

51 file
e-1227 file
Form C-122
Revised 6-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL RECEIVED

JAN 06 1981

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 11/10/80		O. C. D. ARTESIA, OFFICE	
Company Yates Petroleum Corporation ✓				Connection Transwestern Pipeline Company			
Pool Penasco Draw <i>Morrow</i>				Formation Morrow		Unit NM-0352858-B	
Completion Date 7/23/80		Total Depth 9360 KB		Plug Back TD 9319 KB		Elevation 3663 KB	
Casing Size 5 1/2"		Wt. 17#		d 4.892 KB		Set At 9360 KB	
Perforations: From 8811		To 8817		Well No. 11			
Thg. Size 2 3/8"		Wt. 4.7#		d 1.995		Set At 8759 KB	
Perforations: From		To		Unit L		Sec. 6	
Twp. 19S		Rye. 25E		County Eddy			
Type Well - Single - Rodenhead - G.C. or G.O. Multiple Single				Packer Set At 8759 KB		State New Mexico	
Producing Thru Tubing		Reservoir Temp. °F 145, 8814		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2	
L 8805		H 8805		G _g 0.590		% CO ₂ 0.78	
% N ₂ 0.35		% H ₂ S -		Prover -		Meter Run 24	
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							2597	62			weeks
1.	2.067 X 1.000			500	10	70	2468	66			15 hrs.
2.	2.067 X 1.000			515	22	70	2359	70			9 hrs.
3.	2.067 X 1.000			530	43	70	2166	72			16 hrs.
4.	2.067 X 1.000			540	63	60	1970	74			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, Mcfd
1	4.946	71.64	513.2	.9905	1.302	1.040	475
2	4.946	107.80	528.2	.9905	1.302	1.041	716
3	4.946	152.83	543.2	.9905	1.302	1.042	1016
4	4.946	186.69	553.2	1.0000	1.302	1.046	1258
5							

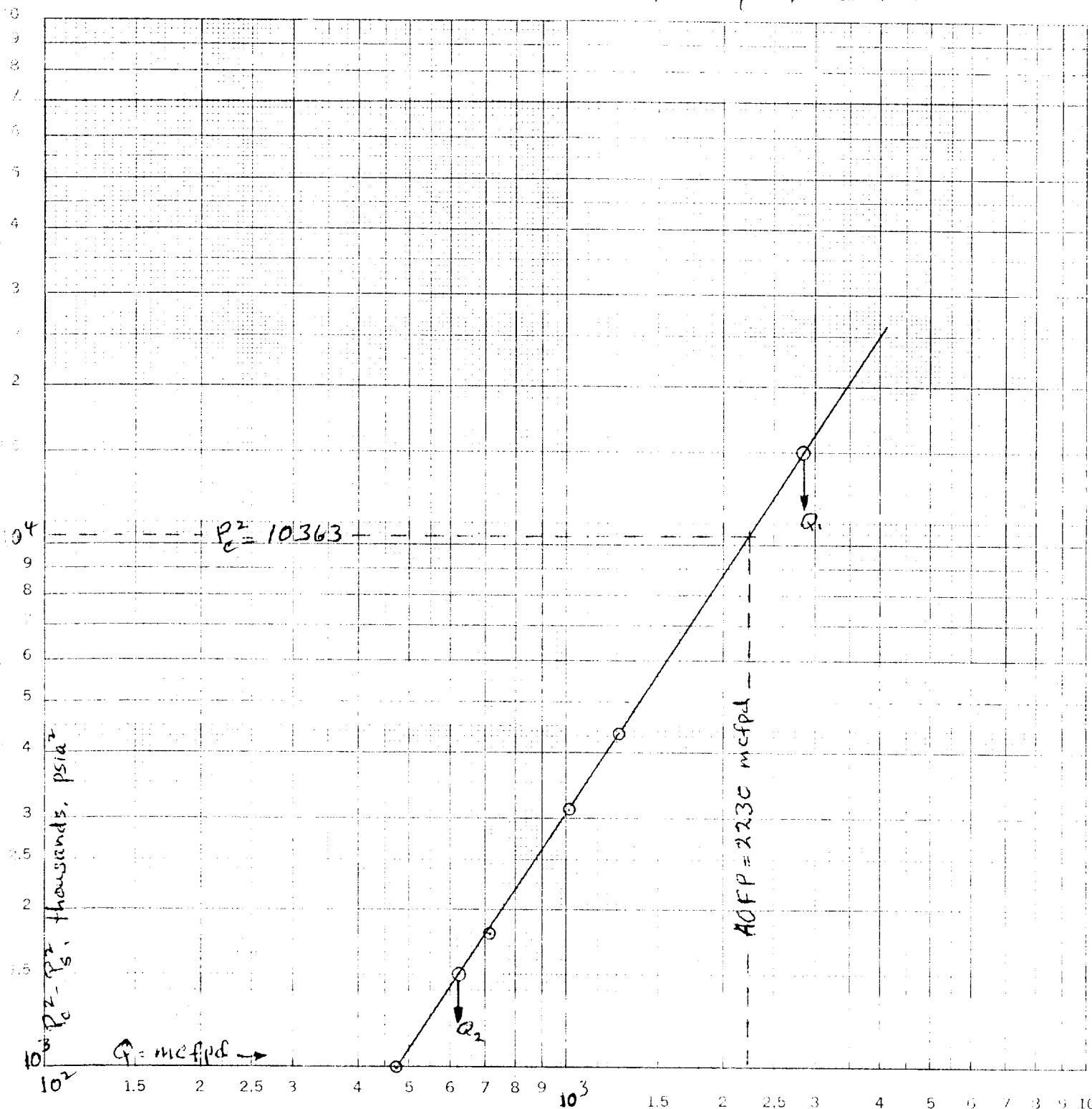
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.761	530	1.5057	.9249			0.590	XXXXXXX	674.5	352
2	0.783	530	1.5057	.9227				0.590		
3	0.805	530	1.5057	.9205						
4	0.820	520	1.4773	.9135						
5										

