

## **Diversity of dolomite reservoir in Cambrian-Sinian in Sichuan basin and its controlling for gas distribution**

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Oil and gas in marine carbonate rock played an important role in exploration in China, it was in the discovery phase now. With the development of oil and gas exploration technology, exploration to deeper, or broader field has become the latest development trend.

Recently large scale gas field was found in Cambrian-Sinian in central Sichuan basin, it was new breakthrough in carbonate in China. It was a sandwich-like gas system with main source rock of Qiongzhusi group of lower Cambrian and main reservoirs of fracure-vug dolostone reservoir in Sinian dengying formation in the bottom and shoal dolostone in Cambrian longwangmiao formation in the top. Natural gas in the gas field was cracking gas coming from the early ancient oil field. Size and abundance of gas field was controlled by reservoir types. It was quasi-layered spreadwide reservoir in Sinian, distribution of ancient oil field and gas field was very difficult, which could be called as ectopic type. While reservoir of longwangmiao formation was controlled by beach facies and belt-like distribution, distribution of ancient oil field and gas field was basically same, which could be called as *in-situ* type. By contrast, preservation condition in *in-situ* gas field was better than ectopic type. So it could be predicted that large-size gas field formed more easily in longwangmiao formation.

**Key words:** Sichuan basin; Cambrian-Sinian; reservoir diversity; *in-situ* type gas field; ectopic type gas field