

WORK SHEET FOR STEPWISE CALCULATION

XX(SUBSURFACE)XX

PRESSURE (P_f & P_s)

Form C-122-E

(SURFACE)

(P_c & P_w)

RATE NO. 3

COMPANY GULF OIL CORP. LEASE WHITE CITY PEN GAS COM UNIT WELL NO. 3 DATE 1-18-77
 LOCATION: UNIT SECTION TOWNSHIP RANGE
11157 H 11157 L/H 1.00 G 0.579 % CO₂ 0.01 % N₂ 0.00 % H₂ 0.00
 d F_r Q_m M² cfd (L/H) (F_r Q_m)² P_{cr} 671 T 358

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		11157	5579		0						
2	GH		6460	3230		0						
3	37.5GH		242246	121123		0						
4	P _c or P _n		4647.7	4204.2	4187.3	3727.6	3686.6					
5	P _r		6.93	6.27	6.24	5.56	5.49					
6	T		645	583	583	521	521					
7	T _r		1.80	1.63	1.63	1.46	1.46					
8	Z		0.984	0.913	0.912	0.823	0.818					
9	P/Z P/Z	$\overline{4 \div 8}$	4723.27	4607.36	4593.88	4530.37	4506.88					
10	P/TZ	$\overline{9 \div 6}$	7.3229	7.9028	7.8797	8.6955	8.6504					
11	(P/TZ ² /1000	$(10^2/1000)$										
12	L/H(F _r Q _m) ²											
13		$\overline{11 + 12}$										
14	I _n	$\overline{10 \div 13}$	136.558	126.537	126.908	115.002	115.601					
15	M=P _n ⁻¹			443	460	460	501	499				
16	N ¹ _n + ¹ _{n-1}			263.095	263.466	241.910	242.509					
17	M x N	$\overline{15 \times 16}$			121194		121497					
18	(M x N)	$\overline{17}$			121194		242691					

$$\Delta P = \frac{3[242246]}{136.558 + 4[126.908] + 115.601} = \frac{726739}{759.791} = 956.5$$

$$P = 4647.7 - 956.5 = 3691.2$$