NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Tubb Formation Tubb County Lea

Initial x Annual Special Date of Test 3-13/14-57

Company Amerada Pet. Corp. Lease State "DB" Well No. 1

Unit F Sec. 32 Twp. 21S Rge. 37E Purchaser Permian Basin Pipe Line Co.

Casing 5-1/2" Wt. 15.5# I.D. 4.950" Set at 6605' Perf. 6060' To 6208'

Tubing 2-3/8" Wt. 4.7# I.D. 1.995" Set at 6305' Perf. 6535' (EST.) To 6578'

Gas Pay: From 6060' To 6208' L 6060' xG 0.695 -GL 4212' Bar.Press. 13.2

Producing Thru: Casing x Tubing Type Well Gas-Oil Dual
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 3-1-57 Packer 6300' Reservoir Temp.

OBSERVED DATA

Tested Through (Prover) ~~(Choke)~~ (Meter) Type Taps

| No. | Flow Data (Prover) ~~(Choke)~~ Size | Flow Data (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 | | | | | | | | 1960.2 | | 114-1/4 hr. SIP. |
| 1. | 2" | 5/8" | 496.6 | | 66 | | | 589.2 | | 24 hrs. |
| 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. | 8.3555 | | 509.8 | 0.9292 | 0.9943 | 1.060 | 4,172 |
| 2. | | | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio cf/bbl.
Gravity of Liquid Hydrocarbons deg.
$F_c$ 1.793 $(1-e^{-s})$ 0.252

Specific Gravity Separator Gas
Specific Gravity Flowing Fluid
$P_c$ 1973.4 $P_c^2$ 3894.3

| 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. | 602.4 | 362.9 | 7.480 | 55.95 | 14.10 | 3770 | 3517.3 | | .31 |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

Absolute Potential: 4502 MCFPD; n 0.75
COMPANY Amerada Petroleum Corporation
ADDRESS Drawer D - Monument, New Mexico
AGENT and TITLE W.G. Abbott - District Engineer W G Abbott
WITNESSED R.L. West & J.D. Horton
COMPANY Permian Basin Pipe Line Co.

REMARKS

Tested with a 2" critical flow prover with a 5/8" orifice plate
Tested through a high pressure separator.
Average Tubb Pool slope of 0.75 was used in all calculations.

WES A. UTZ
GAS ENGINEER

## 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.

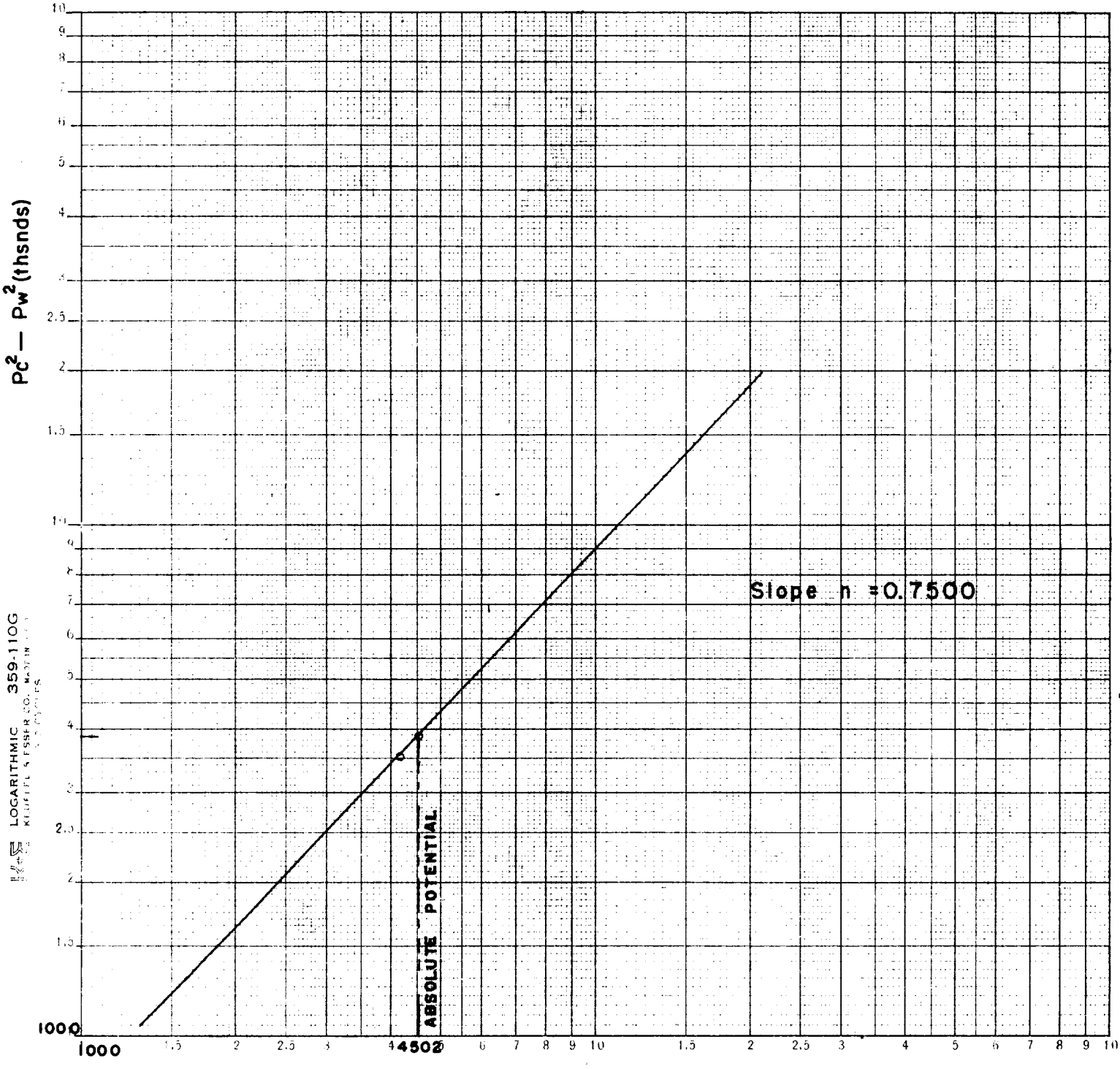
$F_t$ = Flowing temperature correction factor.

$F_{pv}$ = 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 $P_t$.

COMPANY Amerada Petroleum Corporation
LEASE State "DB" No. 1
LOCATION F-32-21S-37E
COUNTY Lea
DATE 3-13/14-57




Q – MCFPD