

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

Form C-122
Revised 5-1-65

DEC 31 1980

ACCEPTED FOR RECORD

Type Test <u>C. D.</u>		☒ Artesian ☐ <u>Ordinary</u>		☐ Annual ☐ Special		Test Date <u>12/9/80</u>		DEC 30 1980	
Company <u>Mesa Petroleum Co.</u>				Connection <u>To Be Determined</u>				U.S. GEOLOGICAL SURVEY	
Pool <u>Pecos Slope - Abo Gas</u>				Formation <u>Abo</u>				Unit <u>Undesignated Abo</u>	
Completion Date <u>12-9-80</u>		Total Depth <u>4345'</u>		Plug Back TD <u>4247'</u>		Elevation <u>3824'</u>		Farm or Lease Name <u>Savage Fed</u>	
Csg. Size <u>4-1/2</u>	Wt. <u>10.5</u>	Set At <u>4345'</u>	Perforations: From <u>3628</u> To <u>3805</u>		Well No. <u>2</u>				
Tng. Size <u>2-3/8</u>	Wt. <u>4.7</u>	Set At <u>3733'</u>	Perforations: From <u>Open Ended</u> To <u></u>		Unit <u>F</u> Sec. <u>4</u> Twp. <u>7S</u> Rge. <u>25E</u>				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple <u>Single</u>				Packer Set At <u>None</u>		County <u>Chaves</u>			
Producing Thru <u>Tubing</u>		Reservoir Temp. °F <u>105 @ 4345'</u>		Mean Annual Temp. °F <u>60°</u>		Baro. Press. - P _a <u>13.2</u>		State <u>New Mexico</u>	
L <u>3733</u>	H <u>3733</u>	Gg <u>66</u>	% CO ₂ <u>--</u>	% N ₂ <u>10</u>	% H ₂ S <u></u>	Prover <u>Choke</u>	Meter Run <u>-</u>	Taps <u>-</u>	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							865		865		48 hr. SI
1.	Choke	13/64		820	-	80	820	80	820	-	1 hr.
2.	Coefficients	20/64		685	-	80	685	80	700	-	1 hr.
3.		22/64		590	-	80	590	80	625	-	3/4 hr.
4.		24/64		510	-	80	510	80	525	-	1/2 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	.6778	Choke	820	.9813	1.2310	-	671
2.	1.645	Choke	685	.9813	1.2310	-	1361
3.	1.999	Choke	600	.9813	1.2310	-	1449
4.	2.388	Choke	513	.9813	1.2310	-	1480
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
1.					Specific Gravity Separator Gas _____	X X X X X X X X
2.					Specific Gravity Flowing Fluid _____	X X X X X
3.					Critical Pressure _____ P.S.I.A.	_____ P.S.I.A.
4.					Critical Temperature _____ R	_____ R
5.						

P _c <u>865</u>	P _c ² <u>748</u>				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.9866$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.5805$
NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²		
1		820	672	76		
2		700	490	258		
3		625	391	357		
4		525	276	472		
5						

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2,450$

Absolute Open Flow 2,450 Mcfd @ 15.025 Angle of Slope @ 59.5° Slope, n .59

Remarks: _____

Approved By Commission:	Conducted By: <u>E.L.B.</u>	Calculated By: <u>E.L.B.</u>	Checked By:
	E.L. Buttross, Jr.	E.L. Buttross	

