

## Notes to Youtube video 14

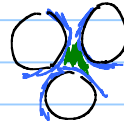
Reserve estimation : case undersaturated oil reservoir

$$TRR = N_{pv} = \frac{V_R \cdot \phi \cdot N_{TG} \cdot S_o \cdot F_{RW}}{B_o}$$

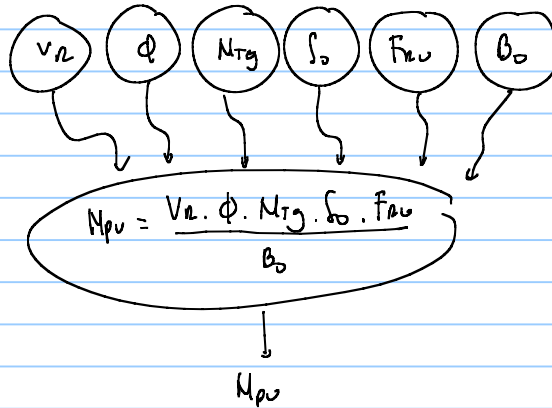
total recoverable reserves

ultimate cumulative production

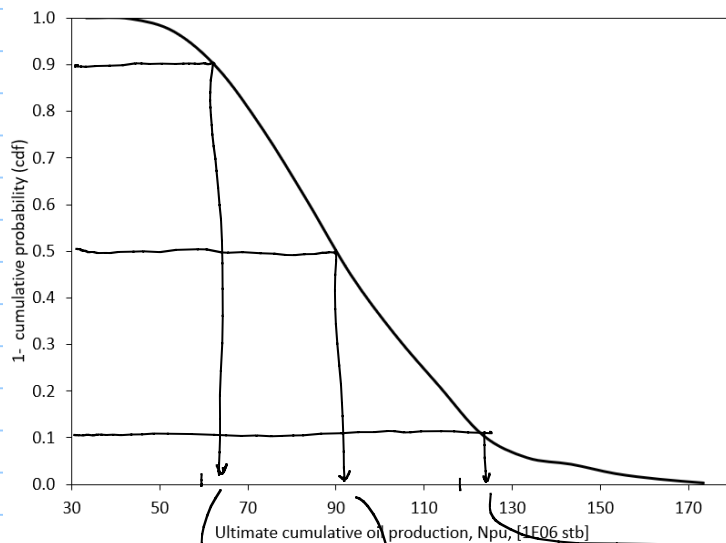
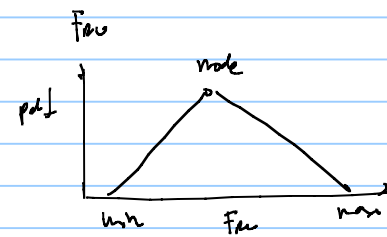
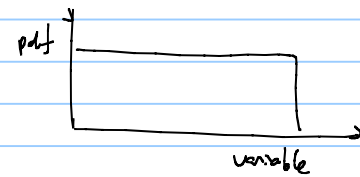
recovery factor



$$N_{TG} = \frac{h_1 + h_2 + h_3 + h_4}{h_{total}}$$



$V_R, \phi, N_{TG}, S_o, B_o$  have a uniform pdf



expectation curve

- Conservative estimate (90%) P90
- Average estimate (50%) P50
- optimistic estimate (10%) P10

65 006 stb      ~90 006 stb      ~125 006 stb