

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

PRESSURE
(P_c & P_w)
RATE NO.4

Form C-122-E

COMPANY _____ LEASE _____ WELL NO. _____ DATE _____

LOCATION: UNIT _____ SECTION _____ TOWNSHIP _____ RANGE _____

L 9680 H 9680 L/H 1.00 G 0.203 % CO₂ 1.30 % N₂ 0.69 % H₂S 0.00
d _____ F _____ Q_m _____ M² cfd (L/H) (F Q_m)² _____ P_{cr} _____ T_{cr} _____ 457

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		9680	4840		0						
	GH		8741	4371		0						
3	37.5GH		327789	163895		0						
4	P _c or P _n		4102.7	3494.0	3469.8	2839.1	2786.6					
5	P _r		6.20	5.28	5.24	4.29	4.21					
6	T		651	591	591	530	530					
7	T _r		1.42	1.29	1.29	1.16	1.16					
8	Z		0.848	0.736	0.736	0.614	0.607					
9	P/Z P/Z		4 ÷ 8	4835.81	4749.83	4622.43	4593.84					
10	P/TZ		9 ÷ 6	7.4283	7.9837	8.7216	8.6676					
11	(P/TZ ² /1000		(10 ² /1000									
12	L/H (F Q _m) ²											
13			11 + 12									
14	I _n		10 ÷ 13	134.621	124.320	125.256	114.658	115.372				
15	M=P _n -P _{n-1}			609	633	631	683	681				
16	N=1 _n +1 _{n-1}			258.941	259.877	239.914	240.628					
17	M x N		15 x 16		164502		164349					
18	Σ (M x N)		Σ 17		164502		328851					

$$\Delta P = \frac{3[327789]}{134.621 + 4[125.256] + 115.372} = \frac{983367}{751.017} = 1309.4 \quad P = 4102.7 - 1309.4 = 2793.3$$