Characteristics of Lithologic Petroleum Reservoirs

Liu, Zhen, Zhengzhang Zhao, Yang Zhao, Xianzheng Zhao, Bo Jin, Wei Xiao, Xiaoming Xu, and Quansheng Liang, China University of Petroleum, Beijing, China

On the basis of the geological conditions and formation processes for lithologic reservoirs and their distribution characteristics, we conclude that the development of lithologic reservoirs requires unique geological conditions. They include six aspects: (1) lithologic traps formed at an early stage and developed over a prolonged period; (2) lithologic reservoirs associated with primary migration and short distance secondary migration pathways; (3) lithologic reservoirs charged by hydrocarbons in an early stage; (4) lithologic reservoirs experienced little or no structural destruction after the initial charge; (5) lithologic reservoirs distributed in both low potential and high potential areas; (6) lithologic reservoirs associated with both low stand system tracts (LST), and high system tracts (HST). The results of recent oil and gas exploration in China show that the lithologic reservoirs are excellent for hydrocarbon accumulation and may have great exploration potential. This type of reservoir should become a major play type in future exploration.