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Characterization of the Permo-Triassic Upper Khuff Reservoir, Central Saudi Arabia: An Integrated Core Plugs, Petro-Fabrics and Mercury Injection Analysis

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Abstract

The present work aims to characterize the reservoir properties of the upper Khuff Formation using an integrated core plugs, petro-fabrics and Mercury injection analyses. A thirty four rock samples are picked up from the exposure of the upper Khuff Formation (Khuff A Member) at Al-Qassim province. These samples are subjected to a verity of laboratory measurements including core plugs, thin sections and mercury injection as matched with well log and crude oil analyses. Good porosity and permeability ranges (4-18 % and 5-20 mD) are indicated, especially at the lower part with a uni-modal pore size distribution. The lithology is mainly dolomitic with minor limestone. Some fractures, cemented pores and dissolution process are indicated at the middle and upper part of the section, respectively. Autopore-based mercury injection is

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