WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_w)

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

Form C-122F
Adopted 9-1-65

COMPANY Estoril Prod. Corp. LEASE Union Federal A WELL NO. 1 DATE 8-31-80

LOCATION: Unit M Section 10 Township 20s Range 34e

L 12900 H 12900 L/H 1.000 G .6716 % CO_2 .499 % N_2 1.900 % H_2S

GH 8664 P_{cr} 669 (TABLE IX & X) T_{cr} 382 (TABLE IX & X)

LINE		1st		2nd		3rd		4th	
		1	2	3	4	5	6	7	8
1	T_w(W.H. °R)	534	534	534	534	534	534	534	534
2	T_s(B.H. °R)	663	663	663	663	663	663	663	663
3	$T=(\frac{T_w + T_s}{2})$	598.5	598.5	598.5	598.5	598.5	598.5	598.5	598.5
4	Z (Est.)	.978	.926	.939	.894	.891	.853	.829	.817
5	TZ	585.3	554.2	562.0	535.1	533.3	510.5	496.2	489.0
6	GH/TZ	14.802	15.633	15.417	16.193	16.247	16.971	17.462	17.719
7	e^S(Table XIV)	1.742	1.797	1.783	1.835	1.839	1.890	1.925	1.943
8	P_f or P_s	5079.2	5079.2	4620.2	4620.2	4007.2	4007.2	3013.2	3013.2
9	P_f^2 or P_s^2	25798.3	25798.3	21346.2	21346.2	16057.7	16057.7	9079.4	9079.4
10	$P_c^2 = P_f^2/e^S$ or $P_w^2 = P_s^2/e^S$	14809.0	14354.6	11974.0	11630.6	8731.4	8497.5	4717.0	4671.8
11	P_c or P_w	3848.2	3788.7	3460.3	3410.4	2954.9	2915.0	2171.9	2161.4
12	$P=(\frac{P_w + P_s}{2})$ or $(\frac{P_c + P_f}{2})$	4463.7	4434.0	4040.3	4015.3	3481.0	3461.1	2592.5	2587.3
13	$P_r = (P/P_{cr})$	6.67	6.63	6.04	6.00	5.20	5.17	3.88	3.87
14	$T_r = (T/T_{cr})$	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
15	Z (Table XI)	.926	.924	.894	.892	.853	.852	.817	.816

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