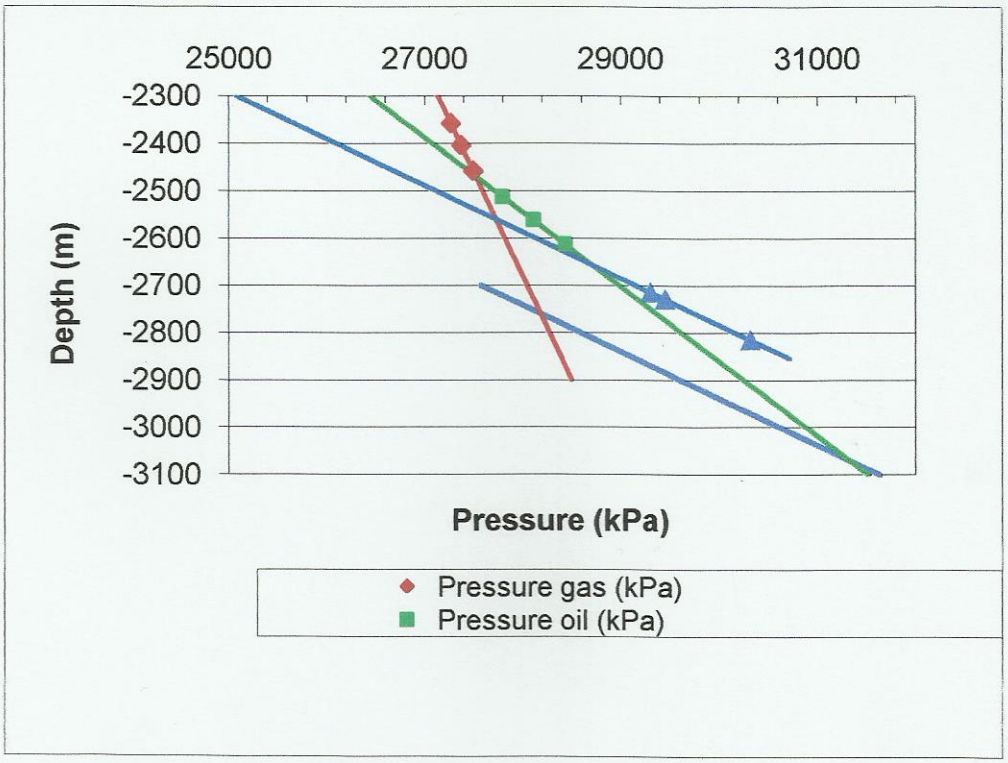
Øving 17 og 18

Løsning

Øving 17 Reservoartrykk- Løsning

A plot of the reservoir pressure test results is shown in Fig. 1

Fig. 1. Plot of pressure test results

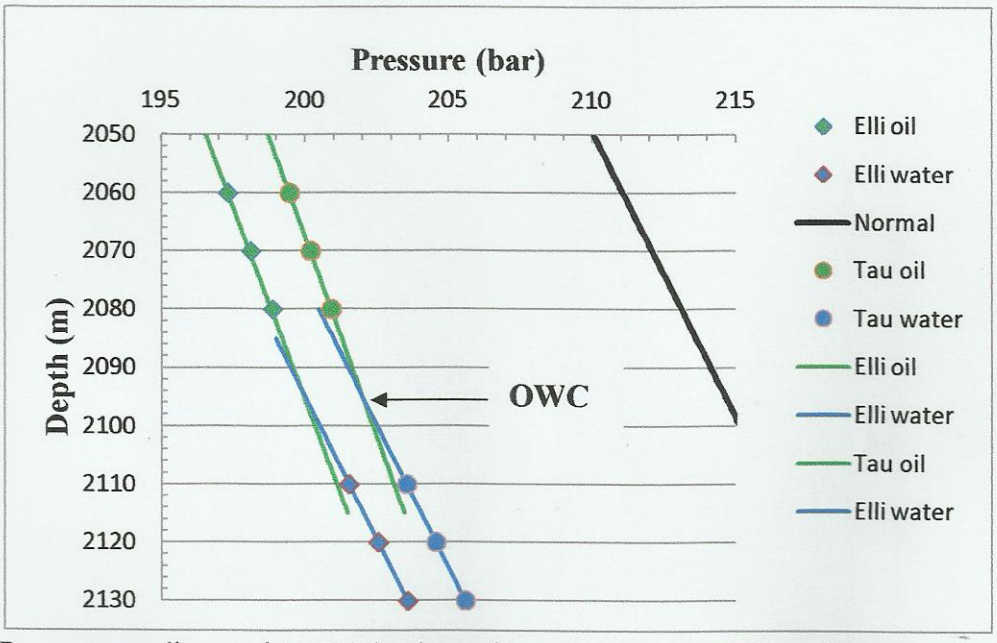


a) Pressure gradients: $\Delta P / \Delta D = \rho \cdot g$
   Gas gradient: 2,27 kPa/m
   Oil gradient: 6,35 kPa/m
   Water gradient: 10,17 kPa/m
b) Min GWC: 2458 (bottom reservoir)
   Max GWC: P (gas)= P (hydrostatic pressure) i.e. 2760 m
c) GOC: P (gas) = P (oil) i.e. 2470 m
d) Min OWC: 2612 m (bottom reservoir)
   Max OWC: P (oil) = P (hydrostatic pressure) i.e. 3071 m
e) OWC: P (oil) = P (water) i.e. 2657 m
   Over pressure: P (water) – P (hydrostatic pressure)= 1575 kPa or 15,75 bar

Øving 18 Reservoartrykk. Felteksempel. Løsning

a) $\rho_o^R(\text{Elli}) = 776\,\text{kg/Rm}^3$ and $\rho_o^R(\text{Tau}) = 743\,\text{kg/Rm}^3$

b) FWL = 2095 m both for Tau and Elli which indicate that we have pressure communication across the field



c) Pressure gradients of 0,0761 bar/m and 0,0729 bar/m for Elli and Tau respectively agrees with the oil densities calculated in a).

d) C = -14,69 bar (Elli) and C = -12,69 bar (Tau). The reason why Jotun is underpressured is that Heimdal has been produced by pressure depletion and it is pressure communication across the fields