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Structural features of Permian formation in Xinjiang Urho Area and prediction of favorable regions

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ABSTRACT:Withing poor quality of the old 3D seismic data and unknown of Permian structural features,the pace of exploration of Xinjiang Urho area is hampered,where has a high hydrocarbon exploration potential of Permian strata.In order to find out the characteristics of the area structure, In this study,by using the new processing 3D contiguous seismic data, combining with the logging data and the results of the test oil data,the fine structure interpretation of the Permian is finished in Urho area. After fine analysis of several aspects including the fracture characteristics and the tectonic evolution,The geological structure characteristics of the study area are determined, and a strike-slip fault zon is found.The results showed that the main fracture strike of Urho area is north-east from west to east, arranged as echelon.On the longitudinal the fracture characteristics is thrust fault & thrusting fault sliding fold, strike-slip fault belts is formed in binding sites of fault dip changed.

Fracture system are descried as deep fault system and shallow fault system by the bottom of Triassic Formation at Urho area.The deep fault system were formed from Early and middle stage of the Hercynian Movement, which are reversed faults cut the Carboniferous to Triassic strata, being Oil source faults which play an important role in transporting oil and gas from hydrocarbon source rocks to upper reservoir.The shallow fault system were formed from Yanshan movement period,which are normal faults cut the Triassic and the above strata. The shallow fault system played a certain role in the destruction on early oil and gas accumulation.

According to currently drilling results,dolomit sandstone and siltstone are developed in the study area of Fengcheng Formation at some area.So these rocks are easily crushed due to having dolomitic. Fractured are very developed in Strike Slip Fault Zone,which is the superior targets of Fengcheng Formation in late exploration.The results provides a reliable basis for the next step exploration and development.