Initial Deliverability Test

Form C-122
Revised April 20, 1955

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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 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 J Sec. 16 Twp. 25-N Rge. 5-W Pay Zone: From 2956 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 X Tubing Gas Gravity: Measured .688 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 ARBO Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) ____ psig + 12 =	468	psia	(a)
Flowing tubing pressure (Dwt) ____ psig + 12 =		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) ± =	-4	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)
P_t = (h) + (f) =	477	psia	(i)
Wellhead casing shut-in pressure (Dwt) 744 psig + 12 =	756	psia	(j)
Wellhead tubing shut-in pressure (Dwt) ____ psig + 12 =		psia	(k)
P_c = (j) or (k) whichever well flowed through =	756	psia	(l)
Flowing Temp. (Meter Run) 47 °F + 460 =	507	°Abs	(m)
P_d = ½ P_c = ½ (l) =	378	psia	(n)

FLOW RATE CALCULATION

$$Q = \underset{\text{(integrated)}}{50} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{465}{461} = 1.005 \right)^{*} = 50.25 \text{ MCF/da}$$

DELIVERABILITY CALCULATION

$$D = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{428,652}{344,807} \right]^{n} = 1.206 \quad 50.25 = 60.6 \text{ MCF/da.}$$

SUMMARY

P_c =	756	psia
Q =	50.25	Mcf/day
P_w =	477	psia
P_d =	378	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	$(1-e^{-S})$	$(F_cQ)2$	$\frac{(FcQ)^2 \quad (1-e^{-S})}{R^2}$	P_t^2 477^2 (Column i)	$P_t^2 + R^2$	P_w
1999	0.135	0.007053	.0009523	227529	287529	477

F_c = 1.671 where T = 57°F, Sp. Gr. = 0.90, P_b = 15.025.

n = 0.85

NOTE: If c values are given for F_c 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 F_c was obtained using the data listed.