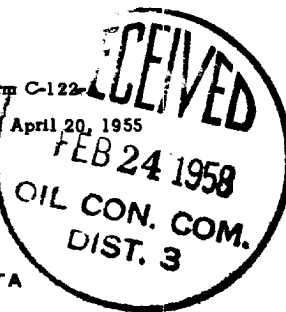


Initial Deliverability
Test

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)

Form C-122
Revised April 20, 1955



Pool South Elmore Pictured Cliffs Formation Pictured Cliff 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. 5
Unit 3 Sec. 16 Twp. 25-N Rge. 5-W Pay Zone: From 2950 To 2965
Casing: OD 5-1/2" WT. 15.5 Set At 3976 Tubing: OD 2-3/8 WT. 4.7 T. Perf. 3742
Produced Through: Casing I Tubing _____ Gas Gravity: Measured .488 Estimated _____
Date of Flow Test: From 12-13-57 To 1-3-58 * Date S.I.P. Measured 1-10-58
Meter Run Size 4" Orifice Size .250 Type Chart ABCO Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) _____ psig + 12 = 468 psia (a)
Flowing tubing pressure (Dwt) _____ psig + 12 = 465 psia (b)
Flowing meter pressure (Dwt) _____ psig + 12 = 465 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken):
Normal chart reading _____ psig + 12 = _____ psia (d)
Square root chart reading (9.6)² x spring constant 5 = 461 psia (d)
Meter error (c) - (d) or (d) - (c) _____ ± _____ psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing _____ = 3 psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading _____ psig + 12 = _____ psia (g)
Square root chart average reading (9.7)² x sp. const. 5 = 470 psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = 474 psia (h)
= 477 psia (i)
P_t = (h) + (f) = 744 psig + 12 = 756 psia (j)
Wellhead casing shut-in pressure (Dwt) _____ psig + 12 = _____ psia (k)
Wellhead tubing shut-in pressure (Dwt) _____ psig + 12 = 756 psia (l)
P_c = (j) or (k) whichever well flowed through _____ = 757 °Abs (m)
Flowing Temp. (Meter Run) 67 °F + 460 = 578 °Abs (n)
P_d = 1/2 P_c = 1/2 (l) _____

FLOW RATE CALCULATION

$$Q = \frac{50}{(\text{Integrated})} \times \left(\frac{\sqrt{P_c} - \sqrt{P_d}}{\sqrt{P_c} - \sqrt{P_w}} \right) = \frac{465 - 461}{465 - 461} = 1.005 = 50.25 \text{ MCF/da}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = 50.25 \frac{756^2 - 461^2}{756^2 - 461^2} = 1.206 = 60.6 \text{ MCF/da.}$$

SUMMARY

P_c = 756 psia
Q = 50.25 Mcf/day
P_w = 477 psia
P_d = 461 psia
D = 60.6 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 _c Q) ²	(F _c Q) ² (1-e ^{-S}) R ²	P _t ² (Column i)	P _t ² + R ²	P _w
1999	0.235	0.007053	.0009523	227529	227529	477

F₀ = 1.671 where T = 573°R, Z = 0.90, P₀ = 15.025.
n = 0.85

NOTE: If e values are given for F₀ in the "Manual of Calculating Pressure Loss Due to Friction", for the particular size casing and tubing used in this well. The above value of F₀ was obtained using the data listed.

OK

