

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY GULF OIL EXPLORATION LEASE EDDY IL STATE WELL NO. # 1 DATE 03-07-80

LOCATION: Unit _____ Section 30 Township 19 Range 29

L 9753 H 9753 L/H 1.000 G .703 % CO₂ .17 % N₂ 1.18 % H₂S .12

d 1.995 F_r .018231 GH 6856 P_{cr} 659 T_{cr} 378

TABLE IX & X

LINE	1	st	2	nd	3	rd	4	th	
1 Q _m	.546	.546	.993	.993	1.417	1.417	1.703	1.703	
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534	
3 T _s (B.H. °R)	631	631	631	631	631	631	631	631	
4 T = ($\frac{T_w + T_s}{2}$)	583	583	583	583	583	583	583	583	
5 Z (Est.)	.808	.794	.811	.797	.819	.803	.833	.815	
6 TZ	471.06	462.90	472.81	464.65	477.47	468.149	485.639	475.145	
7 GH/TZ	14.554	14.811	14.5004	14.7551	14.3588	14.6449	14.1174	14.4292	
8 e ^S (Table XIV)	1.7259	1.7426	1.7224	1.7390	1.7133	1.7318	1.6979	1.7178	
9 1-e ^S (Table XIV)	.4206	.4261	.4194	.4249	.4163	.4225	.4110	.4178	
10 P _t	1733.2	1733.2	1693.2	1693.2	1573.2	1573.2	1393.2	1393.2	
11 P _t ² /1000	3004.0	3004.0	2866.9	2866.9	2475.0	2474.9	1941.0	1941.0	
12 F _r (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	
13 F _c = F _r TZ	8.5879	8.4391	8.6198	8.4710	8.7048	8.5348	8.8536	8.6623	
14 F _c Q _m	4.689	4.608	8.5595	8.4117	12.3348	12.0938	15.0778	14.752	
15 L/H (F _c Q _m) ²	21.987/	21.2316/	73.2652/	70.7576/	152.1477/	146.2611/	227.341/	217.622	
16 F _w = L/H (F _c Q _m) ² (1-e ^S)	9.2480	9.0481	30.7305	30.0692	63.3468	61.8069	93.447	90.942	
17 P _w ² = P _t ² + F _w	3013.2	3013.0	2897.7	2897.0	2538.3	2536.8	2034.5	2031.9	
18 P _s ² = e ^S P _w ²	5200.7	5250.7	4991.2	5037.9	4349.0	4393.3	3454.3	3490.7	
19 P _s	2280.5	2291.4	2234.1	2244.5	2085.4	2096.0	1858.6	1868.3	
20 P = ($\frac{P_t + P_s}{2}$)	2006.9	2012.3	1963.6	1968.9	1829.3	1834.6	1625.9	1630.8	
21 P _r = (P/P _{cr})	3.04	3.05	2.98	2.99	2.78	2.78	2.47	2.47	
22 T _r = (T/T _{cr})	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	
23 Z (Table XI)	.794	.794	.797	.797	.803	.803	.815	.815	