## NEW MEXICO OIL CONSERVATION COMMISSION

### MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool __Basin Dakota__ Formation __Dakota__ County __San Juan__

Initial __XX__ Annual_____ Special_____ Date of Test __6/10/65__

Company __Southern Union Production__ Lease __Federal Largo__ Well No. __1__

Unit __K__ Sec. __34__ Twp. __29-N__ Rge. __9-W__ Purchaser ~~EXPASSXNATURALX~~Southern Union Gas Company

Casing __5"__ Wt. __15.0__ I.D. __4.408__ Set at __6740__ Perf. __6491__ To __6694__

Tubing __1-1/2__ Wt. __2.90__ I.D. __1.610__ Set at __6583__ Perf. __6573__ To __6583__

Gas Pay: From __6491__ To __6694__ L __6573__ xG __.700__ GL __4601__ Bar.Press. __12.0__

Producing Thru: Casing_____ Tubing __XX__ Type Well __Dual Gas__

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

Date of Completion: __6-1-65__ Packer __6310__ Reservoir Temp._____

### OBSERVED DATA

Tested Through (~~Prover~~) (Choke) (~~Meter~~) Type Taps_____

| 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 | | | | | | 1940 | | | | 9 days |
| 1. | 2" | 3/4 | 291 | | 69 | 291 | 69 | | | 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 | | 303 | .9915 | .9258 | 1.035 | 3559 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

### PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio_____ cf/bbl.
Gravity of Liquid Hydrocarbons_____ deg.
$F_c$ __16.46__ (1-e$^{-s}$) __.284__

Specific Gravity Separator Gas_____
Specific Gravity Flowing Fluid_____
$P_c$ __1952__ $P_c^2$ __3810304__

| 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. | 303 | 91809 | 58.581 | 3431.734 | 974.612 | 1066421 | 2743883 | 1033 | .529 |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: __4552__ MCFPD; n __.75__

COMPANY __Southern Union Production Company__
ADDRESS __P. O. Box 808 - Farmington, New Mexico__
AGENT and TITLE __Verne Rockhold - Engineer__
WITNESSED __Don Norton__
COMPANY __El Paso Natural Gas Company__

Original Signed By
VERNE ROCKHOLD

cc: (3) New Mexico O.C.C.
(1) Mr. Paul Clote
(1) El Paso Natural Gas Co., Proration Dept., P.O. Box 1492, El Paso, Texas
(1) Mr. H. L. Kindricks, Box 990, Farmington, New Mexico
(1) File

REMARKS

RECEIVED JUN 14 1965 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 $P_t$.