NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Angels Peak Dakota Formation Dakota County San Juan

Initial X Annual ____ Special ____ Date of Test November 7, 1960

Company Pan American Petroleum Corporation Lease E. H. Pipkin Well No. 6

Unit H Sec. 36 Twp. 28N Rge. 11W Purchaser Southern Union Gas Company

Casing 5-1/2 Wt. 15.5 I.D. 4.950 Set at 6274 Perf. 6159-6166 and 6187-6190 To ____

Tubing 2-3/8 Wt. 4.7 I.D. 1.995 Set at 6145 Perf. open ended - no perforations To ____

Gas Pay: From 6159 To 6190 L 6145 xG 0.700(est) -GL 4301 Bar.Press. 12

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

Date of Completion: 10/28/60 Packer None Reservoir Temp. 144° F

OBSERVED DATA

Tested Through (~~Meter~~) (Choke) (~~Orifice~~) Type Taps ____

| No. | Flow Data (~~Meter~~) (Line) Size | (Choke) (~~Orifice~~) Size | Press. psig | Diff. $h_w$ | Temp. °F. | Tubing Data Press. psig | Tubing Data Temp. °F. | Casing Data Press. psig | Casing Data Temp. °F. | Duration of Flow Hr. |
|---|---|---|---|---|---|---|---|---|---|---|
| SI | Shut in | 10 days | | | | 2057 | | 2060 | | |
| 1. | 2" | 3/4" | 454 | | 60 (est) | 508 | | 1050 | | 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. | 12.365 | | 466 | 1.000 | 0.9258 | 1.058 | 5643 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
$P_c$ ____ $(1-e^{-s})$ ____ $P_c$ 2072 $P_c^2$ 4,293,184

| 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. | | | | | | 1,127,844 | 3,165,340 | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 7093 MCFPD; n 0.75
COMPANY Pan American Petroleum Corporation
ADDRESS Box 480, Farmington, New Mexico
AGENT and TITLE R. H. Bauer, Jr., Area Engineer
WITNESSED ____
COMPANY ____

REMARKS

RECEIVED NOV 9 1960 OIL CON.

## 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 $P_t$.