

WORKSHEET FOR CALCULATION OF S1. IC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Roden QD Federal WELL NO. 1 DATE 3-21-72

LOCATION: Unit I Section 23 Township 19-S Range 24-E

L 8650 H 8650 L/H 1 G 0.601 %CO₂ 0.59 %N₂ 0.72 %H₂S N/A

23 87 (3498) - 32487 d 2.0911" F_i 0.015707 GH 5198
 23 87 (403) 1.339 d 2.115
 23 87 (623) 2.13 (44) 3.360
 67115 358.4% P_{cr} 673
 2.115 2.12%
 693.2 355.11
 TABLE IX B X TABLE IX B X

LINE	Q _m	1	2	3	4	S1	1	2	3	4
1 Q _m		0.300	0.456	0.658	0.974	51	0.300			
T _w (W.H. °R)		526	527	528	529					
3 T _s (B.H. °R)		604	603	602	601					
4 T = (T _w + T _s) ²		565	565	565	565		565			
5 Z (Est.)		822	1819	.811	.815		.8125			
6 T _Z		464.4	461.605	458.215	460.475		459.062			
7 GH/TZ		11.193	11.2607	11.344	11.289		11.323			
8 e ^s (Table XIV)		1.5216	1.5254	1.5302	1.5270		1.5290			
9 1 - e ^s (Table XIV)		0.3444	0.3465	0.3451	0.3428		0.3460			
10 P _i		2658.2	24116.2	2238.2	1959.2		2416.2			
11 P _i 2/1000		7066.0	5838.02	5009.54	3838.5		5838.02			
12 F _i (Table XIV) S _i = 0.0321		41494	42228	42540	42331		42462			
3 F _c = F _i TZ		7.250	7.197	7.2327	7.244		7.2105			
14 F _c Q _m		2.175	3.282	4.759	5.643		4.163			
15 L/H (F _c Q _m) ²		4.731	10.791	22.649	31.875		4.679			
16 F _w = L/H (F _c Q _m) ² (1 - e ^{-s})		1.629	3.732	7.816	10.53		1.619			
17 P _w = P _i ² + F _w		5839.65	5013.22	3846.28	3154.77		5839.64			
18 P _w = e ^s P _w ²		10751.7	8907.58	7671.03	5873.27		8928.81			
19 P _s		3279.0	2984.6	2769.7	2423.5		2988.1			
20 P = (P _i + P _s) ²		2908.6	2900.4	2504.0	2191.3		2902.2			
21 P _i = (P/P _{cr})		4.411	4.012	3.721	3.256		4.015			
22 T _i = (T/T _{cr})		1.589	1.589	1.539	1.539		1.589			
23 Z (Table XI)		0.822	.8125	0.811	0.815		0.8125			