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静水条件下背斜圈闭系统石油运移和聚集模拟实验及机理分析 [点此下载全文](#)

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摘要:

静水条件下背斜圈闭系统石油运移和聚集的模拟实验表明:(1)不同砂层组合方式的背斜圈闭系统中,油的运移方向、路径和通道不同,其中,均质和反韵律砂层组成的背斜圈闭系统油的运移方向、路径和通道比较简单,而正韵律组成的背斜圈闭系统中油的运移方向、路径和通道比较复杂;(2)油的充注速率对油的运移方向、路径和通道具有重要的影响,当充注速率较小时,油仅在一些渗透率较高的砂层中运移,当充注速率较大并超过渗透率较高的砂层的运载能力时,则油可以进入一些渗透率较低的砂层;(3)运载层的岩性组合和渗透率级差以及油充注速率和充注方向等对油气运移的散失量和运移效率产生重要的影响,一般来说,反韵律砂层组成的背斜圈闭系统中油的运聚效率较高,均质砂层组成的背斜圈闭系统次之,而正韵律砂层组成的背斜圈闭系统中油的运聚效率比较低;(4)油的运移形式表现为跳跃和脉动的特点。

关键词: [背斜圈闭](#) [模拟实验](#) [非均质砂层](#) [油气运移](#) [油气聚集](#) [静水条件](#)

Simulation Experiment and Mechanism Analysis of Petroleum Migration and Accumulation in Anticlines under Hydrostatic Condition [Download Fulltext](#)

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Abstract:

Under hydrostatic condition, experimental simulations of oil migration and accumulation in anticline traps were carried out. The following results were obtained: (1) In anticlines consisting of different stacking styles of sand layers, the migration direction and pathways were different. In general, they were simple in anticlines composed of homogenous sands or coarsening upwards sands, but complex in anticlines composed of fining upwards sands; (2) The rate of oil injection had an important effect on the direction and pathway of oil migration. Oil migrates only in sands with high permeability when the rate was lower, and could migrate in less permeable sands when the rate was high enough; (3) The dissipation quantity and efficiency of oil migration mainly depended not only on the lithology combination and the permeability difference of the carrier beds, but also on the rate and direction of oil injection. Under a similar circumstance, the efficiency of oil migration was the highest in anticlines composed of coarsening upwards sands, high in those composed of homogeneous sands, and lowest in those composed of fining upwards sands; and (4) Oil migrated in a jumping and pulsive way.

Keywords: [anticline trap](#) [oil migration and accumulation](#) [simulation experiment](#) [homogenous and heterogeneous sands](#)

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