

Simple PVT

Single-phase or pseudo single-phase PVT model with the following correlations:

Total sandface flowrate:

$$(1) \quad q_t = q_s B$$

where B is fluid formation volume factor and q_s is surface flowrate.

Fluid Mobility:

$$(2) \quad \left\langle \frac{k}{\mu} \right\rangle = \frac{k_{air}}{\mu}$$

where k_{air} is absolute formation permeability to air, μ is dynamic fluid viscosity.

Total compressibility:

$$(3) \quad c_t = c_r + c$$

where c_r is formation compressibility and c is fluid compressibility.