WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE No. Carlsbad OK Com WELL NO. 1 DATE 6-10-82

LOCATION: Unit B Section 26 Township 21-S Range 26-E

L 10114 H 10114 L/H 1.000 G 0.6632 % CO_2 0.20 % N_2 1.12 % H_2S Nil

2 3/8 - 10068 (3.98) = 400706
4½ 46 (16) = 734
10114 (4.036) = 40807

d 2.0087 F_r 101638 GH 6707 2.0% H_2O P_{cr} 733.5 TABLE IX & X T_{cr} 403 TABLE IX & X

LINE	S1	1	2	3	4					
1 Q_m	—	.050	.079	.113	.131					
2 T_w (W.H. °R)	529	539	542	544	545					
3 T_s (B.H. °R)	621	619	618	617	617					
4 $T = (\frac{T_w + T_s}{2})$	575	579	580	580.5	581					
5 Z (Est.)	.792	.759	.734	.755	.839					
6 TZ	455.40	439.46	425.72	438.28	487.46					
7 GH/TZ	14.7277	15.2619	15.7545	15.3031	13.7591					
8 e^s (Table XIV)	1.7372	1.7724	1.8054	1.7751	1.6753					
9 $1-e^{-s}$ (Table XIV)		.4358	0.4461	0.4367	0.4031					
10 P_t	3355.2	2886.2	2348.2	1617.2	945.2					
11 $P_t^2/1000$	11257.4	8330.15	5514.04	2615.34	893.40					
12 ~~F_r (Table XV)~~ $e^{-.0375 \frac{GH}{TZ}}$	0.55229	0.57232	0.59079	0.57387	0.51597					
13 $F_c = F_r$ TZ		7.198	6.973	7.179	7.985					
14 $F_c Q_m$		0.360	0.551	0.811	1.046					
15 $L/H (F_c Q_m)^2$		0.130	0.303	0.658	1.094					
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$		0.06	0.14	0.29	0.44					
17 $P_w^2 = P_t^2 + F_w$		8330.21	5514.18	2615.63	893.84					
18 $P_s^2 = e^s P_w^2$	19556	14764	9955	4643	1497.4					
19 P_s	4422.2	3842.4	3155.2	2154.8	1223.7					
20 $P = (\frac{P_t + P_s}{2})$	3888.7	3364.3	2751.7	1886.0	1084.4					
21 $P_r = (P/P_{cr})$	5.301	4.587	3.751	2.571	1.478					
22 $T_r = (T/T_{cr})$	1.427	1.437	1.439	1.440	1.4415					
23 Z (Table XI)	0.792	0.759	0.734	0.755	0.839					