



金振奎, 苏妮娜, 王春生. 华北地台东部石炭系—二叠系优质煤储层形成分布控制因素[J]. 地质学报, 2008, 82(10): 1323-1329

华北地台东部石炭系—二叠系优质煤储层形成分布控制因素 [点此下载全文](#)

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基金项目: 本文为国家重点基础研究计划“973”项目“中国煤层气成藏机理及经济开采基础研究”(编号2002CB211700)资助成果。

DOI:

摘要点击次数: 215

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摘要:

优质煤储层在此指厚度大、分布广、储集物性好的煤层。沉积相对优质煤储层的形成和分布有重要控制作用。通过浅海和泻湖淤积填平发育起来的潮坪环境和三角洲环境是最有利的优质煤储层形成环境, 煤储层厚度大、分布广。沉积环境对煤储层中的灰分含量和镜质组含量有重要影响, 而灰分含量和镜质组含量又直接影响煤储层的储集物性。灰分充填了煤储层中的孔隙, 其含量越高, 储集物性越差; 镜质组有利于割理的形成, 其含量越高, 储集物性越好。由于在灰分含量、煤岩显微组分等方面的差异, 潮坪环境沉积的煤储层的储集物性优于三角洲的煤储层, 下三角洲平原沉积的煤储层优于上三角洲平原沉积的煤储层。海平面变化对优质煤储层的形成和分布也有重要控制作用。高位体系煤储层富集, 单层厚度大, 横向分布相当稳定, 尤其是高位体系域晚期, 是形成优质煤储层最有利的层位。而水进体系域煤储层稀少, 单层厚度小, 横向分布不稳定, 不利于优质煤储层形成。

关键词: [石炭系](#) [二叠系](#) [优质煤储层](#) [沉积相](#) [海平面变化](#)

Controlling Factors of Reservoir of Coal Rocks in Carboniferous—Permian, North China [Download Fulltext](#)

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Abstract:

The reservoir ability of coal rocks is controlled by both sedimentary facies and diagenesis. Sedimentary facies controls the content of ash and microcomponents of coal rocks, which further affect the reservoir ability of coal beds. There exists quantitative relation between the ash production rate and the porosity and permeability of coal. The more the ash, the lower the porosity and permeability of the coal. Among microcomponents of coal rocks, vitrinite is favorable to formation of cleat, which can enhance the permeability of the coal. The more the vitrinite in the coal, the higher the porosity and permeability. The content of vitrinite and ash are different in different types of coals. From dull coal to bright coal, vitrinite tends to increase, the ash tends to decrease, and the porosity and permeability tend to increase. In the study area, coals were deposited in tidal flats and delta environments. Due to difference in ash content and micro components, coals formed in tidal flats show higher porosity and permeability than those formed in deltas, and those formed in lower delta plain show higher porosity and permeability than those formed in upper delta plain. In addition, due to dissolution of the calcite cement filling fissures, cleats and pores, coal rocks in the vadose and phreatic zones show better reservoir ability, while deeply buried coal beds, due to cementation and compaction, show poor reservoir ability.

Keywords: [Carboniferous](#) [Permian](#) [high quality coal rocks](#) [sedimentary facies](#) [sea level change](#)

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