ACCEPTED FOR RECORD

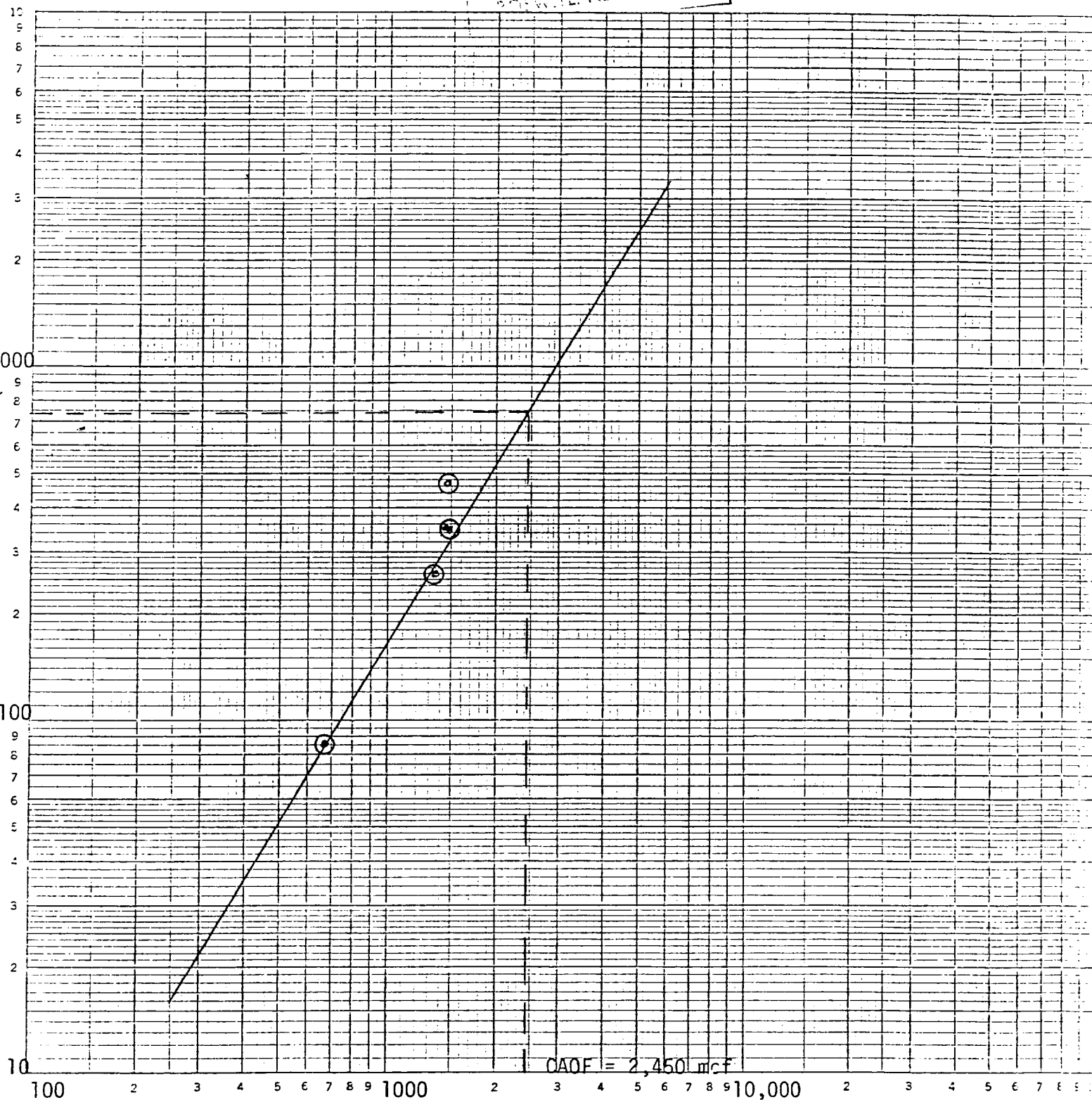
DEC 30 1980

U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

Esso Petroleum Co.
Savage Federal No. 2
Sec. 4, T7S, R25E
Chaves Co., New Mexico
12/9/80

FC - PW (thousands)
46 7403

LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



$$n = 1/\text{slope} = \frac{\log Q_2 - \log Q_1}{\log \text{cycle}_2 - \log \text{cycle}_1} = \frac{\log 2900 - \log 750}{\log 10000 - \log 1000} = \frac{3.46 - 2.87}{4 - 3} = .59$$

$$\theta = 59.5^\circ$$