

## **Sichuan Basin Fault propagation fold seismic profile interpretation and predicting petroleum**

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Suppe (1983) has built the quantitative relationship between fold-fault form and fault slip, established the basic model of fault-related fold since proposing the geometry concept of fault-bend fold. Based on a field geological survey and fine structural interpretation of the Yanjinggou anticline in southwestern Sichuan, selecting a high quality near-perpendicular seismic profile as well as using full 3-D spatial analysis, building geometry-kinematics models, experimental simulation and numerical simulation technology, we have found obvious strata thickening phenomena in the Yanjinggou anticline front limb. The front limb is relatively narrow and steep compares with the back limb. The fold becomes compact in the center, formation slip of the fold is gradually decreasing upwards and disappears in the interior, but also summing up the lacking parts of Cenozoic strata in the Sichuan basin. All these features indicate that the Yanjinggou anticline is a typical fault propagation fold. On this basis we predict a favorable tectonic style of oil and gas integrating oil and geological comprehensive evaluation technology, making great progress in the study of Yanjinggou anticlinal oil and gas traps in the southwest Sichuan basin of China when applied fault-related fold theory the method ultimately.