

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

Form C-122
Revised 9-1-65

RECEIVED

MAY 26 1981

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 4-14-81	
Company Yates Petroleum Corporation		Connection Transwestern Pipeline Co.	
Pool Hoag Tank Morrow		Formation Morrow	
Completion Date 2-23-81		Total Depth 9075 KB	
Casing Size 5 1/2"		Plug Back TD 9054 KB	
Well No. 17#		Elevation 3704 KB	
Flow Size 2 7/8"		Perforations: From 8854 To 8864 KB	
Well No. 6.5#		Perforations: From 8803 To 8806 KB	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple single		Packer Set At 8796 KB	
Producing Thru Tubing		Baro. Press. - P _g 13.2	
Reservoir Temp. °F 145 # 8859 KB		Mean Annual Temp. °F 62	
L 8851		H 8851	
C _g 0.598		% CO ₂ 0.77	
% N ₂ 0.60		% H ₂ S N.7	
Prover ---		Meter Run 2"	
Taps Flanged		County Eddy	
State New Mexico		Unit NM 12246	
Farm or Lease Name Oakason NV Fed		Well No. 2-Com	
Unit F		Sec. 27	
Twp. 19s		Rye. 24e	

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											
1.	4.026	X	1.750	466	11	70	2865	62			Days
2.	4.026	X	1.750	480	21	72	2748	73			20 hrs.
3.	4.026	X	1.750	500	40	73	2738	76			24 hrs.
4.	4.026	X	1.750	516	82	73	2699	78			24 hrs.
5.							2584	79			24 hrs.

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	14.93	72.60	479.2	.9905	1.295	1.038	1443
2	14.93	101.77	493.2	.9887	1.295	1.038	2019
3	14.93	143.28	513.2	.9868	1.295	1.040	2942
4	14.93	208.31	529.2	.9868	1.295	1.041	4137
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	0.711	530	1.497	.9284	13100/10.5 + 12.5 BW	665	0.596	XXXXXX	674	354
2	0.732	532	1.503	.9273						
3	0.761	533	1.506	.9249						
4	0.785	533	1.506	.9226						
5										

NO.	P _i	P _w	R _w	P _c	P _c ² - R _w ²
1					11638
2					11563
3					11286
4					10478
5					

(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 5.7845$ (2) $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 5.7845$

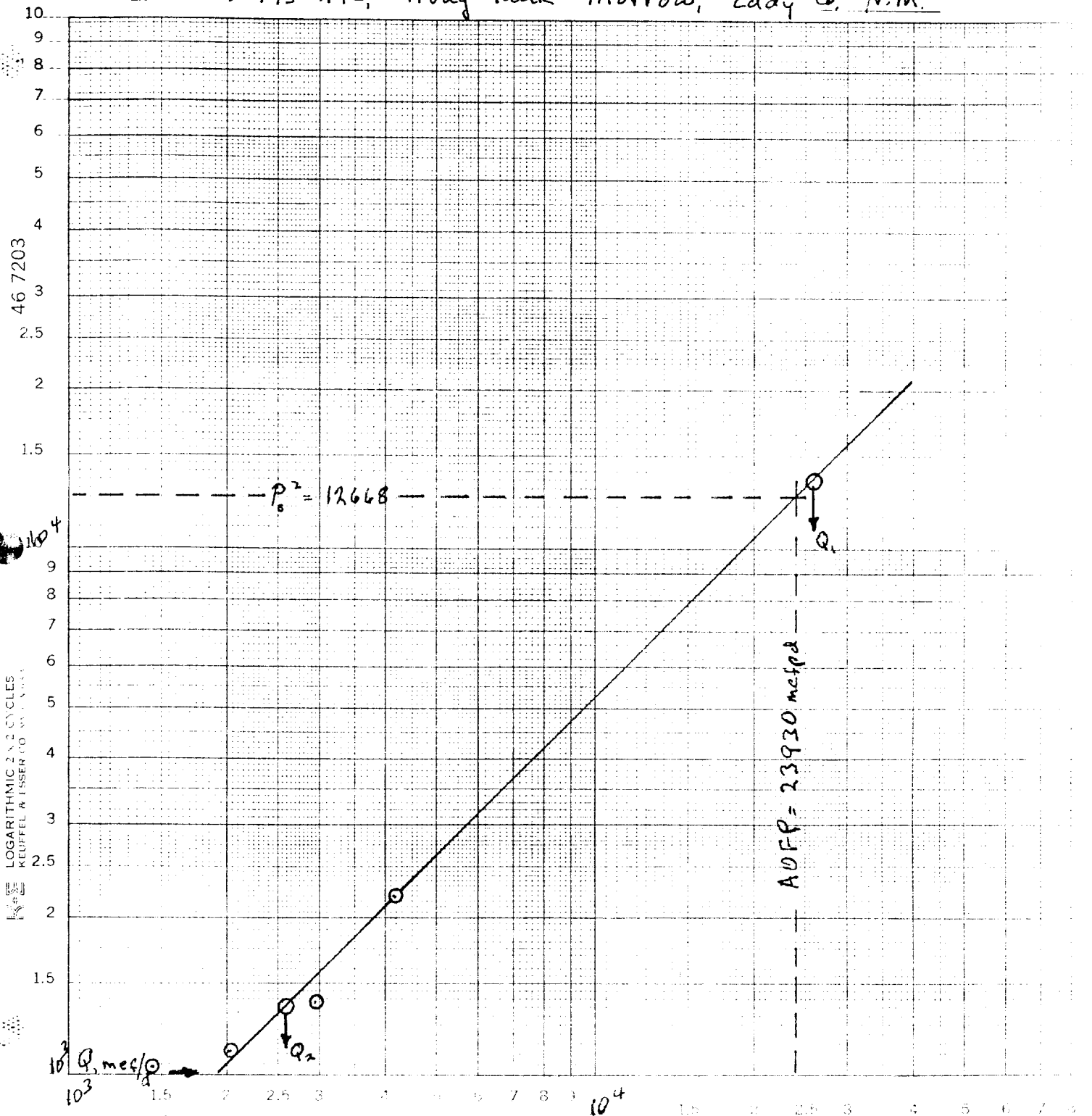
AOF = Q $\left[\frac{R_w^2}{P_c^2 - R_w^2} \right]^n = 23930$

