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柴达木盆地昆北油田切16区路乐河组沉积特征与储层预测

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摘要：

柴达木盆地西南部昆北构造带发现以古近系路乐河组陆源碎屑岩为储层的油田。根据昆北油田切16区探井岩心观察、测录井资料分析,结合岩石铸体薄片观测、电子扫描显微镜镜下分析等结果,初步确定了昆北油田切16区路乐河组主要发育两期辫状三角洲体系;路乐河组储层岩石类型分布相对稳定,成分成熟度较低,主要为岩屑长石砂岩,岩屑成份以花岗岩为主,骨架偏刚性,储层中杂基含量相对较高、胶结物含量较低;储集层孔隙较发育且分布相对较均匀,孔隙连通性较好,孔隙类型主要以残余原生粒间孔为主;储层物性受沉积相带分布,成岩作用以及杂基含量共同控制,压实作用是储层物性的主控因素。通过结合主力油层段测井响应特征及层控地震振幅属性分析,认为昆北油田切16区、切15井与切169井的东部以及切20井的西南部的构造相对较高部位为今后有利勘探目标。

英文摘要：

Terrigenous clastic rock reservoir is discovered in the Paleogene Lulehe Formation at Kunbei oilfield, southwestern Qaidam Basin. Basing on well coring and logging data, sediment and reservoir characteristics of Lulehe Formation in Qie 16 block of Kunbei oilfield have been studied by means of the casting thin sections and scanning electron microscope. The result shows that two braided river delta facies sediments develop in Kunbei oilfield; rock types of the Lulehe Formation reservoir are relatively stable and the clastic rocks are mainly lithic feldspar sandstones mainly composed of granite, with low compositional maturity and rigid backbone. The content of matrix content is relatively high while cement is low. As a low-porosity and low-permeability reservoir, it is mostly controlled by sedimentary microfacies, matrix contents and diagenesis, such as compaction, cementation and dissolution, dominated by compaction. The reservoir pores are well developed with uniform distribution and good connectivity while the types of the pore are mainly primary intergranular pore. Combined with log responses character of the mainly reservoir and strata bound seismic amplitude attribute, the structural hights in the east side of well Q15 to well Q169 and in the southwestern part of well Q20 are believed to be the favorable aims for oil exploration.

关键词：柴达木盆地西南部 路乐河组 沉积特征 储层特征 储层评价

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