

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Mobil Oil Corp LEASE Federal "PP" WELL NO. #1 DATE 12-12-73

LOCATION: Unit F Section 34 Township 33S Range 26E

L 11540 H 11553 L/H 1.9989 G 0.576 % CO₂ 1.13 % N₂ 0.19 % H₂S —

d 1.995 F_r 0.18231 GH 6.655 P_{cr} 676 T_{cr} 349

LINE	1-A	i-B	1-C	2-A	2-B	3-A	3-B	4-A	4-B
1 Q _m	1.735	1.735	1.735	2.992	2.992	4.373	4.373	6.077	6.077
2 T _w (W.H. °R)	530	530	530	530	530	530	530	530	530
3 T _s (B.H. °R)	640	640	640	640	640	640	640	640	640
4 T = ($\frac{T_w + T_s}{2}$)	585	585	585	585	585	585	585	585	585
5 Z (Est.)	.880	.934	.931	.925	.911	.900	.907	.900	.894
6 T _Z	514.8	540.5	538.7	541.13	533.94	536.5	530.6	526.5	522.99
7 GH/T _Z	12.927	12.313	12.354	12.30	12.487	12.640	12.542	12.640	12.725
8 e ^s (Table XIV)	1.6242	1.587	1.589	1.586	1.597	1.606	1.600	1.606	1.611
9 1 - e ^s (Table XIV)	0.384	0.370	0.371	0.369	0.374	0.378	0.375	0.378	0.379
10 P _t	3696.2	3696.2	3696.2	3549.2	3549.2	3452.2	3452.2	3234.2	3234.2
11 P _t ² /1000	13662	13662	13662	12597	12597	11918	11918	10460	10460
12 F _r (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231
13 F _c = F _r T _Z	9.385	9.854	9.821	9.845	9.716	9.599	9.673	9.599	9.535
14 F _c Q _m	16.283	17.097	17.039	29.516	29.070	41.976	42.300	58.333	57.944
15 L/H (F _c Q _m) ²	264.84	291.99	290.0	870.24	844.14	176.005	178.732	339.033	335.80
16 F _w = L/H (F _c Q _m) ² (1 - e ^{-s})	101.7	108.03	107.6	321.12	315.71	66.530	670.25	1284.8	1271.1
17 P _w ² = P _t ² + F _w	13763.2	13770	13770	12918	12913	12583	12588	11745	11731
18 P _s ² = e ^s P _w ²	22355	31853	31881	20488	20622	20308	20141	18862.5	18899
19 P _s	4738	4675	4678	4526	4541	4495	4488	4343	4347
20 P = ($\frac{P_t + P_s}{2}$)	4212	468	4187	4039	4045	3974	3970	3789	3791
21 P _r = (P/P _{cr})	6.23	6.19	6.19	5.97	5.98	5.88	5.87	5.61	5.61
22 T _r = (T/T _{cr})	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68
23 Z (Table XI)	1.924	1.921	1.921	1.911	1.911	1.907	1.907	1.894	1.894