Form C-122D
Adopted 9-1-65

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Penroc Oil Corporation LEASE Combs Federal WELL NO. 1 DATE 6/5/74

LOCATION: Unit P Section 15 Township 20 South Range 27 East

L 2764 H 2764 L/H 1.000 G .760 % CO_2 ____ % N_2 ____ % H_2S ____

d 1.995 F_r .018231 GH 2101 P_{cr} 667 (TABLE IX & X) T_{cr} 411 (TABLE IX & X)

1st Rate

LINE	1st Trial	2nd Trial								
1 Q_m	0.252	0.252								
2 T_w (W.H. °R)	541	541								
3 T_s (B.H. °R)	543	543								
4 $T = (\frac{T_w + T_s}{2})$	542	542								
5 Z (Est.)	.960	.816								
6 TZ	520	442								
7 GH/TZ	4.038	4.750								
8 e^s (Table XIV)	1.163	1.195								
9 $1-e^{-s}$ (Table XIV)	0.140	0.163								
10 P_t	766.2	766.2								
11 $P_t^2/1000$	587.1	587.1								
12 F_r (Table XV)	.018231	.018231								
13 $F_c = F_r$ TZ	9.480	8.058								
14 $F_c Q_m$	2.389	2.031								
15 $L/H (F_c Q_m)^2$	5.7	4.1								
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$	0.8	0.7								
17 $P_w^2 = P_t^2 + F_w$	587.9	587.8								
18 $P_s^2 = e^s P_w^2$	683.7	702.4								
19 P_s	826.9	838.1								
20 $P = (\frac{P_t + P_s}{2})$	796.6	802.2								
21 $P_r = (P/P_{cr})$	1.19	1.20								
22 $T_r = (T/T_{cr})$	1.32	1.32								
23 Z (Table XI)	.816	.816								

One copy to be filed in District Office (Work copy acceptable)