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中国海相油气多期充注与成藏聚集模式研究——以塔里木盆地轮古东地区为例

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摘要:

中国海相盆地经历了早古生代末(加里东期)、晚古生代-早中生代(海西期)和晚新生代(喜山期)三期重大构造变动,深刻影响了海相油气生成、运移与聚集,使得油气分布规律变得非常复杂。中国海相盆地一般发育多套烃源岩,由于它们发育的时代和位置多不相同,生、排烃时间往往不同步,存在多源多期充注的特点。因此,多期油气成藏是海相盆地的一个重要特点。多期成藏是在多期构造运动的影响下,多套烃源层多期成熟排烃的结果。塔里木盆地塔北隆起轮古东地区是一个典型的多期充注型油气藏,目前已确定的主要成藏期包括晚加里东期、晚海西期和晚喜马拉雅期三期。轮古东碳酸盐岩非均质储层形成的缝洞圈闭体系,形成早,后期构造作用使圈闭没有发生大的变化,因此保留了这三期充注的油气;油气地球化学分析资料进一步证实了这三次油气充注成藏过程。通过地质分析,再现了油气充注成藏过程,建立了海相油气多期充注与成藏聚集模式。

英文摘要:

Marine sedimentary basins in China have undergone three phases of important tectonic changes in the end of Early Paleozoic, Late Paleozoic-Early Mesozoic and Late Cenozoic. These tectonic changes have exerted strong impacts on the hydrocarbon generation, migration, accumulation and on the occurrence and distribution of hydrocarbon reservoirs. The marine basins in China generally developed multi source rocks. Due to the much difference of their developing age and position, the time of hydrocarbon generation and expulsion between these source rocks is not often synchronous. It is existed that the characteristic of the multi-stage hydrocarbon-charging. Therefore, multi-accumulation of petroleum is an important characteristic of the marine basin in China. Under the influence of multi-stage structural movements, multi-stage accumulation results from multi-stage maturity and expelling hydrocarbon of multi source rocks. The eastern Lungu area of Tarim Basin is a typical example of multiphase hydrocarbon accumulations in a marine basin of China. At present, it has been determined that three main accumulation stages including Late Caledonian, Late Hercynian and Late Himalayan period. The heterogeneity carbonate reservoir developed in eastern Lungu area, and forming trap-system of seam and holes. After the process of earlier and later structure actions, these traps did not experience big changes. Therefore, the charging-hydrocarbon of three stages has been retained. The three-stage process of hydrocarbon charging is also confirmed by the analysis of geochemical data. Through the geological analysis, the process of hydrocarbon accumulation reappears. And, the model of marine multi-stage hydrocarbon-charging and accumulation is established.

关键词: [多期成藏](#) [海相](#) [凝析气藏](#) [奥陶系](#) [轮古东](#) [塔里木盆地](#)

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