

Characteristic and Forming Mechanism of Large-Scale Light Oilfield in Continental Basin: An Example from Jinzhou 25-1 Area in Liaoxi Sag of Bohai Bay Basin, China

Zhu, Weilin¹; Xu, Changgui¹; Zhou, Xinhuai¹ (1) China National Offshore Oil Corporation, Tianjin Tanggu, China.

Jinzhou 25-1 oilfield is a large-scale light oil field discovered recently in Bohai Sea Area. So far it is the largest light oilfield in Bohai Sea Area, and it also is the first hundred-million-tons oilfield with the characteristics of shallow burying, large reserves, high petroleum abundance, low density and high deliverability in Liaoxi Sag. The high effective enrichment of large-scale Jinzhou 25-1 oilfield has a close relationship with the peculiar structure system, hydrocarbon source system, reservoir system, transforming system and petroleum accumulation process. The multiple genesis trap group formed in the peculiar structure setting is the precondition of the enrichment of Jinzhou 25-1 oilfield. The superimposition of double hydrocarbon kitchens and multiple sources constitutes the high effective hydrocarbon source system which is the base of the high effective enrichment of the oilfield. The perfect reservoir-cap combination and compresso-shear sealing fault is the key to the high effective enrichment of Jinzhou 25-1 oilfield. The coupling of the high quality sandstones ranging widely and large numbers of extension fault constitutes the high effective transforming system which determines the reservoir abundance of the oilfield. The tectonic activity-overpressure controls the episodic rapid petroleum accumulation.