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论层序地层学与含油气系统在油气勘探中的联系——以鄂尔多斯中生代盆地为例 点此下载全文

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摘要:

虽然层序地层学与含油气系统理论的各自研究对象和研究方法不同,但由于层序地层学研究对象(沉积岩)是含油气系统研究对象(油气)的 载体,二者可以由含油气盆地分析有机的结合起来。层序地层分析包含了对含油气系统的地质要素及成藏作用载体的分析,因而沉积层序的组成 单元与含油气系统的地质要素有必然的联系:在一个沉积盆地的数个沉积层序中,成熟烃源岩往往是地史中具一定埋深、分布广、厚度大、有机 质含量高的凝缩层,这个凝缩层往往是一个构造超层序的最大海(湖)泛面;储集岩往往是成熟烃源岩之上层序的低水位体系域或紧邻成熟烃源岩 的高水位体系域;有效盖层为储集岩之上层序的水进体系域及凝缩层;成熟烃源岩之上的沉积层序为上覆岩层;低水位体系域储集岩有可能沿上 倾方向尖灭,被层序界面及其上层序的水进体系域岩性圈闭;除构造裂缝外,低水位体系域下切谷可作为油气向上运移通道;一个含油气系统往 往跨越不同的沉积层序甚至构造超层序。

关键词:油气勘探 层序地层学 沉积层序 含油气系统 凝缩层 烃源岩 低水位体系域 储集岩 鄂尔多斯盆地

Relationship between Sequence Stratigraphy and Petroleum System in Oil and Gas Exploration: An Example in the Mesozoic Ordos Basin $\underline{Download\ Fulltext}$

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Abstract:

Despite the differences in research targets and methods between sequence stratigraphy and petroleum system, the two theories are closely related in the analysis of oil- and gas-bearing basin. Because sedimentary rocks, the research object of sequence stratigraphy, is the container of oil and gas, and the research object of petroleum system, the analyses of sequence stratigraphy, includes analyses of necessary geological elements and pool-forming activities of the petroleum system, there is a close relationship between systems tracts, composition of sequence and necessary geological elements and pool-forming activities of petroleum system. Effective hydrocarbon source rocks are usually a condensed section of a sequence with a certain thickness and wide distribution, and overlaid strata of certain thickness in the geological history, and the condensed section is usually the maximum flooding surface of a tectonic supersequence. The main reservoir rocks are always located in the lows-standing systems tract of a sequence above the effective hydrocarbon source rocks or in the high-standing systems tract immediately above the effective hydrocarbon source rock. The blanket is usually the transgressive-standing systems tract and the condensed section of a sequence above the reservoir rock. The reservoir rocks of the lows-standing systems tract are usually terminated upslope, and therefore, lithologically trapped. Beside the fractures in strata, the incised valley sandbody of the low-standing systems tract of a sequence can be the migration passageways. It is usually that a petroleum system exists inter-sequencely, and sometimes even inter-supersequencely.

Keywords: Sequence stratigraphy petroleum system effective hydrocarbon source rock condensed section reservoir rock the low-standing systems tract

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