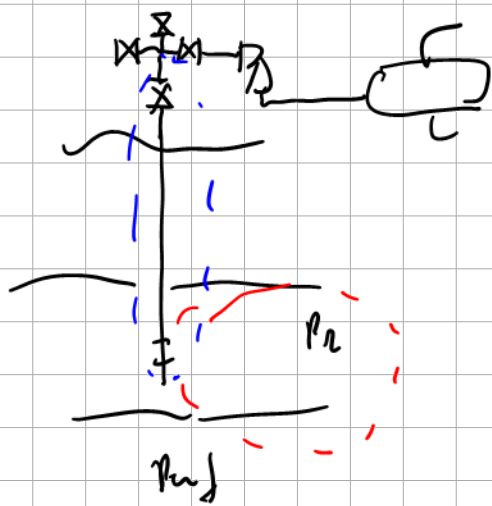
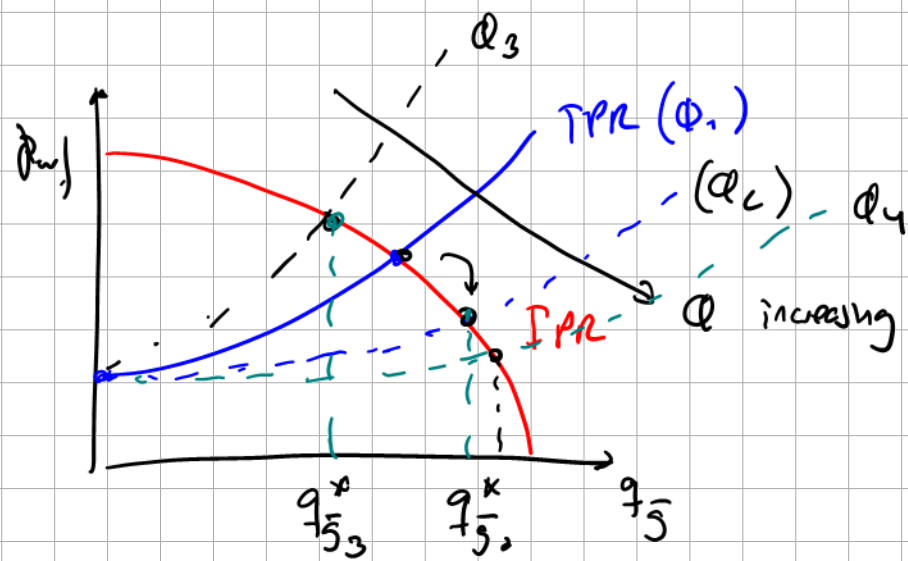


Tubing size considerations: (ϕ)

- Maximize q_o , $q_g \rightarrow$ increase equilibrium rate
 $\hookrightarrow$ revenue



$$p_{wh} = p_{sep}$$



- minimize cost $\downarrow \phi$, $\downarrow$ cost



tubing comes in discrete sizes $\phi \rightarrow \begin{cases} \phi_1 \\ \phi_2 \\ \phi_3 \end{cases}$



