

Q1) I) In the reservoir suppose the reservoir is under water drive such that the pressure stabilize at 1500 Psia. 4+4 درجات

$$S_{wi} = 23\% \quad B_{gi} = 188 \quad B_{ga} = 89.1 \quad S_{ga} = 24\%$$

- Calculation initial unit recovery , R.F
- Under active Water drive Calculate unit Recovery?

II) Calculate the Average reservoir Pressure in table and Dissection on Results?

Area	Acres	Pressure Psia	H ft
A	25.5	2750	25
D	15.1	2750	15
C	50.5	2850	25
D	30.2	2850	15

5 درجات

Q2) Pressure buildup tests are run on the only well in a closed res. The first test indicates an average pressure of 3100 Psi , the second indicate 2000 psi. The well produced an average of 125 BLL/Day of oil in the two (2) year (1year=365 Day) between tests. Average $C_T = 10^{-5} \text{ Psi}^{-1}$, ϕ is 15% , H is 25ft.

- Estimate area of the reservoir in acres. 7 درجات
- What percentage of oil production potential at initial water saturation 20% and formation volume factor (volume of gas Dissolved 10950 BLL)? 8 درجات

Q3) The areal extent of the Bell Field gas reservoir was 1500 acres. the initial bulk volume was 72,000 ac-ft. Average porosity was 25%, and average connate water was 20%.

initial reservoir pressure of 3240 psia $T = 180^\circ\text{F}$ $z = 0.92$

- Calculate the initial Gas in place? 8 درجات
- If Oil Reservoir, Calculate the initial Oil in place? 5 درجات
- if and the initial oil formation volume factor 1.15 ResBll/STB, Calculate Stock Tank Oil in place? 5 درجات

Q4) I) Calculate the initial oil in place, 60,000 acres.ft at initial condition water saturation 18%, and fraction porosity 20% $Q_{\text{gas}} = 200 \text{ Mscf/day}$, $Q_{\text{oil}} = 200 \text{ STB/Day}$, 300°F and specific gravity of gas 0.60

7 درجات

II) A volumetric gas field has an initial pressure of 4200 Psia, a porosity of 17.2% and connate water of 23%. The gas volume factor at 4200 Psia is 0.003425 cuft/SCF and at 750 Psia is 0.01852 cuft/SCF.

- Calculate the initial in-place gas in standard cubic feet on a unit basis.
- Calculate the in initial gas reserve in standard cubic feet on a unit basis, assuming an abandonment pressure of 750 Psia.
- Calculate the initial reserve of a 640 acre unit whose average net productive formation thickness is 34 ft , assuming an abandonment pressure of 750 Psia.

7 درجات

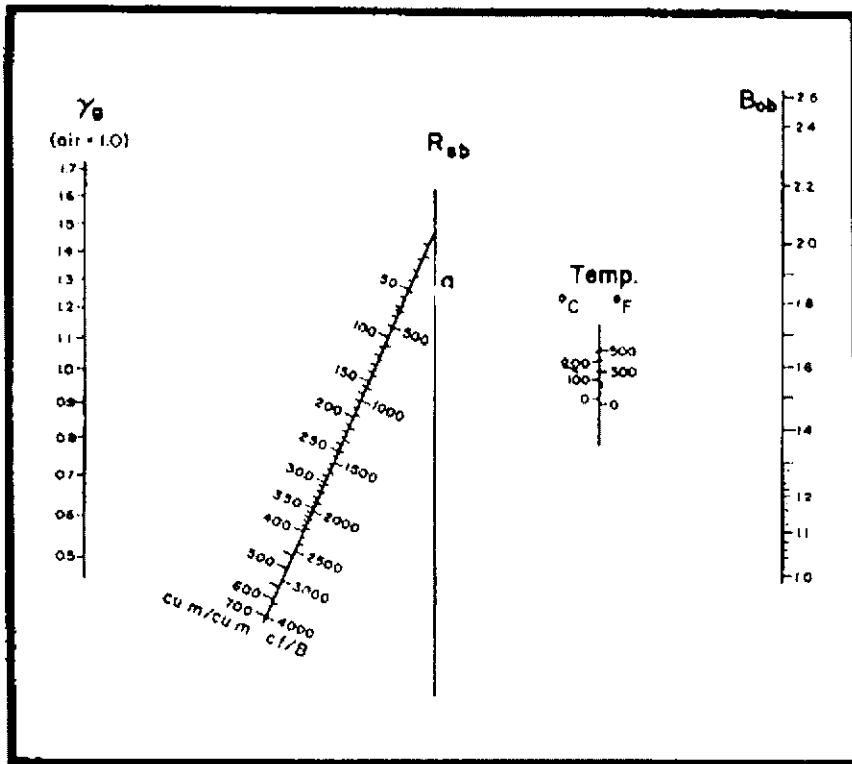


Fig. 3-17 (Chart Fgo-4): Nomograph to find B_{ob} scales calibrated in both English and metric units.