

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

Form C-15 *File*
Revised 9-1-72 P
Open

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 8-28-80		SEP 4 1980	
Company Mesa Petroleum Co.		Connection Air			
Well Undesignated		Formation ABO		Well O. C. D. ARTESIA OFFICE Savage Federal	
Completion Date 8-13-80		Total Depth 5102		Elevation 3776 GL	
Casing Size 4 1/2	Wt. 10.5	Set At 5102	Perforations: From 3656 To 3916		Well No. #1
Tubing Size 23/8	Wt. 4.7	Set At	Perforations: From To		Unit Sec. Twp. Rge. H 4 7s 25e
Type Well - Single - Brownhead - G.G. or G.O. Multiple Single				Packer Set At -----	
Producing thru Tbg.		Reservoir Temp. °F 112 @ 3786		Mean Annual Temp. °F 60	
		Baro. Press. - P _a 13.2		State New Mexico	
L 3786	H 3786	G _g .6685	% CO ₂ 0	% N ₂ 10.443	% H ₂ S
				Prover	Meter Run 4"
				Taps Flg.	

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
51							1000		1000		72 Hrs.
1.	4 x 1.500			600	7.0	103	985		990		45 Min.
2.	4 x 1.500			615	20.0	94	960		983		45 Min.
3.	4 x 1.500			620	32.0	84	935		964		1 Hr.
4.	4 x 1.500			625	63.0	80	884		942		1 Hr.
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. Compens. Factor F _{sp}	Rate of Flow Q, Mscf
1	10.84	65.52	613.2	.9610	1.223	1.039	867
2	10.84	112.09	628.2	.9688	1.223	1.044	1503
3	10.84	142.35	633.2	.9777	1.223	1.047	1932
4	10.84	200.52	638.2	.9813	1.223	1.048	2734
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	.94	563	1.59	.926	Dry		.6685		652	354
2.	.96	554	1.56	.918						
3.	.97	544	1.54	.912						
4.	.98	540	1.53	.910						
5.										

NO.	P _r	P _w	P _r ²	P _w ²	P _r ² - P _w ²
1	1013.2	1003.2	1026.6	1006.4	20.2
2		996.2		992.4	34.2
3		977.2		954.9	71.7
4		955.2		912.4	114.2
5					

$$(1) \frac{P_r^2}{P_r^2 - P_w^2} = 8.989$$

$$A \cdot B \cdot C \left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 11.986$$

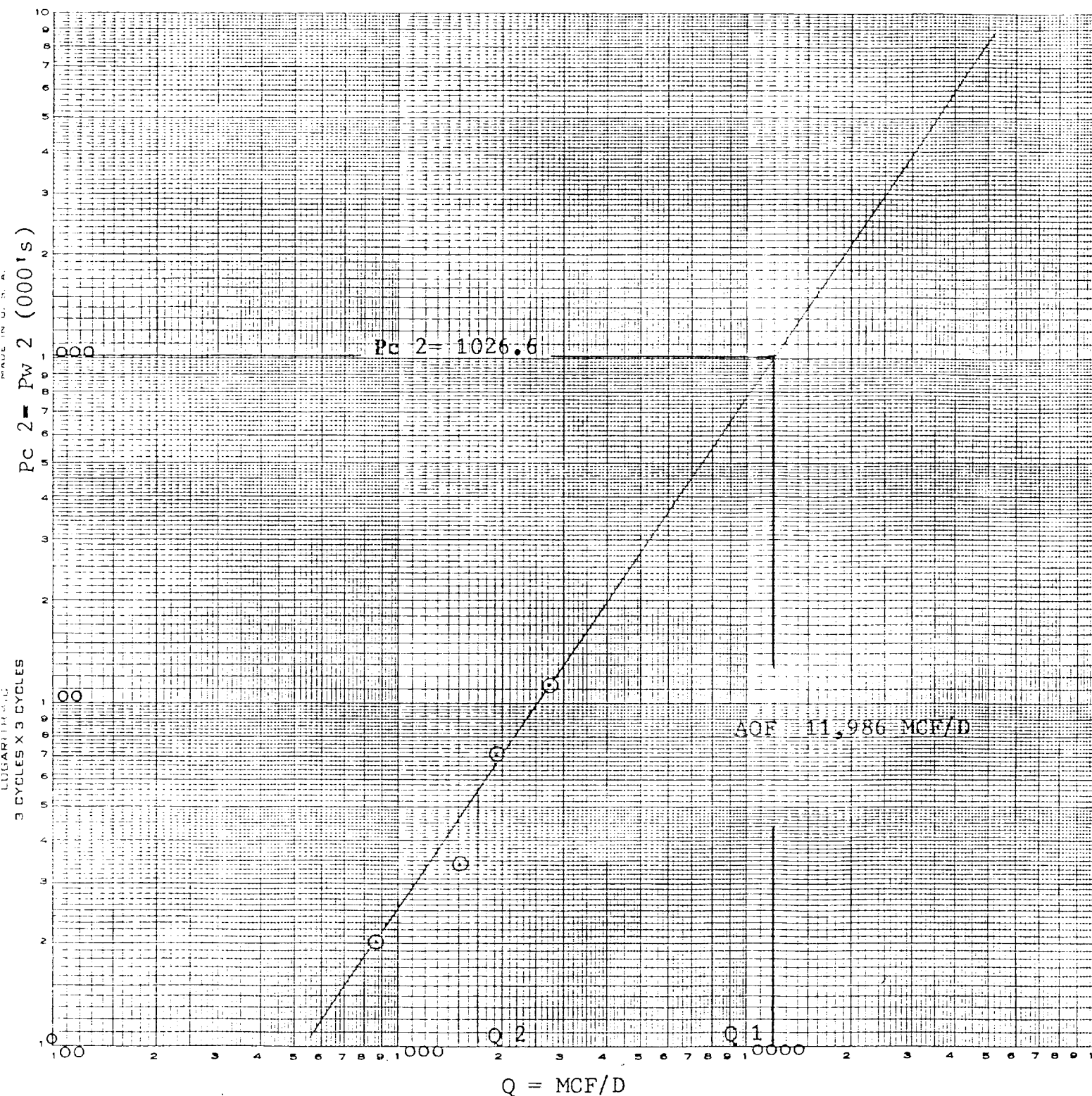
$$(2) \left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 4.384$$

Absolute Open Flow	11,986	Mscf @ 14.7 psia	Angle of Slope	56°	Slope, n	.673
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Remarks:

Approved by: <i>Conductor</i>	Conducted By: Davis Services, Inc.	Calculated By: Rick Pagan	Checked By:
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COMPANY : MESA PETROLEUM
 LEASE : SAVAGE FEDER
 WELL NO. : # 1
 UNIT : sec. 4/ twp. 7s / rge. 25e
 COUNTY : CHAVES
 STATE : NEW MEXICO
 DATE : AUGUST 28, 1980



$$\begin{aligned}
 Q_1 &= 8000; \text{ LOG OF } Q_1 = 3.903090 \\
 Q_2 &= 1700; \text{ LOG OF } Q_2 = 3.230449 \\
 N &= \frac{.673}{.673}
 \end{aligned}$$