NO.	P _r ²	P _w ²	R _r ²	R _w ²	(1) $\frac{P_r^2}{R_r^2 - R_w^2} =$	(2) $\left[\frac{R_r^2}{R_r^2 - R_w^2} \right]^n =$
1			9365	998	23774	1.7726
2			8567	1796		
3			7242	3121		
4			6004	4359		
5						

Absolute Open Flow <u>2230</u> Mcfd @ 15.025				Angle of Slope @ <u>56.5 degrees</u>		Slope, n <u>0.6610</u>	
Remarks: Static pressures by Bennett Wireline, flowing pressures by DWT. calculations worksheet C122D attached.							
Approved By Commission:		Conducted By: Frank Moreno		Calculated By: Eddie Mahfood		Checked By:	

YPC- Mobil CI Federal No 11

L-6-19S-25E, Penasco Draw Morrow, Eddy Co, N. Mex.



$$Q_1 = 2850 \text{ mcfpd} \quad \log Q_1 = 3.4548$$

$$Q_2 = 622 \text{ mcfpd} \quad \log Q_2 = 2.7938$$

$$n = 0.6610$$

WORKSHEET FOR CALCULATION OF WELLS COLUMN WELL HEAD PRESSURE (P_{wh})

COMPANY YPC LEASE Mobil Federal CI WELL NO. 11 DATE Nov 10-1980

LOCATION: Unit L Section 6 Township 19S Range 2SE

L 8805 H 8805 L/H 1.000 G 0.590 % CO₂ 0.78 % N₂ 0.35 % H₂S NI

d 2.0260 F_r 0.06023 GH 5195 P_{CT} 674.5 T_{CT} 352

2885(398)=34825
55(2343)=1316
8805(4106)=36141

LINE	SI	1	2	3	4				
1 Q _m	-	0.475	0.716	1.016	1.258				
2 T _w (W.H. °R)	522	526	530	532	534				
3 T _s (B.H. °R)	605	605	604	604	603				
4 T = $\frac{(T_w + T_s)}{2}$	563.5	565.5	567	568	568.5				
5 Z (Est.)	0.8243	0.8225	0.821	0.821	0.825				
6 TZ	4164.493	465.124	465.527	466.328	469.012				
7 GH/TZ	11.184	11.169	11.1599	11.1402	11.0765				
8 e ^s (Table XIV)	1.52107	1.5202	1.5197	1.5186	1.5149				
9 1-e ^s (Table XIV)		0.3422	0.3420	0.3415	0.3399				
10 P ₁	2610.2	2481.2	2372.2	2179.2	1982.2				
11 P ₁ 2/1000	6813.1	6156.3	5627.3	4748.9	3933.1				
12 F _r (Table XV)	0.41941	0.41884	0.41850	0.41776	0.41537				
13 F _c = F _r TZ		7.4527	7.4588	7.472	7.515				
14 F _c Q _m		3.540	5.3405	7.5915	9.454				
15 L/H (F _c Q _m) ²		12.532	28.521	57.631	89.375				
16 F _w = L/H (F _c Q _m) ² (1-e ^s)		4.3	9.8	19.7	30.4				
17 P _w ² = P ₁ ² + F _w		6160.6	5637.1	4768.6	3963.5				
18 P _s ² = e ^s F _w ²	10363.3	9365.3	8566.7	7241.6	6004.3				
19 P _s	3219.2	3060.3	2926.9	2691.0	2450.4				
20 P = $\frac{P_1 + P_s}{2}$	2914.7	2770.7	2649.5	2435.1	2216.5				
21 P _r = (P/P _{CT})	4.321	4.108	3.928	3.610	3.257				
22 T _r = (T/T _{CT})	1.601	1.6065	1.611	1.6135	1.615				
23 Z (Table XI)		0.8225	0.821	0.821	0.825				