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## 鄂尔多斯盆地苏里格大气田天然气成藏地球化学研究

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### 摘要:

苏里格大气田位于鄂尔多斯盆地伊陕斜坡西北部,属于典型的低渗砂岩气田。对天然气组分和同位素组成研究表明,苏里格大气田上古生界天然气以干气为主、湿气为辅,甲烷含量为82.729%~98.407%,干燥系数为84.7%~98.8%, $\delta^{13}C_1$ 值为-36‰~-30‰, $\delta^{13}C_2$ 值为-2.6‰~-21‰,属于高成熟度的煤成气;气田范围内各井区天然气组分和碳同位素组成变化较小,暗示其来源和成藏过程的一致性。根据储层流体包裹体镜下观察、包裹体均一温度、含烃包裹体丰度、颗粒荧光定量(QGF)、包裹体激光拉曼分析,苏里格大气田上古生界储层发育盐水包裹体、气体包裹体、液态烃包裹体、CO<sub>2</sub>包裹体等不同类型流体包裹体,主要产于石英次生加大边、微裂隙及胶结物中;包裹体均一温度分布呈连续的单峰态,分布范围为80~180℃,主峰温度为100~145℃;上古生界砂岩储层样品的含烃包裹体丰度不高(多为1%~5%),QGF强度较低(1~10pc)。研究认为,苏里格大气田天然气充注可能是一个连续的过程,主要经历了一期成藏,其主要成藏期为晚侏罗世-早白垩世。通过生气动力学与碳同位素动力学的研究表明,苏里格大气田天然气主要来源于苏里格地区及周缘的石炭-二叠系煤系烃源岩,为近源充注、累积聚气成藏。

**关键词:** [天然气成藏](#) [碳同位素](#) [流体包裹体](#) [生气动力学](#) [苏里格大气田](#)

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