

## 塔里木盆地巴楚隆起中、下寒武统高精度层序地层与沉积特征

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## High resolution sequence stratigraphy and sedimentary characteristics of the Middle-Lower Cambrian in Bachu Uplift, the Tarim Basin

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**摘要** 针对塔里木盆地寒武系埋深大、钻井少的问题,以层序地层学、沉积学理论为指导,对巴楚隆起中下寒武统膏盐岩、碳酸盐岩、红褐色泥岩互层发育的特殊岩性组合开展了深入研究,提出该沉积体系中GR泥质含量高低不能反映相对海平面升降,精细沉积相划分是识别基准面旋回升降变化的关键。以此为依据,将寒武系划分为3个超层序,7个三级层序,其中中、下寒武统发育4个三级层序,上寒武统发育3个三级层序,并分析了各层序发育特征,建立寒武系等时地层对比格架。巴楚隆起中、下寒武统属蒸发台地-局限台地沉积体系,可识别出2种相、5种亚相、19种微相,其中下寒武统以发育局限台地相灰坪、灰云坪、膏云坪、云坪沉积为主,东西沉积存在差异,西部以膏云坪沉积为主,东部主要为云坪沉积,而中寒武统以发育蒸发台地相潮间坪和盐湖沉积为主,巴3井-巴1井一线以西为潮上坪沉积,以东主要为潮间坪和盐湖沉积。

**关键词:** 蒸发岩 沉积相 层序地层 寒武系 塔里木盆地

**Abstract:** The Cambrian is of large burial depth and few exploration wells in Tarim Basin, The specific lithologic assemblage consisting of interbedded evaporites, carbonate rocks and bronzing mudstones in the middle-lower Cambrian is analyzed using sequence stratigraphy and sedimentology theories. We suggest that clay contents of GR within the depositional system can not reflect the relative sea level change, and that fine sedimentary facies division is key to base-level cycle identification. The Cambrian is divided into 3 supersequences and 7 third-order sequences, among which 4 third-order sequences occur in the Middle-Lower Cambrian and 3 in the Upper Cambrian. In addition, the features of each third-order sequence are analyzed and an isochronous stratigraphic framework is built for the Cambrian. The sedimentary environments of the Middle-Lower Cambrian in Bachu Uplift are evaporate platform and restricted platform, where 2 sedimentary facies, 5 subfacies and 19 microfacies are identified. The Lower Cambrian is mainly of restricted platform deposits dominated by lime flat, limestone-dolomite flat, gypsum-dolomite flat and dolomite flat deposition. In Bachu Uplift, the gypsum-dolomite flat deposits dominate in the west and dolomite flat deposits in the east. In contrast, the major sedimentary facies of the Middle Cambrian is evaporate platform dominated by intertidal flat and saline lacustrine deposits. Taking the Ba3-Ba1 wells as the line of demarcation, the Middle Cambrian is mainly of supertidal flat deposits to its west, and is dominated by intertidal flat and salt lake deposits to its east.

**Keywords:** evaporite sedimentary facies sequence stratigraphy Cambrian Tarim Basin

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