

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw)

C-122D

DATE: 8/25/98

COMPANY Fasken Oil and Ranch, Ltd. LEASE El Paso Federal WELL NO. 9

LOCATION: Unit Lot 34 Section 2 Township 21S Range 26E

L 10884 H 10884 L/H 1 G 0.618 %CO₂ 0.9 %N₂ 0.27 %H₂S 0

d 2.441 Fr 0.010763 GH 6726.312 Pcr 675 Tcr 364

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	1.201	2.097	3.199	4.029	4.433
2 Tw(W.H.DegR)	540	540	540	540	540
3 Ts(B.H.DegR)	644	644	644	644	644
4 T = (Tw+Ts) / 2	592	592	592	592	592
5 Z (Est.)	0.833	0.822	0.847	0.885	0.921
6 TZ	493.1	486.6	501.4	523.9	545.2
7 GH / TZ	13.640	13.822	13.414	12.838	12.337
8 e ^s (Table XIV)	1.668	1.679	1.654	1.618	1.588
9 1-e ^s (Table XIV)	0.400	0.404	0.395	0.382	0.370
10 Pt	2,473.2	2,173.2	1,513.2	953.2	563.2
11 Pt ² / 1000	6,116.7	4,722.8	2,289.8	908.6	317.2
12 Fr (Table XV)	0.010763	0.010763	0.010763	0.010763	0.010763
13 Fc = FrTZ	5.308	5.238	5.397	5.639	5.868
14 FcQm	6.374	10.983	17.264	22.719	26.014
15 L / H(FcQm) ²	40.634	120.629	298.061	516.168	676.745
16 Fw = L / H(FcQm) ² (1-e ^s)	16.270	48.793	117.827	197.232	250.646
17 Pw ² = Pt ² +Fw	6,133.0	4,771.6	2,407.6	1,105.8	567.8
18 Ps ² = e ^s Pw ²	10,228.5	8,012.6	3,981.6	1,789.7	901.9
19 Ps	3,198.2	2,830.7	1,995.4	1,337.8	949.7
20 P = (Pt+Ps) / 2	2,835.7	2,501.9	1,754.3	1,145.5	756.4
21 Pr = (P / Pcr)	4.201	3.707	2.599	1.697	1.121
22 Tr = (T / Tcr)	1.626	1.626	1.626	1.626	1.626
23 Z (Table XI)	0.833	0.822	0.847	0.885	0.921