

WORKSHEET FOR CALCULATION OF ST. I.C COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Federal Fe WELL NO. 1 DATE 3-19-77

LOCATION: Unit 0 Section 19 Township 20-S Range 25E

L 9540 H 9540 L/H 0.579 G 0.579 %CO₂ 0.66 %N₂ 0.74 %H₂S N.I.

2 3/8 9486 (398) = 37754 d = 2.0082" F_i 0.017453 GH 5524 P_{ci} 675 T_{ci} 349
5 1/2 - 2 3/8 - 48(4.24) = 683
5 1/2 - 1" - (6.23) = 37

LINE	9540	38474	1	2	3	4	1	2	3	4
1 Q _m	SI		.239	.354	.502	.684	.1239	.1354	.502	.684
2 T _w (W.H. °R)	522	528	529	526	522					
3 T _s (B.H. °R)	626	624	621	618	616					
4 T = (1/w + T _s)	574	576	575	572	569	574	576	575	572	566
5 Z (Est.)	.860	.850	.846	.835	.830	.859			.838	.8295
6 TZ	493.64	489.60	486.45	477.62	472.27	491.918			479.336	471.986
7 GH/TZ	11.190	11.2827	11.3557	11.5657	11.6967	11.2295			11.5245	11.7037
8 e ^s (Table XIV)	1.5214	1.5267	1.5309	1.5430	1.5506	1.5236			1.5406	1.5510
9 1-e ^s (Table XIV)		0.3450	0.3468	0.3519	0.3551				0.3509	0.3552
10 P _i	2953.2	2814.2	2720.2	2588.2	2468.2	2953.2			2588.2	2408.2
11 P _i 2/1000	8721.39	7919.72	7399.49	6698.78	5799.4	8721.39			6698.78	5799.43
12 F _i (Table XV) 1/2 = 0.375 1/4 = 0.1875	.41964	.42310	.42584	.43571	.43863	.42110			.43216	.43589
13 F _c = F _i TZ		8.545	8.490	8.3359	8.2425				8.3659	8.2376
14 F _c Q _m		2.0423	3.0055	4.1846	5.6379				4.11997	5.6245
15 L/H (F _c Q _m) ²		4.1708	9.0328	17.511	31.786				17.437	31.748
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		1.439	3.132	6.1162	11.287				6.189	11.277
17 P _w ² = P _i ² + F _w		7921.16	7402.62	6704.94	5810.7				6704.97	5810.70
18 P _s ² = e ^s P _w ²	13268.7	12093.2	11332.7	10345.7	9010.09	13283.26			10329.67	9012.4
19 P _s	3642.6	3477.5	3366.4	3216.5	3001.7	3645.3			3214.0	3002.0
20 P = (P _i + P _s)	3297.9	3145.9	3043.3	2902.3	2704.9	3299.3			2901.1	2705.1
21 P _i = (P/P _{ci})	4.886	4.660	4.509	4.300	4.007	4.885			4.275	4.008
22 T _i = (T/T _{ci})	1.645	1.650	1.648	1.639	1.630	1.645			1.629	1.650
23 Z (Table XI)	.857	.850	.846	.838	.8295	.859			.838	.8295