应用定量颗粒荧光技术研究宝岛13-1气田油气成藏特征

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The Application of Quantitative Grain Fluorescence Technique to Study Hydrocarbon□Accumulation Characteristics of BD13-1,Qiongdongnan Basin

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摘要/Abstract

摘要：

琼东南盆地宝岛北坡宝岛13-1气田天然气(含油)丰度低，低丰度油气藏的原因目前仍不明确。通过尝试应用定量颗粒荧光技术(QGF和QGF-E)研究宝岛13-1气田低丰度油气藏的成因及成藏特征。结果表明:宝岛13-1区梅山组—三亚组储层QGF指数很低、QGF-E强度很高，而位于同一构造带南部下倾方向的宝岛19-2区陵水组储层QGF指数很高、 QGF-E强度却很低；这反映了宝岛13-1区梅山组—三亚组储层中油气聚集时间很晚，油气充注时间晚造成了颗粒内包裹体丰度非常低，颗粒表面吸附烃类相对较高；而宝岛19-2区陵水组成藏时间相对较早，从而使储层砂岩颗粒内形成了较多的烃类包裹体；综合其他成藏条件分析认为宝岛13-1区油气主要来自本地深部烃源岩的贡献，而不是来自生烃条件相对较好的宝岛凹陷，远距离和供烃不足是其油气低丰度的主要原因。

关键词: 琼东南盆地, 宝岛13-1, 定量颗粒荧光, 成藏期

Abstract:

The natural gas and oil is of low abundance and the reason of that is still not clear in BD13-1,Qiongdongnan Basin.Based on quantitative grain fluorescence technique (QGF and QGF-E),origin and accumulation characteristics of BD13-1 low abundance reservoirs are investigated in this paper.The results show that the QGF index is low and QGF-E index is high in Meishan-Sanya Formation reservoirs of BD13-1.However,the QGF index is high and QGF-E index is low in Lingshui Formation reservoirs of BD19-2 which locates downdip direction of the same structural belt.The characteristics indicate that the hydrocarbon accumulation period is very late which lead to low hydrocarbon content in particle inclusions and relatively high adsorption hydrocarbon content on particle surface.But there is more hydrocarbon in particles of Lingshui Formation reservoirs of BD19-2 which indicates early hydrocarbon charging.Based on the analysis of other accumulation conditions,the oil and natural gas of BD13-1 are from local deep hydrocarbon source rocks rather than Baodao sag with better hydrocarbon generation conditions.So the main reason of low abundance accumulation is lack of hydrocarbons and it is far from the hydrocarbon-generating sag.

Key words: Qiongdongnan Basin, BD13-1, Quantitative grain fluorescence, Hydrocarbon accumulation period

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