

NEW MEXICO OIL CONSERVATION COMMISSION

NCBDS OFFICE OCC

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

NOV 19 AM 7:58

Pool Dumont Formation Queen County Lea

Initial _____ Annual _____ Special X Date of Test 9-21-56

Company Gulf Oil Corporation Lease White "A" Well No. 2

Unit I Sec. 25 Twp. 20S Rge 36E Purchaser Permian Basin PL Co.

Casing 5.5" Wt. 17.04 I.D. 4.892" Set at 3732' Perf. 3352' To 3572'

Tubing 2.375" Wt. 4.74 I.D. 1.999" Set at 3823' Perf. _____ To _____

Gas Pay: From 3352' To 3572' L 3352 xG 0.665 -GL 2229 Bar.Press. _____

Producing Thru: Casing X Tubing _____ Type Well (Gas-Oil Dual)
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 6-17-55 Packer Yes Reservoir Temp. _____

OBSERVED DATA

Tested Through (Dumont) (Meter) _____ Type Taps Pipe

| 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 | | | | | | | | 936.3 | | 28.5 |
| 1. | 1 | 2.25 | 180.6 | 5.9 | 72 | | | 877.0 | | 28 |
| 2. | 1 | 2.25 | 185.8 | 10.6 | 61 | | | 881.3 | | 28 |
| 3. | 1 | 2.25 | 189.5 | 21.2 | 61 | | | 795.0 | | 28 |
| 4. | 1 | 2.25 | 172.7 | 36.1 | 62 | | | 731.0 | | 28 |
| 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. | 10.53 | 52.67 | 173.8 | 0.987 | 0.939 | 1.082 | 2897 |
| 2. | 10.53 | 71.18 | 178.0 | 0.979 | 0.939 | 1.083 | 2863 |
| 3. | 10.53 | 100.90 | 182.7 | 0.979 | 0.939 | 1.083 | 1899 |
| 4. | 10.53 | 132.60 | 185.9 | 0.981 | 0.939 | 1.083 | 5316 |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

GL - 1.708
H₂ - 1.485

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c 1.812 (1-e^{-s}) 0.112

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 989.5 P_c 981.9

| 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 | P _w P _c |
|-----|---|-----------------------------|------------------|---------------------------------|---|-----------------------------|--|-----------|----------------------------------|
| 1. | 890.2 | 792.4 | 3.800 | 14.44 | 2.090 | 794.6 | 107.0 | 892.4 | .96 |
| 2. | 851.5 | 725.1 | 5.108 | 26.08 | 3.823 | 728.9 | 172.7 | 853.8 | .90 |
| 3. | 808.2 | 653.2 | 7.353 | 54.06 | 7.688 | 650.9 | 152.7 | 813.8 | .86 |
| 4. | 746.2 | 556.8 | 9.693 | 92.79 | 13.180 | 570.0 | 176.8 | 755.0 | .80 |
| 5. | | | | | | | | | |

Absolute Potential: 12,200 MCFPD; n 0.83

COMPANY Gulf Oil Corp.
ADDRESS Box 2167, Houston, N.M.
AGENT and TITLE J. L. Smith
WITNESSED _____
COMPANY _____

REMARKS

ELVIS A. UTZ
GAS ENGINEER

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 .