NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

Form C-122
Revised 9-1-65

C-SF

MAY 28 1980

O. C. D.

ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special			Test Date: 3-21-80	
Company: Yates Petroleum Corp.	Connection: Transwestern Pipeline Company			Unit: NM 12833
Pool: Boyd Morrow	Formation: Morrow			
Completion Date: 2-16-80	Total Depth: 9363' KB	Plug Back TD: 9346' KB	Elevation: 3470' KB	Farm or Lease Name: Rio Penasco "MF" Fed
Csg. Size: 5-1/2" / Wt.: 17# / d: 4.892 / Set At: 9357' KB		Perforations: From 9024 To 9052		Well No.: 1
Tbg. Size: 2-7/8" / Wt.: 6.5# / d: 2.441 / Set At: 9023' KB		Perforations: From To		Unit: F / Sec.: 11 / Twp.: 19S / Rge.: 25E
Type Well -- Single -- Bradenhead -- G.G. or G.O. Multiple: Single		Packer Set At: 9011' KB		County: Eddy
Producing Thru: Tubing	Reservoir Temp. °F: 149 @ 9038	Mean Annual Temp. °F: 62	Baro. Press. -- P_a: 13.2	State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
9028	9028	0.599	0.75	0.49	Nil		4"	Flange

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					2975	71			Days
1.	4.026 x 1.500	290	10	73	2783	76			1 hour
2.		290	19	73	2668	81			1 hour
3.		290	39	73	2454	84			1 hour
4.		290	78	73	2057	86			1 hour
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	10.84	55.06	303.2	.9877	1.298	1.112	851
2.	10.84	75.90	303.2	.9877	1.298	1.112	1173
3.	10.84	108.74	303.2	.9877	1.298	1.112	1680
4.	10.84	153.78	303.2	.9877	1.298	1.112	2376
5.							

NO.	P_t	Temp. °R	T_r	Z
1.	4.499	533	1.504	.809
2.	4.499	533	1.504	.809
3.	4.499	533	1.504	.809
4.	4.499	533	1.504	.809
5.				

Gas Liquid Hydrocarbon Ratio: 696.4 Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: 51.0 Deg.

Specific Gravity Separator Gas: 0.594 / xxxxxxxxx

Specific Gravity Flowing Fluid: xxxxx / .599

Critical Pressure: 674 P.S.I.A. / 674 P.S.I.A.

Critical Temperature: 354.5 R / 356.5 R

P_c 3666.2 P_c^2 13442

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1			11939	1503
2			10996	2446
3			9343	4099
4			6619	6823
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.9701$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.5840$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3764$

Absolute Open Flow: 3764 Mcfd @ 15.025

Angle of Slope θ: 52.05 deg

Slope, n: 0.6783

Remarks: Static pressures by Bennett Wireline; Flowing pressures by DWT.
Calculations worksheet C-122D attached.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Don Weaver	Eddie Mahfood	

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Rio Penasco MF Fed WELL NO. 1 DATE 3-21-80

