

NEW MEXICO OIL CONSERVATION COMMISSION

CORRECTED  
COPY

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Salmon Formation Upper Yates County Lea

Initial Annual Special None Date of Test Dec. 18, 1958

Company Cities Service Oil Co. Lease State "O" Well No. 3

Unit L Sec. 32 Twp. 26 Rge. 37 Purchaser None

Casing 5 1/2 Wt. 20-23 I.D. 4.778 Set at 3240 Perf. 3024-3056 & 3070-3096

Tubing 2" NPS Wt. 4.7 I.D. 1.995 Set at 3030 Perf. None To None

Gas Pay: From 3024 To 3096 L 3030 xG .655 / (assumed) -GL 1965 Bar.Press. 13.2

Producing Thru: Casing None Tubing X Type Well Single

Date of Completion: Dec. 18, 1958 Packer None Reservoir Temp. None

OBSERVED DATA

Tested Through (Prover) (Choke) (Orifice) Type Taps None

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						741		742		72
1.	2	1.000	16		50	679	71	682	69.2	3
2.	2	1.000	33		51	571	70	613	626.2	3
3.	2	1.250	35		42	409	68	476	489.2	3
4.	2	1.250	42		42	315	67	412	425.2	3
5.	2	1.000	32		52	520	62	608	171.2	20

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor Ft	Gravity Factor Fg	Compress. Factor Fpv	Rate of Flow Q-MCFPD @ 15.025 psia
1.	22.0662 ✓		29.2	1.0098 ✓	.9571 ✓	1.001 ✓	623 ✓
2.	22.0662 ✓		46.2	1.0088 ✓	.9571 ✓	1.003 ✓	987 ✓
3.	35.6738 ✓		48.2	1.0178 ✓	.9571 ✓	1.003 ✓	1680 ✓
4.	35.6738 ✓		55.2	1.0178 ✓	.9571 ✓	1.005 ✓	1928 ✓
5.	22.0662 ✓		45.2	1.0078 ✓	.9571 ✓	1.003 ✓	965 ✓

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl.

Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.

F<sub>c</sub> P<sub>w</sub> measured (1-e<sup>-s</sup>) \_\_\_\_\_

Specific Gravity Separator Gas \_\_\_\_\_

Specific Gravity Flowing Fluid \_\_\_\_\_

P<sub>c</sub> 755.2 / P<sub>c</sub> 570.3 ✓

No.	P <sub>w</sub> Ft (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> /F <sub>c</sub>
1.	492.2	479.1				483.3 ✓	87.0		92.07 ✓
2.	528.2	341.3				392.1 ✓	178.2		82.92 ✓
3.	422.2	178.3	Measured			239.3 ✓	332.0		64.78 ✓
4.	328.2	107.7				180.8 ✓	389.5		55.30 ✓
5.	393.2	351.9				385.9 ✓	124.4 ✓		82.26 ✓

Absolute Potential: 2630 MCFPD; n .826

COMPANY Cities Service Oil Co.

ADDRESS Box 97, Hobbs, New Mexico

AGENT and TITLE C. D. Lindsay, Petroleum Engr.

WITNESSED L. D. Southern

COMPANY El Paso Natural Gas Co.

REMARKS

*(Handwritten signature)*

## 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  $P_t$ .

CITIZES SERVICE OIL CO.  
 State "D" #3  
 32-26-37, Lea County, New Mexico  
 December 18, 1958

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NO. 540 133 DIETZEN & MARKS ENGINEERS  
 100 BARTRAM ST. DALLAS, TEXAS  
 10-2525 X 3 CYCLES