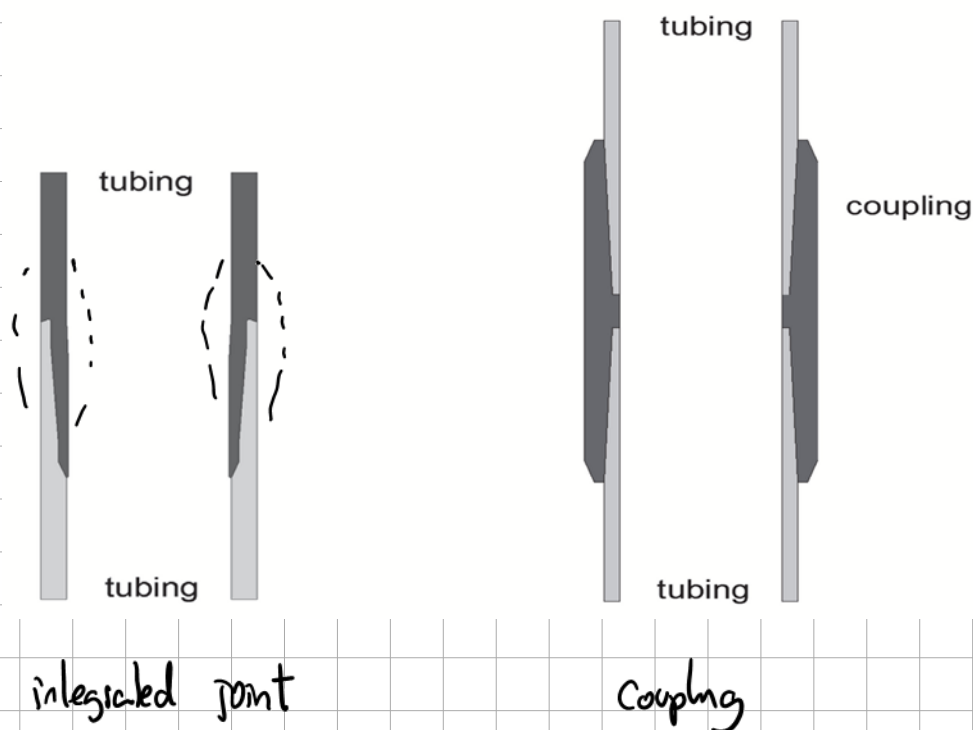
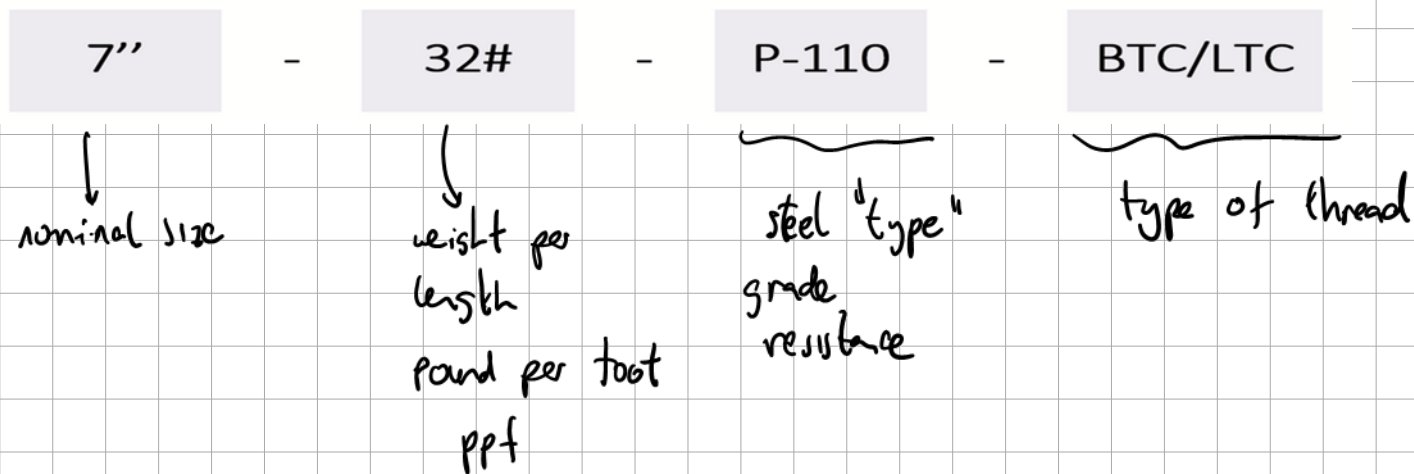
tubing according to API spec $\hookrightarrow$ used in pipe flow calculations

