Note Title 2/13/2017

SAMPLING

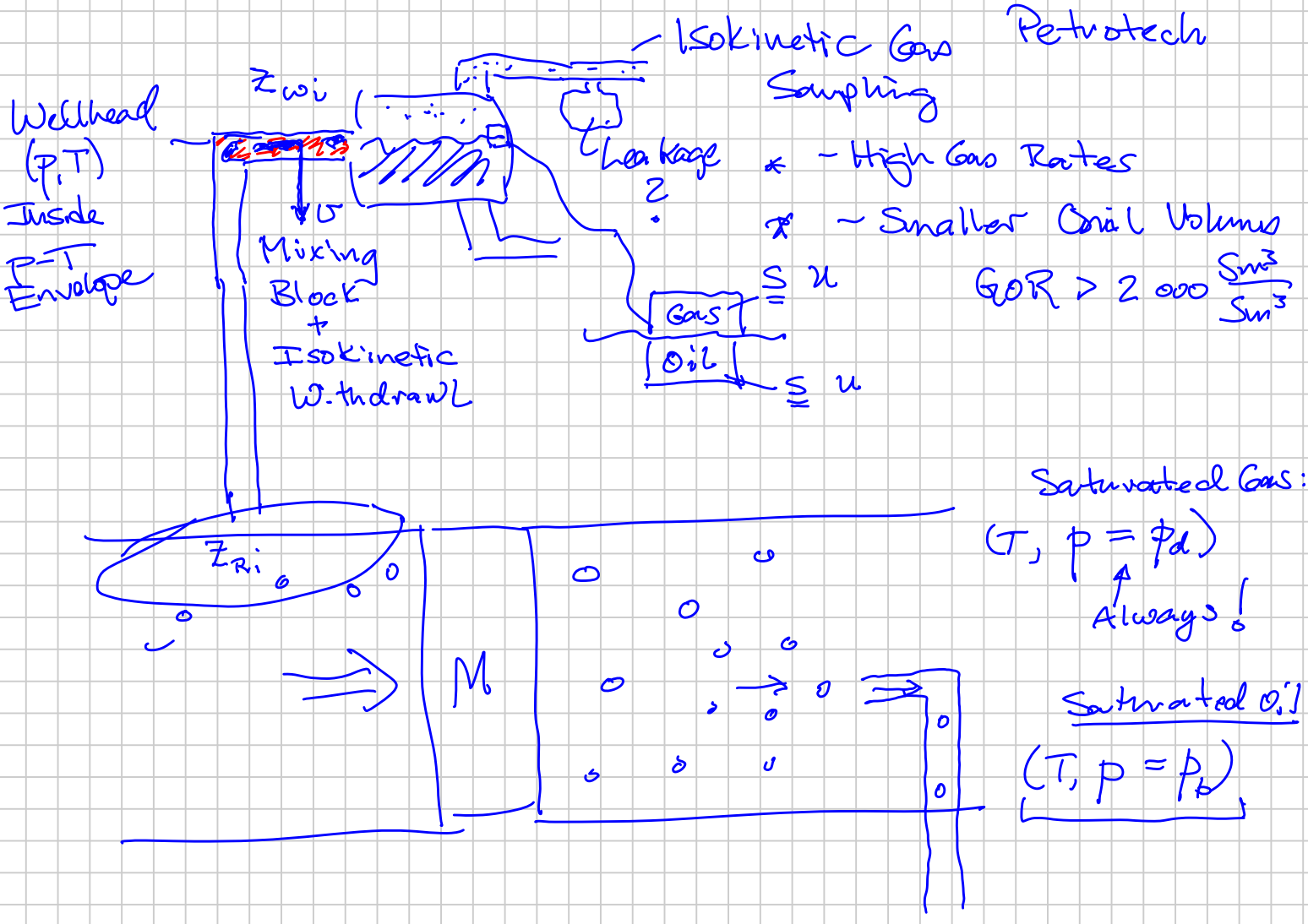
Petrowiki site – fairly comprehensive treatment of sampling (SPE Initiative)

