



Strike-slip tectonic characteristic in Jinhu Sag

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Jinhu Sag has abundant oil and gas resources and special structural location (east side of Tanlu fault), the in-depth study of strike-slip structures has important guiding significance for the prediction of favorable traps and the control of hydrocarbon accumulation in the sag. Based on the analysis of regional tectonic background, logging data and three-dimensional seismic interpretation, combined with previous research results, the characteristics and evolution of strike-slip faults in Jinhu Sag are analyzed. The results of the research shows that Jinhu sag strike-slip structure occurred in the period of E2s, on the plane, it has the characteristics of horsetail splays, broom-like and en echelon lambda-type structures, and the minus flower structures on the section is obvious. Shear and compressive fracture planes can be seen in cores. Simulation of tectonic stress field in Jinhu Sag by using finite element principle, it is proved that most of the areas in the sag are under the stress field of dextral strike-slip, and the right-lateral shear stress basically distributes in NE and NEE directions, and its size is between $-0.6E8\text{Mpa} \sim -0.1E7\text{Mpa}$, the maximum occurs in the north of Shigang fault, the south of Chajian fault and the south of Tongcheng fault, Under the action of shear stress, NE-trending and near EW-trending faults are easily formed, taking the Shigang fault zone as an example, the NE-trending faults on both sides of the fault zone are "R" faults derived from right strike-slip, and the nearly EW-trending faults are "T" faults derived from right strike-slip. Through further study, it is pointed out that the discrete-type right strike-slip characteristics can seal the hydrocarbon laterally but acts as paths for hydrocarbon vertical migration, which results in the formation and distribution of various types of traps in Jinhu Sag, it is helpful to guide the next exploration and development of oil and gas.