

CONVENTIONAL vs UNCONVENTIONAL RESERVOIRS

CONVENTIONAL

RESERVOIR TYPE (Name)

1. GAS (Dry | Wet | "Retrograde" Gas Condensate)
2. OIL
3. GAS + OIL

Rock

- (1) $k > 0.1 - 1$ md
- "C"
- (2) $1 - \phi$

Fluid

- $\mu < 100$ cp

"High" Mobility $\equiv \frac{kh}{\lambda h \mu}$

UNCONVENTIONALS

1. HEAVY OIL (SAGD)

p_{Ri} : low $1 - \phi$, $k > 1000$ md

"U"
 $\mu_0 \approx 1000$ cp
↓ 10

2. Tight / Ultra-Tight (Shale)

p_{Ri} : high

"U"
 $k < 0.001$
→ 10^{-5} md

$\mu_0 < 1$ cp
Shale Gas-Sorbed Gas
 $\mu \approx 10$ cp

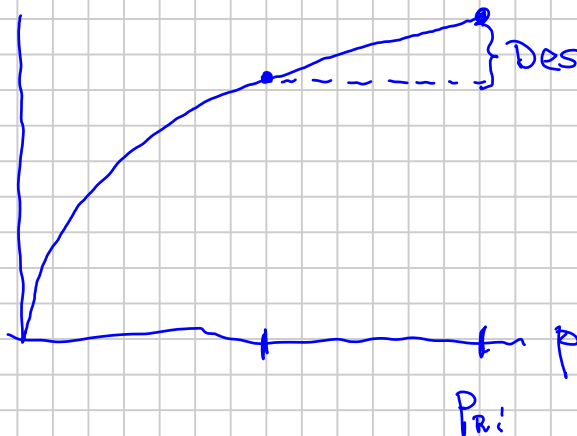
3. Naturally Fractured

2- ϕ "U"
 $k_{fr} \approx 0.01 - 10$ md

$\frac{\phi_m}{\phi_t} = 90 - 99\%$

4. Coal Bed Methane (CBM)

$\frac{Sm^3}{10^3 \text{ kg coal}}$



Adsorbed Methane
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