

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

C-1220
Revised 2-1-65

COMPANY Phillips 11 Co LEASE Alford Comm WELL NO. 1 DATE 5/22/65

LOCATION: Unit R Section 27 Township 30 Range 27

L 8540 H 8540 LH 1.000 G max. 914 %CO₂ %N₂ %H₂S

d 2.441 F_r .010763 GH 7806 P_{ci} 662 T_{ci} 461

TABLE B & X

LINE	14 ¹	2 ND	3 RD	4 TH				
1 Q _m	1.830	1.830	.065	.965	1.568	1.568	1.993	1.993
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534
3 T _s (B.H. °R)	619	619	619	619	619	619	619	619
4 T = (T _w + T _s)	577	577	577	577	577	577	577	577
5 Z (Est.)	.580	.589	.580	.591	.581	.614	.580	
6 TZ	334.4	336.6	334.4	343.6	390.7	334.4	354.6	334.4
7 GH/TZ	23.34	22.09	23.35	22.72	22.91	23.31	22.05	23.35
8 e ^s (Table XIV)	2.399	2.368	2.400	2.344	2.361	2.400	2.286	2.400
9 1-e ^s (Table XIV)	.5833	.5777	.5833	.5734	.5765	.5827	.5626	.5833
10 P _t	1938.2	1938.2	1761.2	1761.2	1550.2	1382.2	1382.2	
11 P _t 2/1000	3756.6	3756.6	3101.8	3101.8	2903.1	2403.1	1910.5	1910.5
12 F _r (Table XV)	.010763	.010763	.010763	.010763	.010763	.010763	.010763	
3 F _c = F _r TZ	3.599	3.655	3.599	3.698	3.698	3.605	3.818	3.599
14 F _c Q _m	1.987	3.033	3.473	3.669	5.750	5.653	7.563	7.172
15 L/H (F _c Q _m) ²	8.922	9.201	12.061	12.735	33.062	31.953	57.652	51.944
16 F _w = L/H (F _c Q _m) ² (1-e ⁻⁹)	5.205	5.316	7.035	7.303	19.060	18.619	22.057	30.008
17 F _w ² = P _t ² + F _w	2761.8	3761.9	3122.9	3109.1	2422.2	2121.7	1772.0	1940.5
18 F _s ² = e ^s P _w ²	9098.2	8028.5	7116.1	7122.4	5719.2	5122.3	4049.3	4657.1
19 P _s	3061.7	2984.1	2731.5	2699.7	2391.5	2409.0	2157.7	2157.0
20 P = (P _t + P _s)	3071.5	2996.1	2946.1	2830.5	1970.8	1919.6	1744.9	1770.1
21 P _r = (P/P _{ci})	3.73	3.71	3.29	3.27	2.98	2.99	2.61	2.67
22 T _r = (T/T _{ci})	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
23 Z (Table XI)	.619	.615	.621	.595	.581	.581	.580	.580