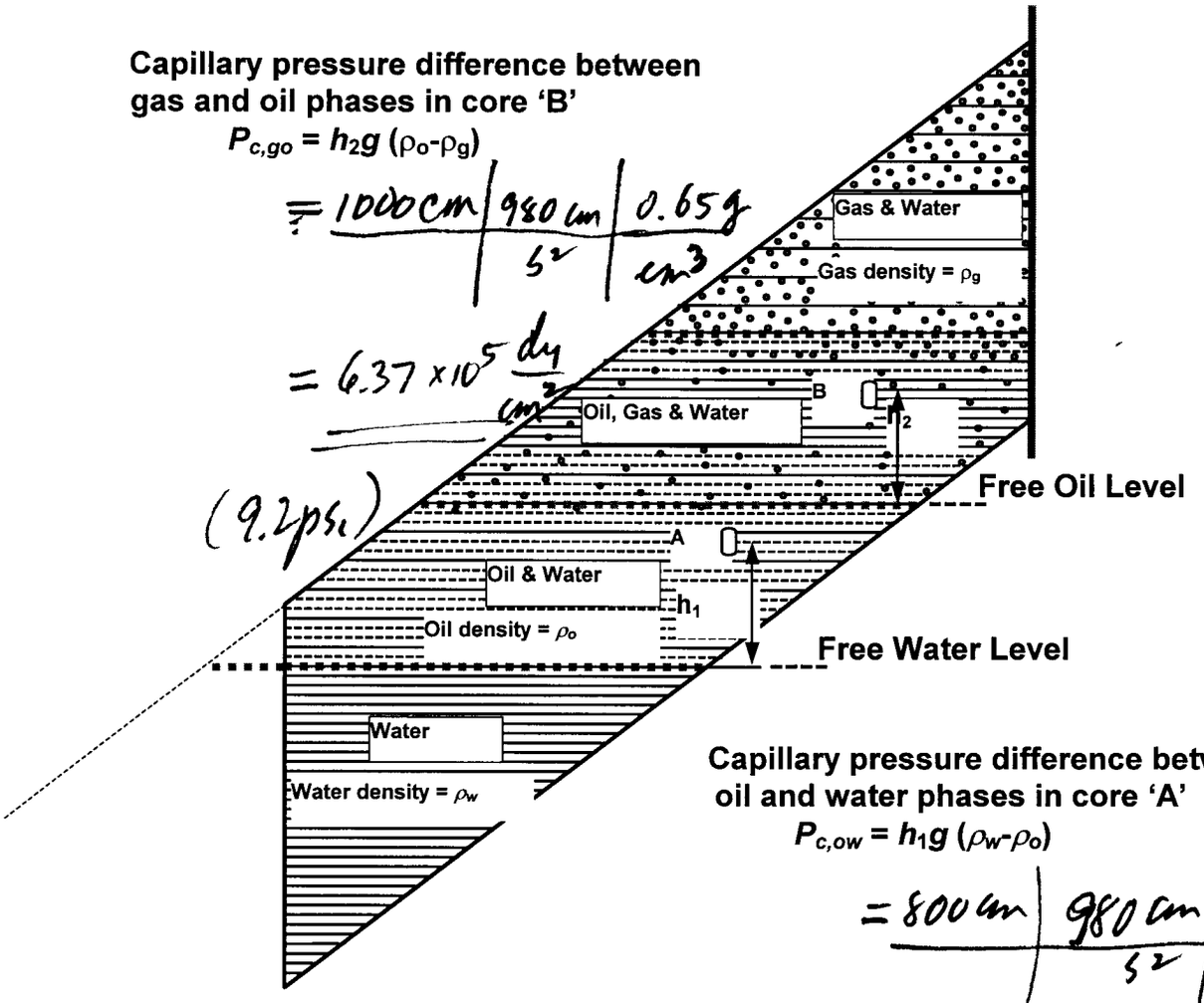
Petroleum Engineering 311
Test 7

February 26, 2003

1. See the following sketch. Calculate $p_{c,ow}$ and $p_{c,go}$ in dynes/cm^2 at points A and B if h_1 = 800 cm, h_2 = 1000 cm, ρ_w = 1.05 g/cm^3, ρ_o = 0.8 g/cm^3, and ρ_g = 0.15 g/cm^3.



$= 1000\,cm \left| \frac{980\,cm}{s^2} \right| \frac{0.65\,g}{cm^3}$

$= 6.37 \times 10^5 \frac{dy}{cm^2}$ (9.2 psi)

$= 800\,cm \left| \frac{980\,cm}{s^2} \right| \frac{0.25\,g}{cm^3}$

$= 1.96 \times 10^5 \frac{dy}{cm^2}$ (2.8 psi)

2. Name three factors that affect the capillary pressure vs saturation relationship.

- permeability
- pore size distribution (sorting)
- fluid pairs
- saturation history