

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

COMPANY YPC LEASE Stonewall EP State WELL NO. 2 DATE 3-10-77

LOCATION: Unit N Section 19 Township 20S Range 23E

L 1105 H 11057 L/H 1 G 0.605 % CO₂ 0.76 % N₂ 0.72 % H₂S Nil

2 1/3 11032 (500) 165734 d 200 2.004 " F_r 1210163 GH 6689 T_{cr} 359

5 1/2 11032 (500) 165734 d 200 2.004 " F_r 1210163 GH 6689 T_{cr} 359

LINE	1105	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Q _m	51	4.622	6.932	10.041	11.358	SI																		
2 T _w (W.H. °R)	528	530	531	532	533																			
3 T _s (B.H. °R)	638	636	635	634	633																			
4 T = (T _w + T _s)	583	583	582	583	583																			
5 Z (Est.)	902	888	875	860	852																			
6 T _z	525.9	517.7	510.125	501.38	496.716																			
7 GH/TZ	12.72	12.921	13.112	13.341	13.466																			
8 e ^s (Table XIV)	1.611	1.6234	1.6351	1.6492	1.6590																			
9 1-e ^s (Table XIV)		0.3840	0.3884	0.3936	0.3965																			
10 P _t	36132	33852	32312	29632	28262																			
11 P _t 2/1000	13055	11459.5	10440.65	8780.55	7989.41																			
12 F _t (Table XV)	4720	4805	49192	50029	50499																			
13 F _c = F _t TZ		5.4167	5.2374	5.2454	5.1971																			
14 F _c Q _m		25.036	36.999	52.674	59.185																			
15 L/H (F _c Q _m) ²		626.8	1318.9	2774.6	3502.87																			
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		240.64	531.69	1042.08	1388.89																			
17 P _w ² = P _t ² + F _w		11700.22	10479.34	9872.62	9376.30																			
18 P _s ² = e ^s P _w ²	21023	18994.2	17940.87	16281.95	15336.5																			
19 P _s	4586.2	4358.2	4235.7	4035.1	3941.6																			
20 P = (P _t + P _s)	4099.7	3871.7	3733.4	3494.1	3383.9																			
21 P _r = (P/P _{cr})	6.087	5.749	5.543	5.195	5.024																			
22 T _r = (T/T _{cr})	1.624	1.624	1.624	1.624	1.624																			
23 Z (Table XI)	902	886	877	861	855																			