

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

JUL 6 1982

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 5-21-82		O. C. D. ARTESIA, OFFICE	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline			
Pool Und.				Formation Abo		Unit	
Completion Date 1-23-82		Total Depth 4300		Plug Back TD 4061		Elevation 4028.8	
Farm or Lease Name Langley RJ Federal		Well No. 2					
Coq. Size 4-1/2	Wt. 9.5	d 4.090	Set At 4290	Perforations: From 3722 To 3738			
Thq. Size 2-3/8	Wt. 4.7	d 1.995	Set At 3704	Perforations: From To			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At -----		County Chaves	
Producing Thru tubing		Reservoir Temp. °F 104 @ 3.702		Mean Annual Temp. °F 62		State New Mexico	
L 3704	H 3704	Cg .665	% CO ₂ 3.82	% N ₂ 4.16	% H ₂ S -----	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							1000				
1.	2.067 x 1.250			190	35.6	62	895	72			24 hrs.
2.	2.067 x 1.250			195	56.3	62	848	72			24 hrs.
3.	2.067 x 1.250			200	65.9	62	791	72			24 hrs.
4.	2.067 x 1.250			205	92.7	62	765	72			24 hrs.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcd
1	8.120	85.1	203.2	.9981	1.226	1.017	860
2	8.120	108.3	208.2	.9981	1.226	1.018	1095
3	8.120	118.5	213.2	.9981	1.226	1.019	1200
4	8.120	142.2	218.2	.9981	1.226	1.019	1440
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	.29	522	1.45	.966	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2	.30	522	1.45	.965	Specific Gravity Separator Gas .665
3	.31	522	1.45	.964	Specific Gravity Flowing Fluid _____
4	.32	522	1.45	.963	Critical Pressure 680 P.S.I.A.
5					Critical Temperature 360 °R

P _c 1013.2 P _c ² 1026.6				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.600$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.950$	
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²			
1	824.8		834.6	192			
2	741.6		759.6	267			
3	647.8		666.6	360.0			
4	605.6		631.7	394.9			
5							

Absolute Open Flow 2807 mcf				Mcd @ 15.025		Angle of Slope @ _____		Slope, n .699	
Remarks: _____									

Approved By Division	Conducted By: David Weaver	Calculated By: Brent Mulliniks	Checked By:
----------------------	-------------------------------	-----------------------------------	-------------

DATE 6-17-92

WELL NO. 2

COMPANY Yates Petroleum

LEASE Langley

LOCATION: Unit M

Section 4

Township 6S

Range 25E

L 3704

H 3704

L/H 1,000

G 665

% CO₂ 3.82% N₂ 4.16% H₂S —

d

1,895

F_r 0.01823

GH 2463

P_{cr} 680T_{cr} 360

TABLE IX & X

LINE	Rate 1	Rate 2	Rate 3	Rate 4
1 Q _h	.860	1,095	1,200	1,440
2 T _h (Table IX)	522	522	522	522
3 T _h (Table IX)	532	532	532	532
4 T _h (Table IX)	527	527	527	527
5 T _h (Table IX)	.853	.860	.867	.870
6 T _h	449.53	453.22	456.91	458.49
7 GH/TZ	5,479	5,375	5,331	5,313
8 e ^s (Table XIV)	1.228	1.223	1.221	1.220
9 1-e ^s (Table XIV)	.186	.182	.181	.180
10 P _r	908.2	861.2	808.2	779.2
11 P _r 2/1000	829.8	741.6	647.8	605.6
12 F _r (Table XV)	.01823	.01823	.01823	.01823
13 F _c = F _r TZ	8.195	8.262	8.329	8.358
14 F _c Q _m	7.099	9.915	9.995	12.036
15 L/H (F _c Q _m) ²	49.669	98.300	99.907	144.863
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	9.239	17.891	18.083	26.075
17 P _w ² = P _r ² + F _w	839.1	759.5	665.8	631.7
18 P _s ² = e ^s P _w ²	1029.2	929.9	813.0	770.6
19 P _s	1012.0	963.8	901.7	877.9
20 P = ($\frac{P_r + P_s}{2}$)	960.1	912.5	853.2	828.0
21 P _r = (P/P _{cr})	1.41	1.34	1.25	1.22
22 T _r = (T/T _{cr})	1.46	1.46	1.46	1.46
23 Z (Table XI)	.853	.860	.867	.870

