

WORK SHEET FOR STEPWISE CALCULATION

COMPANY GULF OIL CORP. LEASE WHITE CITY PEN GAS COM UNIT WELL NO. 3 DATE 1-18-77
LOCATION: UNIT 11157 H 11157 L/H 1.00 G 0.579 % CO₂ 0.01 % N₂ 0.00 % H₂S 0.00
SECTION 11157 TOWNSHIP 11157 RANGE 11157
d 1.995 F_r 0.0182319 m² 6.298 M² cfd (L/H) (F_r Q_r)² 0.013183 P_{cr} 671 T_{cr} 358
RATE NO. 1

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		3386.2	3979.2	3965.2	4544.2	4521.2					
5	P _r		5.05	5.93	5.91	6.77	6.74					
6	T		521	583	583	645	645					
7	T _r		1.46	1.63	1.63	1.80	1.80					
8	Z		0.794	0.896	0.895	0.977	0.976					
9	P/Z P/Z	$\overline{4} \div \overline{8}$	4266.89	4442.06	4431.38	4651.18	4632.38					
10	P/TZ	$\overline{9} \div \overline{6}$	8.1898	7.6193	7.6010	7.2111	7.1820					
11	(P/TZ) ² /1000	(10 ² /1000	0.0670730	0.058054	0.057775	0.052000	0.051581					
12	L/H(F _r Q _r) ²		0.0131830	0.013183	0.013183	0.013183	0.013183					
13		$\overline{11} + \overline{12}$	0.0802560	0.071237	0.070959	0.065184	0.064764					
14	I _n	$\overline{10} \div \overline{13}$	102.046	106.957	107.119	110.628	110.894					
15	M=P _n -P _{n-1}			593	579	579	556	555				
16	N=L _n +L _{n-1}			209.002	209.165	217.747	216.013					
17	M x N	$\overline{15} \times \overline{16}$			121107		121215					
18	(M x N)	$\overline{17}$			121107		242322					

Delta P = $\frac{3[242246]}{102.046 + 4[107.119]} + 110.894 = \frac{726739}{641.416} = 1133.0$ P = 3386.2 + 1133.0 = 4519.2