NEW MEXICO OIL CONSERVATION COMMISSION

CORRECTED

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

1960 APR 4 AM 7:14

Pool Jalmat Formation Yates County Lea

Initial ____ Annual ____ Special X Date of Test 3-3/3-11-60

Company Schermerhorn Oil Corp. Lease Amerada-State Well No. 1

Unit I Sec. 24 Twp. 22 S Rge. 35 E Purchaser El Paso Natural Gas Company

Casing 5½" Wt. 14# I.D. ____ Set at 3594 Perf. ____ To ____

Tubing 2" Wt. 4.7# I.D. ____ Set at 3680 Perf. ____ To ____

Gas Pay: From 3594 To 3710 L 3680 xG .681 -GL ____ Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single

Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 4-14-55 Packer ____ Reservoir Temp. ____

OBSERVED DATA

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

| No. | Flow Data ~~(Prover)~~ (Line) Size | Flow Data ~~(Choke)~~ (Orifice) Size | Flow Data Press. psig | Flow Data Diff. $h_w$ | Flow Data Temp. °F. | Tubing Data Press. psig | Tubing Data Temp. °F. | Casing Data Press. psig | Casing Data Temp. °F. | Duration of Flow Hr. |
|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | 437 | | 437 | | 72 |
| 1. | 4" x .750 | | 226 | 8.41 | 94 | 423 | | 423 | | 24 |
| 2. | 4" x .750 | | 197 | 21.16 | 100 | 417 | | 418 | | 24 |
| 3. | 4" x .750 | | 235 | 28.09 | 106 | 408 | | 410 | | 24 |
| 4. | 4" x .750 | | 225 | 36.00 | 109 | 335 | | 400 | | 24 |
| 5. | | | | | | | | | | |

FLOW CALCULATIONS

| No. | Coefficient (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. | 3.435 | 44.85 | 239.2 | .9688 | .9387 | 1.020 | 142.8 |
| 2. | 3.435 | 66.69 | 210.2 | .9636 | | 1.017 | 210.8 |
| 3. | 3.435 | 83.50 | 248.2 | .9585 | | 1.020 | 263.2 |
| 4. | | 92.60 | 238.2 | .9559 | | 1.019 | 290.8 |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

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

Specific Gravity Separator Gas ____
Specific Gravity Flowing Fluid ____
$P_c$ 459.2 $P_c^2$ 202.7

| No. | $P_w$ ~~$P_t$~~ (psia) | $P_t^2$ | $F_cQ$ | $(F_cQ)^2$ | $(F_cQ)^2$ $(1-e^{-s})$ | $P_w^2$ | $P_c^2-P_w^2$ | Cal. $P_w$ | $\frac{P_w}{P_c}$ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | 436.7 | | | Measured | | 190.3 | 12.4 | 436.2 | .969 |
| 2. | 431.2 | | | | | 185.9 | 16.8 | 431.2 | .958 |
| 3. | 423.2 | | | | | 179.1 | 23.6 | 423.2 | .940 |
| 4. | 413.2 | | | | | 170.7 | 32.0 | 413.2 | .918 |
| 5. | | | | | | | | | |

Absolute Potential: 750 MCFPD; n .499

COMPANY Schermerhorn Oil Corporation

ADDRESS Box 1537, Hobbs, New Mexico

AGENT and TITLE J. H. Moore

WITNESSED J.B. Murray

COMPANY El Paso Nat. Gas Co.

REMARKS

## 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 $P_t$.