

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

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

RECEIVED

SEP 15 1980

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 7-14-80		SEP 15 1980	
Company Yates Petroleum Corp.				Connection Transwestern Pipeline Company				O. C. D. ARTESIA, OFFICE	
Pool Pecos Slope - Abo Gas Wildcat Abo				Formation Abo				Unit L 4283	
Completion Date 12-19-79		Total Depth 5318'		Plug Back TD 5125' KB		Elevation 3563' KB		Farm or Lease Name Cottonwood Ranch "MK"	
Csg. Size 4-1/2"	Wt. 9.5#	d 4.090	Set At 5300'	Perforations: From 3809 To 3824		Well No. 1			
Tbg. Size 2-7/8"	Wt. 6.5#	d 2.441	Set At 3764'	Perforations: From To		Unit Sec. Twp. Rge. B 36 6S 25E			
Type Well - Single - Drakenhead - G.G. or G.O. Multiple Single				Packer Set At 3764' KB		County Chaves			
Producing Thru Tubing		Reservoir Temp. °F 96 @ 3817		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 3812	H 3812	Gg 0.644	% CO ₂ 0.42	% N ₂ 4.72	% H ₂ S Nil	Prover	Meter Run 2"	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
SI							1014	98			Months
1.	2.067 x 0.750			690	16	65	991	86			1 hour
2.				689	30	65	975	87			1 hour
3.				689	55	65	947	88			1 hour
4.				688	92	65	906	90			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	2.709	106.07	703.2	.9952	1.246	1.070	381
2	2.709	145.14	702.2	.9952	1.246	1.070	522
3	2.709	196.52	702.2	.9952	1.246	1.070	706
4	2.709	253.99	701.2	.9952	1.246	1.070	913
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	1.060	525	1.419	.874			0.644	XXXXXX	663	370
2	1.059	525	1.419	.874				XXXXX		
3	1.059	525	1.419	.874						
4	1.058	525	1.419	.874						
5										

P _c 1136.2 P _c ² 1291				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.9464$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.5872$	
NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²			
1			1230	59			
2			1190	101			
3			1124	167			
4			1030	261			
5							

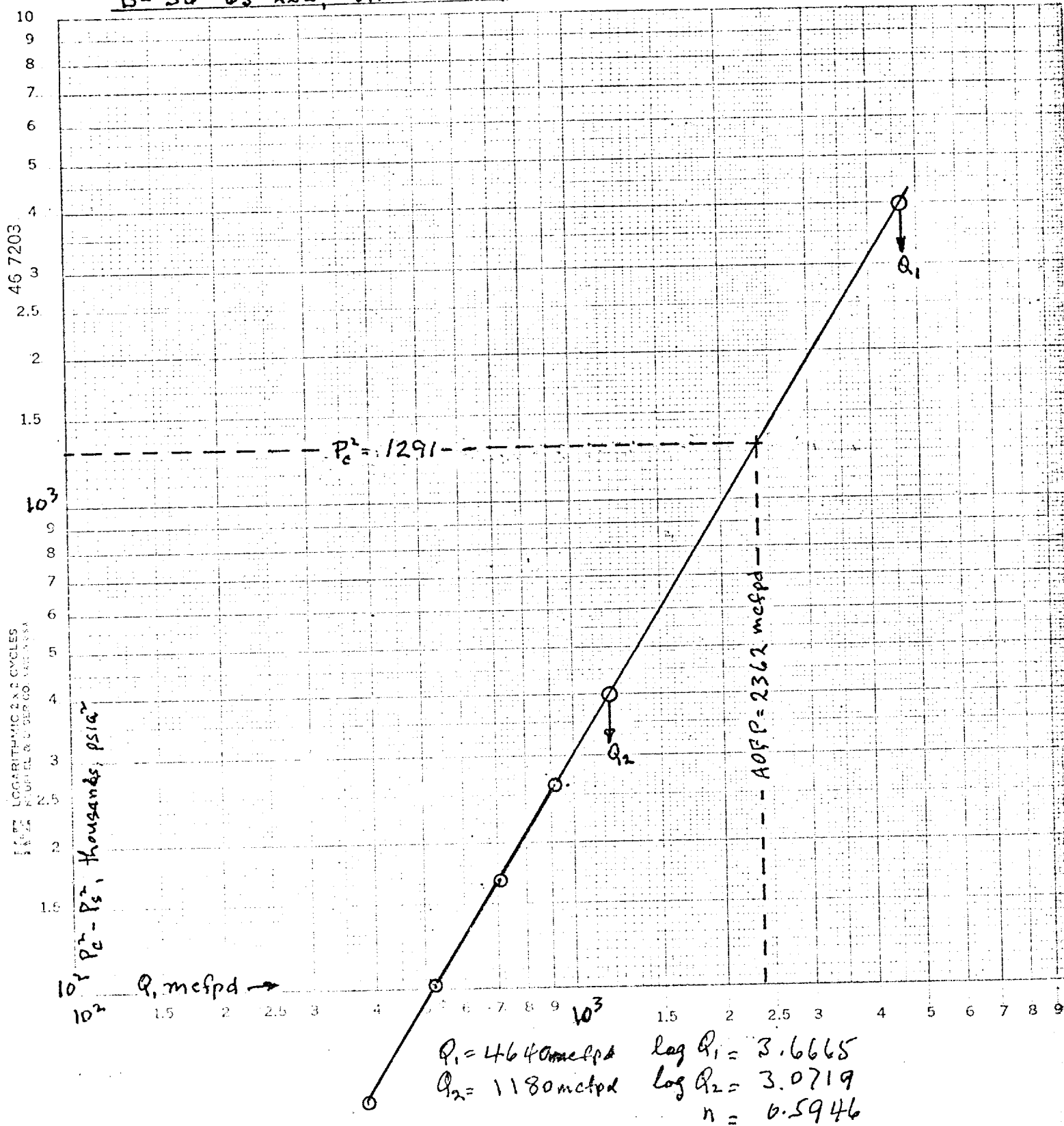
Absolute Open Flow		2362	Mcf @ 15.025	Angle of Slope	59.26 deg	Slope, n	0.5946
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Remarks: Static pressures by Bennett Wireline; Flowing pressures by DWT.
Calculations worksheet C-122D attached.

