Exercise Reservoir Pressure Solution

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

***Fig. 1. Plot of pressure test results***

1. Pressure gradients:   
   Gas gradient: 2,27 kPa/m  
   Oil gradient: 6,35 kPa/m  
   Water gradient: 10,17 kPa/m
2. Min GWC: 2458 (bottom reservoir)  
   Max GWC: P (gas)= P (hydrostatic pressure) i.e. 2760 m
3. GOC: P (gas) = P (oil) i.e. 2470 m
4. Min OWC: 2612 m (bottom reservoir)  
   Max OWC: P (oil) = P (hydrostatic pressure) i.e. 3071 m
5. OWC: P (oil) = P (water) i.e. 2657 m  
   Over pressure: P (water) – P (hydrostatic pressure)= 1575 kPa or 15,75 bar