

NEW MEXICO OIL CONSERVATION COMMISSION

1957 OFFICE DEC

1957 AM 10:51

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Bumont Formation Yates County 46a

Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 11-16-56

Company Continental Oil Co. Lease Mayer A-17 Well No. 4

Unit K Sec. 17 Twp. 21S Rge. 36E Purchaser EPNG

Casing 7 Wt. 24 I.D. \_\_\_\_\_ Set at 3850 Perf. 3150 To 3656

Tubing 2 1/2 Wt. 6.5 I.D. 2.441 Set at 3970 Perf. \_\_\_\_\_ To \_\_\_\_\_

Gas Pay: From 3150 To 3656 L 3150 xG. .665 -GL 2095 Bar. Press. 13.2

Producing Thru: Casing 7" Tubing \_\_\_\_\_ Type Well G. O. Dual

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 5-25-56 Packer 3800 Reservoir Temp. 90°

OBSERVED DATA

Tested Through ~~1 1/2~~ ~~2~~ (Meter) Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	<del>(Line)</del> (Line) Size	<del>(Orifice)</del> (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI								1005		72
1.	4	1.500	584	2.89	100			970		24
2.	4	1.500	598	12.96	78			930		24
3.	4	1.500	601	27.04	70			895		24
4.	4	1.500	621	73.44	69			812		24
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	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.	13.99	11.54		.9636	.9498	1.045	556
2.	13.99	88.98		.9831	.9498	1.059	1231
3.	13.99	128.85		.9905	.9498	1.061	1800
4.	13.99	215.78		.9915	.9498	1.065	3028
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl. Specific Gravity Separator Gas \_\_\_\_\_  
 Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg. Specific Gravity Flowing Fluid \_\_\_\_\_  
 F<sub>c</sub> .865 (1-e<sup>-s</sup>) .134 P<sub>c</sub> 1018.2 P<sub>c</sub> 1036.7

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.	983.2	966.7	.48	.23	.03	966.7	70.0	983.2	.97
2.	943.2	889.6	1.07	1.14	.15	889.8	146.9	943.3	.93
3.	908.2	824.8	1.56	2.43	.33	825.1	211.6	908.4	.89
4.	825.2	681.0	2.62	6.86	.92	681.9	354.8	825.8	.81*
5.									

Absolute Potential: 8,800 MCFPD; n 1.00

COMPANY Continental Oil Company  
 ADDRESS Box 427, Hobbs, N. M.  
 AGENT and TITLE W. D. Howard, Gas Tester  
 WITNESSED \_\_\_\_\_  
 COMPANY \_\_\_\_\_

REMARKS

\*Insufficient draw-down due to choke size.

ELVIS A. J. JR.  
GAS ENGINEER

## 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.
- $F_{pv}$  = Supercompressability 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  $P_t$ .