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Micro production characteristic of Tight Oil Reservoir

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This study analysis micro production characteristic of tight oil reservoir cores, using NMR technology with core displacement test. Research show that: After water flooding for tight oil reservoir of Erdos basin: most of oil in micron pores and a majority of oil in sub micron had be driven out, and the lower permeability reservoir had, the higher recovery percent of reserves R sub micron pores had, and remaining oil mainly distributed in nanometer pores. After 1 PV gas flooding for tight oil reservoir of Erdos basin: R of micron pores were high, followed by sub micron pores, and R of nanometer pores were lower. After 50 PV gas flooding: there was nearly no remaining oil in micron pores, and a certain amount remaining oil in sub micron and nanometer pores. Compared with water drive, R of gas drive was slightly higher, and gas displacement was more easily injected. Due to reservoir micro heterogeneity effect, R of submicron and nano pores after water/gas flooding was lower for reservoir of higher permeability. Heterogeneity of low permeability reservoir was weak, R of submicron and nano pores after water / gas flooding was higher.. The results provide theoretical basis for effective development and establishing rational development mode of tight oil reservoir.

References

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