

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Tates County Lea
Initial _____ Annual _____ Special x Date of Test 5-6/5-10, 1957
Company Cities Service Oil Co. Lease State Q Well No. 1
Unit L Sec. 36 Twp. 23 Rge. 36 Purchaser El Paso Natural Gas Co.
Casing 5½ Wt. 14.0 I.D. _____ Set at 3448 Perf. 2915 To 3015
Tubing 2" Wt. 4.7 I.D. _____ Set at 3015 Perf. _____ To _____
Gas Pay: From 2915 To 3015 L 3015 xG 0.665 -GL 2005 Bar.Press. B.2
Producing Thru: Casing _____ Tubing x Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 5-19-1947 Packer _____ Reservoir Temp. _____

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(<u>Prover</u>) (Line) Size	(<u>Checks</u>) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						<u>785</u>				<u>72</u>
1.	<u>4"</u>	<u>1.250</u>	<u>518</u>	<u>7.84</u>	<u>92</u>	<u>748</u>				<u>24</u>
2.	<u>4"</u>	<u>1.250</u>	<u>520</u>	<u>22.04</u>	<u>86</u>	<u>704</u>				<u>24</u>
3.	<u>4"</u>	<u>1.250</u>	<u>524</u>	<u>24.01</u>	<u>86</u>	<u>686</u>				<u>24</u>
4.	<u>4"</u>	<u>1.250</u>	<u>525</u>	<u>30.08</u>	<u>86</u>	<u>661</u>				<u>24</u>
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>9.643</u>	<u>66.32</u>		<u>.9706</u>	<u>.9498</u>	<u>1.048</u>	<u>618</u>
2.	<u>9.643</u>	<u>108.51</u>		<u>.9759</u>	<u>.9498</u>	<u>1.049</u>	<u>1,018</u>
3.	<u>9.643</u>	<u>113.55</u>		<u>.9759</u>	<u>.9498</u>	<u>1.049</u>	<u>1,065</u>
4.	<u>9.643</u>	<u>128.73</u>		<u>.9759</u>	<u>.9498</u>	<u>1.049</u>	<u>1,206</u>
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.936 (1-e^{-s}) .129

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 798.2 P_c 637.1

No.	$\frac{P_w}{P_t}$ P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	$\frac{(F_c Q)^2}{(1-e^{-s})}$	P _w ²	P _c ² -P _w ²	Cal. P _w	$\frac{P_w}{P_c}$
1.	<u>761.2</u>	<u>579.4</u>	<u>6.14</u>	<u>37.70</u>	<u>4.86</u>	<u>584.3</u>	<u>52.8</u>		
2.	<u>717.2</u>	<u>514.4</u>	<u>10.11</u>	<u>102.21</u>	<u>13.19</u>	<u>527.6</u>	<u>109.5</u>		
3.	<u>699.2</u>	<u>488.9</u>	<u>10.58</u>	<u>111.94</u>	<u>14.44</u>	<u>503.3</u>	<u>133.8</u>		
4.	<u>674.2</u>	<u>454.5</u>	<u>11.98</u>	<u>143.52</u>	<u>18.51</u>	<u>473.0</u>	<u>164.1</u>		
5.									

Absolute Potential: 2600 MCFPD; n .577

COMPANY Cities Service Oil Co.
ADDRESS Box 97, Hobbs, New Mexico
AGENT and TITLE Earl H. Furray, Jr. Petroleum Engineer
WITNESSED Earl G. Smith
COMPANY El Paso Natural Gas Co.

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 .