the Fushun and Dalianhe oil shale. Oil shale formed in semi-humid and semi-arid climate has the features of thin-to-medium thickness, lower stability, high oil yield and Type I-II organic matter, as is found in Huadian oil shale.