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Studying residual fluid in anisotropic natural core GR-201 and NAV-221 by NMR relaxometry

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Abstract

Indices FFI (free fluid index-the index of free fluids, which corresponds to the fraction of the liquid in the macropores and therefore quite easily retrievable) and BVI (bound volume index-index-related (residual) fluids-the proportion is difficult to extract the liquid in either the micropores in which the liquid is held by strong capillary forces, or in the closed pores) were calculated from the analysis of the relaxation data obtained in the case of complete saturation of the core samples with water/hexane. Comparative analysis of the relaxation characteristics of the cores before and after thermochemical treatment is given. Residual fluid and its influence on the spectrum shape of relaxation times are defined according to the relaxation data.

Keywords

Nuclear magnetic resonance (NMR), Porous media, Relaxation, Self-diffusion