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吐哈盆地西部地区高蜡凝析油和轻质油的地球化学特征及成因分析 [点此下载全文](#)

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摘要:

吐哈盆地西部地区中、新生界储层中广泛分布着轻质油和凝析油。这些原油具有低密度、低粘度、中等—高含蜡量的特点,含蜡量为 5.5%~22.1%,高分子量正构烷烃 (n C35~ n C87) 含量较高,属中—高蜡轻质油或凝析油,其地球化学特征及成因机理既不同于常规的高蜡原油,又不同于一般意义上的凝析油。吐哈盆地中、新生界高蜡凝析油或轻质油主要来源于侏罗系湖相泥岩和煤系地层中泥岩或煤,其形成主要取决于烃源岩的有机显微组分和有机质演化程度。研究区侏罗系湖相泥岩和煤系地层泥岩或煤岩中有机显微组分均以镜质组和壳质组为主,壳质组中角质体和木栓质体含量较高,具备了既可形成凝析油,又可形成高蜡油的条件。由于镜质组与部分壳质组演化形成烃类化合物的活化能相当,因此又具备高蜡油与凝析油共生的地球化学条件

关键词: [吐哈盆地](#) [高蜡凝析油](#) [高蜡轻质油](#) [显微组分](#) [成因机理](#)

Geochemical Characteristics and Origin of High-wax Condensate and High-gravity Oil in the Western Turpan-Hami Basin [Download Fulltext](#)

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Abstract:

The crude oils from the Mesozoic-Cenozoic reservoirs in the western Turpan-Hami Basin are mainly high-wax condensate or high-gravity oil (or light crude oil), with lower density, viscosity, middle to high paraffin content and higher content of high-molecular weight n-alkane (n C35-n C87). The paraffin contents of crude oil samples range from 5.5% to 22.1%. The origins of high-wax condensate and high-gravity oil are different from those of normal high-wax crude or condensate. The reason of the formation of high-wax condensates or high-gravity oils in the Mesozoic-Cenozoic reservoirs in the region of interest, which derive from the Jurassic mudstone and/or coalbeds, attributes to the constituents of organic macerals in source rocks and maturity of organic matter. The organic macerals in mudstone and coalbed source rocks in this region include mainly vitrinite and exinite consisting mainly of cutinite and suberinite, with the conditions of the formation of high-wax crude oil and condensate or high-gravity oil. The high-molecular weight n-alkanes and the condensates were generated at the same temperature because the activation energy of the vitrinite maceral and some exinite macerals in coalbed source are close.

Keywords: [Turpan-Hami Basin](#) [high-wax condensate](#) [high-wax high-gravity oil](#) [organic maceral](#) [origin](#)

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