

Analysis about effective reservoir characteristics and influencing factors of tight sandstone gas in Denglouku Formation in Songnan gas field

WANG JIANBO, ZHAO MIFU AND REN XIANJUN

(Northeast Oil and Gas Branch, Sinopec Corp., Changchun Jilin 130062, China)

Through the comprehensive utilization of core, logging, cast thin, physical analysis in Songnan gas field, authors analysis the effective reservoir characteristics and influencing factors of the gas reservoir of the study area. The results show that the lithology composition of the gas reservoir is low maturity, poor reservoir properties, mainly low porosity and penetration. The reservoir space types are mainly intergranular pores and dissolved pores and the pore - small micro jets is its basic seepage channel. So it is typical tight sandstone gas reservoirs. The key of efficient development is looking for effective reservoir. The formation of effective reservoir is affected by the combination of sedimentary microfacies, diagenesis and tectonic (micro-cracks). The reservoir properties of braided river channel and heart beach sand are better than the others and they constitute the material basis of the effective reservoir. The diagenesis of I, II diagenism facies reservoir is weak to medium. That is to say, the late cementation is relatively weaker and the dissolution is stronger. Secondary porosity and micro-cracks develop well. So, they are favorable diagenetic facies and the key of the formation of effective reservoir. Besides, the microfractures of noseuplift tectonic are more developed, and they also point the direction of the hydrocarbon migration and accumulation well.

Key words: Songnan gas fields; effective reservoir; sedimentary microfacies; diagenesis; diagenism facies