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Hydrocarbon Accumulation Process in the Dawangzhuang Paleozoic Buried Hill Fields in the Jiyang Depression

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Abstract: The Dawangzhuang area as one of the favorable exploration areas for buried hills in the Jiyang Depression, experienced the complicated accumulation process. Based on the fluid properties and regional tectonic background, it can be briefly discussed oil migration and accumulation process in the Dawangzhuang paleozoic buried hill fields using the petrographic observation, microthermometry and abundance of hydrocarbon inclusions. The result shows that the Dawangzhuang area mainly experienced two stages of crude oil charging from the late Dongying Formation (27-25Ma) and the end of Guantao Formation (5Ma) to now. Moreover, the last charging is the most important in the Dawangzhuang buried hill field. The first charging occurred in the Ordovician in the end of Dongying formation, but was quickly destroyed and adjusted by fault activities. In the end of Guantao formation, crude oil migrated on a large scale and accumulated lately in the Ordovician and Carboniferous-Permian systems respectively when they entered buried hills through Da 1 fault from source center, forming the current oil distribution pattern.

Keywords □ Chezhen sag; Paleozoic; buried hill field; fluid inclusion; accumulation process