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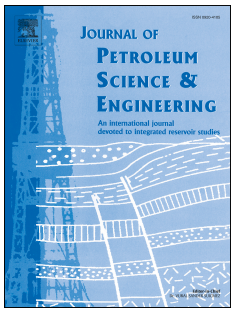

Discrimination of effective source rocks and evaluation of the hydrocarbon resource potential in Marsel, Kazakhstan

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Discrimination of effective source rocks and evaluation of the hydrocarbon resource potential in Marsel, Kazakhstan

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Abstract

Three rounds of exploration in Marsel, Kazakhstan show that the area has good petroleum geological conditions; however, the exploration degree is low and the resource potential is unclear. The total organic carbon (*TOC*) content is the criteria for effective source rocks and is also the key parameter to calculate the amount of resources; while previous evaluations of the effective source rocks and calculated amounts of resources were based on residual *TOC*, which gradually decreases with mass hydrocarbon expulsion; therefore, this will inevitably produce errors. For greater accuracy, the *TOC* recovery coefficient formula was used to recover the residual *TOC* in Marsel; then, the criteria of the effective source rocks were revised to calculate the Carboniferous and Devonian resources in Marsel. The results are as follows: for the

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