NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
APR 09 1981
O. C. D.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special		Test Date: 2-9-81	
Company: Yates Petroleum Corporation	Connection: Transwestern Pipeline Co.		Unit
Pool: Wildcat Abo	Formation: Abo		
Completion Date: 9-12-80	Total Depth: 4425	Plug Back TD: 4140	Elevation: 3650 KB
Csg. Size: 5½ / Wt.: 14# / d: 5.012 / Set At: 4140	Perforations: From 4048 To 4053		Lease or Lease Name: Coffman NY Fed.
Tbg. Size: 2 7/8 / Wt.: 6.5# / d: 2.441 / Set At: 3992	Perforations: From To		Well No.: 1
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: 3998 KB		Unit: E / Sec.: 25 / Twp.: 7S / Rge.: 25E
Producing Thru: Tubing	Reservoir Temp. °F: 100 @ 4051	Mean Annual Temp. °F: 62	Baro. Press. – P_a: 13.2
			County: Chaves
			State: New Mexico

L	H	G_g	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
4048	4048	0.652	0.30	6.55	N.7	----	2"	Flanged

FLOW DATA

NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA Press. p.s.i.g.	TUBING DATA Temp. °F	CASING DATA Press. p.s.i.g.	CASING DATA Temp. °F	Duration of Flow
SI							1010	62			Weeks
1.	2.067	X	1.000	375	15	60	961	67			16
2.	2.067	X	1.000	380	29	60	934	70			24
3.	2.067	X	1.000	380	56	60	865	72			24
4.	2.067	X	1.000	400	85	60	756	74			24
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	76.31	388.2	1.000	1.237	1.0350	483
2	4.946	106.78	393.2	1.000	1.237	1.0354	676
3	4.946	148.39	393.2	1.000	1.237	1.0354	940
4	4.946	187.41	413.2	1.000	1.237	1.0371	1189
5							

NO.	P_t	Temp. °R	T_r	Z
1	0.589	520	1.459	.9335
2	0.596	520	1.459	.9328
3	0.596	520	1.459	.9328
4	0.627	520	1.459	.9297
5				

Gas Liquid Hydrocarbon Ratio ------- Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons ------- Deg.
Specific Gravity Separator Gas 0.653 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX 0.652
Critical Pressure 659.5 P.S.I.A. 791 P.S.I.A.
Critical Temperature 356.5 R 404.5 R

P_c 1147.2 P_c^2 1316

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1			1190	126
2			1124	192
3			965	351
4			739	577
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.2808$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.5342$

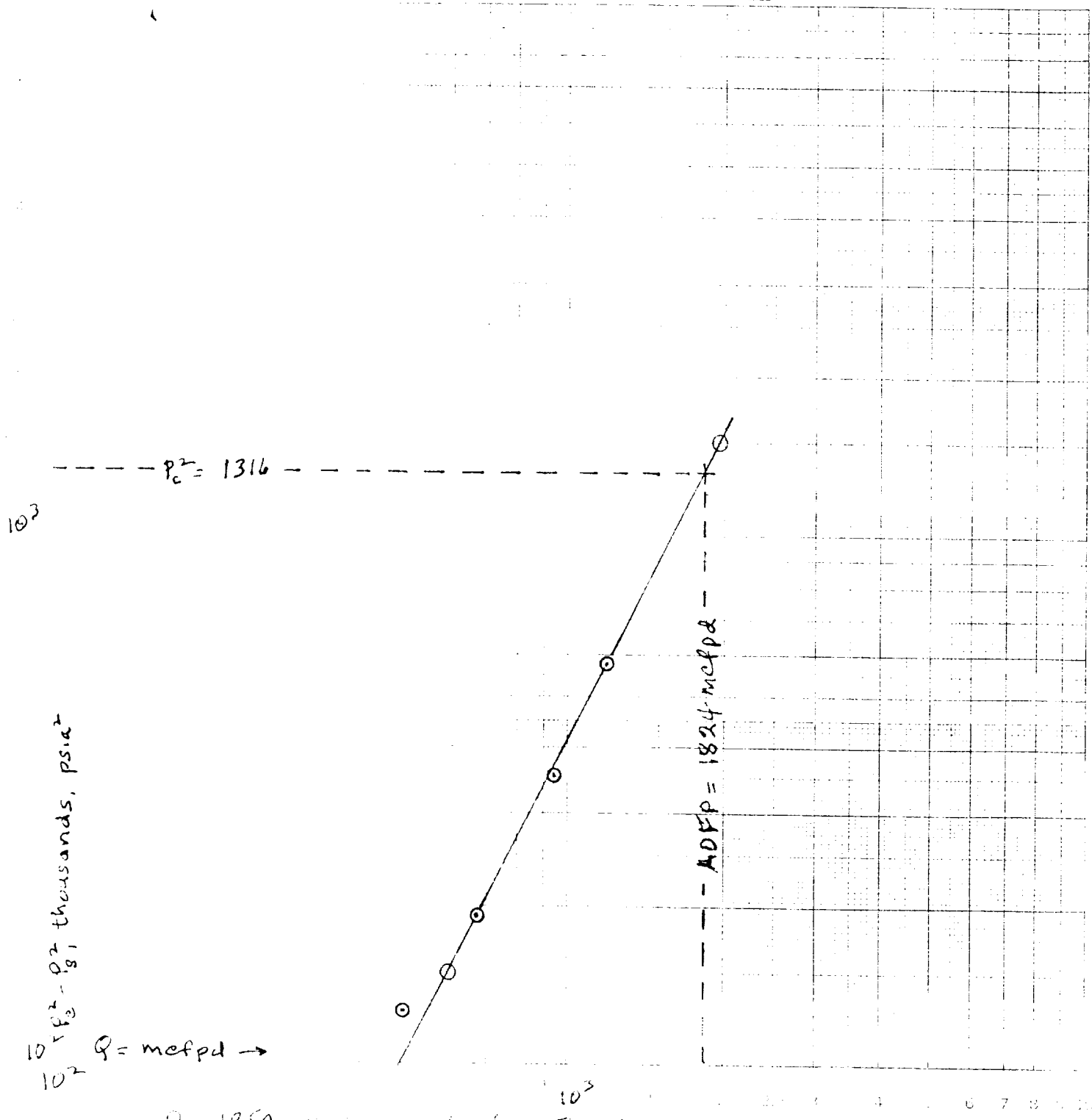
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1824$

