

WORK SHEET FOR STEPWISE CALCULATION

Form C-122-E

(SUBSURFACE)

PRESSURE

(P_f & P_s)

(SURFACE)

(P_c & P_w)

RATE NO. 4

COMPANY MESA PETROLEUM COMPANY

LEASE

HONDO STATE

WELL NO. 1

DATE 5-2-77

LOCATION: UNIT

SECTION

TOWNSHIP

RANGE

11126 H 11126

L/H

1.00 G

0.688

% CO₂

1.12

% N₂

1.49

% H₂S

0.00

d

F_r

Q_m

M cfd

(L/H) (F_r Q_m)²

P_{cr}

670

T_{cr}

350

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		11126	5563		0						
2	GH		7655	3827		0						
3	37.5GH		287051	143525		0						
4	P _c or P _n		2235.8	1965.9	1962.7	1689.8	1681.7					
5	P _r		3.34	2.93	2.93	2.52	2.51					
6	T		654	592	592	530	530					
7	T _r		1.87	1.69	1.69	1.51	1.51					
8	Z		0.909	0.862	0.862	0.800	0.800					
9	P/Z P/Z	4 ÷ 8	2459.36	2280.41	2276.64	2113.58	2103.45					
10	P/TZ	9 ÷ 6	3.7605	3.8520	3.8457	3.9879	3.9688					
11	(P/TZ ² /1000	(10 ² /1000										
12	L/H(F _r Q _m) ²											
13		11 + 12										
14	I _n	10 ÷ 13	265.923	259.603	260.032	250.759	251.967					
15	M=P _n -P _{n-1}			270	273	273	281	280				
16	N=1 _n +1 _{n-1}			525.526	525.956	510.792	512.000					
17	M x N	15 x 16			143586		143872					
18	Σ (M x N)	Σ 17			143586		287458					

3[287051]

$$\Delta P = 265.923 + 4[260.032] + 251.967 = 1558.018 = 552.7$$

$$P = 2235.8 - 552.7 = 1683.1$$