

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Wildcat Formation Dakota County San Juan
Initial X Annual _____ Special _____ Date of Test Nov. 3, 1959
Company Southern Union Gas Company Lease McCord - Federal Well No. 2
Unit L Sec. 34 Twp. 30N Rge. 13W Purchaser Southern Union Gas Company
Casing 4 1/2" Wt. 9.50# I.D. 4.090" Set at 6347 Perf. 6306 To 6116 by intervals
Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 6107 Perf. 6107 To 6077
Gas Pay: From _____ To _____ L _____ xG _____ -GL _____ Bar.Press. 12.0
Producing Thru: Casing _____ Tubing X Type Well Single - Gas
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: Sept. 3, 1959 Packer No Reservoir Temp. _____

OBSERVED DATA

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

| Flow Data | | | | | | Tubing Data | | Casing Data | | Duration of Flow Hr. |
|-----------|----------------------------|------------------------------|----------------|-------------------------|--------------|----------------|--------------|----------------|--------------|----------------------------|
| No. | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. h _w | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. | |
| 1. | (4.026) 4" x | 2.125 plate | 557 | 29 | 91.5 | 2105 667 | 92 | 2105 997 | | 60 days 4 hours |
| 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. | 22599.71 | 128.4 | 569 | 0.9723 | 1.1952 | 1.0529 | 3.550 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 51000 cf/bbl.
Gravity of Liquid Hydrocarbons 52.8 deg.
F_c _____ (1-e^{-s})

Specific Gravity Separator Gas 0.7
Specific Gravity Flowing Fluid _____
P_c 2117 P₂ 4481700
P_w 1009 P_{w2} 1018100

| 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 | P _w P _c |
|-----|---|-----------------------------|------------------|---------------------------------|---|-----------------------------|--|------------------------|----------------------------------|
| 1. | | | | | | 1018100 | 3463600 | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 4306 MCFPD; n 0.75
COMPANY SOUTHERN UNION GAS COMPANY
ADDRESS P. O. Box 815, Farmington, New Mexico
AGENT and TITLE Oran L. Haseltine, Production Superintendent
WITNESSED _____
COMPANY _____

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 .

| OIL CONSERVATION COMMISSION | | |
|-----------------------------|--|--|
| ADMINISTRATIVE OFFICE | | |
| Name of Well: _____ | | |
| County: _____ | | |
| Location: _____ | | |
| Date: _____ | | |
| Operator: _____ | | |
| Contract: _____ | | |
| Flowing Pressure: _____ | | |
| Shut-in Pressure: _____ | | |
| Temperature: _____ | | |
| Gravity: _____ | | |
| Supercompressibility: _____ | | |
| Slope: _____ | | |
| Remarks: _____ | | |