

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-85

COMPANY YPC LEASE Scout Shifed WELL NO. 4 DATE 3-28-80

LOCATION: Unit L Section 27 Township 18s Range 25E

L 8791 H 8791 L/H 1000 G 0.627 % CO₂ 2.22 % N₂ 0.31 % H₂S N/A

2 3/8" - 3765 (3.48) = 34884.7
4 1/2" - 23 (16.0) = 3680
5 7/8" - 14 (10.5) = 1470
d 2.0039 F_r 21016487 GH 5512 P_{cr} 698 T_{cr} 370
0.59% H₂O TABLE IX & X TABLE IX & X

LINE	51	1	2	3	4				
1 Q _m		0.075	0.103	0.140	0.193				
2 T _w (W.H. °R)	503	510	515	519	522				
3 T _s (B.H. °R)	607	607	606	606	605				
4 T = ($\frac{T_w + T_s}{2}$)	555	558.5	560.5	562.5	563.5				
5 Z (Est.)	.7385	.779	.778	.785	.820				
6 TZ	435.62	433.95	436.07	441.56	442.07				
7 GH/TZ	12.595	12.702	12.664	12.483	11.929				
8 e ^s (Table XIV)	1.6037	1.6101	1.6064	1.5970	1.5641				
9 1-e ^s (Table XIV)		0.3789	0.3775	0.3738	0.3607				
10 P _t	2752.2	2339.2	2175.2	1847.2	1372.2				
11 P _t ² /1000	7574.7	5471.9	4731.5	3599.4	1882.9				
12 F _r (Table XV)	0.47233	0.47632	0.47401	0.46811	0.44733				
13 F _c = F _r T _Z		7.1545	7.1895	7.280	7.618				
14 F _c Q _m		0.537	0.741	1.019	1.470				
15 L/H (F _c Q _m) ²		0.288	0.548	1.038	2.162				
16 F _w = L/H (F _c Q _m) ² (1-e ^{-S})		0.11	0.2	0.4	0.8				
17 P _w ² = P _t ² + F _w		5472.0	4731.7	3599.8	1883.7				
18 P _s ² = e ^s P _w ²	12148	8810.5	7601.0	5748.9	2946.3				
19 P _s	3455.2	2968.2	2757.0	2397.7	1716.5				
20 P = ($\frac{P_t + P_s}{2}$)	3118.7	2653.7	2466.1	2147.4	1544.3				
21 P _r = (P/P _{cr})	4.468	3.802	3.533	3.077	2.212				
22 T _r = (T/T _{cr})	1.500	1.5095	1.515	1.520	1.523				
23 Z (Table XI)	0.7885	0.777	0.778	0.785	0.820				