

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE) PRESSURE (P_c & P_w)

Form C-122-E

RATE NO. 2

PAID Monsanto Company

LEASE Cert Federal

WELL NO. 2

DATE 10-20-76

SECTION: UNIT F

SECTION 10

TOWNSHIP 21S

RANGE 27E

10239 H

10239

L/H

1.00

G

0.793

% CO₂

0.00

% N₂

0.00

% H₂S

0.00

d F

Q_m

M² cfd

(L/H) (F O_m)²

P_{cr}

666

T_{cr}

421

ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
H		10239	5120		0						
GH		8120	4060		0						
37.5GH		304482	152241		0						
P _c or P _n		3142.9	2642.2	2634.8	2127.0	2110.3					
P _r		4.72	3.97	3.96	3.19	3.17					
P _e		614	569	569	523	523					
P _r		1.46	1.35	1.35	1.24	1.24					
P ₂		0.778	0.686	0.685	0.579	0.578					
P/2 P/2		4 ÷ 8	4038.68	3851.61	3846.43	3671.12	3648.53				
P/P ₂		9 ÷ 5	6.5777	6.7750	6.7659	7.0193	6.9762				
(P/P ₂) ² /1000		(10 ² /1000)									
1/H (P _e Q _m) ²											
		11 ÷ 12									
1/n		10 ÷ 13	152.030	147.601	147.799	142.464	143.345				
1/n - 1/n - 1			501	508	508	524	523				
1/n + 1/n - 1			299.630	299.829	290.263	291.145					
M x N		15 x 16									
		17									
Σ (M x N)											

$$\Delta P = \frac{3[304482]}{152.030 + 4[147.799] + 143.345} = \frac{913447}{886.571} = 1030.3 \quad P = 3142.9 - 1030.3 = 2112.6$$