

<<油水在多孔介质中的运动理论和实践>>

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内容概要

Extract of Preface For decades, natural or artificial waterflooding process has been the mostly applied technique worldwide in the recovery of oil and gas in porous media. In China, waterflooding process also has been employed for several decades to develop onshore oilfields, most of which is of continental sediments, and exhibits strong heterogeneities. At macroscopic scale, the heterogeneities are characterized vertically by multi-layered and multi-rhythmic (positive, negative or composite) as well as unevenly distributed reservoir formations, while heterogeneities of similar severity are presented in horizontal direction, where the distribution of physical properties are controlled by varieties of sedimentary facies. Moreover, considerable variation in the oil-water viscosity ratio exists in these fields. At microscopic scale, meanwhile, significant variations can be observed in many properties, such as the pore size and between oil and water, and the salinity of formation water. These macroscopic and microscopic factors make the oil-water flow complicated and lead to varieties of fluid flow characteristics in different reservoir formations. To understand and validate these fluid flow behaviors is undoubtedly important in the recovery of oil and gas in porous media.

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