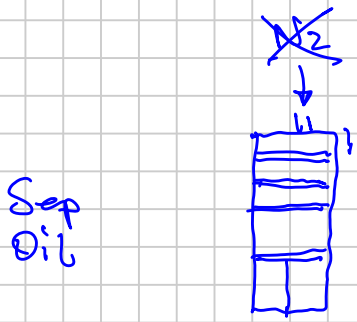
✓ Separator Sampling

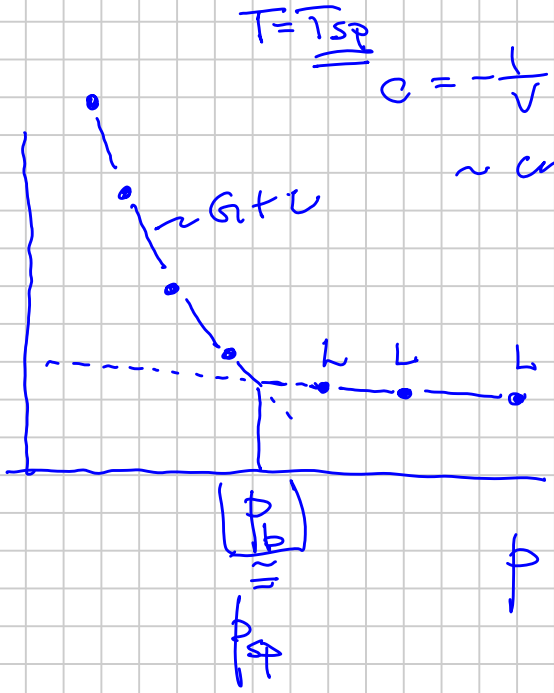
Bottomhole Sampling

Wireline Cased Hole

Open hole Formation Test







$$c = -\frac{1}{V}\frac{dV}{dp} \sim \text{const.}$$

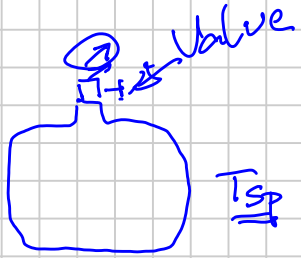
Dewpoint of Sep. Gas @ T_{sp}

- Expensive (requires visual measure of liquid appearing)

Lab QC on Leakage on Sep. Oil

$P_b < P_{sp}$ @ T_{sp}

$P_b = P_{sp}$



Assume that the ideal gas law ~ OK

V = const. 20 L

$T = T_{sp}$

Field n_g

$P_{Field} = P_{sp}$

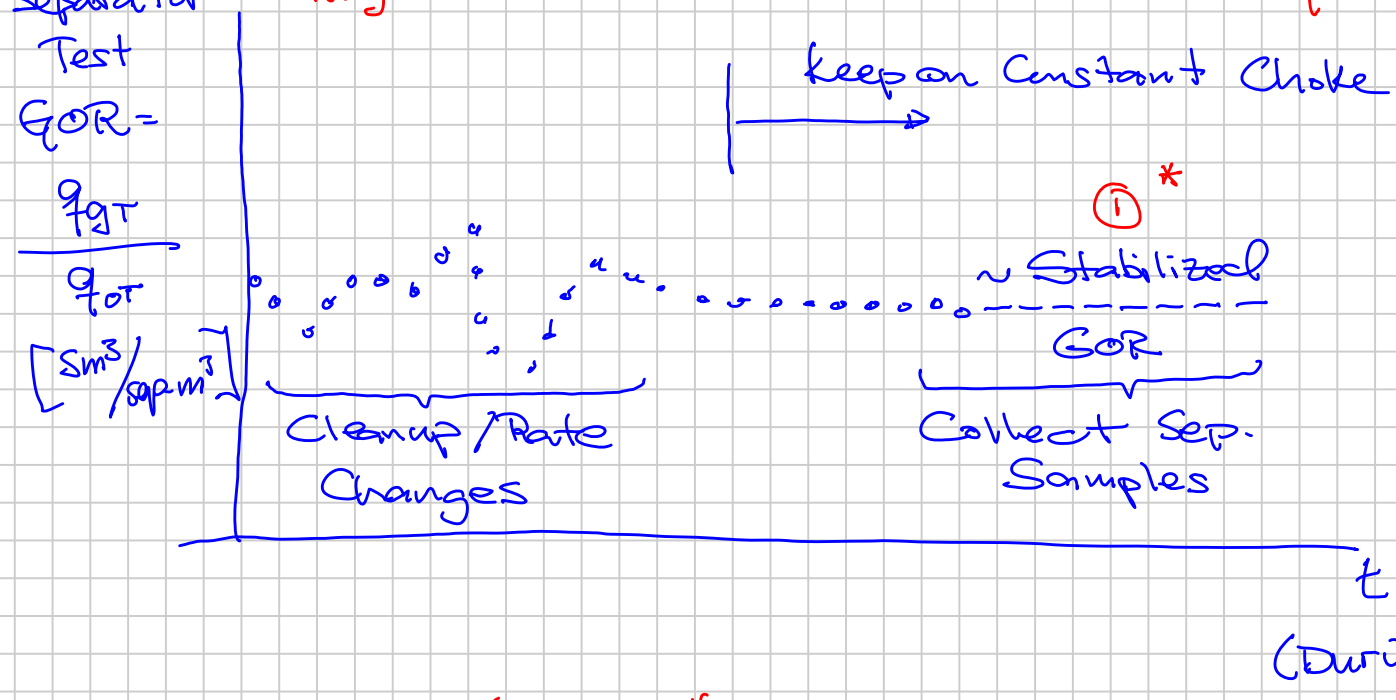
Leak Gas $n_g^{Lab} < n_g^{Field}$

$P_{Lab} < P_{sp}$

Leak

Opening Pressure

KEY TO BEST PRACTICE SEPARATOR SAMPLING



② REPORT $(T_{sp}, P_{sp})^*$ AT time of sampling

③ REPORT "Separator" GOR at time of sampling

$$GOR_{sp} = \frac{q_{gsp}}{q_{osp}} \left[\frac{Sm^3}{sep\text{-}m^3} \,\middle|\, \frac{scf}{sep\text{-}bbl} \right]$$

@ $(T_{sp}, P_{sp})^*$

* Avoid collection after rate reductions / shutin (particularly for gas condensates)

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