Indonesia Model (Poupon-Leveaux) @model

One of the saturation from resistivity models:

(1) $$s_w = \left[\frac{\sqrt{\frac{1}{R_t}}}{\frac{V_{sh}^{(1-0.5\,V_{sh})}}{\sqrt{R_{sh}}} + \sqrt{\frac{\phi_e^m}{A\,R_w}}} \right]^{(2/n)}$$

where

s_w	formation water saturation	
ϕ_e	effective porosity	
V_{sh}	shaliness	
R_t	specific electrical resistivity from OH logs	
R_w	specific electrical resistivity of formation water	
R_{sh}	specific electrical resistivity of wet shales	
m	formation matrix cementation exponent	1.5 ÷ 2.5, default value is 2
n	formation matrix water-saturation exponent	1.5 ÷ 2.5, default value is 2

See Also

Petroleum Industry / Upstream / Subsurface E&P Disciplines / Petrophysics

Well & Reservoir Surveillance / Well logging / Reservoir Data Logs (RDL) / Formation Resistivity Log @model

Reference

Poupon, André, and J. Leveaux. "Evaluation Of Water Saturation In Shaly Formations." Paper presented at the SPWLA 12th Annual Logging Symposium, Dallas, Texas, May 1971.