

Gas sandface flowrate = qq

Produced or injected flowrate of natural gas across the well-reservoir contact with the volumes measured at the sandface temperature and pressure conditions.

For MBO fluid @model the gas sandface flowrate q_g is related to surface flowrates of crude oil q_O and natural gas q_G as (see derivation):

(1)
$$q_g = \frac{B_g \cdot (q_G - R_s q_O)}{1 - R_v R_s}$$

where

B_o, B_g	gas formation volume factor between separator and sandface pressure/temperature conditions
R_s	Solution GOR at sandface pressure/temperature conditions

It simplifies for Dry Gas Reservoir with surface flow rate q_G and gas formation volume factor B_g to:

(2)
$$q_g = q_G \cdot B_g$$

See Also

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