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 Belco LEASE James Ranch WELL NO. 15 DATE 10-24-84

LOCATION: Unit O Section 7 Township 23S Range 31E

L 14,300 H 14,300 L/H 1.00 G .592 % CO_2 1.263 % N_2 1.358 % H_2S

GH 8466 P_{cr} 675 (TABLE IX & X) T_{cr} 350 (TABLE IX & X)

LINE		RATES NO. 1		NO. 2		NO. 3		NO. 4	
		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)	677	677	677	677	677	677	677	677
3	$T=(\frac{T_w + T_s}{2})$	606	606	606	606	606	606	606	606
4	Z (Est.)	1.079	1.024	1.051	.999	1.006	.960	.944	.908
5	TZ	653.3	620.0	636.4	604.9	609.1	581.3	571.6	549.8
6	GH/TZ	12.96	13.65	13.30	13.99	13.90	14.56	14.81	15.40
7	e^S(Table XIV)	1.63	1.67	1.65	1.69	1.68	1.73	1.74	1.78
8	~~P_c~~ or P_s	6150.2	6150.2	5823.2	5823.2	5264.2	5264.2	4432.2	4432.2
9	P_f^2 or P_s^2	37824.9	37824.9	33906.7	33906.7	27711.8	27711.8	19644.4	19644.4
10	$P_c^2 = P_f^2/e^s$ or $P_w^2 = P_s^2/e^s$	23267.1	22667.7	20590.4	20062.6	16455.6	16049.7	11272.5	11022.0
11	P_c or P_w	4823.6	4761.1	4537.7	4479.1	4056.6	4006.2	3357.5	3320.9
12	$P=(\frac{P_w + P_s}{2})$ or $(\frac{P_c + P_f}{2})$	5486.9	5455.6	5180.4	5151.2	4660.4	4635.2	3894.8	3876.4
13	$P_r = (P/P_{cr})$	8.13	8.08	7.67	7.63	6.90	6.87	5.77	5.74
14	$T_r = (T/T_{cr})$	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
15	Z (Table XI)	1.024	1.021	999	997	.947	.950	.908	.907

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O. C. D.
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