

天然气地球化学

湘中坳陷涟源凹陷烃源岩油气地球化学特征

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摘要:

湘中坳陷涟源凹陷烃源岩类型复杂, 包括碳酸盐岩、泥岩和煤层。根据涟源凹陷大量露头样品的残余有机碳含量、氯仿沥青“A”、镜质体反射率和包裹体等地球化学实验数据, 分析了泥盆系一二叠系烃源岩的有机质丰度、类型及热演化程度。结果表明涟源凹陷的烃源岩总体演化程度均已达到过成熟阶段, 油气资源以干气为主。针对烃源岩样品的热演化程度高、丰度低的特征, 在了解烃源岩地球化学特征及其与构造运动匹配关系的基础上, 探讨了涟源凹陷二次生烃的可能性, 最终认为涟源凹陷泥盆系一二叠系烃源岩具有中等级别的生烃能力, 并在二叠系的龙潭组煤层有二次生烃的可能。

关键词:

Geochemical Characteristics and Evolution of the Hydrocarbon Source Rocks from Lianyuan Depression in the Middle of Hunan Province

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Abstract:

Hydrocarbon source rocks in Lianyuan depression include carbonate rock, mudstone and coal. The authors studied geochemical characteristics and maturation of organic matters in the Devonian-Permian source rocks from Lianyuan depression based on the geochemical data of residual organic carbon content, chloroform bitumen A, vitrinite reflectance and fluid inclusions of specimens. Results suggest the source rocks of Lianyuan depression mature and generating mainly gas. The authors estimated the hydrocarbon generation intensity of the source rocks due to the high thermal evolution and little residual organic matter abundance. After analyzing the geochemical characteristics, the hydrocarbon generation intensity and the matching relationship between tectonic movement and hydrocarbon generation of the source rocks, the authors believe that the Devonian-Permian source rocks of Lianyuan depression are of middle hydrocarbon generation potential. And the source rocks of the Permian Longtan Coal Formation have the potential to secondary hydrocarbon generation.

Keywords:

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