C-122D
Adopted 9-1-65

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

COMPANY YPC LEASE Federal Fc WELL NO. 1 DATE 8-29-79

LOCATION: Unit O Section 19 Township 20S Range 25E

L 7676 H 7676 L/H 1.000 G .642* % CO_2 0.23 % N_2 1.39 % H_2S Nil

78(3.950) = 30160
98(23.93) = 2245
76(4234) = 32 505

d 2.0578 F_r 0.015387 GH 4930 P_{cr} 715* TABLE IX & X T_{cr} 385* TABLE IX & X

Includes 1.47 mol% H_2O.

LINE	S1	1	2	3	4					
1 Q_m	—	0.025	0.035	0.049	0.066					
T_w (W.H. °R)	534	535	536	537	538					
3 T_s (B.H. °R)	594	594	594	593	593					
4 $T = (\frac{T_w + T_s}{2})$	564	564.5	565	565	565.5					
5 Z (Est.)	.7495	.752	.756	.760	.769					
6 TZ	422.72	424.5	427.14	429.40	434.87					
7 GH/TZ	11.663	11.614	11.542	11.481	11.337					
8 e^s (Table XIV)	1.5486	1.5458	1.5416	1.5381	1.5298					
9 $1-e^{-s}$ (Table XIV)		0.3531	0.3513	0.3499	0.3463					
10 P_t	2132.2	2004.2	1918.2	1814.2	1705.2					
11 $P_t^2/1000$	4546.3	4016.82	3679.49	3291.32	2907.71					
12 F_r (Table XV) $S=.0375$	0.43735	0.435585	0.43282	0.43054	0.42513					
13 $F_c = F_r TZ$		6.5318	6.5711	6.6072	6.6913					
14 $F_c Q_m$		0.163	0.230	0.324	0.4416					
15 $L/H (F_c Q_m)^2$		0.03	0.053	0.105	0.195					
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$		0.01	0.02	0.04	0.07					
17 $P_w^2 = P_t^2 + F_w$		4016.83	3679.51	3291.36	2907.78					
18 $P_s^2 = e^s P_w^2$	7039	6209	5672.3	5062.4	4448.3					
19 P_s	2653.2	2491.8	2381.7	2250	2109.1					
20 $P = (\frac{P_t + P_s}{2})$	2386.7	2248.0	2149.9	2032.1	1907.2					
21 $P_r = (P/P_{cr})$	3.338	3.144	3.007	2.842	2.667					
22 $T_r = (T/T_{cr})$	1.465	1.466	1.4675	1.4675	1.4688					
23 Z (Table XI)	.7495	0.752	0.756	0.760	0.769					