

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test: ☒ Initial FOUR POINT ☐ Annual ☐ Special						Test Date: 10-27-81		DEC 17 1981	
Company: YATES PETROLEUM CORP. ✓				Connection: TRANSWESTERN				O. C. D.	
Pool: <i>Pecos Slope - Abo Gas</i> UNDESIGNATED				Formation: ABO				Unit: ARTESIA, OFFICE	
Completion Date: 8-7-81		Total Depth: 4200		Plug Back TD: 4195		Elevation: 3808 KB		Farm or Lease Name: SOUTH ALKALI "LK" FED.	
Coq. Size: 4.500	Wt.: 9.500	d: 4.090	Set At: 4200	Perforations: 3-32 3898 From: 4195 To: 3808.5 KB		Well No.: 2			
Thq. Size: 2.375	Wt.: 4.700	d: 1.995	Set At: 3850	Perforations: From OPEN To ENDED		Unit: P 1		Sec. 65 Twp. 25E	
Type Well: Single - Bradenhead - G.G. or G.O. Multiple						Packer Set At: 3730		County: CHAVES	
Producing Thru: TUBING		Reservoir Temp. °F: 103 @ 3815		Mean Annual Temp. °F: 60		Baro. Press. - P ₀ : 13.2		State: NEW MEXICO	
L: 3815	H: 3815	Cq: .649	% CO ₂ : .37	% N ₂ : 5.62	% H ₂ S:	Prover:	Meter Run: 2.067	Taps: FLANGE	

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	Duration of Flow
SI							1015				72 HOURS
1.	2.067	X	1.250	355	5.0	66	900	68			24
2.	2.067	X	1.250	380	5.2	70	870	72			24
3.	2.067	X	1.250	370	6.6	68	830	72			24
4.	2.067	X	1.250	360	86	68	720	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	8.3290	135.68	368.2	.9943	1.2413	1.0314	1439
2	8.3290	142.99	393.2	.9905	1.2413	1.0320	1511
3	8.3290	159.03	383.2	.9924	1.2413	1.0325	1685
4	8.3290	179.15	373.2	.9924	1.2413	1.0314	1896
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/hbl.
1	.56	526	1.48	.940	A.P.I. Gravity of Liquid Hydrocarbons	Deq.
2	.59	530	1.49	.939	Specific Gravity Separator Gas: .6490	XXXXXXX
3	.58	528	1.48	.938	Specific Gravity Flowing Fluid: XXXXX	.6490
4	.56	528	1.48	.940	Critical Pressure: 662 P.S.I.A.	662 P.S.I.A.
5					Critical Temperature: 356 R	356 R

NO.	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1	1022.6	1045.7	247	
2	990.8	981.7	311	
3	951.8	905.9	386	
4	840.5	706.4	586	
5				

(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 2.2053$

AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 2815.6$

(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.4850$

Absolute Open Flow: 2815.6	Mold @ 15.025	Angle of Slope @ 63.4	Slope, n: .5000
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Remarks: STATIC PRESSURE BY BENNETT WIRELINE, FLOWING PRESSURE BY DWT CALCULATIONS.
WOHLFORD & JENKINS COMPUTER PROGRAM CALCULATIONS ATTACHED IN LIEU OF WORKSHEET C 122D

