

WORK SHEET FOR STEPWISE CALCULATION

(P_f & P_s)
 PRESSURE
 (SURFACE)
 (P_c & P_w)
 RATE NO. 1

Form C-122-E

COMPANY _____ LEASE _____ WELL NO. _____ DATE _____

LOCATION: UNIT _____ SECTION _____ TOWNSHIP _____ RANGE _____
 2680 H 2680 L/H 1.00 G 0.903 % CO₂ 1.30 % N₂ 0.69 % H₂S 0.00
 d _____ F_r _____ Q_m _____ M cfd (L/H) (F_r Q_m)² _____ P_{cr} _____ 662 T_{cr} _____ 457

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9680	4840		0						
2	H		8741	4371		0						
3	37.5GH		327789	163895		0						
4	P _c or P _n		5113.0	4442.1	4421.3	3730.1	3680.6					
5	P _r		7.72	6.71	6.68	5.63	5.56					
6	T _r		651	591	591	530	530					
7	T _r		1.42	1.29	1.29	1.16	1.16					
8	Z		0.959	0.864	0.861	0.748	0.740					
9	P/Z P/Z		4 ÷ 8	5329.37	5143.75	5137.42	4985.37	4971.04				
10	P/TZ		9 ÷ 6	8.1864	8.7108	8.7002	9.4064	9.3793				
11	(P/TZ ² / 1000		(10 ² / 1000									
12	1/H (F _r Q _m) ²											
13			11 + 12									
14	I _n		10 ÷ 13	122.153	114.795	114.939	106.311	106.617				
15	M = P _n - P _{n-1}			671	692	691	741	740				
16	N = I _n + 1 _{n-1}			236.953	237.093	221.250	221.557					
17	M x N		15 x 16		158995		164174					
18	Σ (M x N)		Σ 17		158995		323169					

$$\Delta P = \frac{122.153 + 4 \left[\frac{327789}{114.939} + 106.617 \right]}{983367} = 1428.2 \quad P = 5113.0 - 1428.2 = 3684.8$$