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柴达木盆地北缘走滑断层地震剖面解释及形成机理分析

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中文摘要:柴达木盆地位于青藏高原的北部,研究区处于阿尔金山构造带与南祁连构造带所夹持的钝角一侧。目前对柴北缘地区构造样式存在两种认识:一是逆冲推覆双层构造模式,一是走滑近花状构造模式。造成这种认识差异的主要原因也有两个:一是区域上构造类比引起;二是穿过柴北缘几大构造带的地震剖面信噪比较差,不能很好反映地层的展布。因此在对冷湖构造带深部构造圈闭变形特征及形成期等方面存在认识上的差异,以至于勘探评价不够客观。作者通过地震剖面、遥感图像解译及井下资料,对柴北缘冷湖构造带的走滑变形特征进行了系统分析,证明柴北缘冷湖构造带发育隐形高角度走滑断裂带,文中对多条穿过构造带剖面的走滑构造样式进行了解释。结合区域背景资料和地层展布特征,分析了走滑断裂活动的动力学特征,并得出柴北缘地区的走滑断裂具有反转构造变形特征的结论。

中文关键词:柴达木盆地 北缘 走滑断裂 地震剖面 解释 机理

The Seismic Profile Interpretation and Development Mechanism of Strike-slip Faults in Northern Qaidam Basin

Abstract:Located in Qinghai-Tibet Plateau, the Cenozoic Qaidam Basin owes its development to the formation of the plateau, and the complex structures at different sites play an important role in the formation of various interpretations. There are two different opinions concerning the structural styles in northern Qaidam Basin: one is the opinion of overthrust faults which has been somehow overwhelming for many years, and the other is the opinion of strike-slip faults developed in recent years, which however has not been accepted by many researchers. There are two main reasons responsible for such an situation, i.e., regional geological analogy and poor seismic data over the structural belts. Some geologists compare northern boundary tectonics of the Qaidam Basin with southern margin of the Jiuquan Basin located north of the Qilian Mountain. In addition, the seismic data over faulted belts of the Qaidam Basin are usually very insufficient for interpretation. So different well designers have different inclinations in the choice and evaluation of structural traps for drilling. Based on seismic and remote sensing data, the authors interpreted the Lenghu strike-slip fault belt as dextral displacement. However, there existed an inversion of early extensional strike slip in Paleogene period, and the inverted strike slip deformation controlled secondary accumulation of strike slip faults belts.

keywords: Qaidam basin northern boundary strike slip faults seismic profiles interpretation mechanism

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