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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

# MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tapacito Formation Pictured Cliffs County Rio Arriba

Initial X Annual ____ Special ____ Date of Test 12-20-57

Company Northwest Production Corp. Lease "M" Well No. 11-7

Unit D Sec. 7 Twp. 26N Rge. 4W Purchaser Not connected

Casing 5-1/2 Wt. 15.5 I.D. ____ Set at 3686 Perf. 3788 To 3841

Tubing 1-1/4 Wt. 2.3 I.D. ____ Set at 3798 Perf. ____ To ____

Gas Pay: From 3788 To 3841 L ____ xG .650 est. -GL ____ Bar.Press. ____

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

Date of Completion: 12-13-57 Packer No Reservoir Temp. ____

## OBSERVED DATA

Tested Through (Prover) (Choke) (Orifice) Type Taps ____

| No. | Flow Data (Prover) (Line) Size | Flow Data (Choke) (Orifice) 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 | | | | | | 1032 | | 1033 | | 81 |
| 1. | | | | | | | | | | |
| 2. | | | | | | | | | | |
| 3. | | 3/4 | | | | 41 | 51 | 397 | | 3 hrs |
| 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. | 12.3650 | | 53 | 1.0088 | .9608 | 1.011 | 642 |
| 4. | | | | | | | |
| 5. | | | | | | | |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
$P_c$ ____ $(1-e^{-s})$ ____ $P_c$ 1045 $P_c^2$ 1092.0

| 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. | 409 | | | | | 167.3 | 924.7 | | 1.181 |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 739 MCFPD; n .85/1.15183
COMPANY Northwest Production Corporation
ADDRESS 304 North Orchard, Farmington, New Mexico
AGENT and TITLE L. M. Gilbert, Asst. Drlg. Engr.
WITNESSED ____
COMPANY ____

REMARKS

RECEIVED DEC 23 1957 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 $P_t$.

DRILLING DEPARTMENT

COMPANY **Northwest Production Corp.**

LEASE "N" WELL NO. **11-7**

DATE OF TEST **Dec. 20, 1957**

SHUT IN PRESSURE (PSIG): TUBING **1032** CASING **1033** S. I. PERIOD **7** DAYS

SIZE BLOW NIPPLE _____

FLOW THROUGH **3/4" T.C. Choke** WORKING PRESSURES FROM **Casing**

| TIME HOURS | TIME MINUTES | CK PRESSURE | Q (MCFD) 15.025 PSIA & 60°F | WELLHEAD WORKING PRESSURE (PSIG) | TEMP |
|---|---|---|---|---|---|
| **3** | **0** | **41** | | **397** | **51** |
| | | | | | |
| | | | | | |
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| | | | | | |

START AT: **11:10 AM** END TEST AT **2:10 PM**

REMARKS: _____

TESTED BY: **L. E. Gilbert**

WITNESS: _____

| OIL CONSERVATION COMMISSION | | |
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