

Oil sandface flowrate = qo

Produced flowrate of live oil across the well-reservoir contact with the volumes measured at the sandface temperature and pressure conditions.

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

(1)
$$q_o = \frac{B_o \cdot (q_O - R_v q_G)}{1 - R_v R_s}$$

where

B_o	oil formation volume factor between separator and sandface pressure/temperature conditions
R_v	Vaporized oil ratio at sandface pressure/temperature conditions

It simplifies for the Black Oil model to:

(2)
$$q_o = B_o q_O$$

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