

Multiphase formation pressure

Cross-phase average formation pressure:

$$p_e = \frac{1}{N_\alpha} \sum_{\alpha} p_{e,\alpha}$$

where

$p_{e,\alpha}$	formation pressure of α -phase
N_α	number of fluid phases

In case of the most popular 3-phase Oil + Gas + Water fluid model:

$$p_e = \frac{1}{3} (p_{eo} + p_{eg} + p_{ew})$$

where

$p_{e,o}$	formation pressure of oil phase
$p_{e,g}$	formation pressure of gas phase
$p_{e,w}$	formation pressure of water phase

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