NEW MEXICO OIL CONSERVATION COMMISSION

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 4-8 to 4-12.1957

Company R. Olsen Oil Company Lease Meyer B Well No. 1

Unit F Sec. 13 Twp. 24 Rge. 36 Purchaser El Paso Natural Gas Company

Casing 7 Wt. 20.0 I.D. ____ Set at 2946 Perf. ____ To ____

Tubing 2 1/2 Wt. 6.5 I.D. ____ Set at 1242 Perf. ____ To ____

Gas Pay: From 2955 To 3060 L 1242 xG 0.655 =GL 814 Bar.Press. 13.2

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

Date of Completion: 5-19-1948 Packer ____ Reservoir Temp. ____

OBSERVED DATA

Tested Through ~~(Prover)(Choke)~~ (Meter) Type Taps ____

| No. | ~~(Prover)~~ (Line) Size | ~~(Choke)~~ (Orifice) Size | Flow Data Press. psig | Diff. $h_w$ | Temp. °F. | Tubing Data Press. psig | Tubing Data Temp. °F. | Casing Data Press. psig | Casing Data Temp. °F. | Duration of Flow Hr. |
|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | 602 | | | | 72 |
| 1. | 4 | 1.000 | 218 | 8.41 | 102 | 350 | | | | 24 |
| 2. | 4 | 1.000 | 239 | 18.49 | 71 | 328 | | | | 24 |
| 3. | 4 | 1.000 | 228 | 33.06 | 73 | 311 | | | | 24 |
| 4. | 4 | 1.000 | 213 | 58.52 | 53 | 288 | | | | 24 |
| 5. | | | | | | | | | | |

First Test

FLOW CALCULATIONS

| No. | Coefficient $F_{1g}$ (24-Hour) | $\sqrt{h_w p_f}$ | Pressure psia | Flow Temp. Factor $F_t$ | Gravity Factor $F_g$ | Compress. Factor $F_{pv}$ | Rate of Flow Q-MCFPD @ 15.025 psia |
|---|---|---|---|---|---|---|---|
| 1. | 6.135 | 44.08 | | .9618 | .9571 | 1.017 | 253 |
| 2. | 6.135 | 68.26 | | .9896 | .9571 | 1.022 | 406 |
| 3. | 6.135 | 89.26 | | .9877 | .9571 | 1.022 | 529 |
| 4. | 6.135 | 115.00 | | 1.0068 | .9571 | 1.023 | 696 |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl.
Gravity of Liquid Hydrocarbons ____ deg.
$F_c$ 5.866 $(1-e^{-s})$ 0.056

Specific Gravity Separator Gas 0.655
Specific Gravity Flowing Fluid ____
$P_c$ 615.2 $P_c^2$ 378.5

| No. | ~~P~~ $P_t$ (psia) | $P_t^2$ | $F_cQ$ | $(F_cQ)^2$ | $\frac{(F_cQ)^2}{(1-e^{-s})}$ | $P_w^2$ | $P_c^2-P_w^2$ | ~~Calc~~ P | ~~P~~ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | 363.2 | 131.9 | 1.48 | 2.19 | 0.12 | 132.0 | 246.5 | | |
| 2. | 341.2 | 116.4 | 2.38 | 5.66 | 0.32 | 116.7 | 261.8 | | |
| 3. | 324.2 | 105.1 | 3.10 | 9.61 | 0.54 | 105.6 | 272.9 | | |
| 4. | 301.2 | 90.7 | 4.08 | 16.65 | 0.93 | 91.6 | 286.9 | | |
| 5. | | | | | | | | | |

Absolute Potential: 920 MCFPD; n 1.000
COMPANY R. Olsen Oil Company
ADDRESS 2805 Liberty Bank Building, Oklahoma City, Oklahoma
AGENT and TITLE Philip Randolph, Vice President
WITNESSED ____
COMPANY ____

REMARKS

**Two tests have been completed on this well. Both tests had slope in excess of 1.000. Slope of 1.000 was drawn through flow point representing the highest rate of flow.**

## 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 $P_t$.