

WOR vs WOBR @model

Correlation between [Water-Oil-Ratio \(WOR\)](#) and [Water Oil Balance Ratio \(WOBR\)](#):

$$\text{WOR} = \Phi \left(\frac{\Omega_W^\downarrow \cdot Q_W^\downarrow - \Omega_W^\uparrow \cdot Q_W^\uparrow}{EUOR - Q_O^\uparrow} \right)$$

where $\Phi()$ is some function.

For example, one can select $\Phi(x) = x^n$ and search for the exponent n , good water percentages $\Omega_W^\downarrow$, $\Omega_W^\uparrow$ and even adjust $EUOR$ in order to achieve the best model $\text{WOR}^*(t)$ fit to the [WOR](#) history:

$\sum_t \ \text{WOR}(t) - \text{WOR}^*(t)\ \rightarrow 0$	$\text{WOR}^*(t) = \left[\frac{\Omega_W^\downarrow \cdot Q_W^\downarrow(t) - \Omega_W^\uparrow \cdot Q_W^\uparrow(t)}{EUOR - Q_O^\uparrow(t)} \right]^n$
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where $\|x\|$ is the norm of x .

See Also

[Petroleum Industry](#) / [Upstream](#) / [Production](#) / [Subsurface Production](#) / [Field Study & Modelling](#) / [Production Analysis](#) / [Watercut Diagnostics](#)