

Watercut Correlation @model

The general form of the [Water-Oil Ratio \(WOR\)](#) regression is:

$$(1) \quad WOR = WOR_0 + Q_O \cdot \text{Regression}(\{q_k\}, \{Q_k\}), \quad k = [1..N]$$

Watercut Power Regression

$$(2) \quad WOR = WOR_0 + Q_O \cdot \sum_{k=1..N} [a_{O,k} Q_{O,k}^{gQ_{O,k}} + a_{W,k} Q_{W,k}^{gQ_{W,k}} + b_{O,k} q_{O,k}^{gq_{O,k}} + b_{W,k} q_{W,k}^{gq_{W,k}}]$$

Watercut Rational Regression

$$(3) \quad WOR = WOR_0 + \frac{Q_O \cdot \sum_{k=1..N} [a_{O,k} Q_{O,k}^{gQ_{O,k}} + a_{W,k} Q_{W,k}^{gQ_{W,k}} + b_{O,k} q_{O,k}^{gq_{O,k}} + b_{W,k} q_{W,k}^{gq_{W,k}}]}{1 + \sum_{k=1..N} [c_{O,k} Q_{O,k}^{hQ_{O,k}} + c_{W,k} Q_{W,k}^{hQ_{W,k}} + d_{O,k} q_{O,k}^{hq_{O,k}} + d_{W,k} q_{W,k}^{hq_{W,k}}]}$$

Watercut Neural Network Regression

$$(4) \quad WOR = WOR_0 + Q_O \cdot \text{ANN}(\{Q_{O,k}\}, \{Q_{W,k}\}, \{q_{O,k}\}, \{q_{W,k}\}), \quad k = [1..N]$$

See Also

[Petroleum Industry](#) / [Upstream](#) / [Subsurface E&P Disciplines](#) / [Well Testing \(WT\)](#) / [Flowrate Testing](#) / [Flowrate](#) / [Production Water cut \(Yw\)](#)

[[WOR](#)] [[Watercut Diagnostics](#)] [[Watercut Fractional Flow @model](#)]