34

35

37

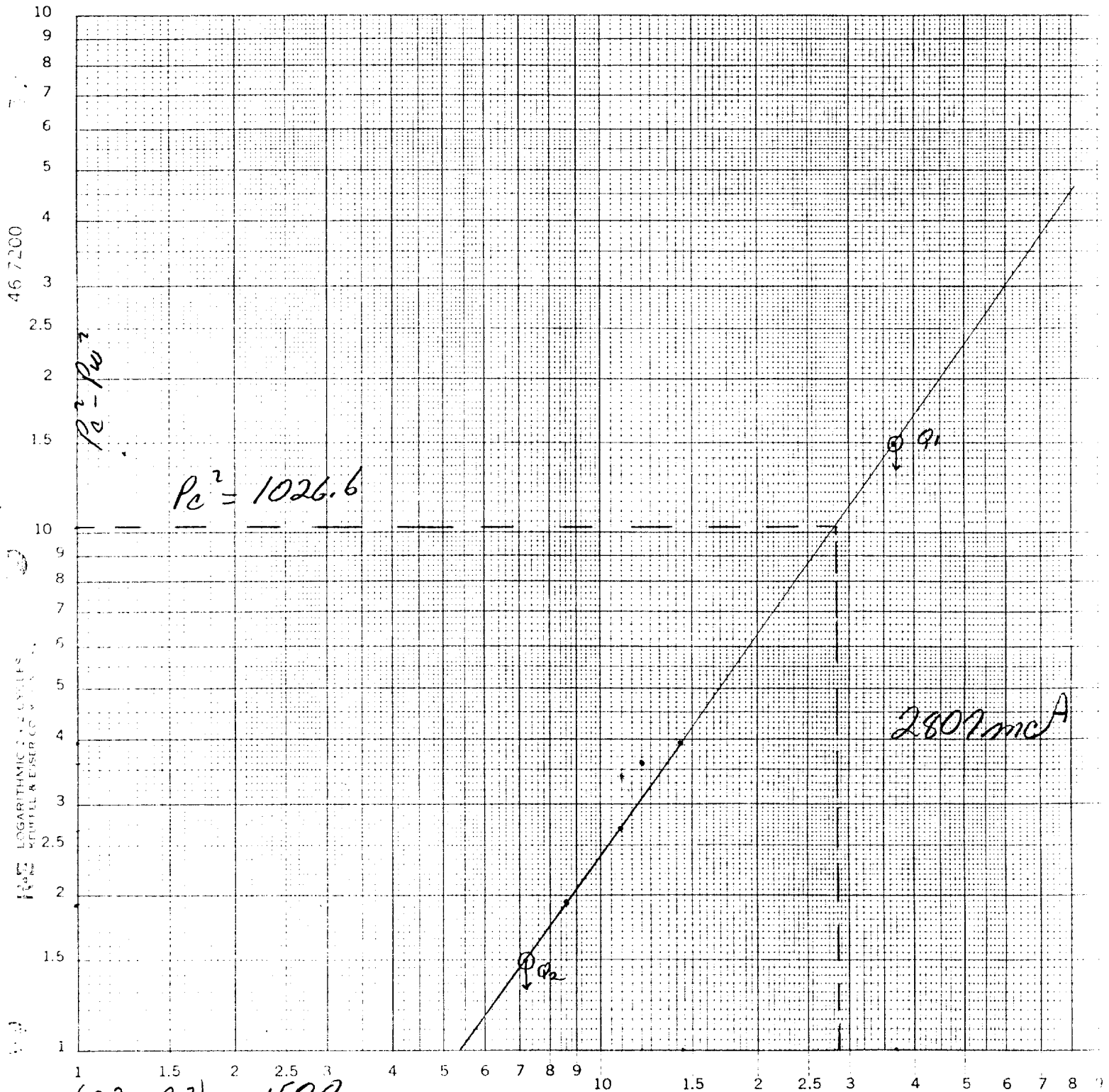
40

42

45

49

LAUDY 101 110 100
 9-65-25E
 Chaves, New Mexico
 Yates Pet.



$$(P_c^2 - P_w^2)_1 = 1,500$$

$$(P_c^2 - P_w^2)_2 = 150$$

$$Q_1 = 3,600$$

$$Q_2 = 720$$

$$\log Q_1 = 3.55630$$

$$\log Q_2 = 2.85733$$

$$N = .69897 \quad N = .699$$