MAIN OFFICE OCC NEW MEXICO OIL CONSERVATION COMMISSION

1957 SEP 9 AM 9:05

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation 7-rivers County Lea

Initial ____ Annual ____ Special X Date of Test 6-24/6-28-57

Company Westates Pet. Corp Lease Wells B-4 Well No. 1

Unit D Sec. 4 Twp. 25 Rge. 37 Purchaser EPNG

Casing 7 Wt. 24.0 I.D. ____ Set at 3364 Perf. 2958 To 3152

Tubing 2 Wt. 4.7 I.D. ____ Set at 2995 Perf. ____ To ____

Gas Pay: From 2985 To 3152 L 2995 xG .650 -GL ____ Bar.Press. 13.2

Producing Thru: Casing ____ Tubing X Type Well Single

Date of Completion: July 1948 Packer None Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. ____

OBSERVED DATA

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

| No. | Flow Data ~~(Prover)~~ (Line) Size | ~~(Choke)~~ (Orifice) Size | 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 | 4 | 1.000 | | | | 670 | | 670 | | 72 |
| 1. | 4 | 1.000 | 529 | 4.0 | 77 | 616 | | 617 | | 24 |
| 2. | 4 | 1.000 | 550 | 4.84 | 76 | 610 | | 612 | | 24 |
| 3. | 4 | 1.000 | 562 | 9.61 | 74 | 587 | | 592 | | 24 |
| 4. | 4 | 1.000 | 556 | 13.69 | 76 | 575 | | 582 | | 24 |
| 5. | | | | | | | | | | |

FLOW CALCULATIONS

| No. | Coefficient Flange (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 | 46.56 | | .9840 | .9535 | 1.053 | 282 |
| 2. | 6.135 | 52.20 | | .9850 | .9535 | 1.056 | 317 |
| 3. | 6.135 | 73.03 | | .9868 | .9535 | 1.054 | 444 |
| 4. | 6.135 | 88.26 | | .9850 | .9535 | 1.056 | 568 |
| 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 .650
Specific Gravity Flowing Fluid ____
$P_c$ 683.2 $P_c^2$ 466.8

| No. | Pwx Pt (psia) | $P_t^2$ | $F_cQ$ | $(F_cQ)^2$ | $\frac{(F_cQ)^2}{(1-e^{-s})}$ | $P_w^2$ | $P_c^2-P_w^2$ | Cal. $P_w$ | $\frac{P_w}{P_c}$ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | 629.2 | 395.9 | | | | 397.2 | 69.6 | | .92 |
| 2. | 623.2 | 388.4 | | | | 390.9 | 75.9 | | .91 |
| 3. | 600.2 | 360.2 | | | | 366.3 | 100.5 | | .89 |
| 4. | 588.2 | 346.2 | | | | 354.3 | 112.5 | | .87 |
| 5. | | | | | | | | | |

Absolute Potential: 2,350 MCFPD; n 1.000
COMPANY Westates Pet. Corp.
ADDRESS Box 1381, Jal, N.M.
AGENT and TITLE J.G. Benton, Div Supt.
WITNESSED Earl C. Smith
COMPANY EPNG

REMARKS

# 3rd test completed on this well. Slope in excess of 1.000 Slope of 1.000 was drawn through 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 $P_t$.