开发试采

考虑多孔介质界面吸附作用的凝析气藏真实组成计算模型

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摘要：

文章建立了考虑多孔介质界面吸附现象影响的真实组成相平衡计算模型，可以计算在任何温度、压力、多孔介质比表面下的凝析气藏的真实组成，论述了吸附作用对井流物组成的影响程度和特征，并用实例计算了我国一凝析气藏油气的原始真实组成。研究结果表明，在考虑吸附的影响时，计算的地下真实组成与井流物的组成还存在着很大的差别。

关键词： 凝析油气田　多孔介质　吸附　成分　数学模型

MODEL OF REAL COMPOSITION CALCULATING OF CONDENSATE RESERVOIRS CONSIDERING ADSORPTION OF POROUS MEDIUM [1)]

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Abstract:

The hydrocarbon molecules of reservoirs distributes in very tiny pores and throats, which causes the close contact between the pores and hydrocarbon molecules, and produces strong adsorption to the condensate molecules by the reservoir since there are large specific surface areas in the reservoir. Under the condition of high pressure, the quantity of the adsorbed hydrocarbon molecules is very enormous. They won't flow into the well. So, the composition of well flows is different from the real composition of the condensate reservoir. And the adsorbing quantity and composition change as the pressure changes. Therefore, a model to picture the mixture adsorption is needed to describe the adsorption process and meet the phase balance between the adsorbed phase and the gas phase. The article proposes the model of phase balance calculation of real composition considering the influence of porous medium adsorption. It can calculate the real composition of the condensate reservoir under different temperature, pressure and specific surface area. Also, the article describes the influence and feather of adsorption on the composition of well flows. With a real case, the original real composition of a condensate reservoir in China is calculated. The study results show there is great difference between the calculated real underground composition and the well flows composition while considering the adsorption influence.

Keywords: Condensate field, Porous medium, Adsorption, Composition, Mathematical model

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