Reservoir characteristics in western Ordos Basin，China

ZHANG YANLING[1], GUO YANRU[2]

1. Research Institute of Petroleum Exploration & Development，CNPC，zhangyanling07@petrochina.com.cn
2. Research Institute of Petroleum Exploration & Development，CNPC, gyr2005@petrochina.com.cn

The Western Ordos Basin is situated in the combining area of two tectonic zones in china, Special structures of the position result in constructed - sedimentary evolution, Reservoir features are extremely complex.

There are three sets of reservoirs in The study area ： Clastic reservoir is widely developed in Mesozoic and Upper Paleozoic, carbonate fracture-cave reservoir is developed in Lower Paleozoic.

Lithic quartz sandstone and quartz sandstone reservoir develop in Yanchang group Chang6 and Chang8 segment in Mesozoic， Shihezi group He8 segment、Shanxi group Shan1、Shan2 segment of Permian and Yanghugou group of Carboniferous in Upper Paleozoic， Mainly develop thin lenticular sandstone. Sand layer thickness is about 1 to 10 m， Most layers are less than 5 meters，but multi-overlapped vertically. There are four sand bodies : He8、Shan1、Shan2 and Yanghugou group, which developed dissolution pore-inter crystal pore. The gas is wide-distributed, many segments have lithologic gas reservoir features and exploration potential.

It develops dolomite in different degrees in Ordovician Kelimoli group and Zhuozishan group, develops intergranular pore of local dolomite segments, which have good reservoir property. It is mainly carbonate platform margin deposition in Kelimoli group, some segments have strong dolomitization, which developed fracture-cave reservoir. Reservoir rocks are mainly bioclastic limestone, brecciated limestone, algal limestone, dolomite-based solution spot. Pore types are mainly solution fissure、Karst Cave and fractures. Most segments have dolomitized, which developed intercrystalline pores-intercrystalline solution pores reservoir. Reservoir rocks are mainly fine-grained dolomite, dolomite powder, residual particles and dolomite-based leopard. Pore types are mainly intergranular pore, intergranular solution pores, micro-cracks.

These reservoir characteristics are closely related to the direction of future oil and gas exploration, so we should conduct deep research and analysis.