
三元复合驱驱油机理及技术应用

摘要

河南油田使用三元复合驱开发技术,进行了一次先进探索。选用双河油田IV油组区块实施了试验,并收获了很高的成果。即使这样,实验进程中,也有问题出现。其中要属注入困难和波及面积问题突出,还有一个不太理想的技术难点,即洗油效率的提高。此次试验从全面水平上来讲,距离预计的目标还相差较远。根据双河油田现有数据做替照,了解到了区块概况,油藏地质特征和储藏特征。由此可见,需掌握三元复合驱驱油技术特点、三元复合驱国内外应用情况、三元复合驱驱油的机理。本文最重要的是相渗曲线测定方法研究,因此,为了相渗曲线测定方法进行探索,先是表达了相渗曲线的作用,然后是相渗曲线的影响因素,并提出了,相渗曲线的归一化和相渗曲线的测定方法,相渗曲线用于判断油藏物性和润湿性,相渗曲线用于预测产水规律,相渗曲线用于计算采收率和含水率。为了解决相渗曲线确定方法的研究问题,通过分析相渗曲线的作用,相渗曲线的影响因素,并举例说明相渗曲线的例子。通过测量双河油田三元相渗透率曲线,采用最重要的归一化相渗曲线方法和归一化相渗曲线的方法来获得双河油田相渗曲线的归一化结果,最后用水驱与三元复合驱相渗曲线作对比得到了相应的结论。

关键词: 双河油田; 三元复合; 相渗曲线

Abstract

An advanced exploration was carried out in Henan oilfield using the technology of ternary compound drive development. The test was carried out using the block of IV oil group in Shuanghe Oilfield, and high results were obtained. Even so, problems arise during the experiment. Among them, the injection difficulty and the area problem are prominent, and there is a technical difficulty which is not ideal, that is, the improvement of oil washing efficiency. At the full level, the test is still far from the target. According to the existing data of Shuanghe oilfield, we know the general situation of the block, reservoir geological characteristics and storage characteristics. It can be seen that it is necessary to master the technical characteristics of ternary compound flooding and domestic ternary complex flooding External application, mechanism of triple compound flooding. The most important thing in this paper is to study the method of phase permeability curve measurement. Therefore, in order to explore the method of phase permeability curve measurement, the effect of phase permeability curve is first expressed, then the influencing factors of phase permeability curve are presented. In order to study the method of determining the phase permeability curve, the influence factors of the phase permeability curve were analyzed and the relative permeability curve was raised example of a line. Through the measurement of the three-phase seepage curve of Shuanghe Oilfield, the most important treatment method of normalization of the phase seepage curve is used, and the normalization results of the phase seepage curve in Shuanghe Oilfield are obtained by using the normalization method of the phase seepage curve. Finally, the corresponding conclusions are obtained by comparing the water drive with the ternary compound drive phase seepage curve.

Key words: Shuanghe Oilfield; ternary composite; phase permeability curve

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