

NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmit Formation Yates County Lea
Initial Annual Special X Date of Test 1-14 to 1-18-57
Company Cities Service Oil Co. Lease State W Well No. 1
Unit P Sec. 36 Twp. 24S Rge. 36E Purchaser KPM
Casing 9 1/2" Wt. 14 & 17 I.D. Set at 3524 Perf. To
Tubing 2" Wt. 4.7 I.D. Set at 3075 Perf. To
Gas Pay: From 2800 To 3100 L 2800 xG .665 -GL 1862 Bar.Press. 13.2
Producing Thru: Casing Tubing X Type Well single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 3-1-49 Packer Reservoir Temp.

OBSERVED DATA

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

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						720				72
1.	4	1.500	509	16.0	50	618				24
2.	4	1.500	510	20.3	53	622				24
3.	4	1.500	520	26.0	58	601				24
4.	4	1.500	562	31.4	66	574				24
5.										

FLOW CALCULATIONS

No.	Coefficient Flg (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.	13.99	91.39	522.2	1.0098	.9498	1.058	1.298
2.	13.99	102.91	523.2	1.0048	.9498	1.057	1.432
3.	13.99	117.74	533.2	1.0019	.9498	1.061	1.663
4.	13.99	134.28	575.2	.9949	.9498	1.058	1.877
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
F_c 9.936 (1-e^{-s}) .120

Specific Gravity Separator Gas .665
Specific Gravity Flowing Fluid
P_c 733.2 P_c² 537.6

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-s})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.	661.2	437.2	12.9	166.4	20.0	437.2	80.4	678	.923
2.	633.2	401.0	14.4	207.4	24.9	428.4	109.2	633	.894
3.	614.2	377.2	16.3	272.3	32.7	409.9	127.7	640	.874
4.	587.2	344.8	18.6	346.0	41.5	386.3	191.3	623	.851
5.									

Absolute Potential: 5,500 MCFPD; n .632

COMPANY Cities Service Oil Company (Del.)
ADDRESS Box 97, Hobbs, New Mexico
AGENT and TITLE E. H. Furrey, Jr., Petroleum Engineer
WITNESSED H. H. Kirby
COMPANY El Paso Natural Gas

REMARKS

ELVIS A. UIZ
C.E. 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 .

CITIES SERVICE OIL COMPANY

STATE "W" NO. 1

P-36-24-36 Lea, N. M.

1-18-1957

$P_e^2 - P_w^2$ (thsnds)

353 110

LOGARITHMIC

$Q_1 = 1000$ $\text{Log} = 3.000000$
 $Q_2 = 6800$ $\text{Log} = 3.832508$
 slope $n = .832508$

Absolute Potential = 5,500 MCFD

Q_2

Q_1

Q - MCFD - 15.025 PSIA 60°F