Tubing Size		Nominal Weight		Grade	Wall Thickness in.	Inside Dia. in.	Drift Dia. in.	Threaded Coupling			Collapse Resistance psi	Internal Yield Pressure psi	Joint Yield Strength		Capacity Table	
Nom. in.	OD in.	T & C Non-Upset lb/ft	T & C Upset lb/ft					Non-Upset in.	Upset Reg. in.	Upset Spec. in.			T & C Non-Upset lb	T & C Upset lb	Barrels per Linear ft	Linear ft per Barrel
3/4	1.05	1.14	1.20	H-40 J-55 C-75 N-80	0.113	0.824	0.730	1.313	1.660		7,200 9,370 12,250 12,710	7,530 10,360 14,120 15,070	6,360 8,740 11,920 12,710	13,300 18,290 24,940 26,610	0.0007	1516.13
1	1.315	1.700	1.800	H-40 J-55 C-75 N-80	0.113	1.049	0.955	1.660	1.900		6,820 8,860 11,590 12,270	7,080 9,730 13,270 14,160	10,960 15,060 20,540 21,910	19,760 27,160 37,040 39,510	0.0011	935.49
1 1/4	1.660	2.300	2.400	H-40 H-40 J-55 J-55 C-75 N-80	0.125 0.140 0.125 0.140 0.140 0.140	1.410 1.380 1.410 1.380 1.380 1.380	1.286	2.054	2.200		5,220 5,790 6,790 7,530 9,840 10,420	5,270 5,900 7,250 8,120 11,070 11,810	15,530 26,740	26,740 36,770 50,140 53,480	0.0019 0.0018 0.0019 0.0018 0.0018 0.0018	517.79 540.55 517.79 540.55 540.55 540.55