Approved By Commission:	Conducted By: Don Weaver	Calculated By: Eddie Mahfood	Checked By:
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YPC - Cottonwood Ranch MK State No.1

B-36-6S-25E, Wildcat Abo, Chaves Co., N. Mex



WORKSHEET FOR CALCULATION OF SI. JC COLUMN WELLHEAD PRESSURE (P_w)

Accepted 9-1-65

DATE 7-14-80

COMPANY

YPC

LEASE Cottonwood Ranch MK WELL NO. 1

LOCATION: Unit

B

Section

36

Township

6S

Range

2SE

% CO₂ 0.42 % N₂ 4.72 % H₂S N/I

L 3812

H 3812

L/H 1.000

G 0.1644

% CO₂ 0.42

% N₂ 4.72

% H₂S N/I

2 7/8 - 37 1/2 (5458 = 2844)
55 (1675) 836
442 - 3812 (6.044) 23250

0.25% H₂O P_{cf} 671 T_{cf} 372.5

TABLE 12 B 2

LINE	1	2	3	4					
1 Q _m	-	0.381	0.522	0.706	0.913				
2 T _w (W.H. °R)	558	546	547	548	550				
3 T ₃ (B.H. °R)	556	555	555	555	554				
4 T = (T _w + T ₃) / 2	546	550.5	551	551.5	552				
5 Z (E.S.)	48365	1845	18475	18515	18585				
6 T ₂	456.73	465.17	466.97	469.60	473.89				
7 GH/T ₂	5.3752	5.2726	5.2573	5.2278	5.1805				
8 e ⁵ (T ₂ °C XIV)	1.2223	1.2189	1.2179	1.2166	1.2144				
9 1-e ⁵ (T ₂ °C XIV)		0.1795	0.1789	0.1780	0.1766				
10 P ₁	1027.2	1004.2	988.2	960.2	919.2				
11 P ₂ 2/1000	1055.1	1008.4	976.5	922.0	844.9				
12 F ₁ (T ₂ °C XV)	0.20157	0.19791	0.19715	0.19604	0.19427				
13 F ₂ = F ₁ T ₂		4.4559	4.4731	4.4983	4.5394				
14 F ₃ = F ₁ T ₂		1.698	2.335	3.176	4.1445				
15 L/H (F ₃ °C Q _m) ²		2.882	5.452	10.086	17.177				
16 F _w = L/H (F ₃ °C Q _m) ² (1-e ⁻⁵)		0.5	1.0	1.8	3.0				
17 P _w = P ₁ ² + F _w		1008.9	977.5	923.8	847.9				
18 P ₂ = e ⁵ P _w ²	1290.8	1229.7	1190.5	1123.9	1029.7				
19 P ₃	1136.1	1108.9	1091.1	1060.1	1014.7				
20 P = (P ₁ + P ₃) / 2	1081.7	1056.6	1036.6	1010.2	967.0				
21 P ₂ = (P ₁ / P ₃)	1.612	1.575	1.549	1.505	1.441				
22 T ₂ = (T ₁ / T ₃)	1.466	1.478	1.479	1.4805	1.482				
23 Z (T ₂ °C XI)	18365	0.845	0.8475	0.8515	0.8585				

One copy to be filed in District Office (With copy accepted)