Absolute Open Flow 23930 Mcfd @ 15.025 Angle of Slope 45 deg. Slope, n 1.000

Remarks: Static pressures by Bennett Wireline Co. flowing pressures by dead weight tester. Calculations worksheet C122D attached

Approved By Commission:	Conducted By: Danny Matthews	Calculated By: Eddie Mahfood	Checked By:
-------------------------	---------------------------------	---------------------------------	-------------

YPC- Oakason NV Federal Com. No. 2
 F- 27-195-24E, Hoag Tank Morrow, Eddy Co. N.M.



$$Q_1 = 25750 \text{ mcfpd}$$

$$\log Q_1 = 4.4108$$

$$Q_2 = 2575 \text{ mcfpd}$$

$$\log Q_2 = 3.4108$$

$$n = 10000$$

C-122D

DATE 4-14-81

A.7
%HS

356.5

ICF
TABLE IX

LINE	1	2	3	4					
1 Q _m	—	1.443	2.019	2.942	4.139				
2 T _w (W.H.°R)	522	533	536	538	539				
3 T _s (B.H.°R)	605	605	604	604	603				
4 T = ($\frac{1}{2}T_w + \frac{1}{2}T_s$)	563.5	569	570	571	571				
5 Z (Est.)	.8292	0.8285	.8295	.8295	.8245				
6 T _Z	467.354	471.419	472.815	473.074	470.79				
7 G _H /T _Z	11.3278	11.2299	11.1947	11.1335	11.2423				
8 e ^S (Table XIV)	1.5293	1.5235	1.5219	1.5213	1.5244				
9 1-e ^S (Table XIV)		0.3436	0.3428	0.3427	0.3440				
10 P ₁	2872.2	2761.2	2757.2	2712.2	2598.2				
11 P ₁ ² /1000	8284.0	7624.2	7569.1	7356.0	6750.6				
12 F ₁ (Table XV)	0.42479	0.42104	0.41930	0.41959	0.42161				
13 F _c = F ₁ T _Z		4.5939	4.5925	4.595	4.5928				
14 F _c Q _m		6.6073	9.272	13.513	18.918				
15 L/H (F _c Q _m) ²		43.66	85.973	182.75	357.88				
16 F _w =L/H (F _c Q _m) ² (1-e ^S)		15.0	29.5	62.6	123.1				
17 P _w ² = P ₁ ² + F _w		7639.2	7598.6	7413.6	6873.9				
18 P _s ² = e ^S P _w ²	12663.0	11638.3	11562.8	11235.9	10478.3				
19 P _s	3559.2	3411.5	3400.4	3359.5	3232.0				
20 P = ($\frac{1}{2}P_1 + P_s$)	3218.7	3086.4	3075.3	3035.8	2917.6				
21 P _r =(P/P _{cr})	4744	4.549	4.533	4.474	4.300				
22 T _r =(T/T _{cr})	1.5826	1.596	1.599	1.6015	1.6015				
23 Z (Table XI)	0.8292	0.8285	0.8295	0.8295	0.8245				