

歧口凹陷沙河街组一段中部区域盖层封气能力综合评价

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Comprehensive evaluation of regional seal in the middle of the first member of Shahejie Fm in the Qikou Sag

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摘要

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摘要 依据单井以及气藏资料,对歧口凹陷沙河街组一段中部区域盖层综合评价参数进行了研究。认为盖层的厚度普遍较大且连续性好,有较强的微观封闭能力;但北大港潜山构造带和板桥凹陷北部地区较高的储层压力系数与盖层内断裂的垂直断距较大造成偏小的断层岩排替压力不利于盖层对天然气保存。基于盖层厚度、排替压力、气藏压力系数与断层垂向封闭特征等4个参数建立盖层封气能力综合评价方法,并根据歧口凹陷盖层封气能力评价标准,对盖层的封气能力进行了评价。研究认为沙河街组一段中部区域盖层在歧口凹陷大部分地区均具有封闭中、低储量丰度气藏的能力,在凹陷区具备封闭高储量丰度气藏的能力,评价结果与目前气藏的特征具有较好的一致性。

关键词: [封气能力](#) [储量丰度](#) [有利区](#) [区域盖层](#) [沙河街组](#) [歧口凹陷](#)

Abstract: Regional seal in middle of the first member of Shahejie Formation in Qikou Sag was comprehensively evaluated by using single well and gas reservoir data. The results show that the caprock was generally thick and continuous, and thus has relatively strong microscopic sealing ability. However, in the Beidagang buried hill structure belt and northern Banqiao depression, the reservoir pressure coefficient is relatively large and the displacement pressure of fault rock is relatively low due to the large vertical displacement of major faults in the caprock, being unfavorable for the preservation of gas. Based on four parameters including caprock thickness, displacement pressure, pressure coefficient of gas reservoir and vertical sealing ability of faults, a comprehensive evaluation method was proposed and used to evaluate the sealing ability of caprock in Qikou Sag. The results show that the caprock in most areas of Qikou Sag can seal gas reservoirs with medium to low reserves abundance and can seal gas reservoirs with high reserves abundance in central depression.

Keywords: [sealing ability](#) [reserves abundance](#) [favorable area](#) [regional caprock](#) [Shahejie Formation](#) [Qikou Sag](#)

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