

碳酸盐岩断裂相分类特征——以新疆塔里木盆地柯坪露头为例

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中文摘要: 断裂相的概念为断裂带的内部结构研究提供了新的思路与建模方法, 通过塔里木盆地柯坪露头断裂带的分析, 碳酸盐岩断裂相特征有别于碎屑岩。柯坪露头碳酸盐岩断裂带不连续构造以滑动面、裂缝带和变形带发育为特征。根据形态识别出平直截切型、弯曲起伏型、渐变条带型三种类型滑动面。破碎带中裂缝带发育, 裂缝充填少, 是良好输导通道; 断层核部存在多充填的裂缝带。该区具有脆性破裂作用、褶皱作用与塑性变形作用形成的三种类型变形带。碳酸盐岩断裂带隔层主要由大小不一的破裂岩、角砾岩组成, 多呈断续型或破碎型展布, 少量隔层发育渗流缝隙。碳酸盐岩断裂核部与破碎带透镜体发育, 主要有未变形的透镜体、变形的透镜体、成岩作用影响的透镜体三种类型。柯坪露头断裂相分析表明, 碳酸盐岩断层核部多致密, 破碎带中的裂缝带是油气输导的优势通道。不同级次的断裂相对储层与流体具有不同影响作用, 需要区别对待。

中文关键词: [碳酸盐岩](#) [断裂相](#) [类型](#) [储层](#) [塔里木盆地](#)

The Classification and Characteristics of Carbonate Fault Facies: A Case Study of the Outcrop of Kalpin Area, Tarim Basin in Xinjiang

Abstract: Fault facies is a novel concept for the internal structure description and reservoir modeling of faults. Characteristics of carbonate fault facies are different from those of clastic rocks, as evidenced by the analysis of the Ordovician carbonate outcrop in Kalpin area, Tarim basin. In this paper, the fault facies of discrete structures, membranes and lenses are divided into different subtypes in the carbonate outcrop. The discrete structures of the carbonate outcrop are characterized by the development of slip surface, fracture band, and deformation band. There exist three types of slip surface, i.e., straight intercept type, curved fluctuate type and gradation band type. Fracture bands, developed in the damage zone with insignificant filling, are ideal migration channels. However, most of the fracture bands and fault cores are filled with lenses. There are three types of deformation band, i.e., cataclastic deformation band, folding deformation band, and ductile deformation band. Carbonate membranes mainly consist of different sizes of cataclasite or breccias of semi-continuous or ruptured types, with a small part of them formed by siliceous belt of continuous type or filled with sand and mud of continuous type. Many carbonate lenses are distributed in the fault cores and damage zones. There are three types of lenses, namely, un-deformed cataclasite lenses, low-deformed lenses, and deformed lenses affected by diagenesis. It is indicated that most of the fault cores are tight, but the fracture bands in the damage zone are favorable channels of hydrocarbon migration. It is necessary to deal with them separately because different grades of fault facies exert different effects on the reservoir and fluids.


keywords: [carbonate](#) [fault facies](#) [type](#) [reservoir](#) [Tarim basin](#)

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