

HOBBS OFFICE OCC

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Bumont Formation 1956 OCT 8 PM 2:20 County Lee
Initial _____ Annual X Special _____ Date of Test 6/27 thru 7/5/56
Company The Ohio Oil Company Lease State Hansen Well No. 4
Unit H Sec. 16 Twp. 20S Rge. 37E Purchaser Permian Basin Pipeline Company
Casing 7" Wt. 24.0# I.D. 6.336 Set at 3700 Perf. * To _____
Tubing 2 1/2" Wt. 6.5 I.D. 2.441 Set at 3433 Perf. 3429 To 3433
Gas Pay: From 3310 To 3540 L 3429 xG .670 -GL 2297 Bar.Press. 13.2
Producing Thru: Casing _____ Tubing X Type Well Single Completion
Date of Completion: 6-19-54 Packer 3262 Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. _____

OBSERVED DATA

Tested Through (Pressure) (Stroke) (Meter)Type Taps Pipe Taps

| No. | Flow Data | | | | | Tubing Data | | Casing Data | | Duration of Flow Hr. |
|-----|--------------------|------------------------|-------------|----------------------|-----------|-------------|-----------|-------------|-----------|----------------------|
| | (Bore) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. h _w | Temp. °F. | Press. psig | Temp. °F. | Press. psig | Temp. °F. | |
| SI | | | | | | | | | | |
| 1. | 4" | 1.5" | 458.2 | 10.8 | 88 | 1032.1 | 88 | Perf. | --- | 72 1/2 hr. S.I. |
| 2. | 4" | 1.5" | 458.6 | 19.9 | 81 | 938.2 | --- | " | --- | 23-1/2 hr. |
| 3. | 4" | 1.5" | 461.0 | 29.8 | 78 | 873.3 | --- | " | --- | 24-1/2 hr. |
| 4. | 4" | 1.5" | 461.0 | 29.8 | 78 | 833.0 | --- | " | --- | 24 hr. |
| 5. | 4" | 1.5" | 470.8 | 32.0 | 77 | 802.0 | --- | " | --- | 24-3/4 hr. |

FLOW CALCULATIONS

| No. | Coefficient (24-Hour) | $\sqrt{h_{wPf}}$ | Pressure psia | Flow Temp. Factor F _t | Gravity Factor F _g | Compress. Factor F _{pv} | Rate of Flow Q-MCFPD @ 15.025 psia |
|-----|-----------------------|------------------|---------------|----------------------------------|-------------------------------|----------------------------------|------------------------------------|
| 1. | 15.26 | 71.35 | 471.4 | .9741 | .9463 | 1.043 | 1047 |
| 2. | 15.26 | 96.90 | 471.8 | .9804 | .9463 | 1.045 | 1134 |
| 3. | 15.26 | 118.87 | 474.2 | .9831 | .9463 | 1.047 | 1767 |
| 4. | 15.26 | 124.45 | 484.0 | .9840 | .9463 | 1.048 | 1853 |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 5.866 (1-e^{-s}) 0.146

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 1045.3 P_c 1092.7

| 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. | 951.4 | 905.2 | 6.142 | 37.72 | 5.51 | 910.7 | 182.0 | 951.2 | 91.3 |
| 2. | 886.5 | 785.9 | 8.412 | 70.76 | 10.33 | 796.2 | 298.5 | 892.4 | 85.4 |
| 3. | 846.2 | 716.1 | 10.365 | 107.43 | 15.68 | 731.8 | 360.9 | 855.4 | 81.6 |
| 4. | 815.2 | 664.6 | 10.870 | 118.16 | 17.25 | 681.9 | 430.8 | 826.0 | 79.0 |
| 5. | | | | | | | | | |

Absolute Potential: 3630 MCFPD; n 0.691934

COMPANY The Ohio Oil Company
ADDRESS P. O. Box 2107, Hobbs, New Mexico
AGENT and TITLE T. O. Webb - Petroleum Engineer
WITNESSED Mr. R. L. West
COMPANY Permian Basin Pipeline Company

REMARKS

* 7" O.D. casing perforated as follows: 3310-3335, 3350-3380, & 3400-3540

Due to improper point alignment on back pressure curve well will be retested.

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} = Supercompressibility 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 .