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Study on Lithofacies and Sedimentary Environments of the Donggou Formation in the Late Cretaceous of the Southern Margin of the Junggar Basin, Xinjiang, China

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The sedimentary environments analysis of the Donggou Formation was carried out based on the observation and observation data of the outcrop section and the actual sample analysis and test data. In the Late Cretaceous period, the Donggou Formation mainly developed terrigenous clastic rocks, covering various common rock types such as conglomerate, sandstone, siltstone and mudstone, which are divided into 15 types of lithofacies, namely: thick layer of sand-fine gravel Lithofacies, trough-like interbedded sandy fine conglomerate facies, parallel bedding pebbly sandstone facies, reddish brown coarse sandstone facies, light brown medium sandstone facies, trough-like staggered bedding sandstone facies, slab-shaped staggered bedding sandstone facies, Gravel-bearing argillaceous sandstone facies, calcareous cemented pebbly sandstone facies, calcareous nodule argillaceous silt-siltstone facies, brick red siltstone facies, reddish brown argillaceous siltstone facies, brownish red silty mudstone facies, Brown-red mudstone facies, brown mudstone facies. The color of various lithofacies is mainly red, reflecting the strong oxidizing environment of this period. During the period, the studied area mainly developed braided river sediments, as well as alluvial fan deposits dominated by rivers, sedimentary plain deposits, and fan delta front sediments. It also has unique sedimentary features such as large-scale interlaced sandstone deposits of channel bar and thick red-brown conglomerate deposits on alluvial fans.