

WORKSHEET FOR CALCULATION OF STABILIZED COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Revised 9-1-65

COMPANY

YPC

LEASE

YPC

WELL NO.

1 (Pump)

DATE

3-5-77

LOCATION: Unit

M

Section

29

Township

17N

Range

28E

L

2072

H

725

L/H

2.86

G

2.86

% CO₂

0.20

% N₂

1.46

% H₂S

Nil

2²⁵ = 2²⁵ (6.455/3.182) = 224.42

2²⁶ = 2²⁶ (6.455/3.182) = 213.00

F_r

0.0000

GH

4.50

P_{cr}

670

T_{cr}

365

TABLE IX B

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LINE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Q _m																								
2 T _w (W.H. °R)	519	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547
3 T _s (B.H. °R)	585	583	582	581	580	579	578	577	576	575	574	573	572	571	570	569	568	567	566	565	564	563	562	561
4 T = (T _w + T _s)	552	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554	554
5 Z (Est.)	.721	.722	.723	.724	.725	.726	.727	.728	.729	.730	.731	.732	.733	.734	.735	.736	.737	.738	.739	.740	.741	.742	.743	.744
6 T _Z	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592	425.592
7 GH/T _Z	10.6675	10.5649	10.5065	10.4424	10.3727	10.3000	10.2250	10.1484	10.0700	9.9896	9.9070	9.8221	9.7350	9.6456	9.5538	9.4595	9.3627	9.2634	9.1615	9.0570	8.9500	8.8404	8.7282	8.6133
8 e ^s (Table XIV)	1.44918	1.44851	1.44828	1.44796	1.44742	1.44676	1.44600	1.44514	1.44418	1.44312	1.44196	1.44070	1.43934	1.43788	1.43632	1.43466	1.43290	1.43104	1.42908	1.42702	1.42486	1.42260	1.42024	1.41778
9 1-e ^s (Table XIV)		0.32266	0.32256	0.32222	0.32166	0.32088	0.31988	0.31866	0.31722	0.31556	0.31368	0.31158	0.30926	0.30672	0.30396	0.30098	0.29776	0.29430	0.29062	0.28672	0.28260	0.27826	0.27370	0.26892
10 P ₁	2135.2	1886.2	1787.2	1662.2	1583.2	1522.75	1476.2	1432.2	1390.2	1349.2	1309.2	1270.2	1232.2	1195.2	1159.2	1124.2	1089.2	1055.2	1022.2	989.2	957.2	925.2	894.2	863.2
11 P ₁ 2/1000	4559.1	3557.25	3194.05	2762.9	2522.75	2383.2	2244.2	2105.2	1966.2	1827.2	1688.2	1549.2	1410.2	1271.2	1132.2	993.2	854.2	715.2	576.2	437.2	298.2	159.2	2.2	0.2
12 F ₁ (Table XV)	.40002	.39551	.39299	.39048	.38832	.38650	.38500	.38382	.38296	.38242	.38218	.38212	.38216	.38228	.38248	.38276	.38312	.38356	.38408	.38468	.38536	.38612	.38696	.38788
13 F ₁ = F ₁ T _Z		0.44563	0.4580	0.4622	0.4651	0.4668	0.4676	0.4680	0.4682	0.4683	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684	0.4684
14 F ₁ Q _m		0.1072	0.1466	0.2052	0.2395	0.2615	0.2742	0.2800	0.2832	0.2848	0.2858	0.2864	0.2868	0.2870	0.2871	0.2872	0.2872	0.2872	0.2872	0.2872	0.2872	0.2872	0.2872	0.2872
15 L/H (F ₁ Q _m) ²		0.0115	0.0215	0.0412	0.0552	0.0682	0.0782	0.0842	0.0882	0.0902	0.0912	0.0918	0.0922	0.0924	0.0926	0.0927	0.0928	0.0928	0.0928	0.0928	0.0928	0.0928	0.0928	0.0928
16 F _w = L/H (F ₁ Q _m) ² (1-e ^s)		0.0064	0.007	0.014	0.015	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
17 P _w ² = P ₁ ² + F _w		3559.75	3194.09	2962.93	2522.4	2383.2	2244.2	2105.2	1966.2	1827.2	1688.2	1549.2	1410.2	1271.2	1132.2	993.2	854.2	715.2	576.2	437.2	298.2	159.2	2.2	0.2
18 P _s ² = e ^s P _w ²	6801.3	5283.6	4936.2	4082.5	3715.0	3498.2	3322.2	3187.2	3072.2	2972.2	2882.2	2802.2	2732.2	2672.2	2622.2	2582.2	2552.2	2532.2	2522.2	2522.2	2522.2	2522.2	2522.2	2522.2
19 P _s	2607.9	2298.6	2176.3	2020.5	1928.2	1858.2	1802.2	1758.2	1722.2	1692.2	1668.2	1648.2	1632.2	1618.2	1608.2	1602.2	1600.2	1600.2	1600.2	1600.2	1600.2	1600.2	1600.2	1600.2
20 P = (P ₁ + P _s)	2571.6	2092.4	1981.7	1521.3	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2	1758.2
21 P ₁ = (P/P _{cr})	3.54	3.123	2.958	2.748	2.624	2.548	2.492	2.448	2.412	2.382	2.358	2.338	2.322	2.310	2.300	2.292	2.286	2.282	2.280	2.280	2.280	2.280	2.280	2.280
22 T ₁ = (T/T _{cr})	1.500	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505	1.505
23 Z (Table XI)	.771	.777	.7805	.787	.7942																			