

塔里木盆地东河1油藏滨岸砂岩隔夹层识别及空间展布

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Interlayer identification and spatial distribution in onshore sandstone, Donghe 1 reservoir, Tarim Basin

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摘要

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摘要

塔里木盆地东河1油藏石炭系C_{III}油组为滨岸厚层块状非均质胶结砂体,普通测井技术和编制测井曲线关系图件的研究方法无法识别该地区的隐蔽隔夹层。针对重点研究层段C_{III}1油组,在对测井曲线归一化的基础上开展无量纲标准化处理,识别并评价了隔夹层的发育程度。利用多条测井曲线交叠进行单井隔夹层的识别,识别符合率达80%以上;进而在此基础上通过井间插值恢复隔夹层展布形态,对隔夹层平面和纵向上的展布规律进行了研究,研究结果表明:纵向上,C_{III}1-1油组、C_{III}1-2油组隔夹层相对不发育,C_{III}1-3油组隔夹层较为发育;平面上,隔夹层主要位于背斜构造翼部,中部相对不发育。该研究成果可以为东河1油藏顶部重力驱开发提供一定理论支持。

关键词 : 塔里木盆地, 东河1油藏, 隔夹层, 测井识别, 展布规律

Abstract :

The Carboniferous C_{III} oil formation of Donghe 1 reservoir, Tarim Basin consists of onshore thick-massive heterogeneous cemented sand bodies, of which the concealed interlayer is unable to be identified using normal logging technology and logging curve relation map. Aiming at the target horizon C_{III}1 oil formation, non-dimensional standardization was carried out on a basis of logging curve normalization, so as to identify and evaluate the development degree of interlayer. Single-well interlayer was identified by intersection of multiple logging curves, and the identification coincidence rate was over 80%. On this basis, the distribution morphology of interlayer was recovered by cross-well interpolation to study the planar and longitudinal distribution laws of interlayer. Research results indicated that in the vertical direction, C_{III}1-1 and C_{III}1-2 oil formations were less developed in the interlayer, where C_{III}1-3 oil reservoir was relatively developed; on the horizontal level, the interlayer was mainly located in anticlinal wings, while less developed in the middle of anticline structure. These results can provide a certain theoretical support for gravity flooding development at the top of Donghe 1 reservoir.

Key words : Tarim Basin Donghe 1 reservoir interlayer logging identification distribution laws

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