Absolute Open Flow 1824 Mcfd @ 15.025 Angle of Slope θ 62.5 deg. Slope, n 0.5191

Remarks: Static pressures by Bennet Wireline, flowing pressures by DWT. Calculations worksheet C1220 attached

Approved by Commission:	Conducted By:	Calculated By:	Checked By:
	David Weaver	Eddie Mahfood	

YPC- Coffman NY Federal No. 1
E-25-7s-25E, Wildcat Abo, Chaves, N. Mex



Q_1 = 1950 mcfpd
Q_2 = 590 mcfpd

log Q_1 = 3.2900
log Q_2 = 2.7709
n = 0.5191

COMPANY YPC LEASE Coffman NY Federal WELL NO. 1 DATE 2-9-81

LOCATION: Unit E Section 25 Township 7S Range 25E

L 4048 H 4048 L/H 1.000 G 0.653 % CO_2 0.31 % N_2 6.83 % H_2S N.T

P_c 3496 (5.458) = 23806

T_c 52 (2512) = 1306

4048 (6.204) = 25114

d 2.4908 F_r 0.009368 GH 5639 4.1% H_2O P_{cr} 791 TABLE IX & X T_{cr} 1104.5 TABLE IX & X

LINE	S1	1	2	3	4					
1 Q_m	—	1.483	0.676	0.940	1.189					
2 T_w (W.H. °R)	522	527	530	532	534					
3 T_B (B.H. °R)	560	558	556	554	553					
4 $T = \left(\frac{T_w + T_B}{2}\right)$	541	542.5	543	543	543.5					
5 Z (Est.)	0.1995	.8105	.8165	.8285	.8495					
6 TZ	432.53	439.70	443.36	449.895	461.703					
7 GH/TZ	6.1020	6.0026	5.9530	5.8667	5.7164					
8 e^S (Table XIV)	1.2571	1.25245	1.2501	1.2460	1.2391					
9 $1-e^{-S}$ (Table XIV)		0.2016	0.2001	0.1975	0.1930					
10 P_t^2	1023.2	974.2	947.2	878.2	769.2					
11 P_t (Table XIII)	1646.9	949.07	897.19	771.2	591.7					
12 F_c (Table XV) .0375 $\frac{GH}{T^2Z}$	0.2885	0.22510	0.22524	0.22000	0.21437					
13 $F_c = F_c$ TZ		4.1191	4.1534	4.2144	4.3252					
14 $F_c Q_m$		1.9845	2.808	3.9616	5.143					
15 $L/H (F_c Q_m)^2$		3.958	7.883	15.694	26.447					
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-S})$		0.8	1.58	3.1	5.1					
17 $P_w^2 = P_t^2 + F_w$		949.87	898.77	774.3	596.8					
18 $P_s^2 = e^S P_w^2$	1316.1	1189.7	1123.5	964.8	739.5					
19 P_s	1147.2	1090.7	1060.0	982.2	860.0					
20 $P = \left(\frac{P_t + P_s}{2}\right)$	1085.2	1032.5	1003.6	930.2	814.6					
21 $P_r = (P/P_{cr})$	1.372	1.305	1.269	1.176	1.030					
22 $T_r = (T/T_{cr})$	1.3375	1.341	1.342	1.342	1.3435					
23 Z (Table XI)	0.1995	0.8105	0.8165	0.8285	0.8495					

670 376

659.4 356.6

$$f_R = \frac{1.63294}{(16.2165 + 4\log d)\, d^{1/2}} = .0009368$$

1.5853

17.8018 - 9.7918 5