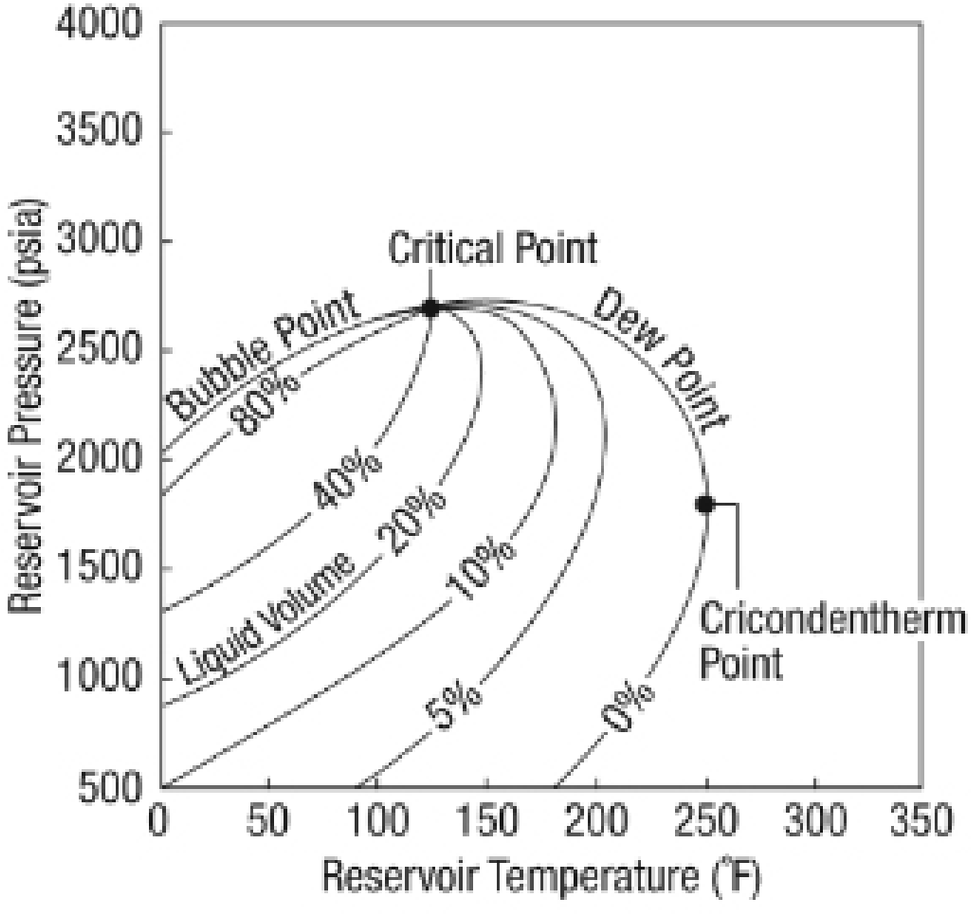
PETE 662
Production Engineering

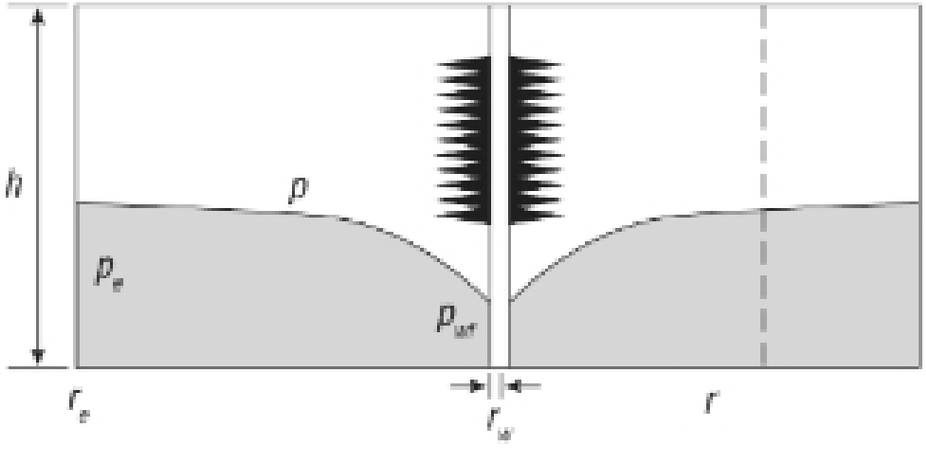
Chapter 2

Production from Undersaturated Oil Reservoirs

Harold Vance Department of
PETROLEUM ENGINEERING
TEXAS A&M UNIVERSITY

Undersaturated Oil Reservoirs





- $p_{e,}\ p_{wf} > p_{bubble\ point}$
- single phase flow in reservoir rock

Undersaturated Oil Reservoirs

Darcy's Law for Single Phase Radial Flow

$$q = \frac{kA}{\mu}\frac{dp}{dr} \text{ ---------- } (2-1)$$

where:

q : flow rate

k : permeability

A : cross - sectional area perpendicular to flow

μ : fluid viscosity

p : pressure

r : radial distance from center of well