NEW MEXICO OIL CONSERVATION COMMISSION

HOBBS OFFICE OCC     Form C-122
MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS    Revised 12-1-55
1957 FEB 11   AM 9:57

Pool **Eumont Gas Pool**    Formation **Queens**    County **Lea**

Initial _____ Annual _____ Special _____ Date of Test **6-13-56**

Company **Amerada Petroleum Corporation** Lease **Wedr**    Well No. **7**

Unit **0** Sec. **26** Twp. **19-S** Rge. **36-E** Purchaser **Permian Basin Pipe Line Co.**

Casing **6-5/8"** Wt. **20-.04** I.D. **6.049** Set at **3679** Perf. _____ To _____

Tubing **2.875** Wt. **6.54** I.D. **2.441** Set at **3705** Perf. **3526** To **3592**

Gas Pay: From **3526** To **3696** L **3526** xG **0.680** GL **2398** Bar.Press. **13.2**

Producing Thru: Casing _____ Tubing **X** Type Well **Single**

Date of Completion: **10-11-54** Packer _____ Single-Br lenhead-G. G. or G.O. Dual
Reservoir Temp. **91°**

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)     Type Taps **Pipe**

| No. | (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. $h_w$ | Temp. °F. | Tubing Data Press. psig | Temp. °F. | Casing Data Press. psig | Temp. °F. | Duration of Flow Hr. |
|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | 863.8 | | | | |
| 1. | 4" | 2.500" | 459.1 | 66.3" | 76 | 786.7 | | | | 72½ |
| 2. | 4" | 2.500" | 456.1 | 8.6" | 63 | 743.4 | | | | 24-1/4 |
| 3. | 4" | 2.500" | 454.4 | 18.5 | 74 | 614.2 | | | | 23-3/4 |
| 4. | 4" | 2.500" | 460.1 | 18.8 | 65 | 605.3 | | | | 24 |
| 5. | | | | | | | | | | 23-1/4 |

### 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. | 54.44 | 54.02 | 463.3 | 0.9850 | 0.9393 | 1.037 | 2821.6 |
| 2. | 54.44 | 63.66 | 471.3 | 0.9971 | 0.9393 | 1.040 | 3375.6 |
| 3. | 54.44 | 93.01 | 467.6 | 0.9868 | 0.9393 | 1.037 | 4847.1 |
| 4. | 54.44 | 92.81 | 473.3 | 0.9952 | 0.9393 | 1.040 | 4912.0 |
| 5. | | | | | | | |

### PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio **Dry** cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
$P_c$ **5.866** (1-e^{-s}) **0.152**

Specific Gravity Separator Gas **.655**
Specific Gravity Flowing Fluid _____
$P_c$ **677.9**   $P_c^2$ **804.6**

| 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. $P_w$ | $\frac{P_w}{P_c}$ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | 799.9 | 639.8 | 16.55 | 273.9 | 41.6 | 681.4 | 123.2 | 825.4 | 92.82 |
| 2. | 756.6 | 572.4 | 19.80 | 392.0 | 59.6 | 632.0 | 172.6 | 795.0 | 88.63 |
| 3. | 629.4 | 396.1 | 28.55 | 815.1 | 123.9 | 520.0 | 284.6 | 721.1 | 80.39 |
| 4. | 618.3 | 382.3 | 28.81 | 830.0 | 126.2 | 508.5 | 296.1 | 713.0 | 79.49 |
| 5. | | | | | | | | | |

Absolute Potential: **9500** MCFPD; n **0.6503**

COMPANY **Amerada Petroleum Corporation**
ADDRESS **Drawer D - Monument, New Mexico**
AGENT and TITLE **W.G. Abbott** *W.G. Abbott*
WITNESSED
COMPANY **Permian Basin Pipe Line Company**

### REMARKS

# 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 $P_t$.