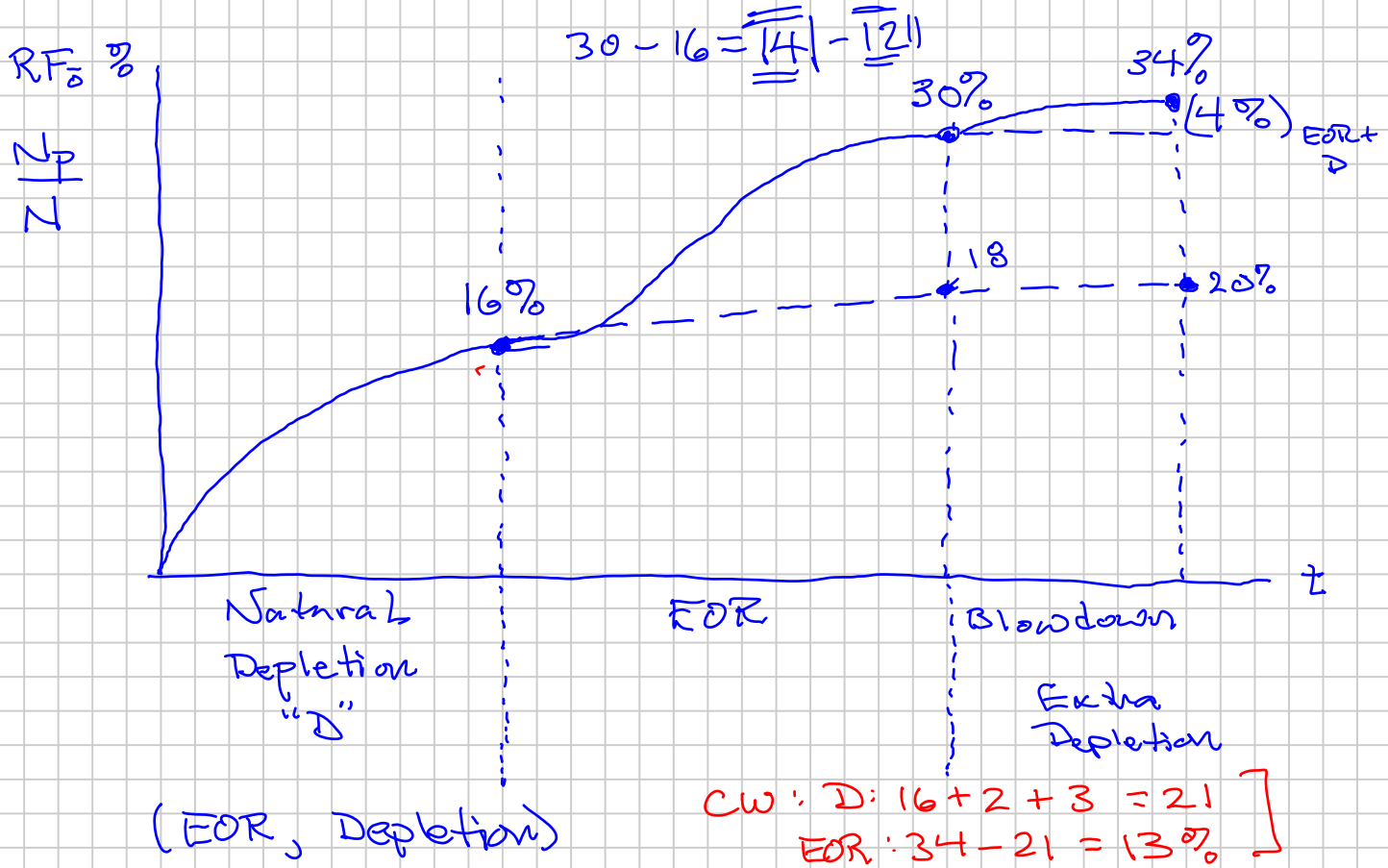
Note Title 10/23/2018



(20, 15) | (30, 20) | (34, 16) | (30, 16) | (34, 15) |
(30, 18) | (25, 20) | (30, 20) | (35, 15) | (38, 15) |
(34, 20) | (14, 20) | (14, 20) | (32, 17) | (18, 31) |
(35, 20) | (21, 16) | (19, 18) | (20, 16) | (14, 20)

max EOR = 34 − 16 = 18%

EOR

MOBILITY ISSUES:

$$\lambda_p = \frac{k_p}{\mu_p} \quad \left| \quad \frac{k_{rp}}{\mu_p} \right.$$

Effective ← k_p ; Relative ← k_{rp}

$\frac{md}{cp}$; $\frac{1}{cp}$

$$k_{rp} = \frac{k_p}{k}$$ ← Absolute

Depletion

$$\lambda_g = \left(\frac{k_{rg}}{\mu_g B_g}\right)$$

$$\lambda_o = \left(\frac{k_{ro}}{\mu_o B_o}\right)$$

EOR: Two Phases

- Displacing Phase (Injecting)
- Displaced Phase (Usually Oil)

$$\lambda \equiv q(\Delta p)$$

Δp: $P_{inj} - P_{wf}$

λ_o (Displaced Phase)

λ_w λ_g (Displacing Phase)

λ_D

Mobility Ratio: M

Impacts directly ΔS_o (BL theory)

E_m E_p Conformance E_v E_A

$$M \equiv \frac{\lambda_{Displacing}}{\lambda_{Displaced}} = \frac{\frac{k_{rw}}{\mu_w}}{\frac{k_{ro}}{\mu_o}} = \frac{\frac{k_w}{\mu_w}}{\frac{k_o}{\mu_o}} = \frac{k_{rw}}{k_{ro}} \frac{\mu_o}{\mu_w}$$

"w" / "o"

$\frac{1}{cp}$; $\frac{md}{cp}$

$\frac{k_{rw}}{k_{ro}}$ ← RF ; $\frac{\mu_o}{\mu_w}$

* After (∃) 1950

Muskat 1950 Mobility Ratio $\bar{m} \equiv \frac{\lambda_{Displaced}}{\lambda_{Displacing}}$