

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Revised 9-1-65

COMPANY

NPC

LEASE

Section 16

WELL NO.

10000

DATE

3-5-77

LOCATION: Unit

0

Section

16

Township

18

Range

25

L 6458 H 6458

L/H

G 1682

% CO₂

2.35

% N₂

0.75

% H₂S

11.1

1.5-2.5 5400-7000

d 2.0000

F_i

1017252

GH

4105

P_{cr}

0.7

T_{cr}

373

TABLE 18 & 19

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LINE	1	2	3	4	5	6	7	8
1 Q _m	51	0.447	0.676	0.857	1.012	51	0.447	0.076
2 T _w (W.H. °R)	519	523	524	525	526			
3 T _s (B.H. °R)	579	577	576	575	574			
4 T = (T _w + T _s) / 2	544	550	550	550	550			
5 Z (Est.)	1756	1763	1767	1776	1785			
6 T _Z	415.004	419.65	421.85	426.8	431.75			
7 GH/T _Z	10.1146	10.2036	9.9514	9.876	9.7232			
8 e ^s (Table XIV)	1.04102	1.04551	1.04523	1.04460	1.04399			
9 1-e ^s (Table XIV)		0.3128	0.3114	0.3084	0.3055			
10 P _i	1913.2	1797.2	1692.2	1567.2	1463.2			
11 P _i 2/1000	3660.8	3229.9	2863.54	2456.1	2100.95			
12 F _i (Table XV) 5.00554	39930	31513	37318	36845	36462			
13 F _c = F _i T _Z		7.2524	7.2904	7.3700	7.4615			
14 F _c Q _m		3.2018	4.9283	6.5112	7.782			
15 L/H (F _c Q _m) ²		10.509	24.285	42.80	60.565			
16 F _w = L/H (F _c Q _m) ² (1-e ⁻⁹)		3.287	7.863	13.201	18.503			
17 P _w ² = P _i ² + F _w		3233.2	2871.10	2464.32	2159.46			
18 P _s ² = e ^s P _w ²		49004.61	4169.7	3570.63	3109.4			
19 P _s	2212.2	2169.0	2042.0	1889.6	1765.1			
20 P = (P _i + P _s) / 2	2112.9	1983.1	1867.1	1728.4	1613.3			
21 P _r = (P/P _{cr})	3.149	2.955	2.783	2.576	2.404			
22 T _r = (T/T _{cr})	1.4718	1.4745	1.4745	1.4745	1.4745			
23 Z (Table XI)	0.756	0.763	0.768	0.776	0.785			