

WORK SHEET FOR STEPWISE CALCULATION

(SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_c & P_w)

COMPANY Jake L. Hamon LEASE Amerada Federal well No. 1 DATE 8/27/66

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

L 10,999 H 10,999 L/H 1.000 G .893 % CO₂ 0.45 % N₂ 0.0 % H₂S 0.0

d 1.995 F_r .018231 Q_m 7.433 M^2_{cid} (L/H) ($F_r Q_m$)² 0.18360 P_{cr} 662 T_{cr} 454
TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	5499		10,999						
2	CH		0	4910.61		9822.11						
3	37.5GH		0	184,148		368,329						
4	P_c or P_n		3952.2	4986.2	4984.2	6015.2	6010.2					
5	P_r		5.97	7.53	7.53	9.09	9.08					
6	T		544	581	581	618	618					
7	T_r		1.20	1.28	1.28	1.36	1.36					
8	Z		.786	.935	.935	1.068	1.067					
9	P/Z P/Z	$\bar{4} \div 8$	5028.2	5332.8	5330.7	5632.2	5632.8					
10	P/TZ	$\bar{9} \div 6$	9.2430	9.1787	9.1750	9.1136	9.1146					
11	$(P/TZ)^2 / 1000$	$(\bar{10})^2 / 1000$	.085433	.084249	.084181	.083058	.083076					
12	$L/H(F_r Q_m)^2$		.018360	.018360	.018360	.018360	.018360					
13		$\bar{11} + \bar{12}$	.103793	.102609	.102541	.101418	.101436					
14	I_n	$\bar{10} \div \bar{13}$	89.052	89.453	89.476	89.861	89.855					
15	$M = P_n - P_{n-1}$			1034	1032	1031	1026					
16	$N = I_n + I_{n-1}$			178.505	178.528	179.337	179.331					
17	$M \times N$	$\bar{15} \times \bar{16}$										
18	$\Sigma (M \times N)$	$\Sigma \bar{17}$			184,241		368,235					

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(SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_c & P_w)

COMPANY Jake L. Hamon

LEASE Amerada Federal

WELL NO. 1

DATE 8/27/66

LOCATION: Unit N

Section 17

Township 20 S

Range 36 E

L 10,999

H 10,999

L/H 1.000

G .893

% CO₂ 0.48

% N₂ 0.0

% H₂S 0.0

$$P = \frac{1.995 \cdot F_1 \cdot 0.01823 D_m}{647.897} = 1705.4$$

$$P_w = 6010.2 - 1705.4 = 4304.8$$

$$P_{CT} = \frac{662}{T_{CT}} = \frac{662}{454} = 1.458$$

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	II		10,999	5499		0						
2	GH		9822.11	4910.61		0						
3	37.5GH		368,329	184,148		0						
4	P _c or P _n		6010.2	5171.2	5164.2	4318.2	4304.2					
5	P _r		9.08	7.81	7.80	6.52	6.50					
6	T		618	581	581	544	544					
7	T _r		1.36	1.28	1.28	1.20	1.20					
8	Z		1.067	.961	.960	.842	.840					
9	P/Z P/Z	4/8	5632.8	5381.1	5379.4	5128.5	5124.0					
10	P/TZ	9/6	9.1146	9.2618	9.2589	9.4274	9.4291					
11	(P/TZ) ² /1000	(10) ² /1000										
12	L/H(F ₁ Q _m) ²											
13		I ₁ + I ₂										
14	I _n	I ₀ - I ₃	109,714	107,970	108,004	106,074	106,167					
15	M = P _n - P _{n-1}			839	846	846	860					
16	N = I _n + I _{n-1}			217,684	217,718	214,078	214,171					
17	M x N	I ₅ x I ₆			184,189		184,187					
18	Σ (M x N)	Σ I ₇	368,329		184,140							