

NEW MEXICO OIL CONSERVATION COMMISSION

ELVIS W. J. 84  
GAS ENGINEER

Form C-122

HOBBS OFFICE OCC  
HOBBS OFFICE OCC  
MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Eumont Formation 1955 OCT 10 PM 3:06 County Lea  
Initial \_\_\_\_\_ Annual \_\_\_\_\_ Special X Date of Test 9-14-56  
Company Continental Oil Co. Lease Britt B-10 Well No. 1  
Unit M Sec. 10 Twp. 20 S Rge. 37 E Purchaser EPMG  
Casing 5½ Wt. 17 I.D. \_\_\_\_\_ Set at 3679 Perf. 3510 To 3594  
Tubing 2½ Wt. 6.5 I.D. \_\_\_\_\_ Set at 3601 Perf. \_\_\_\_\_ To \_\_\_\_\_  
Gas Pay: From 3510 To 3594 L 3601 xG .675 -GL 2431 Bar.Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Date of Completion: 12-15-52 Packer None Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. 90°

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						952				72
1.	4	1.000	549	10.24	61	825				24
2.	4	1.000	557	19.60	64	756				24
3.	4	1.000	551	27.56	67	700				24
4.	4	1.000	539	58.52	75	540				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.	6.135	75.88	562.2	.9990	.9427	1.063	465
2.	6.135	106.24	570.2	.9962	.9427	1.064	651
3.	6.135	124.70	564.2	.9933	.9427	1.062	761
4.	6.135	179.76	552.2	.9859	.9427	1.054	1080
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
F<sub>c</sub> 5.866 (1-e<sup>-s</sup>) 0.154  
Specific Gravity Separator Gas \_\_\_\_\_  
Specific Gravity Flowing Fluid \_\_\_\_\_  
P<sub>c</sub> 975.2 P<sub>c</sub><sup>2</sup> 951.0

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.	838.2	702.6	2.7	7.3	1.1	703.7	217.3	838.9	.88
2.	769.2	591.7	3.8	14.4	2.2	593.9	357.1	770.7	.81
3.	713.2	508.7	4.5	20.3	3.1	511.8	439.2	715.4	.75
4.	553.2	306.0	6.3	39.7	6.1	312.1	638.9	552.7	.59
5.									

Absolute Potential: 1,540 MCFPD; n .90  
COMPANY Continental Oil Company  
ADDRESS Box 427, Hobbs, New Mexico  
AGENT and TITLE W. D. Howard, Gas Tester  
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  $P_t$ .