

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 Gulf Oil Exp. & Prod. Lease South Shugart Deep WELL NO. Fed. Unit #1 DATE 4-5-82

LOCATION: Unit C Section 4 Township 19s Range 31e

L 11751 H 11751 L/H 1.000 G_{mix} .784 % CO_2 .49 % N_2 .44 % H_2S _____

GH 9213 P_{cr} 666 T_{cr} 418
TABLE IX & X

LINE	1	2	3	4	5	6	7	8
1	$T_w(W.H. ^\circ R)$	534	534	534	534	534	534	534
2	$T_s(B.H. ^\circ R)$	652	652	652	652	652	652	652
3	$T = (\frac{T_w + T_s}{2})$	593	593	593	593	593	593	593
4	Z (Est.)	.866	.797	.843	.779	.811	.754	.752
5	TZ	513.5	472.6	499.9	461.9	480.9	447.122	445.936
6	GH/TZ	17.940	19.493	18.430	19.944	19.157	20.605	20.660
7	e^S (Table XIV)	1.960	2.077	1.996	2.113	2.051	2.166	2.170
8	P_f or P_s	4337.2	4337.2	4137.2	4137.2	3852.2	3852.2	3246.2
9	P_f^2 or P_s^2	18811.3	18811.3	17116.4	17116.4	14839.4	14839.4	10537.8
10	$P_c^2 = P_f^2/e^S$ or $P_w^2 = P_s^2/e^S$	9599.5	9056.4	8575.5	8102.2	7234.8	6852.4	4856.0
11	P_c or P_w	3098.3	*3009.4	2928.4	*2846.4	2689.8	*2617.7	2203.6
12	$P = (\frac{P_w + P_s}{2})$ or $(\frac{P_c + P_f}{2})$	3717.8	3673.3	3532.8	3491.8	3271.0	3235.0	2724.9
13	$P_r = (P/P_{cr})$	5.58	5.52	5.31	5.24	4.91	4.86	4.09
14	$T_r = (T/T_{cr})$	1.42	1.42	1.42	1.42	1.42	1.42	1.42
15	Z (Table XI)	.797	.793	.779	.774	.754	.751	.719