

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Sumont Formation Yates County Log  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test June 19-26, 1957  
Company The Atlantic Refining Company Lease \_\_\_\_\_ State AK Well No. 4  
Unit 0 Sec. 3 Twp. 21-S Rge. 35-E Purchaser Not Decided  
Casing 5.5 Wt. 15.5 I.D. 4.950 Set at 3916 Perf. 3797 To 3812  
Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3772 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 3792 To 3812 L 3792 xG 0.692 -GL 2624 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Date of Completion: 4-15-57 Packer None Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI	3.068	1.750				1250	87	1254	87	72 S.I.
1.	3.068	1.750	38	6	87	240	79	272	87	24
2.	3.068	1.250	40	34	100	470	81	539	87	24
3.	3.068	1.250	39	25	114	566	85	646	87	24
4.	3.068	1.000	39	57	115	673	86	765	87	24
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	20.15	19.84	51.2	0.9750	0.9313	1.0026	344
2.	9.781	47.94	53.2	0.9636	0.9313	1.0025	422
3.	9.781	40.80	52.2	0.9518	0.9313	1.0023	355
4.	6.182	61.61	52.2	0.9510	0.9313	1.0021	338
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> By Measured (1-e<sup>-s</sup>)  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 1267.2 P<sub>c</sub><sup>2</sup> 1,605.8

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	285.2					81.3	1524.5		22.5
2.	551.2					303.8	1301.0		43.5
3.	659.2					434.5	1171.3		52.0
4.	778.2					605.6	1000.2		61.4
5.									

Absolute Potential: \_\_\_\_\_ MCFPD; n \_\_\_\_\_

COMPANY The Atlantic Refining Company  
ADDRESS P.O. Box 1038, Denver City, Texas  
AGENT and TITLE Mr. Neal McCaskill, Acting Supt.  
WITNESSED \_\_\_\_\_  
COMPANY \_\_\_\_\_

REMARKS

## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

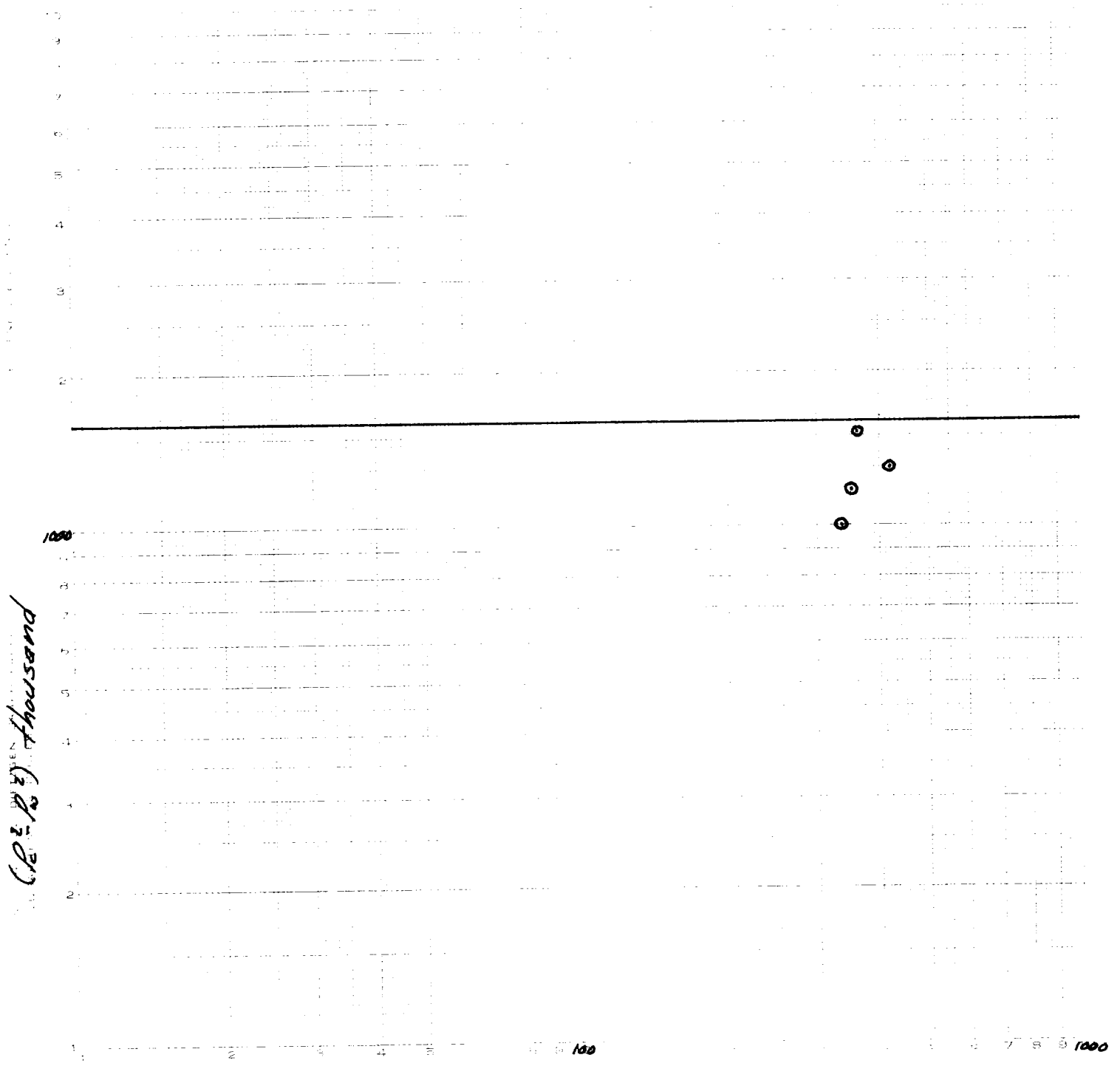
The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

- Q = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.
- $P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia
- $P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- $P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if  
flowing through casing.) psia
- $P_f$  = Meter pressure, psia.
- $h_w$  = Differential meter pressure, inches water.
- $F_g$  = Gravity correction factor.
- $F_t$  = Flowing temperature correction factor.
- $F_{pv}$  = Supercompressibility factor.
- n = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .

State AK-4



Q - MCFD

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