

Initial Deliverability
Test

CORRECTED COPY
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 Basin Formation Dakota County San Juan
Purchasing Pipeline El Paso Natural Gas Date Test Filed July 8, 1961
Operator Pioneer Production Corp. Lease Redfern Well No. 4
Unit I Sec. 16 Twp. 28N Rge. 11W Pay Zone: From 6013 To 6196
Casing: OD 5 1/2" WT. 15.5 Set At 6266 Tubing: OD 2-3/8" WT. 4.7 T. Perf. 6184
Produced Through: Casing Tubing X Gas Gravity: Measured .658 Estimated
Date of Flow Test: From To * Date S.I.P. Measured 5-21-61
Meter Run Size 4" Orifice Size 1.750 Type Chart SR Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) 1330 psig + 12 = 1342 psia (a)
Flowing tubing pressure (Dwt) 1120 psig + 12 = 1132 psia (b)
Flowing meter pressure (Dwt) 548 psig + 12 = 560 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading psig + 12 = psia (d)
Square root chart reading (7.4)² x spring constant 10 = 548 psia (d)
Meter error (c) - (d) or (d) - (c) ± = + 12 psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing = 572 psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading psig + 12 = psia (g)
Square root chart average reading (7.4)² x sp. const. 10 = 548 psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = 560 psia (h)
= 1132 psia (i)
P_t = (h) + (f) = 1981 psia (j)
Wellhead casing shut-in pressure (Dwt) 1969 psig + 12 = 1981 psia (j)
Wellhead tubing shut-in pressure (Dwt) 1967 psig + 12 = 1979 psia (k)
P_c = (j) or (k) whichever well flowed through = 1979 psia (l)
Flowing Temp. (Meter Run) 73 °F + 460 = 533 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) = 990 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{3825}{(\text{integrated})} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{\sqrt{1.0219}}{\sqrt{1.0218}} = 1.0218 \right)^* = 3867 \text{ MCF/da}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{3867}{\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{2,936,341}{2,296,619} \right]^n \frac{.75}{(1.2785) .75}} = 4649 \text{ MCF/da.}$$

SUMMARY

P _c =	<u>1979</u>	psia	Company	<u>Pioneer Production Corp.</u>
Q =	<u>3867</u>	Mcf/day	By	<u>Original signed by T. A. Dugan</u>
P _w =	<u>1272</u>	psia	Title	<u>Consulting Engineer</u>
P _d =	<u>990</u>	psia	Witnessed by	<u> </u>
D =	<u>4510</u>	Mcf/day	Company	<u> </u>

* 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
4069	.256	1321.870	338.398	1281.424	1619.822	1273



