

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY Amoco Production Co. LEASE STATE TOWN WELL NO. 1 DATE 8-18-89

LOCATION: Unit G Section 1 Township 24 S Range 24 E

L 2240 H 2240 L/H 1.000 G 594 %CO₂ 41 %N₂ 44 %H₂S 0

d 1.995 F_i 1018231 GH 5488.56 P_{cr} 622 T_{cr} 360

TABLE IX & X

LINE	107	2004	107	2004	107	2004	107	2004	107	2004	107	2004
1 Q _m	1.363	1.363	.540	.540	1.022	1.022	1.022	1.022	1.268	1.268	1.268	1.268
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534	534	534	534	534
3 T _s (B.H. °R)	626	626	626	626	626	626	626	626	626	626	626	626
4 T = $(\frac{T_w + T_s}{2})$	580	580	580	580	580	580	580	580	580	580	580	580
5 Z (Est.)	.830	.822	.835	.826	.866	.855	.855	.855	.925	.915	.915	.915
6 TZ	481.4	476.7	484.3	479.0	502.2	495.9	495.9	495.9	536.5	530.7	530.7	530.7
7 GH/TZ	11.401	11.512	11.332	11.456	10.927	11.067	11.067	11.067	10.230	10.342	10.342	10.342
8 e ^s (Table XIV)	1.533	1.539	1.529	1.536	1.506	1.514	1.514	1.514	1.467	1.473	1.473	1.473
9 1-e ^s (Table XIV)	.3478	.3506	.3462	.3492	.3361	.3396	.3396	.3396	.3186	.3214	.3214	.3214
10 P _i	1900.2	1700.2	1790.2	1790.2	1278.2	1278.2	1278.2	1278.2	661.2	661.2	661.2	661.2
11 P _i ² /1000	3610.8	3610.8	3204.8	3204.8	1633.8	1633.8	1633.8	1633.8	437.2	437.2	437.2	437.2
12 F _i (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231
13 F _c = F _i TZ	8.77	8.69	8.82	8.73	9.15	9.04	9.04	9.04	9.78	9.67	9.67	9.67
14 F _c Q _m	3.185	3.155	4.767	4.716	9.358	9.239	9.239	9.239	12.402	12.268	12.268	12.268
15 L/H (F _c Q _m) ²	10.149	9.954	22.731	22.244	87.581	85.371	85.371	85.371	153.815	150.507	150.507	150.507
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	3.530	3.490	7.870	7.768	29.444	28.999	28.999	28.999	49.008	48.383	48.383	48.383
17 P _w ² = P _i ² + F _w	3614.3	3614.2	3214.0	3212.5	1663.2	1662.7	1662.7	1662.7	486.1	485.6	485.6	485.6
18 P _{gs} ² = e ^s P _w ²	5542.4	5563.5	4914.0	4936.6	2505.6	2518.2	2518.2	2518.2	713.5	715.6	715.6	715.6
19 P _{gs}	2354.2	2359.1	2216.7	2221.8	1582.9	1586.8	1586.8	1586.8	844.7	845.9	845.9	845.9
20 P = $(\frac{P_i + P_{gs}}{2})$	2127.2	2129.6	2003.4	2006.0	1430.5	1432.5	1432.5	1432.5	752.9	753.5	753.5	753.5
21 P _r = (P/P _{cr})	3.16	3.16	2.98	2.98	2.13	2.13	2.13	2.13	1.12	1.12	1.12	1.12
22 T _r = (T/T _{cr})	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63	1.63
23 Z (Table XI)	.822	.822	.826	.826	.855	.855	.855	.855	.915	.915	.915	.915