

Volatile Oil Reservoir

Undersaturated Oil Reservoir with initial temperature slightly lower the pseudo-critical temperature and the Vapour Liquid Envelope having quality lines tighter spaced at reservoir conditions while separator conditions lying on relatively high quality lines. A small reduction of pressure below the bubble point vaporizes a significant fraction of the oil.

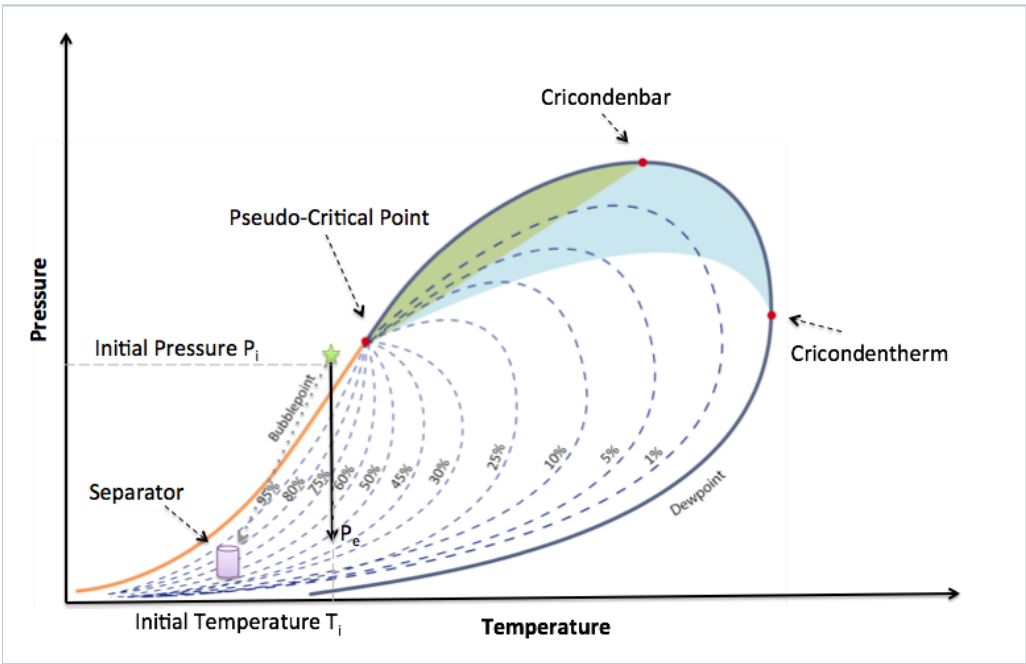


Fig. 1. Production path of the Volatile Oil Reservoir on the Phase Equilibrium Diagram.

The dash lines showing the Vapour Quality Lines (with inverse numbering).

The downward solid black arrow shows a reservoir pressure depletion path.

The downward grey dash arrow shows a wellbore lift pressure drop path.

Table 1 – Example of Volatile Oil composition (in mol %)

Substance	Volatile Oil
CO ₂	1.82
N ₂	0.24
C ₁	57.60
C ₂	7.35
C ₃	4.21
i C ₄	0.74
n C ₄	2.07

<i>i</i> C ₅	0.53
<i>n</i> C ₅	0.95
C _{6s}	1.92
C ₇₊	22.57
Rs (SCF/STB)	1465
Rv (STB/MMSCF)	680
API gravity	36.7
M ₇₊	240
7+	0.864

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