

WORK SHEET FOR STEPWISE CALCULATION

(SUBSURFACE)

PRESSURE

(P_f & P_s)

(P_c & P_w)

Form C-122-E

COMPANY GULF OIL CORP. LEASE WHITE CITY PEN GAS COM UNIT WELL NO. 3 DATE 1-18-77
LOCATION: UNIT SECTION TOWNSHIP RANGE
L 11157 H 11157 L/H 1.00 G 0.579 % CO₂ 0.00 % N₂ 0.00 % H₂ 0.00
d 1.995 F_r 0.018231 Q_m 4.234 M² cfd (L/H) (F_r Q_m)² 0.005958 P_{cr} 671 T_{cr} 358

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	5579		11157						
2	GH		0	3230		6460						
3	37.5GH		0	121123		242246						
4	P _c or P _n		3605.2	4163.2	4144.2	4682.2	4650.2					
5	P _r		5.37	6.20	6.18	6.98	6.93					
6	T		521	583	583	645	645					
7	T _r		1.46	1.63	1.63	1.80	1.80					
8	Z		0.811	0.910	0.909	0.987	0.984					
9	P/Z P/Z	$\overline{4} \div \overline{8}$	4444.28	4577.46	4561.59	4743.87	4725.81					
10	P/TZ	$\overline{9} \div \overline{6}$	8.5303	7.8516	7.8243	7.3548	7.3268					
11	(P/TZ ² /1000	$(10^2/1000)$	0.072766	0.061647	0.061220	0.054094	0.053683					
12	L/H(F _r Q _m) ²		0.005958	0.005958	0.005958	0.005958	0.005958					
13		$\overline{11} + \overline{12}$	0.078724	0.067605	0.067178	0.060052	0.059641					
14	I _n	$\overline{10} \div \overline{13}$	108.357	116.138	116.471	122.475	122.849					
15	M=P _n -P _{n-1}			558	539	538	506	506				
16	N= $\overline{1}_n + \overline{1}_{n-1}$			224.495	224.828	238.945	239.320					
17	M x N	$\overline{15} \times \overline{16}$			121182		121096					
18	(M x N)	$\overline{17}$			121182		242278					

Delta P = $\frac{3[242246]}{108.357 + 4[116.471]} + 122.849 = \frac{726739}{697.090} = 1042.5$ P = 3605.2 + 1042.5 = 4647.7