LOCATION: Unit F Section 11 Township 19S Range 25E

L 9028 H 9028 L/H 1.000 G .614 % CO_2 0.75 % N_2 0.49 % H_2S N.I

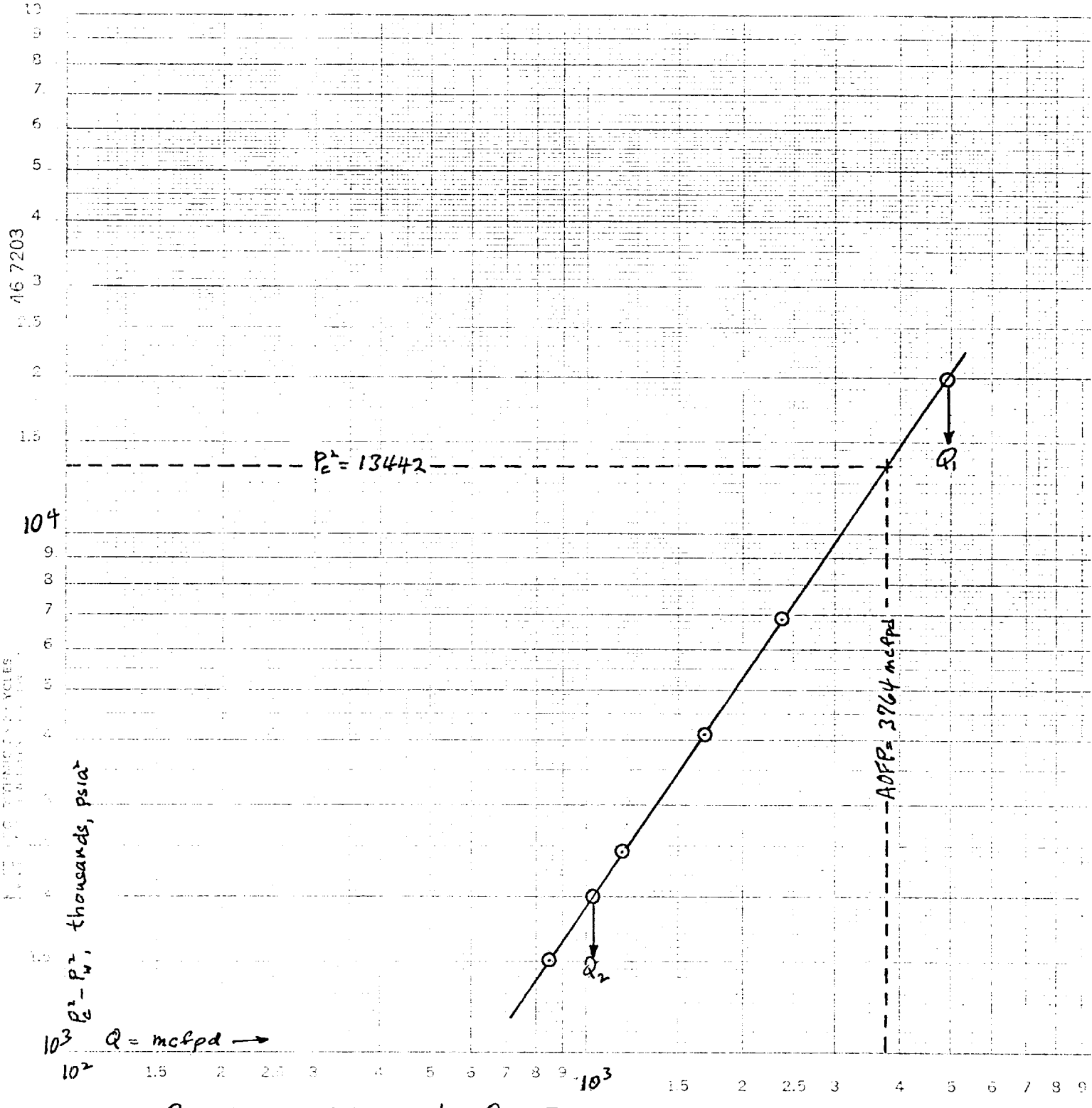
d 2.4507 F_r .009772 GH 5408 P_{cr} 674 (TABLE IX & X) T_{cr} 353 (TABLE IX & X)

LINE	S1	1	2	3	4					
1 Q_m	—	.8951	1.173	1.680	2.376					
2 T_w (W.H. °R)	531	536	541	544	546					
3 T_s (B.H. °R)	612	612	611	610	610					
4 $T = (\frac{T_w + T_s}{2})$	571.5	574	575.5	577	578					
5 Z (Est.)	.844	.836	.832	.827	.826					
6 TZ	482.35	479.86	478.82	477.18	477.43					
7 GH/TZ	11.212	11.270	11.2945	11.333	11.327					
8 e^s (Table XIV)	1.5226	1.52595	1.5274	1.52.96	1.52925					
9 $1-e^{-s}$ (Table XIV)		0.3447	0.3453	0.3462	0.3461					
10 P_t	2971.2	2796.2	2681.2	2467.2	2070.2					
11 $P_t^2/1000$	8828.0	7818.7	7185.8	6087.1	4285.1					
12 F_r (Table XV) S_g .6147	0.42044	0.42262	0.42354	0.42500	0.42478					
13 $F_c = F_r TZ$		4.689	4.679	4.663	4.665					
14 $F_c Q_m$		3.991	5.489	7.834	11.084					
15 $L/H (F_c Q_m)^2$		15.92	30.124	61.37	122.86					
16 $F_w = L/H(F_c Q_m)^2(1-e^{-s})$		5.5	10.4	21.2	42.5					
17 $P_w^2 = P_t^2 + F_w$		7824.2	7199.2	6108.4	4328.2					
18 $P_s^2 = e^s P_w^2$	13447	11939	10996	9343.4	6618.9					
19 P_s	3666.2	3455.3	3316.0	3056.7	2572.7					
20 $P = (\frac{P_t + P_s}{2})$	3318.7	3125.8	2998.6	2761.9	2321.5					
21 $P_r = (P/P_{cr})$	4.924	4.638	4.449	4.098	3.444					
22 $T_r = (T/T_{cr})$	1.603	1.610	1.614	1.6185	1.621					
23 Z (Table XI)	.844	0.836	0.832	0.827	0.826					

One copy to be filed in District Office (Work copy acceptable)

YPC - Rio Penasco MF Fed No. 1

F-11-19S-25E, Boyd Morrow, Eddy County, N. Mex



$Q_1 = 4910$ mcfpd $\log Q_1 = 3.6911$

$Q_2 = 1030$ mcfpd $\log Q_2 = 3.0128$

$n = 0.6783$