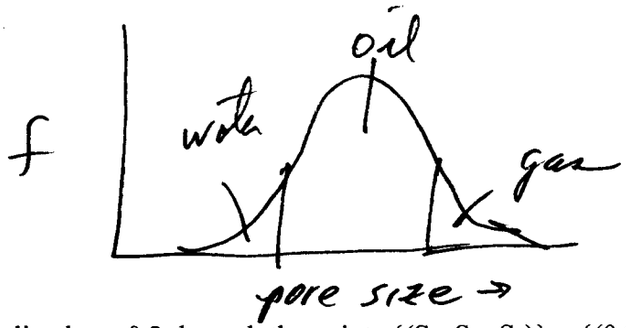
Petroleum Engineering 311
Test 12

April 9, 2003

1. Summarize Standing's "fundamental concepts" (in class, these postulates were referred to as the "channel flow theory").

- Fluids in pores are under capillary control
- Each fluid moves through separate groups of pores
- Fluids tend to block flow of other fluids, requiring flow-path length to change as saturation changes

2. Sketch a frequency diagram showing relative pore size filled with water, oil, and gas for a preferentially water-wet system.



3. Graph the line $k_{ro} = 0.2$ through the points $\{(S_g, S_w, S_o)\} = \{(0.00,0.60,0.40), (0.25,0.25,0.50), (0.25,0.00, 0.75)\}$. NOTE: The scale shown at the bottom of the diagram applies to S_o