

3 NMOCC
1 Redfern & Herd
1 Pioneer
1 Christman
1 File

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin - Dakota Formation Dakota County San Juan
Initial X Annual _____ Special _____ Date of Test 6-2-62
Company Redfern & Herd, Inc. Lease Lucerne Well No. D-1
Unit P Sec. 21 Twp. 28N Rge. 11W Purchaser _____
Casing 4 1/2 Wt. 10.5 I.D. _____ Set at 6433 Perf. 6222 To 6378
Tubing 2 3/8 Wt. 4.7 I.D. _____ Set at 6359 Perf. Open End To _____
Gas Pay: From 6222 To 6378 L _____ xG .65 -GL _____ Bar.Press. _____
Producing Thru: Casing _____ Tubing X Type Well Single - Gas
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 5-19-62 Packer _____ Reservoir Temp. _____

OBSERVED DATA

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

| 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. | |
| SI | | | | | | | | | | |
| 1. | | | | | | 2062 | | 2068 | | |
| 2. | | 3/4" | 475 | | 71° | | | 1311 | | 3 hrs. |
| 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. | | | | | | | |
| 2. | | | | | | | |
| 3. | 12.365 | | 487 | .9896 | .9608 | 1.047 | 5995 |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

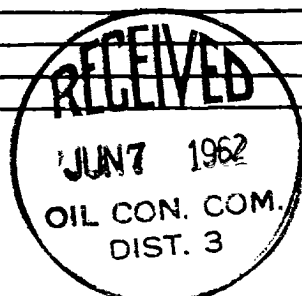
Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c _____ (1-e^{-s})
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c _____ 2080 P_c _____ 4,326,400

| 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 / F _c |
|-----|---|-----------------------------|------------------|---------------------------------|---|-----------------------------|--|------------------------|------------------------------------|
| 1. | | | | | | | | | |
| 2. | | | | | | | | | |
| 3. | 1323 | | | | | 1,750,329 | 2,576,071 | | 1.6795 |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 8844 MCFPD; n = .75 1.4753

COMPANY Redfern and Herd, Inc.
ADDRESS Box 1747, Midland, Texas
AGENT and TITLE Original signed by T. A. Dugan Consulting Engineer
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 .