Initial Deliverability Test

Form C-122
Revised April 20, 1955

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DIST. 3

# NEW MEXICO OIL CONSERVATION COMMISSION
## GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA EXCEPT BARKER DOME STORAGE AREA)

Pool South Blanco Pictured Cliffs Formation Pictured Cliffs County Rio Arriba

Purchasing Pipeline El Paso Natural Gas Date Test Filed 1-21-58

Operator Amerada Petroleum Corp. Lease J. Apache "F" Well No. 4

Unit J Sec. 28 Twp. 25-N Rge. 5-W Pay Zone: From 2446 To 2498

Casing: OD 5-1/2" WT. 15.5 Set At 2469 Tubing: OD 2-3/8" WT. 4.7 T. Perf. 2435

Produced Through: Casing X Tubing Gas Gravity: Measured .600 Estimated

Date of Flow Test: From 12-13-57 To 1-3-58 * Date S.I.P. Measured 1-11-58

Meter Run Size 4" Orifice Size .750 Type Chart AGA Type Taps Flange

## OBSERVED DATA

| | | | |
|---|---|---|---|
| Flowing casing pressure (Dwt) | psig + 12 = 401 | psia | (a) |
| Flowing tubing pressure (Dwt) | psig + 12 = | psia | (b) |
| Flowing meter pressure (Dwt) | psig + 12 = 400 | psia | (c) |
| Flowing meter pressure (meter reading when Dwt. measurement taken): | | | |
| Normal chart reading | psig + 12 = | psia | (d) |
| Square root chart reading (8.9) $^2$ x spring constant 5.0 | = 396 | psia | (d) |
| Meter error (c) - (d) or (d) - (c) ± | = -4 | psi | (e) |
| Friction loss, Flowing column to meter: | | | |
| (b) - (c) Flow through tubing: (a) - (c) Flow through casing | = 1 | psi | (f) |
| Seven day average static meter pressure (from meter chart): | | | |
| Normal chart average reading | psig + 12 = | psia | (g) |
| Square root chart average reading (8.75) $^2$ x sp. const. 5 | = 383 | psia | (g) |
| Corrected seven day avge. meter press. ($p_f$) (g) + (e) | = 379 | psia | (h) |
| $P_t$ = (h) + (f) | = 388 380 | psia | (i) |
| Wellhead casing shut-in pressure (Dwt) 867 | psig + 12 = 879 | psia | (j) |
| Wellhead tubing shut-in pressure (Dwt) | psig + 12 = | psia | (k) |
| $P_c$ = (j) or (k) whichever well flowed through | = 879 | psia | (l) |
| Flowing Temp. (Meter Run) 59 °F + 460 | = 519 | °Abs | (m) |
| $P_d$ = ½ $P_c$ = ½ (l) | = 439 | psia | (n) |

## FLOW RATE CALCULATION

Q = 36 (integrated) X $\left(\frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{400}{396} = 1.005\right)^2$ = 36.38 MCF/da

## DELIVERABILITY CALCULATION

D = Q 36.38 $\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{552,961}{593,481}\right]^n$ (0.9315)$^{.9501}$ = 36 MCF/da.

## SUMMARY

| | | |
|---|---|---|
| $P_c$ = | 879 | psia |
| Q = | ~~1088~~ 36 388 | Mcf/day |
| $P_w$ = | ~~380~~ 388 | psia |
| $P_d$ = | 439 | psia |
| D = | 36 | Mcf/day |

Company Amerada Petroleum Corporation
By O.C. McBryde, Jr.
Title Dist. Engr.
Witnessed by
Company

* This is date of completion test.
* Meter error correction factor

## REMARKS OR FRICTION CALCULATIONS

| GL | $(1-e^{-s})$ | $(F_cQ)2$ | $\frac{(FcQ)^2 \quad (1-e^{-s})}{R^2}$ | $Pt^2$ (Column i) | $P_t^2 + R^2$ | $P_w$ |
|---|---|---|---|---|---|---|
| 1773 | 0.181 | .032618 | 0.000436 | 144,400 | 144,400 | 380 |

$F_c$ = 1.671 where T = 519°R, Z = 0.90, $P_b$ = 15.025
n = 0.85

NOTE: No values are given for $F_c$ in the "Manual of Calculating Friction Loss Due to Friction", for the particular size casing and tubing used in this well. The above value of $F_c$ was obtained using the data listed.