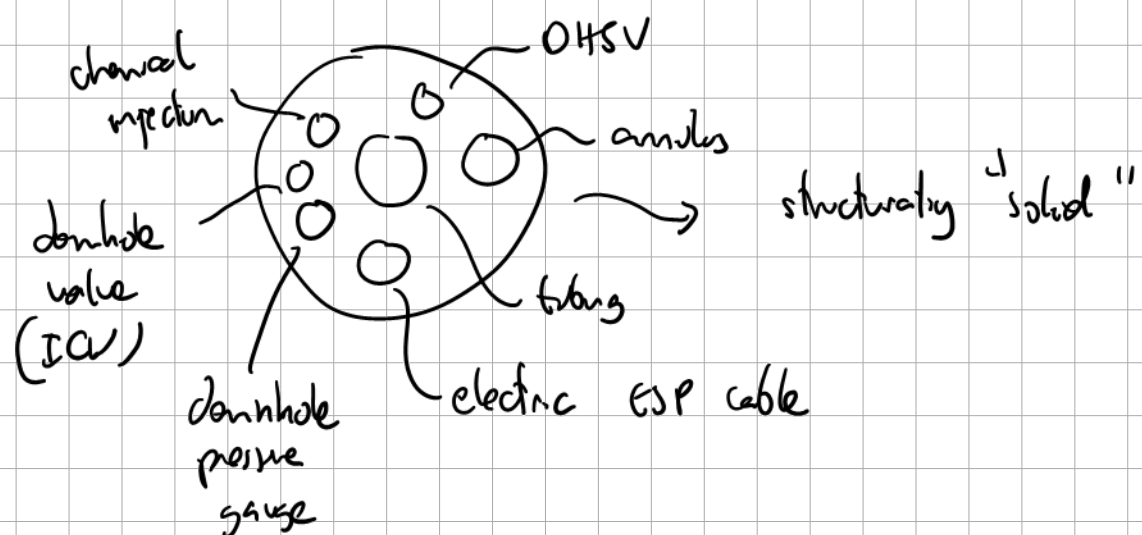
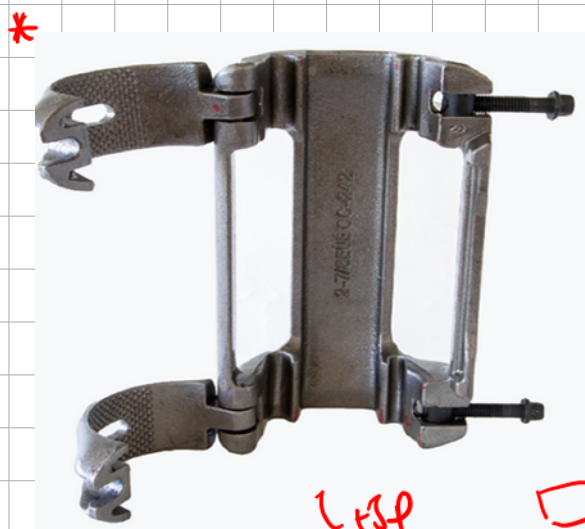
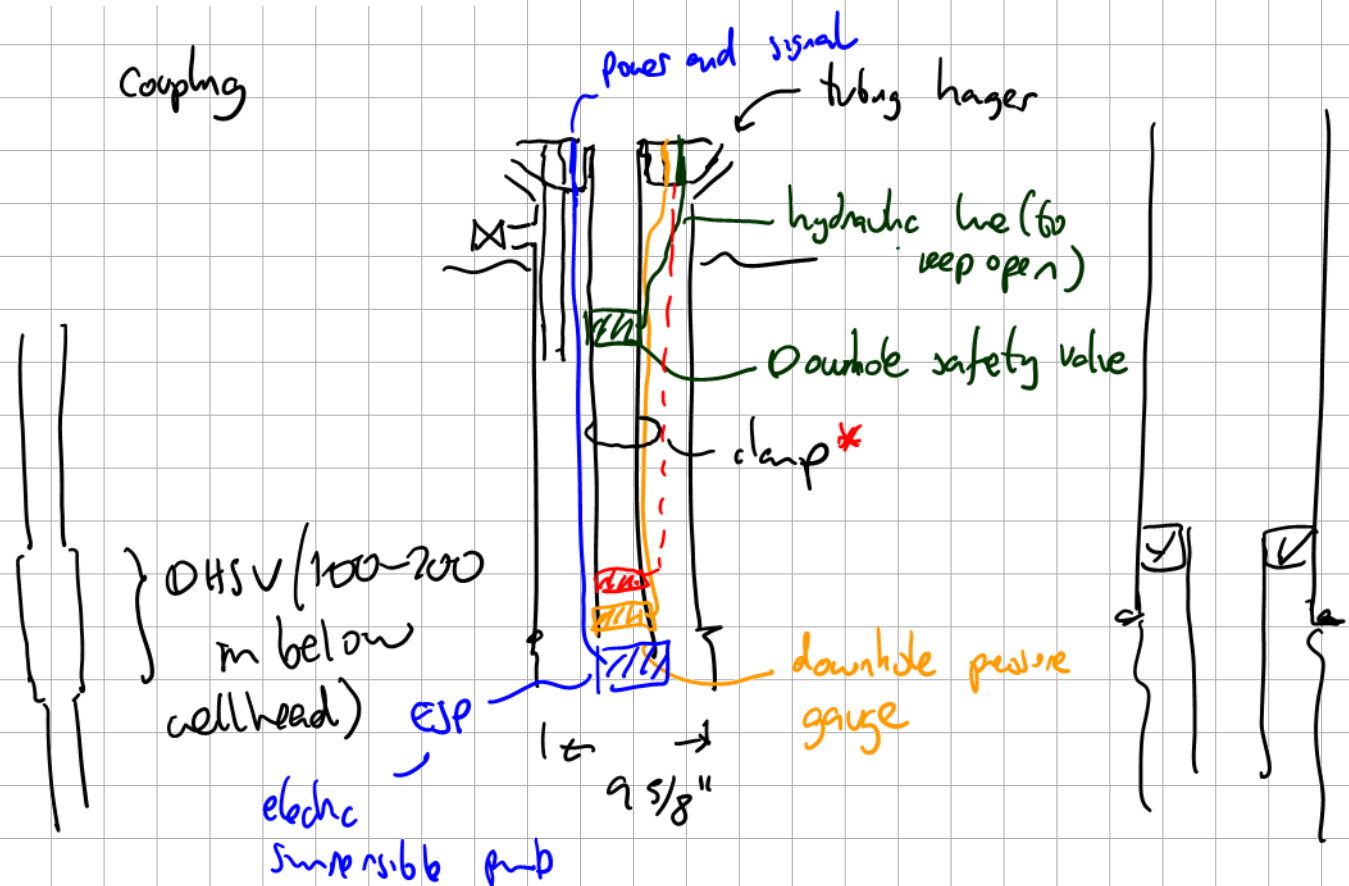
Non-API tubing (tubulars)

VAM - Vallourec (French)

