

NEW MEXICO OIL CONSERVATION COMMISSION

MODIFIED OFFICE 000

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea

Initial _____ Annual _____ Special x Date of Test 11-19 to 11-23-56

Company Cities Service Oil Company Lease Closson B Well No. 8

Unit L Sec. 19 Twp. 22S Rge. 36E Purchaser United Carbon

Casing 5½ Wt. 14 I.D. 5.012 Set at 3540 Perf. _____ To _____

Tubing 2 Wt. 4.7 I.D. 1.995 Set at 3536 Perf. _____ To _____

Gas Pay: From 3536 To 3610 L 3536 xG .674 -GL 2383 Bar.Press. 13.2

Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 2-29-56 Packer None Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)Type Taps F19

| 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 | | | | | | 892 | | 896 | | 72 |
| 1. | 4 | 2.125 | 69 | 41.0 | 60 | 369 | | 429 | | 24 |
| 2. | 4 | 2.125 | 66 | 36.0 | 60 | 401 | | 450 | | 24 |
| 3. | 4 | 2.125 | 65 | 30.0 | 60 | 464 | | 501 | | 24 |
| 4. | 4 | 2.125 | 71 | 22.0 | 60 | 540 | | 568 | | 24 |
| 5. | | | | | | | | | | |

FLOW CALCULATIONS

| No. | Coefficient (24-Hour) <u>F19</u> | $\sqrt{h_w p_f}$ | Pressure psia | Flow Temp. Factor F _t | Gravity Factor F _g | Compress. Factor F _{pv} | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|--|------------------|------------------|--|-------------------------------------|--|--|
| 1. | 29.17 | 57.98 | 82.2 | 1.000 | .9427 | - | 1,594 |
| 2. | 29.17 | 53.33 | 79.2 | 1.000 | .9427 | - | 1,467 |
| 3. | 29.17 | 48.37 | 78.2 | 1.000 | .9427 | - | 1,330 |
| 4. | 29.17 | 42.98 | 84.2 | 1.000 | .9427 | - | 1,182 |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

F_c 9.936 (1-e^{-s}) .151

Specific Gravity Separator Gas _____

Specific Gravity Flowing Fluid _____

P_c 909.2 P_c 826.6

| 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. | 442.2 | 146.1 | 15.80 | 250 | 37.8 | 195.5 | 631.1 | | |
| 2. | 463.2 | 171.6 | 14.55 | 212 | 32.0 | 214.6 | 612.0 | | |
| 3. | 514.2 | 227.7 | 13.20 | 174 | 26.3 | 264.4 | 562.2 | | |
| 4. | 581.2 | 306.0 | 11.70 | 137 | 20.7 | 337.8 | 488.8 | | |
| 5. | | | | | | | | | |

Absolute Potential: 1,850 MCFPD; n .945

COMPANY Cities Service Oil Company

ADDRESS Box 97, Hobbs, New Mexico

AGENT and TITLE E. H. Furrey, Jr., Petroleum Engineer

WITNESSED Ed Mabe

COMPANY El Paso Natural Gas Company

REMARKS

NO. 4 UTZ

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 .