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 6-19-64

Company PAN AMERICAN PETROLEUM CORP. Lease Federal Gas Unit "F" Well No. 1

Unit A Sec. 7 Twp. 27N Rge. 12W Purchaser

Casing 4-1/2 Wt. 10.5 I.D. 4.052 Set at 6012 Perf. 5830-37/5875 To 5888/5896-99

Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 5863 Perf. 5826 To 5832

Gas Pay: From 5830 To 5899 L 5865 xG .700 -GL 4106 Bar.Press. 12

Producing Thru: Casing Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 6-10-64 Packer None Reservoir Temp.

OBSERVED DATA

Tested Through (Choke) Type Taps Flange

| No. | Flow Data (Line) Size | Flow Data (Choke) 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 | 9 days | | | | | 2096 | | 2098 | | |
| 1. | 2 inch | .750 | 378 | | | 378 | 60° est. | 1162 | 60° est. | 3 Hr. |
| 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 | | 390 | 1.000 | .9258 | 1.077 | 7274 |
| 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
$P_c$ 2050 $P_c^2$ 4,202,500

| 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. | | | | | | | | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 9,885 MCFPD; n .75

COMPANY PAN AMERICAN PETROLEUM CORPORATION
ADDRESS BOX 480, FARMINGTON, NEW MEXICO
AGENT and TITLE F. L. Roberts, District Engineer
WITNESSED By: [signature]
COMPANY

REMARKS

RECEIVED
JUN 24 1964
OIL CON. COM.
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 $P_t$.