

WORK SHEET FOR STEPWISE CALCULATION (SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_c & P_w)

COMPANY Jake L. Hanson LEASE Appalachian Federal WELL NO. 1 DATE 8/27/66

LOCATION: Unit N Section 17 Township 20 S Range 36 E

L 10999 H 10999 L/H 1.000 G .890 % CO₂ 0.4 % N₂ 0.0 % H₂S 0.0

$$d = \frac{1.995}{1.101,276} \cdot \frac{.018231}{Q_m} = 5.447 \quad M^2_{cid} (L/H) (F_1 Q_m)^2 = .009860 \quad P_{ci} = 662 \quad T_{ci} = 454$$

$$P = \frac{1,101,276}{640.268} = 1720.0 \quad P_w = 6258.2 - 1720.0 = 4538.2$$

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		10,999	5499		0						
2	GH		9789.11	4894.11		0						
3	37.5GH		367,092	183,529		0						
4	P _c or P _n		6258.2	5412.2	5405.2	4552.2	4538.2	4539.2				
5	P ₁		9.45	8.18	8.16	6.88	6.86	6.86				
6	T		618	581	581	544	544	544				
7	T _r		1.36	1.28	1.28	1.20	1.20	1.20				
8	Z		1.099	.994	.992	.879	.878	.878				
9	P/Z P/Z	$\frac{4}{8}$	5694.4	5444.9	5448.8	5178.8	5168.8	5169.9				
10	P/TZ	$\frac{9}{6}$	9.2142	9.3716	9.3783	9.5199	9.5015	9.5035				
11	(P/TZ) ² /1000	$\frac{(10)^2}{1000}$										
12	L/H(F ₁ Q _m) ²											
13		$\frac{11}{1} + \frac{12}{2}$										
14	I _n	$\frac{10}{3} + \frac{13}{3}$	108.528	106.705	106.629	105.043	105.247	105.224				
15	M=P _n -P _{n-1}			846	853	853	867	866				
16	N=I _n +I _{n-1}			215.233	215.157	211.672	211.876	211.853				
17	M x N	$\frac{15}{16}$			183,529			183,465				
18	Σ (M x N)	$\frac{17}{17}$	367,092		183,563							