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## 天然气分布特征及储层控气作用分析

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## 摘要

目前已有的研究表明，作为目前中国陆上最大的综合天然气田，苏里格气田致密砂岩储层的地质条件较为混乱，致使气藏具有低丰度、低孔隙度、低渗透率的特点。由于微孔隙度特征和储层空间分布的情况，储层对水气的分布没有明确的控制。

本文主要研究苏里格气区苏东区块盒 8 段储层砂体的分布特征、沉积相和储层的特征。研究表明：目标区块沉积相类型为河流相，下段为辫状河沉积，上段为曲流河沉积。岩石类型以岩屑砂岩和岩屑石英砂岩为主，且下段岩屑石英砂岩含量相对较高。砂岩粒级以中—粗砂为主，分选中等，磨圆度以次棱角状为主。填隙物成分主要为绿泥石、伊利石、高岭石。孔隙类型以溶孔和晶间孔为主，其中岩屑溶孔为现今孔隙空间的重要组成部分。天然气的分布受储层物性和砂体厚度影响，通常在砂体厚度较大且物性较好的区域，天然气能够发育并聚集；而储层物性则一定程度上受岩屑和溶孔的发育状况所影响，并进一步影响天然气的生成和储集。

**关键词：**鄂尔多斯盆地；盒 8 段；储层特征；控气性

## Abstract

At present, the existing research shows that the tight sandstone reservoir in Sulige gas field, as the largest comprehensive natural gas field on land in China, has the characteristics of low abundance, low porosity and low permeability due to its chaotic geological conditions. Due to the characteristics of microporosity and the spatial distribution of the reservoir, there is no clear control over the distribution of water and gas in the reservoir.

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This paper mainly studies the distribution characteristics, sedimentary facies and reservoir characteristics of the reservoir sand body in block He8, Sudong block, Sulige gas area. The study shows that the sedimentary facies of the target block is fluvial facies, the lower section is braided river deposition, and the upper section is meandering river deposition. The main rock types are lithic sandstone and lithic quartz sandstone, and the content of lithic quartz sandstone in the lower section is relatively high. The sandstone is mainly medium coarse sand with medium sorting and sub angular psephicity. The interstitial materials are mainly chlorite, illite and kaolinite. The pore types are mainly solution pores and intercrystalline pores, among which rock debris solution pores are the important part of the present pore space. The distribution of natural gas is affected by the physical properties of the reservoir and the thickness of the sand body. Generally, the natural gas can develop and accumulate in the area with larger sand body and better physical properties, while the physical properties of the reservoir are affected to a certain extent by the development of cuttings and solution pores, and further affect the generation and storage of natural gas.

**Keywords:** Ordos Basin; He8 member; Reservoir characteristics; Effect on gas accumulation

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