# NEW MEXICO OIL CONSERVATION COMMISSION

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool __Aztec__ Formation __Pictured Cliffs__ County __San Juan__

Initial __XX__ Annual _____ Special _____ Date of Test __3/14/60__

Company __Aztec Oil & Gas Company__ Lease __Rye__ Well No. __6__

Unit __L__ Sec. __12__ Twp. __30N__ Rge. __11W__ Purchaser __Southern Union Gathering System__

Casing __2 7/8__ Wt. __6.40__ I.D. __2.441__ Set at __2499__ Perf. __2436__ To __2481__

Tubing __No__ Wt. _____ I.D. _____ Set at _____ Perf. _____ To _____

Gas Pay: From __2436__ To __2481__ L __2436__ xG __0.650(B)__ -GL __1583__ Bar. Press. _____

Producing Thru: Casing __XX__ Tubing _____ Type Well __Single__

Date of Completion: __3/6/60__ Packer __no__ Single-Bradenhead-G. G. or G.O. Dual Reservoir Temp. _____

### OBSERVED DATA

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

| No. | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. $h_w$ | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. | Duration of Flow Hr. |
|-----|------|------|------|------|------|------|------|------|------|------|
| | | | Flow Data | | | Tubing Data | | Casing Data | | |
| SI | | | | | | | | 569 | | 8 days |
| 1. | | 0.750 | | | | | | 170 | 60 | 3 hrs. |
| 2. | | | | | | | | | | |
| 3. | | | | | | | | | | |
| 4. | | | | | | | | | | |
| 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. | 12.3650 | | 182 | 1.000 | 0.9608 | 1.020 | 2205 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

### PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.     Specific Gravity Separator Gas _____

Gravity of Liquid Hydrocarbons _____ deg.     Specific Gravity Flowing Fluid _____

$P_c$ _____ $(1-e^{-s})$ _____     $P_c$ __581__ $P_c^2$ __337.561__

| 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. $P_w$ | $\frac{P_w}{P_c}$ |
|-----|------|------|------|------|------|------|------|------|------|
| 1. | 182 | 33.124 | 12.840 | 149.818 | 16.330 | 49.454 | 288.107 | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: __3184__ MCFPD; n __0.85__

COMPANY __Aztec Oil & Gas Company__

ADDRESS __Box # 766, Farmington, New Mexico__

AGENT and TITLE ORIGINAL SIGNED BY L. M. STEVENS __L. M. Stevens, Dist. Engineer__

WITNESSED _____

COMPANY _____

### REMARKS

RECEIVED MAR 21 1960 OIL CON. COM. DIST. 3

## 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 $P_t$.