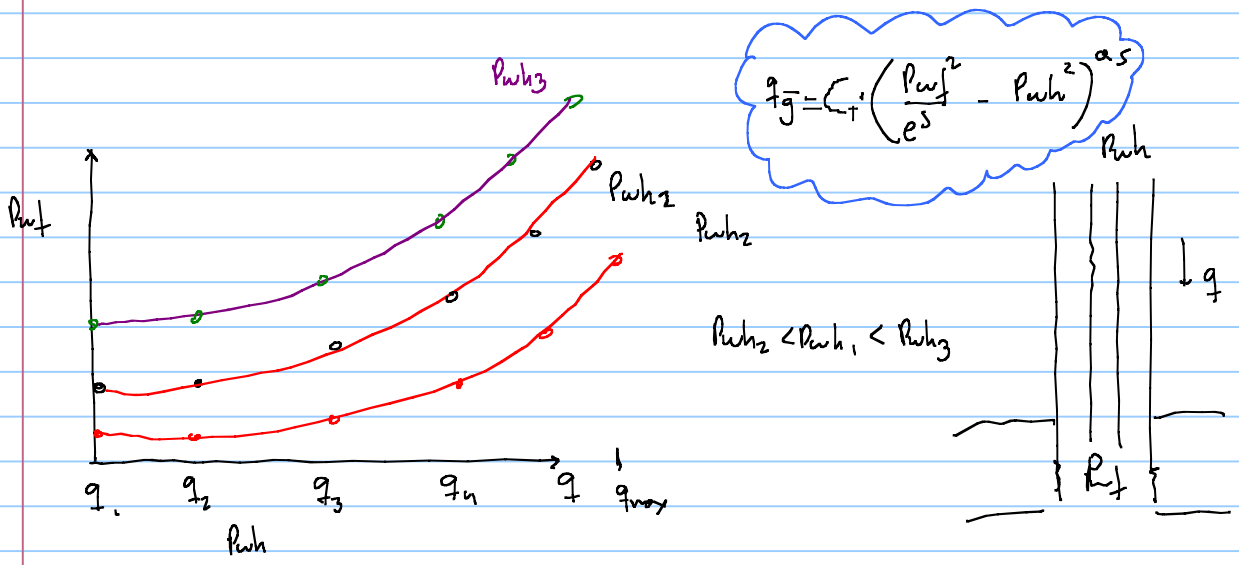
Notes for Youtube video 10

Discussion on TPR (tubing performance relationship)

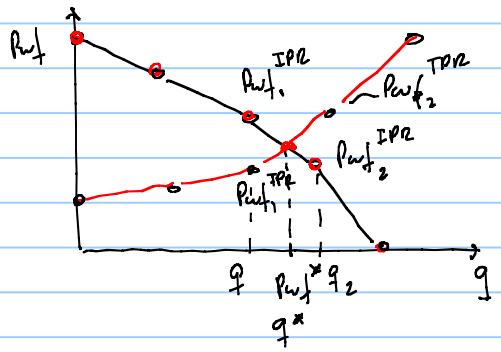
In commercial software, instead of running Δp calculation along tubing each time is needed (flow equilibrium calculations), tubing tables are used instead (Δp tubing is precomputed for many operational conditions) and later on interpolation is made on table



	p_{wh_1}	p_{wh_2}	p_{wh_3}	-
q_1	$p_{wf_{11}}$	$p_{wf_{12}}$	-	
q_2	-	.	-	
q_3	-	.	-	
q_4				
q_5				

tubing table

interpolation on this table is much more computationally efficient than using the equation/method $\Delta p = f(q, p_{wh},)$ specially for multiphase flow, gas with liquid



- IPR

task: find equilibrium for $p_{wh} = p_{wh_1}$

go to tubing table and extract colum $p_{wh} = p_{wh_1}$ and impose on plot

from the table

$$\frac{p_{wf_1}^{IPR} - p_{wf_2}^{IPR}}{q_1 - q_2} = \frac{p_{wf_1}^{IPR} - p_{wf}^*}{q_1 - q^*}$$

$$\frac{p_{wf_1}^{TPR} - p_{wf_2}^{TPR}}{q_1 - q_2} = \frac{p_{wf_1}^{TPR} - p_{wf}^*}{q_1 - q^*}$$

System of two linearequations with two unknowns