	VAM@ 21	VAM@ 21 HT	VAM TOP@	VAM TOP@ HT	VAM TOP@ HC	VAM@ HTTC	VAM@ HP	VAM@ HW ST	VAM@ LOX	VAM@ BOLT-II	VAM@ HTF-NR	VAM@ FJL	VAM@ MUST	VAM@ SG	VAM@ EDGE SF	VAM@ SLU-II	VAM@ LIFT	DINO VAM@	BIG OMEGA@	VAM TOP@ FE	VAM@ TTR
2 3/8																					
2 7/8																					
3 1/2																					
4																					
4 1/2																					
5																					
5 1/2																					
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10 1/8																					
10 1/2																					
10 3/4																					



- tubing hanger considerations



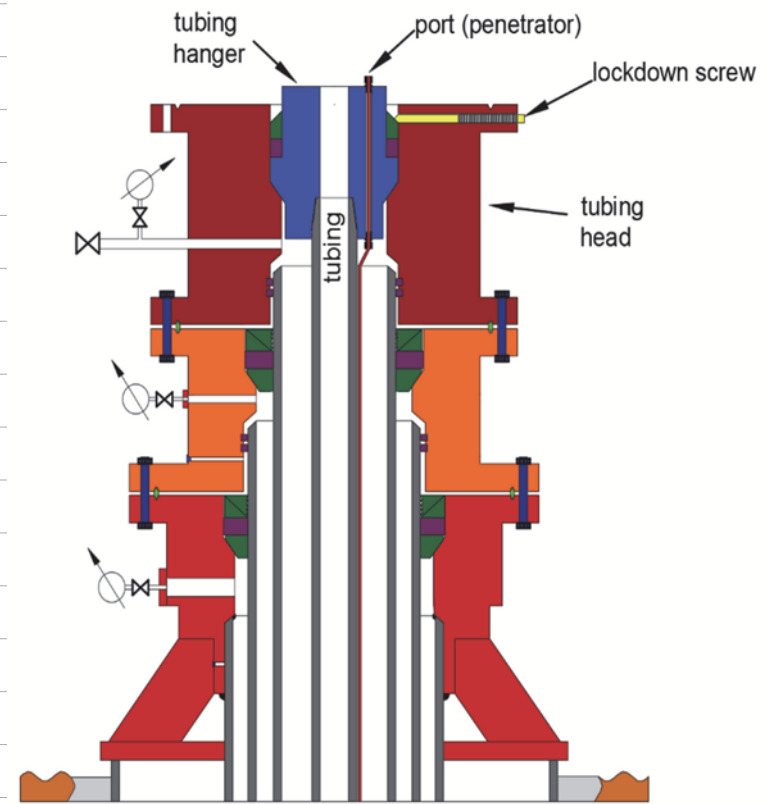
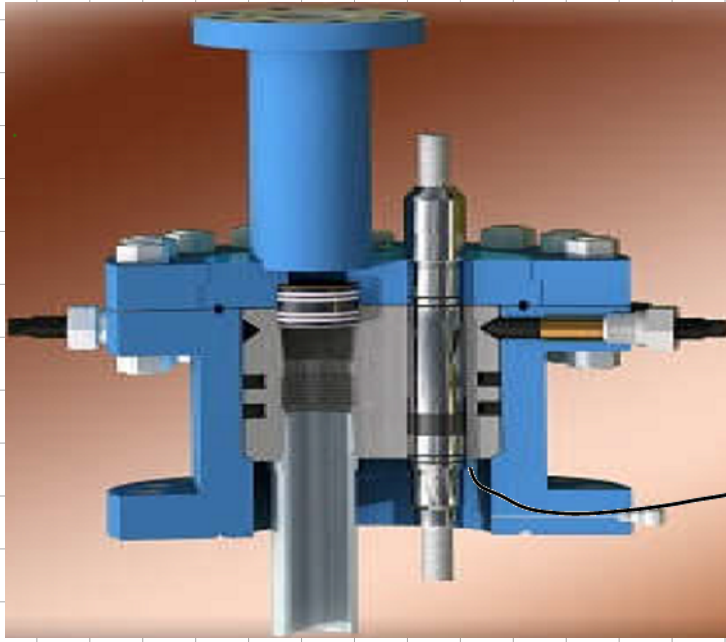


FIGURE 6-10. FINAL CONFIGURATION OF THE WELLHEAD