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鄂尔多斯盆地山西组沉积环境讨论及其地质启示

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摘要：

鄂尔多斯盆地晚古生代经历了巨大的海陆变迁,并发生多次海侵。其中,关于本溪组-太原组的陆表海沉积环境经长期研究已达成广泛共识,而对处于海陆转换关键时期的山西组沉积环境问题至今存在较大争议。鉴此,本文在前人研究基础上,根据地层与古生物、沉积构造、岩性特征、成岩作用等地质依据,结合硼元素法所计算的古盐度、Sr/Ba比值以及硼、镓、铯三元素含量关系等不同地球化学测试分析结果,对早二叠世山西期沉积环境进行了较为深入的研究。认为山西期为陆表海背景下的海陆过渡沉积演化阶段,发育大面积分布的海陆过渡三角洲体系,到下石盒子期才完全进入陆相湖盆的沉积演化阶段。通过盆地山西组东西向与南北向地球化学基干剖面的建立,呈现古盐度和Sr/Ba比值由南向北、自西向东、层位自下而上总体减小的变化趋势,于山1晚期这种差异性基本消失,表明鄂尔多斯盆地山西期由南向北、层位自下而上受海水影响的规模与范围愈来愈弱。在此基础之上,将晚古生代鄂尔多斯盆地划分为3大沉积演化阶段,并建立了该时期盆地的基准面旋回层序地层格架。该成果认识对扩展和深入鄂尔多斯盆地油气勘探具有重要指导意义。

英文摘要：

Late Paleozoic of Ordos Basin has undergone a huge change of the level, and occurred many times the transgression which, on the Benxi-Taiyuan background of epicontinental deposition by long-term studies have reached a broad consensus, while the conversion of a critical period in the sea deposition of Shanxi has a rather controversy. In view of the actual, this article was known as the starting point of previous achievement. According to the distribution of marine strata, paleontology, sedimentary structures, petrography, diagenesis and other geological basis for the reference, comprehensive calculation of boron law paleosalinity, Sr/Ba ratio and boron gallium rubidium content of the relationship between the three elements of different geochemical test results, mainly for the Early Permian Shanxi Period which is the conversions of marine-continental facies sedimentary environment for a more in-depth analysis. That Shanxi 2 is still in the context of epicontinental marine sedimentation stage Shanxi 1 is the conversions of marine-continental stage as a critical period of transition, and Xiashihezi Period before they are fully into the new evolution of continental basins stage. Establishing the geochemical proxies section of east-west and north-south in Ordos Basin. Summed up the ancient salinity and Sr/Ba ratio from south to north, from west to east, there is the general trend of decreasing. And such trends in the early and mid-Shanxi 2 were most clearly, as the latter regression continues to expand, disappeared late in the Shanxi 1. The reason can be attributed to the ancient geography of the period and what impact the two sea water level differences. On this basis, the Ordos Basin Late Paleozoic sedimentary evolution is divided into three stages, and it is base on super long-term base level cycle eventually to the establishment of the sequence stratigraphic framework.

关键词：海陆转换 沉积环境 山西组 鄂尔多斯盆地

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