

WORK SHEET FOR STEPWISE CALCULATION

ISURFACRXX

(P_f & P_s)

PRESSURE

(SURFACE)

(P_c & P_w)

Form C-122-E

RATE NO. 2

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 1.17 % N₂ 1.49 % H₂ 0.00

d F_r Q_m M² 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		3478.2	3069.4	3058.4	2639.2	2614.4					
5	P _r		5.19	4.58	4.56	3.94	3.90					
6	T		654	592	592	530	530					
7	T _r		1.87	1.69	1.69	1.51	1.51					
8	Z		0.934	0.863	0.862	0.779	0.778					
9	P/Z P/Z	4 ÷ 8	3725.18	3558.77	3550.12	3387.00	3359.12					
10	P/TZ	9 ÷ 6	5.6960	6.0114	5.9968	6.3906	6.3380					
11	(P/TZ) ² /1000	(10 ² /1000)										
12	L/H(F _r Q _m) ²											
13		11 + 12										
14	I _n	10 ÷ 13	175.562	166.350	166.755	156.481	157.780					
15	M=P-P _n			409	420	419	444	442				
16	N=1 + 1 _{n-1}			341.912	342.317	323.236	324.535					
17	M x N	15 x 16			143773		144094					
18	Σ (M x N)	Σ 17			143773		287867					

$$\text{Delta P} = \frac{3[287051]}{175.562 + 4[166.755] + 157.780} = \frac{861152}{1000.362} = 860.8$$

$$P = 3478.2 - 860.8 = 2617.4$$