

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

C-132D
Amplified P-1-65

COMPANY Exxon Co. 4.59 LEASE Laguna Grande WELL NO. 1 DATE 5/4/77
 LOCATION: Unit I Section 28 Township 235 Range 29E
 L 13/183 H 13/183 LH 1.000 G 1.580 %CO₂ 1.601 %N₂ 1.574 %H₂S _____
 d 2.441 F_i 0.010763 GH 7.646 P_{cr} 684 T_{cr} 346

LINE	Rate I	Rate II	Rate III	Rate IV				
1 Q _m	.444	.444	.832	.832	1.095	1.095	1.399	1.399
.w (W.H. °R)	534	534	534	534	534	534	534	534
3 T _s (B.H. °R)	666	666	666	666	666	666	666	666
4 T = (1/w + 1/s)	600	600	600	600	600	600	600	600
5 Z (Est.)	.855	.855	.860	.856	.863	.858	.869	.860
6 TZ	515	513	516	514	518	515	521	516
7 GH/TZ	14.852	14.904	14.818	14.887	14.766	14.852	14.664	14.818
8 e ^s (Table XIV)	1.745	1.749	1.743	1.748	1.740	1.745	1.733	1.743
9 1-e ^s (Table XIV)	.557	.559	.556	.558	.554	.557	.550	.556
10 P _i	2336.2	2336.2	2223.2	2223.2	2086.2	2086.2	1903.2	1903.2
11 P _i 2/1000	5457.8	5457.8	4942.6	4942.6	4360.6	4360.6	3622.2	3622.2
12 F _i (Table XV)	.010763	.010763	.010763	.010763	.010763	.010763	.010763	.010763
13 F _c = F _i TZ	5.543	5.521	5.554	5.532	5.575	5.543	5.608	5.554
14 F _c Q _m	2.461	2.452	4.621	4.603	6.105	6.070	7.845	7.770
15 L/H (F _c Q _m) ²	6.057	6.010	21.351	21.186	37.270	36.839	61.543	60.369
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	3.374	3.360	11.871	11.822	20.647	20.519	33.849	33.564
17 P _w ² = P _i ² + F _w	5461.4	5461.2	4954.5	4954.4	4381.2	4381.1	3656.0	3655.8
18 P _s ² = e ^s P _w ²	9529.7	9551.6	8635.6	8660.3	7623.4	7645.1	6335.9	6372.0
19 P _s	3087.0	3090.6	2938.6	2942.8	2761.1	2765.0	2517.1	2524.3
20 P = (P _i + P _s)	5411.6	5413.4	4580.9	4583.0	4424.7	4426.6	4210.2	4213.8
21 P _r = (P/P _{cr})	3.96	3.97	3.77	3.77	3.54	3.55	3.23	3.24
22 T _r = (T/T _{cr})	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
23 Z (Table XI)	.855	.855	.856	.856	.858	.858	.860	.860