

Title (en)

WATER SATURATION AND SAND FRACTION DETERMINATION FROM BOREHOLE RESISTIVITY IMAGING TOOL, TRANSVERSE INDUCTION LOGGING AND A TENSORIAL WATER SATURATION MODEL

Title (de)

WASSERSÄTIGUNGS- UND SANDFRAKTIONSBESTIMMUNG MIT HILFE EINER BOHRLOCHWIEDERSTANDSABBILDUNGSVORRICHTUNG, EINER TRANSVERSALE INDUKTIONSBOHRLOCHMESSUNG UND EINE TENSORIALES WASSERSÄTTIGUNGSMODELLS

Title (fr)

DETERMINATION DE LA SATURATION EN EAU ET D'UNE FRACTION DE SABLE A PARTIR D'UN OUTIL D'IMAGERIE DE LA RESISTIVITE DES Puits DE FORAGE, D'UNE DIAGRAPHIE PAR INDUCTION TRANSVERSALE ET D'UN MODELE TENSORIEL DE SATURATION EN EAU

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Abstract (en)

[origin: WO0039612A1] The total porosity the formation, (13), including a fractional volume of the shale (13), and a resistivity of the shale are determined (22), in a laminated reservoir including sands that may have dispersed shales therein. A tensor petrophysical model determines the laminar shale volume and laminar sand conductivity from vertical and horizontal conductivities derived from multi-component induction log data (10). The volume of dispersed shale and the total and effective porosities of the laminar sand fraction are determined using a Thomas-Stieber-Juhasz approach. Removal of laminar shale conductivity and porosity effects reduces the laminated shaly sand problem to a single dispersed shaly sand model to which the Waxman-Smits equation can be applied.

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