

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

456 File
Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/1/82		RECEIVED JAN 03 1983	
Company Yates Petroleum Corporation						Connection Transwestern Pipeline			
Pool Pecos Slope - Abo Gas						Formation Abo		Unit O. C. D.	
Completion Date 6/4/82		Total Depth 4250'		Plug Back TD 4191'		Elevation 3706' GL		Form of Lease Savage "NI" Federal	
Csg. Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 4250'	Perforations: From 3740 To 3906		Well No. 2			
Thg. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 3684'	Perforations: From To		Unit 0		Sec. 19	Twp. 6S
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 3684		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 110@ 3683		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2 psi		State New Mexico	
L 3684	H 3684	Gg .638	% CO ₂ .12	% N ₂ 4.79	% H ₂ S 0	Prover -	Meter Run 2"	Taps Flanged	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							1005				
1.	2.067 x 1.000			305	20.6	72	871	62			24 hr.
2.	2.067 x 1.000			295	24.0	72	853	62			24 hr.
3.	2.067 x 1.000			295	29.3	72	840	62			24 hr.
4.	2.067 x 1.000			280	40.0	72	810	62			24 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	4.946	81.0	318.2	.9887	1.252	1.026	509
2	4.946	86.0	308.2	.9887	1.252	1.025	540
3	4.946	95.0	308.2	.9887	1.252	1.025	596
4	4.946	108.3	293.2	.9887	1.252	1.024	679
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry _____ Mcf/bbl.
1	.48	532	1.49	.950	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.47	532	1.49	.951	Specific Gravity Separator Gas .638 X X X X X X X X
3	.47	532	1.49	.951	Specific Gravity Flowing Fluid X X X X X .638
4	.44	532	1.49	.954	Critical Pressure 661 P.S.I.A. 661 P.S.I.A.
5					Critical Temperature 358 R 358 R

P_c 1018.2 P_c² 1036.7

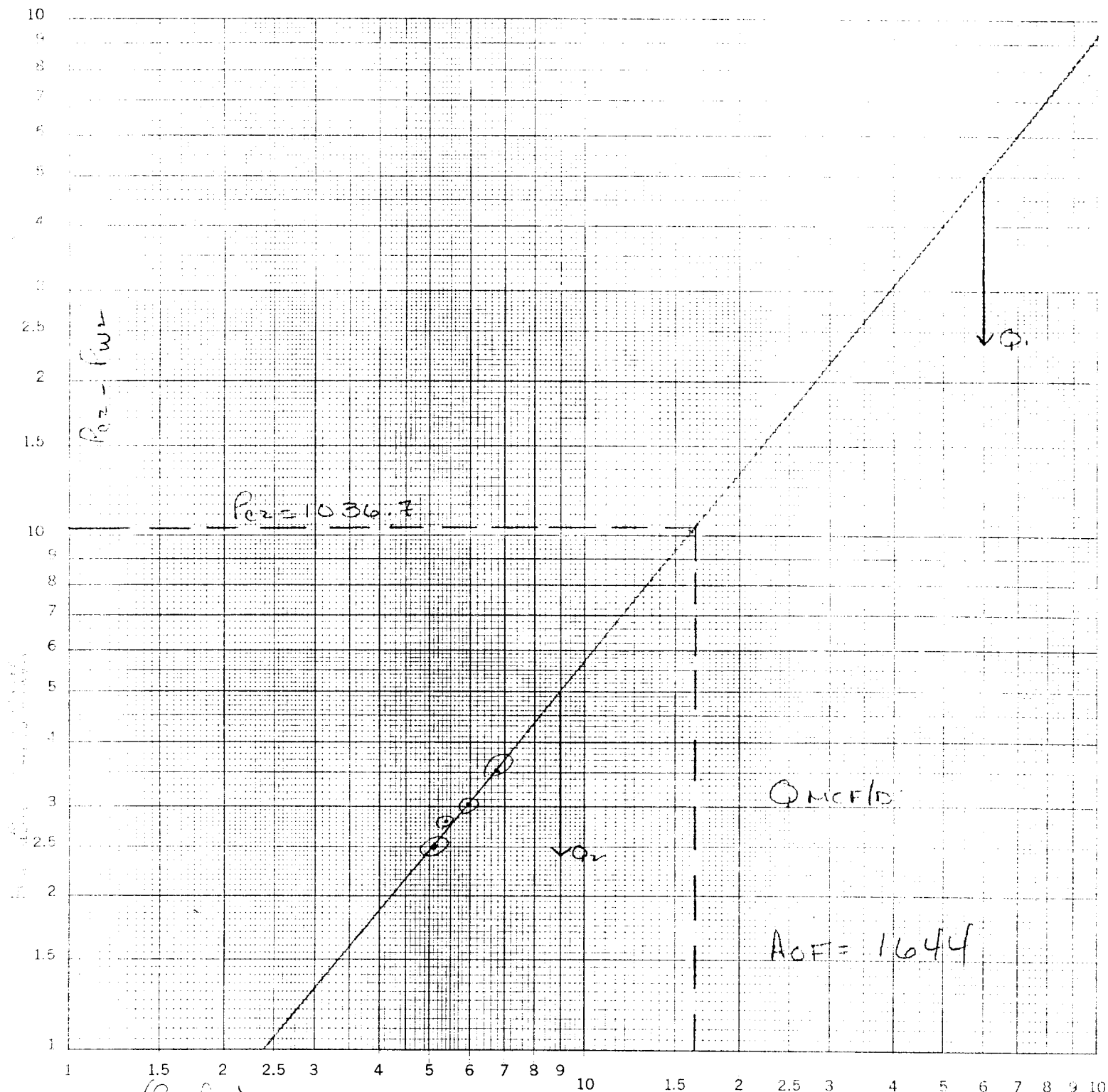
NO	P _w ²	P _w	P _w ² - P _w ²
1	781.8		785.1
2	750.3		754.0
3	728.0		732.5
4			
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.936$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.421$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1644$

