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# Reservoir characteristics, formation mechanisms and petroleum exploration potential of volcanic rocks in China

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Characterized by complex lithology and strong heterogeneity, volcanic reservoirs in China developed three reservoir space types: primary pore, secondary pore and fracture. The formation of reservoir space went through the solidification stage (including blast fragmentation, crystallization differentiation and solidification) and the epidiagenesis stage (including metasomatism, filling, weathering and leaching, formation fluid dissolution and tectonism).

Primary pores were formed at the solidification stage, which laid the foundation for the development and transformation of effective reservoirs. Secondary pores were formed at the epidiagenesis stage, with key factors as weathering and leaching, formation fluid dissolution and tectonism.

In China, Mesozoic-Cenozoic volcanic rocks developed in the Songliao Basin and Bohai Bay Basin in the east and Late Paleozoic volcanic rocks developed in the Junggar Basin, Santanghu Basin and Tarim Basin in the west.

There are primary volcanic reservoirs and secondary volcanic reservoirs in these volcanic rocks, which have good accumulation conditions and great exploration potential.