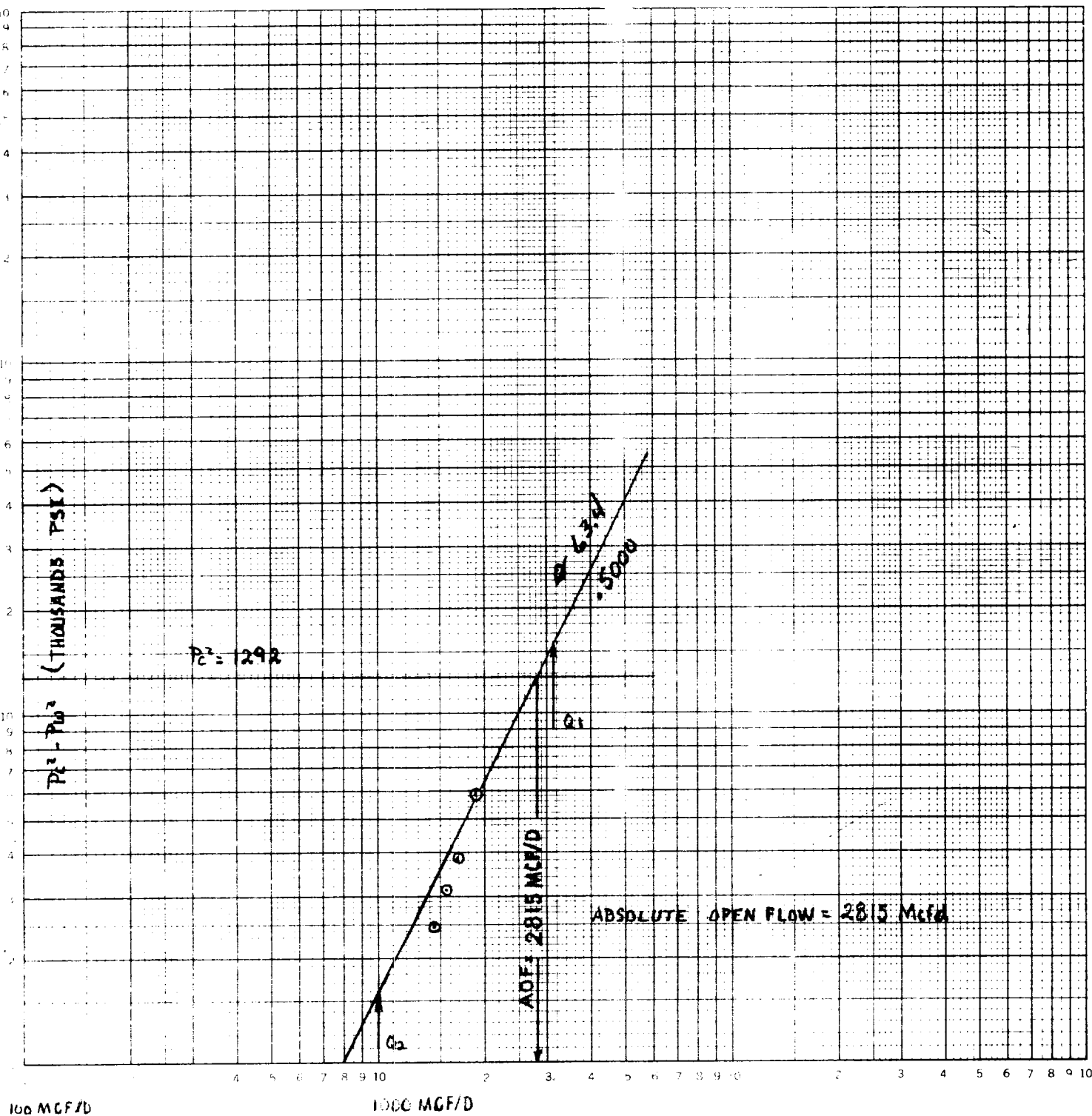
Approved by Division:	Conducted by: DAVID WEAVER	Calculated by: WOHLFORD & JENKINS	Checked By: RAY STALL
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YATP - FETTER CO.
 SOUTH ALKALINE "AK" FEDERAL No. 2
 UNIT P SEC. 1, T. 6 S, R. 25 E
 CHAVES COUNTY
 NEW MEXICO
 NOVEMBER 27, 1981

46 7400

LOGARITHMIC 3 1/2 CYCLES
 METHOD, A ESSER CO. MODEL 1114



$$\Delta P_1: P_c^2 - P_w^2 = 3165$$

$$\Delta P_2: P_c^2 - P_w^2 = 1600$$

$$Q_1 = 1600 \text{ MCF/D}$$

$$Q_2 = 160 \text{ MCF/D}$$

$$Q, \text{ MCF/D}$$

$$\text{LOG } Q_1 = 3.50609$$

$$\text{LOG } Q_2 = 3.00610$$

$$n = \frac{3.50609 - 3.00610}{0.50001} = 0.500$$