Absolute Open Flow 1644 Mcfd @ 15.025		Angle of Slope θ _____	Slope, n .821
Remarks: _____			
Approved By Commission:		Conducted By: David Weaver	Calculated By: Andie Alderson
		Checked By:	

Uge Petroleum Corp
 Savage "N" Federal #2
 Unit 0 19-65-16E
 Chavez County



$$\begin{aligned}
 (P_{02} - P_{w2})_1 &= 5000 \\
 (P_{02} - P_{w2})_2 &= 500 \\
 &= Q_1 = 5910 \\
 &= Q_2 = 905
 \end{aligned}$$

$$\begin{aligned}
 \log Q_1 &= 3.77743 \\
 \log Q_2 &= 2.95665 \\
 n &= .82078 = .821
 \end{aligned}$$

DATE _____

5

% H₂S

23

2

TABLE IX. 5

LINE									
1 Q_m	15.1	7.11			1.11				
2 T_w (W.H. °R)	50.1	5.10			5.10				
3 T_s (B.H. °R)		5			5.10				
4 $T = (Lw + 1s)$	57.6	54.6			54.6				
5 L (Est.)	5.16	5.16			5.16				
6 TZ	478.3	478.3			478.3				
7 GH/TZ	477.3	477.3			477.3				
8 e^5 (Table XIV)	1.202	1.202			1.201				
9 $1-e^5$ (Table XIV)	1.168	1.168			1.167				
10 F_1	844.2	844.2			843.2				
11 $P_1/2/1000$	741.8	750.3			748.0				
12 F_1 (Table XVI)	0.1823	0.1823			0.1823				
13 $F_2 = F_1/TZ$	87.9	87.39			87.39				
14 $F_2 Q_m$	4.438	4.719			5.120				
15 $L/H (F_2 Q_m)^2$	19.694	22.221			24.152				
16 $F_w = L/H (F_2 Q_m)^2 (1-e^5)$	3.309	3.11			4.021				
17 $P_w^2 = P_1^2 + F_w$	785.1	784.0			784.5				
18 $F_3^2 = e^5 P_w^2$	743.2	743.2			743.2				
19 F_3	27.24	27.24			27.24				
20 $F = (F_1 + F_3)$	27.24	27.24			27.24				
21 $F_1 - F_3 (P_w)$	1.11	1.11			1.11				
22 $T_2 = (T/T_1)$	1.23	1.23			1.23				
23 Z (Table XI)	1.872	1.872			1.872				