

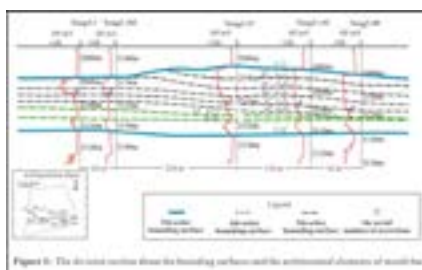
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The application of architectural elements analysis in characterizing complex reservoir: A case study of Yong'an town oil field, Dongying Sag, Bohai Bay Basin, China

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As the exploration and development of oil and gas fields gets deeper and deeper in our country, characterization of complex reservoir has become one of the most important research fields. The characteristics of complex reservoir are that rock composition is complex, space structure is complex, kind of reservoir space is various, heterogeneity is strong, physical properties is changeful. In view of the above characteristics, there are three problems in traditional reservoir characterization methods which are about gradation, structure and genesis. That architectural elements analysis put forward offers method and idea for solving the above problems. Compared with traditional reservoir characterization methods, the advantages of architectural elements analysis mainly display in three points: First, it can be applied to divide high frequency level of reservoir; second, it can be applied to analyze complex structure of reservoir; third, it can be applied to explain the genesis of reservoirs. The application of architectural elements analysis in characterizing complex reservoir need to pay attention to the applicable condition of the method, the choice of the basic research unit and the relationship between architectural elements and pay zone units. This paper takes Es₂⁶ of mouth bar which belongs to the Yong3-1 fault block of Yong'an town oil field in Dongying Sag as example, combining with the advantages of architectural elements analysis and problems that should be noticed, thoroughly studies the issues on the division of bounding surface, reservoir sedimentary genesis and the distribution characteristics of oil and water, and comes to the conclusions that the original 6¹ layer could be divided into six times accretions of mouth bar (architectural element of 3 level), the dip angle of mouth bar accretions is between 2~3°; six times accretion of mouth bar had the characteristics of retrogradation from west to east; the oil and water distribution of 6¹ layer was mainly controlled by accretion of mouth bar.



Biography

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