3 AMOCO
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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 Blanco Formation Mesaverde County Rio Arriba

Initial X Annual ____ Special ____ Date of Test 11-17-58

Company Occidental Petroleum Corp. Lease E Well No. 1-21

Unit M Sec. 21 Twp. 26N Rge. 3W Purchaser ____

Casing 7-5/8" 26.40# Wt. 5-1/2" 15.5# I.D. ____ Set at 4100 6162 Perf. 6074 To 6146

Tubing 2-3/8" Wt. 4.7 I.D. ____ Set at 6056 Perf. ____ To ____

Gas Pay: From 6074 To 6146 L 6056 xG 0.620 -GL 3760 Bar.Press. ____

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

Date of Completion: 11-6-58 Packer 6056 Reservoir Temp. 550F

OBSERVED DATA

Tested Through ~~(Prover)~~ (Choke) ~~(Meter)~~ 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 | | | | | | 1225 | | | | |
| 1. | | 3/4 | 196 | | 55°F | | | | | 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. | | | | | | | |
| 2. | 12.365 | | 208 | 1.0048 | .9837 | 1.018 | 2566 |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio ____ cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
$P_c$ 9.402 $(1-e^{-s})$ 0.239 $P_c$ 1237 $P_c^2$ 1530

| 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. | | 43.3 | 25.307 | 640.4 | 145.4 | 188.7 | 1242 | | 1.232 |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 3000 MCFPD; n .75 1.169
COMPANY Occidental Petroleum Corp.
ADDRESS 120 So. Commercial, Farmington, New Mexico
AGENT and TITLE T.A. Dugan, Consulting Engineer Original signed by T. A. Dugan
WITNESSED Charles Warner
COMPANY Northwest Production Corp.

REMARKS

RECEIVED
NOV 19 1958
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 Occidental Petroleum Corp.

LEASE E WELL NO. 1-21

DATE OF TEST 11-17-58

M.V. 1225 P.C. P.C.
SHUT IN PRESSURE (PSIG): TUBING 970 CASING 969 S.I. PERIOD 9 DAYS

SIZE BLOW NIPPLE 3/4" T.C.

FLOW THROUGH Tbg. WORKING PRESSURES FROM None

| TIME HOURS | TIME MINUTES | PRESSURE | P.C. Tbg. Q ( MCFD ) 15.025 PSIA & 60°F | P.C. Csg. WELLHEAD WORKING PRESSURE (PSIG) | TEMP |
|---|---|---|---|---|---|
| | 15 | 377 | 973 | 972 | 54 |
| | 30 | 287 | 973 | 972 | 54 |
| | 45 | 269 | 973 | 972 | 55 |
| 1 | 00 | 252 | 974 | 974 | 55 |
| 2 | 00 | 221 | 976 | 975 | 55 |
| 3 | 00 | 196 | 975 | 974 | 55 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

START AT 12:00 Noon END TEST AT 3:00 P.M.

REMARKS: Started blowing heavy spray of $H_2O$ & Distillate continued throughout test.

TESTED BY : Jim Jacobs

WITNESS: Charles Werner

OIL CONSERVATION COMMISSION

AZTEC DISTRICT OFFICE

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