

碎屑颗粒粒度分析在东营凹陷辛176块沙四上亚段砂体成因研究中的应用

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中文摘要: 利用粒度资料进行沉积物的粒度结构分析, 能有效地判定沉积物搬运方式、判别水动力条件、区分沉积环境类型, 研究沉积物的成因机制。本文通过大量粒度频率曲线、概率累计曲线和粒级-标准偏差曲线等图件的分析, 详细研究了沉积物所包含的粒度组分及各自特征, 并提取出对沉积环境变化敏感的粒度组分, 确定了各自组分所对应的沉积水动力类型, 结合沉积相和构造背景研究, 探讨了东营凹陷辛176块沙四上亚段纯上5砂组砂体的成因, 认为辛176块王斜583、辛176斜1井砂体是广饶凸起的碎屑物质在南斜坡形成三角洲后被入湖河流继续搬运、沉积并被波浪改造形成的滩坝砂体; 牛114斜1、王587井砂体为青坨子凸起的碎屑物质以重力流方式搬运并与广饶凸起的物质混合、沉积, 后又被波浪改造而形成; 王58井砂体为来自青坨子凸起的重力流入湖后发生卸载形成的沟道砂体。

中文关键词: [粒度分析](#) [水动力分析](#) [砂体成因](#) [东营凹陷](#)

The Application of Clastic Grain-size Analysis to the Genetic Study of Sand Bodies in Upper Es4 Submember of Xin176 Area in Dongying Sag

Abstract: The utilization of grain-size data to analyze the structure characteristics of the sediment grains can effectively determine the transport mode of sediments, judge the hydrodynamic conditions, distinguish the sedimentary environments, and analyze the genetic mechanism of sediments. Based on a large number of grain-size frequency curves, probability cumulative grain-size curves and grain size-standard deviation curves, the authors studied in detail grain-size components in sediments and characteristics of these components, extracted the grain components sensitive to the change of environment, and determined the corresponding hydrodynamic conditions. In combination with the sedimentary facies and structural setting, the genesis of sand bodies in the Cs5 sand group within Upper Es4 submember of Xin176 block was discussed. The result shows that the sand bodies in wx583 and x176x1 of Xin176 area are beach-bar sand bodies transported from Guangrao Salient and formed by fluvial and wave, whereas the sand bodies in n114x1 and w587 were transported from the Qingtuozhi Salient in the form of gravity flow and mixed with clastic materials transported from Guangrao Salient, and then transformed by wave after the deposition of mixed sediments. The sand body in w58 is a channel sand body transported from Qingtuozhi Salient in the form of gravity flow.


keywords: [grain-size analysis](#) [hydrodynamic conditions](#) [genesis of sand body](#) [Dongying sag](#)

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