

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Millman HD State WELL NO. 1 - Cam DATE 7-14-77

LOCATION: Unit 0 Section 17 Township 19-S Range 28-E

L 10957 H 10937 L/H 1.016538 G 698 %CO₂ 0.67 %N₂ 0.31 %H₂S Nil
 $\frac{5\frac{1}{2} - 2\frac{3}{4}}{5\frac{1}{2} - 2\frac{3}{4}} = \frac{42.329}{783}$
 $\frac{5\frac{1}{2} - 2\frac{3}{4}}{5\frac{1}{2} - 2\frac{3}{4}} = \frac{783}{10743}$
 $\frac{5\frac{1}{2} - 2\frac{3}{4}}{5\frac{1}{2} - 2\frac{3}{4}} = \frac{2174}{70437}$
 $\frac{5\frac{1}{2} - 2\frac{3}{4}}{5\frac{1}{2} - 2\frac{3}{4}} = \frac{4596}{4596}$
 d 2.0501 F_i 0.016538 GH 7634.0 P_{CT} 672 T_{CT} 383
 TABLE IN 8 X TABLE IN 8 X

LINE		1	2	3	4		1	2	3	4
1 Q _m	5.8	0.725	1.069	1.345	1.857	51	0.725	1.069	1.345	1.857
2 T _w (W.H. °R)	528	533	536	538	540					
3 T _s (B.H. °R)	621	619	618	617	616					
4 T = ($\frac{1}{T_w} + \frac{1}{T_s}$)	574.5	576	577	577.5	578		576	577	577.5	578
5 Z (Est.)	.854	.845	.842	.832	.812		.846	.843	.835	.813
6 T _Z	493.49	486.72	486.68	480.48	469.34		487.3	486.41	482.21	469.914
7 GH/T _Z	15.47	15.685	15.686	15.883	16.266		15.666	15.695	15.8312	16.246
8 e ^s (Table XIV)	1.7863	1.8007	1.8008	1.8145	1.8404		1.7995	1.8014	1.8106	1.8390
9 1-e ^s (Table XIV)		0.4447	0.4447	0.4489	0.4566		0.4443	0.4449	0.4477	0.4562
10 P _i	3411.2	3257.2	3217.2	3115.2	2843.2		3257.2	3217.2	3115.2	2843.2
11 P _i 2/1000	11636.3	10609.35	10350.38	9704.5	8083.79		10609.35	10350.4	9704.5	8083.79
12 F _i (Table XIV)	.58817	.58817	.58823	.59581	.60996		.58748	.58855	.59367	.60921
13 F _c = F _i T _Z		8.0494	8.0487	7.9462	7.7619		8.059	8.044	7.975	7.7714
14 F _c Q _m		5.836	8.6041	10.688	14.647		5.843	8.599	10.726	14.665
15 L/H (F _c Q _m) ²		34.057	74.030	114.225	214.53		34.138	73.948	115.05	215.05
16 F _w = L/H (F _c Q _m) ² (1-e ^{-s})		15.14	32.92	51.3	97.95		15.17	32.9	51.5	98.11
17 P _w ² = P _i ² + F _w		10674.49	10383.3	9755.8	8181.74		10624.52	10383.3	9756.0	8181.9
18 P _s ² = e ^s P _w ²		20786.3	19113.5	18698.2	17701.9		19118.8	18704.5	17664.2	15046.5
19 P _s	4559.2	4371.9	4324.1	4207.4	3880.4		4372.5	4324.9	4202.9	3879.0
20 P = ($\frac{P_i + P_s}{2}$)	3985.2	3814.5	3770.7	3661.3	3361.8		3814.9	3771.0	3659.0	3361.1
21 P _i = (P/P _{CT})	5.93	5.68	5.61	5.45	5.00		5.68	5.61	5.445	5.00
22 T _i = (T/T _{CT})	1.561	1.504	1.507	1.508	1.509		1.504	1.507	1.508	1.509
23 Z (Table XI)	.859	.846	.843	.835	.813		.846	.843	.835	.813

$$G_{\text{mix}} = \frac{4595 (17514)}{63990} = \frac{16796}{10000} = 1.672$$

.672 1.37 1.693

$$29.8 \quad 334$$

$$1674 \quad 266$$

$$\frac{1.6722}{15.1655} = \frac{1.6529}{16.007 (6.0000)} = 1.016525$$

$$\frac{1.6722}{15.1655}$$