NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Ballard Pictured Cliffs Formation Pictured Cliffs County San Juan

Initial XX Annual _____ Special _____ Date of Test 9-13-63

Company Southern Union Prod. Co. Lease Foster Well No. 1

Unit M Sec. 24 Twp. 26-N Rge. 8-W Purchaser Southern Union Gas Co.

Casing 5-1/2 / 3-1/2 Wt. 15.5 / 9.30 I.D. 4.950 / 2.992 Set at 2187 / 2364 Perf. 2318 To 2338

Tubing 1-1/2 Wt. 2.90 I.D. 1.610 Set at 2303 Perf. 2293 To 2303

Gas Pay: From 2318 To 2338 L 2293 xG .640 -GL 1468 Bar.Press. 12.0

Producing Thru: Casing _____ Tubing XX Type Well Single Gas
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 9-6-63 Packer _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Orifice) Type Taps _____

| 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 | | | | | | 555 | | 555 | | 7 days |
| 1. | 2" | 3/4 | 51 | | 63° | 51 | 63° | 139 | | 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 | | 63 | .9971 | .9682 | - | 752 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

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

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
$P_c$ 567 $P_c^2$ 321.5

| No. | $P_w$ / $P_t$ (psia) | $P_t^2$ | $F_cQ$ | $(F_cQ)^2$ | $\frac{(F_cQ)^2}{(1-e^{-s})}$ | $P_w^2$ | $P_c^2-P_w^2$ | Cal. $P_w$ | $\frac{P_w}{P_c}$ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | | | | | | 22.8 | 298.7 | | .266 |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 801 MCFPD; n .85
COMPANY Southern Union Production Company
ADDRESS P. O. Box 808 - Farmington, New Mexico
AGENT and TITLE Verne Rockhold - Jr. Engineer
WITNESSED Herman Mosnally
COMPANY El Paso Natural Gas Company

REMARKS

cc:
(3) New Mexico O.C.C.
(1) Mr. Paul J. Clote
(1) Mr. Bob Corliss
(1) Mr. Bob McCrary
(1) Mr. Rudy Motto
(1) File

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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 $P_t$.