

## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalnet Formation Yates-Seven Rivers County Lea  
Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test March 10/17, 1961  
Company Cities Service Petroleum Company Lease Closson "B" Well No. 10  
Unit L Sec. 30 Twp. 22S Rge. 36E Purchaser United Carbon Company  
Casing 5 1/2 Wt. 14# I.D. 5.012 Set at 3780 Perf. 3654 To 3671  
Tubing 2" Wt. 4.7# I.D. 1.995 Set at 3643 Perf. - To -  
Gas Pay: From 3654 To 3671 L 3643 xG .650 est. GL 2368 Bar. Press. 13.2  
Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: 10-9-60 Packer - Reservoir Temp. Single

## OBSERVED DATA

Tested Through (XXXXXX) (XXXXXX) (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	-	-	-	-	-	335	-	415	-	72 hrs.
1.	4.00"	0.875	14	42	60	105	-	245	-	24 hrs.
2.	4.00"	0.875	36	30	61	112	-	210	-	24 hrs.
3.	4.00"	0.875	38	35	61	89	-	170	-	24 hrs.
4.	4.00"	0.875	36	40	57	60	-	130	-	24 hrs.
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.	4.686	33.80	27.2	1.0000	0.9608	1.001	152.4
2.	4.686	38.42	49.2	0.9990	0.9608	1.003	173.3
3.	4.686	42.33	51.2	0.9990	0.9608	1.003	191.0
4.	4.686	44.36	49.2	1.0029	0.9608	1.003	200.9
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 150.000 cf/bbl. Specific Gravity Separator Gas .650  
Gravity of Liquid Hydrocarbons 33.5 deg. Specific Gravity Flowing Fluid N/A  
F<sub>c</sub> 9.936 (1-e<sup>-S</sup>) 0.150 P<sub>c</sub> 428.2 P<sub>c</sub> 183.4

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.	258.2					66.67	116.7		16030
2.	223.2					49.82	133.6		5212
3.	183.2					33.56	149.8		4278
4.	143.2					20.51	162.9		3314
5.									

Absolute Potential: 235 MCFPD; n .951  
COMPANY Cities Service Petroleum Company  
ADDRESS Box 97 - Hobbs, New Mexico  
AGENT and TITLE Richard O. Berg - Production Engineer  
WITNESSED W. H. Wallis  
COMPANY United Carbon Company

## REMARKS

Well produces approximately 1 BOPD and 1.67 BWPD.

## 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  $P_t$ .