

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw)

C-122D

DATE: 1/29/99

COMPANY Fasken Oil and Ranch, Ltd. LEASE El Paso Federal WELL NO. 11

LOCATION: Unit O, Lot 31 Section 1 Township 21S Range 26E

L 9743 H 9743 L / H 1 G 0.67 %CO₂ 1.134 %N₂ 0.845 %H₂S 0

d 1.995 Fr 0.029009 GH 6527.81 Pcr 672 Tcr 378

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.156	0.215	0.307	0.46	
2 Tw(W.H.DegR)	527	542	542	539	
3 Ts(B.H.DegR)	644	644	644	644	
4 T = (Tw+Ts) / 2	585.5	593	593	591.5	
5 Z (Est.)	0.810	0.816	0.804	0.797	
6 TZ	474.3	483.9	476.8	471.4	
7 GH / TZ	13.764	13.490	13.692	13.847	
8 e ^s (Table XIV)	1.676	1.658	1.671	1.681	
9 1-e ^s (Table XIV)	0.403	0.397	0.402	0.405	
10 Pt	2,656.2	2,624.2	2,334.2	2,088.2	
11 Pt ² / 1000	7,055.4	6,886.4	5,448.5	4,360.6	
12 Fr (Table XV)	0.029009	0.029009	0.029009	0.029009	
13 Fc = FrTZ	13.758	14.037	13.831	13.676	
14 FcQm	2.146	3.018	4.246	6.291	
15 L / H(FcQm) ²	4.606	9.108	18.029	39.574	
16 Fw = L / H(FcQm) ² (1-e ^s)	1.857	3.616	7.240	16.029	
17 Pw ² = Pt ² +Fw	7,057.3	6,890.0	5,455.7	4,376.6	
18 Ps ² = e ^s Pw ²	11,825.0	11,426.8	9,116.7	7,356.1	
19 Ps	3,438.8	3,380.4	3,019.4	2,712.2	
20 P = (Pt+Ps) / 2	3,047.5	3,002.3	2,676.8	2,400.2	
21 Pr = (P / Pcr)	4.535	4.468	3.983	3.572	
22 Tr = (T / Tcr)	1.549	1.569	1.569	1.565	
23 Z (Table XI)	0.810	0.816	0.804	0.797	

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