

## **Characteristics of sequence stratigraphy and sedimentary facies of the Upper Paleozoic in Baode area, eastern Ordos Basin**

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In order to reveal the sequence stratigraphy and sedimentary facies of Upper Paleozoic in the east margin of Ordos Basin, the sequence and system tract interface types, sequence structure, sedimentary facies types and sedimentary evolution of Upper Paleozoic were studied in BaodePalougou and its peripheral sections in eastern margin of Ordos Basin, based on sequence stratigraphy and sedimentology theory. The results show that 16 types of lithofacies and 8 types of lithofacies associations of the Upper Paleozoic were developed in Palougou and its peripheral sections. According to the sequence interface such as regional unconformity surface, incised valley erosion surface, transgressive direction conversion surface and regional regression surfaces, the Upper Paleozoic of the research area is divided into 7 three-order sequences, corresponding to Benxi Formation, the second member of Taiyuan Formation, the first member of Taiyuan Formation, Shanxi Formation, Lower Shihezi Formation, Upper Shihezi Formation and Shiqianfeng Formation. The Upper Paleozoic develops barrier coast facies, carbonate platform facies and fluvial facies in Palougou and peripheral section. In SQ1-SQ3, the low-stand system tract(LST) develops weathering crust and tidal channel facies, the transgression system tract(TST) develops tidal flat facies and lagoon facies, the highstand system tract(HST) develops platform facies, lagoon facies and peat flat facies. In SQ4-SQ7, the lowstand system tract(LST) develops braided river bed, the transgression system tract(TST) develops meandering river floodplain, the high-stand system tract(HST) develops multi period channels, band and floodplain evolutionary series of meandering river. The Upper Paleozoic experienced depositional process in the order of barrier coast facies, carbonate platform facies, and fluvial facies. Sedimentary evolution is mainly controlled by sea-level change, tectonic activity and provenance supply.