

WORK SHEET FOR STEPWISE CALCULATION

XSUBSURFACE PRESSURE (SURFACE) (P_c & P_w)

Form C-122E
Adopted 4-1-55

COMPANY Atlantic Richfield

LEASE W. G. Smith Fed. Gas Com.

WELL NO. 1

DATE

6-12-72

LOCATION: Unit G

Section 13

Township 23S

Range 24E

L 10350

H 10350

L/H 1.0

G 0.585

% CO₂ 0.64

% N₂ 0.22

% H₂S

d 1.995

F_r 0

Q_m 0

M²ctd

(L/H) (F_rQ_m)² 0

P_{cr} 673.9

T_{cr} 349.1

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		10350	5175								
2	GH		6054.75	3027.38			0					$\Delta P = \frac{3(37.5)GH}{Lw + 4I_1 + 12}$
3	37.5GH		227,053	113,527			0					$= \frac{3(37.5)(0.583)(10350)}{224.920 + 4(220.734) + 232.159}$
4	P _c or P _n		2372.2	2127.7	2125.8	2125.9	1879.6	1875.2	1875.7	1875.6		$= \frac{3(227053)}{1372.021}$
5	P _r		3.52	3.16	3.15	3.15	2.79	2.78	2.78	2.78		$= 496.5$
6	T		623.0	577.5	577.5	577.5	532.0	532.0	532.0	532.0		
7	T _r		1.78	1.65	1.65	1.65	1.52	1.52	1.52	1.52		
8	Z		0.884	0.842	0.842	0.842	0.792	0.793	0.793	0.793		$P_w = 2372.2 - 496.5$
9	P/Z		2683.4	2527.0	2524.7	2524.8	2373.2	2364.7	2365.3	2365.2		$= 1875.7$
10	P/TZ		4.3074	4.3758	4.3718	4.3719	4.4609	4.4449	4.4461	4.4459		
11	(P/TZ) 2/1000											
12	L/H(F _r Q _m) ²											
13												
14	I _n		10+13									
15	M=P _n -P _{n-1}		232.159	228.530	228.739	228.734	224.170	224.977	224.916	224.926		
16	N=I _n +I _{n-1}			244.5	246.4	246.3	246.3	250.7	250.2	250.3		
17	M x N			460.689	460.898	460.893	452.904	453.711	453.650	453.660		
18	Σ(M x N)		Σ17	227,053		113,535				113,551		