

WORKSHEET FOR CALCULATION OF ST. C COLUMN WELLHEAD PRESSURE (P_W)

COMPANY CITIES SERVICE OIL CO. LEASE GOVERNMENT S WELL NO. 1 DATE 3-20-70

LOCATION: Unit H Section 3 Township 28 S Range 28 E

L 10330 H 10330 L/H 1.000 G.M.X. 731 % CO₂ % N₂ % H₂S

d 2.441 F_r. 010265 GH 7551

LINE	157	230d	157	230d	157	230d	157	230d	157	230d
1 Qm	.370	.370	.941	.441	.496	.496	.579	.579		
2 Tw (W.H. °R)	534	534	534	534	534	534	534	534		
3 Ts (B.H. °R)	630	630	630	630	630	630	630	630		
4 T = ($\frac{1}{w} + \frac{1}{s}$)	582	582	582	582	582	582	582	582		
5 Z (Est.)	1777	1754	1797	1773	1829	1804	1851	1830		
6 TZ	452.2	438.8	463.9	449.9	482.5	467.9	495.3	483.1		
7 GH/TZ	16.698	17.207	16.279	16.784	15.650	16.137	15.246	15.632		
8 e ^s (Table XIV)	1.870	1.907	1.841	1.877	1.798	1.832	1.771	1.747		
9 1-e ^s (Table XIV)	.465	.475	.1457	.467	.444	.454	.435	.444		
10 Pt	1543.2	1543.2	1351.2	1351.2	1058.2	1058.2	927.2	927.2		
11 Pt ² /1000	2381.5	2381.5	1825.7	1825.7	1206.0	1206.0	859.7	859.7		
12 Ft (Table XV)	.010763	.010763	.010763	.010763	.010763	.010763	.010763	.010763		
13 Fc = Ft TZ	4.87	4.72	4.99	4.84	5.19	5.04	5.33	5.20		
14 Fc Qm	1.80	1.75	2.20	2.14	2.58	2.50	3.09	3.01		
15 L/H (Fc Qm) ²	3.243	3.054	4.947	4.560	6.634	6.240	9.526	9.062		
16 Fw = L/H (Fc Qm) ² (1-e ^s)	1.51	1.45	2.21	2.13	2.95	2.83	4.15	4.02		
17 Pw ² = Pt ² + Fw	2383.0	2382.9	1828.0	1827.9	1201.0	1208.9	863.8	863.7		
18 Ps ² = e ^s Pw ²	4457.2	4543.0	3365.8	3430.0	2174.2	2210.1	1530.1	1552.2		
19 Ps	2111.2	2131.4	1834.6	1852.0	1474.5	1488.0	1237.0	1245.9		
20 P = ($\frac{P_t + P_s}{2}$)	1827.2	1837.3	1592.9	1601.6	1286.4	1293.1	1082.1	1086.5		
21 Pr = (P/Pcr)	2.74	2.75	2.38	2.40	1.93	1.94	1.62	1.63		
22 Tr = (T/Tcr)	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45		
23 Z (Table XI)	1754	1754	1773	1771	1804	1804	1830	1830		