

Q1) Complete:- 9 درجات

I - Oil Reservoir:.....

II - Gas Reservoirs:

IV) Sweet Gas:.....

Q2) A hydrocarbon gas system has the following composition:..... 10 درجات

Component	Mol %	Mi	Tci	Pci
C1	0.83	16.0	343.33	666.4
C2	0.06	30.1	549.92	706.5
C3	0.03	44.1	666.06	616.4
n-C4	0.02	58.1	765.62	550.6
n-C5	0.02	72.2	845.60	488.6
C6	0.01	84.0	923.00	483.0
C7+	0.03	161.	1189.0	318.4

Compute:

- Gas Gravity.
- Pseudo-critical Pressure and temperature.
- What is the ration of actual volume to ideal volume ($Z = ?$) for this gas at 3800Psig and 180°F ?
- What volume will 120 Ib of this gas occupy at the same condition (Pressure = 3800Psig and 180°F) ?

Q3) Complete:..... 9 درجات

a) Crude Oil:.....

b) Bubble Point Pressure:.....

c) Calculate the specific gravity and °API of a crude oil system with measured density of 53 Ib/ft³ at standard conditions.

Q4)..... 16 درجة

a) Complete: the chemical structure and name for formula:

- 1) C₆H₆ 2) C₄H₈ 3) C₃H₆ 4) Propane.

b) What is the types of drilling Rigs.

c) Hydrocarbon: an organic compound made up of and carbon..... Atoms.

Q5)..... 16 درجة

a) Find the density of a gas at standard conditions when, $\gamma_g = 0.8$

b) Find the oil density at Bubble point in the following saturation:

Density of oil at Standard condition $\gamma_{osc} = 0.82$; $\gamma_g = 0.65$

Gas Dissolved $R_s = 150$ Cum/Cum ; $\beta_{ob} = 1.26$ RsBLL/STB

c) Calculate the oil saturation if the total pore volume 2.8 cm³ and oil volume 1.12 cm³.

Where: Density of air at standard conditions is 0.001223 gm/cm³ or 0.0762 Ib/ft³

والله ولي التوفيق

GASEOUS PETROLEUM (NATURAL GAS)
PSEUDO REDUCED PRESSURE

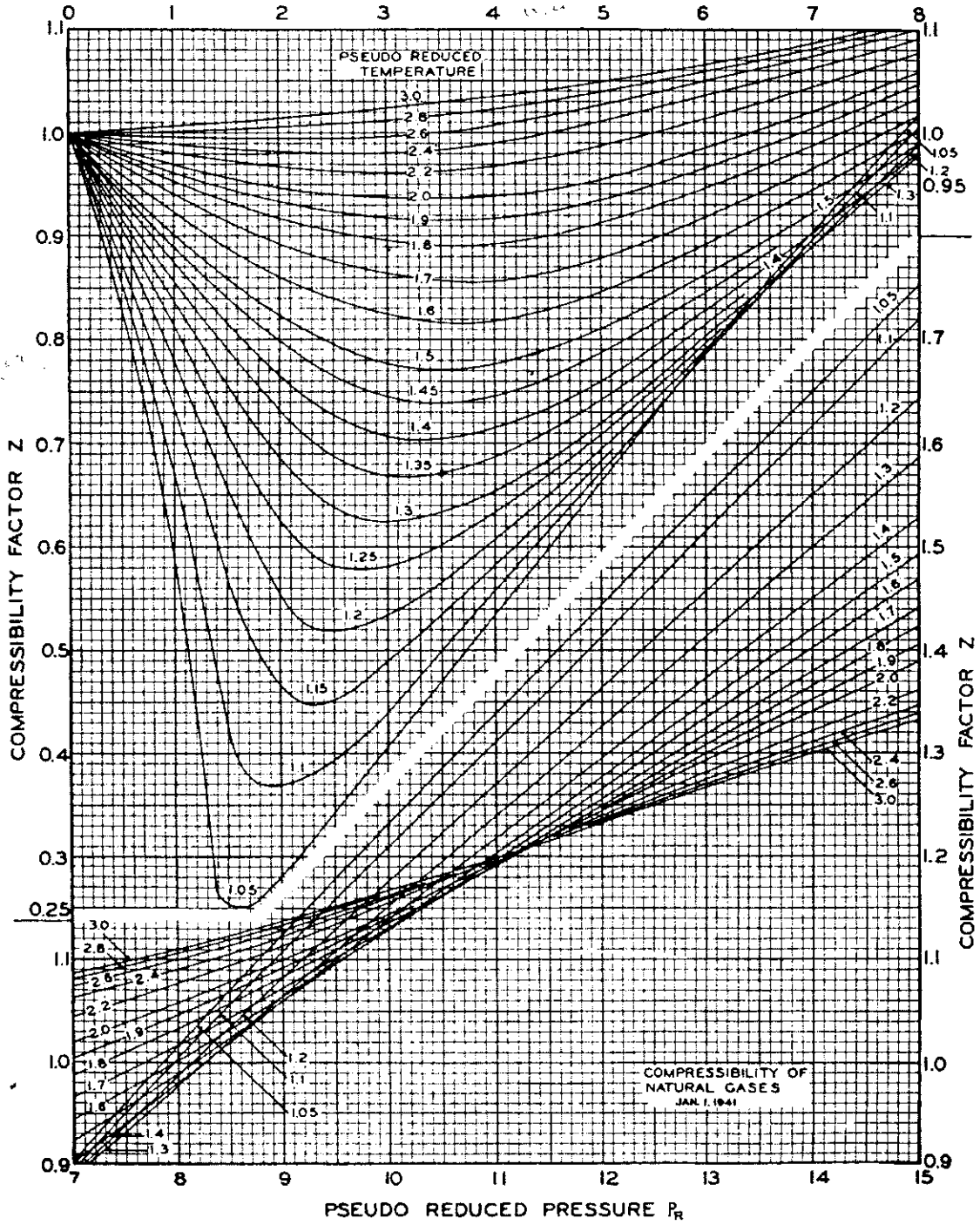


Fig. 1.4. Compressibility of natural gases as a function of reduced pressure and temperature. After Standing and Katz,* courtesy AIIME.