

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)

Pool West Kutz Formation Picture Cliff County San Juan
Purchasing Pipeline El Paso Natural Gas Co. Date Test Filed 1-27-59
Operator Frank Yockey Lease Yockey Well No. 1
Unit P Sec. 20 Twp. 27N Rge. 11W Pay Zone: From 1878 To 1892
Casing: OD 4 1/2 WT. 11.87 Set At 1938 Tubing: OD 1.315 WT. 1.60 T. Perf. 1860
Produced Through: Casing X Tubing Gas Gravity: Measured .641 Estimated
Date of Flow Test: From 1-7-59 To 1-14-59 * Date S.I.P. Measured 1-21-59
Meter Run Size 1 1/2" Orifice Size 1.500 Type Chart Sq. Rt. Type Taps

OBSERVED DATA

Flowing casing pressure (Dwt) 220 psig + 12 = 232 psia (a)
Flowing tubing pressure (Dwt) 220 psig + 12 = 232 psia (b)
Flowing meter pressure (Dwt) 220 psig + 12 = 232 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken) 220
Normal chart reading psig + 12 = psia (d)
Square root chart reading (6.8) ² x spring constant 500 = 231 psia (d)
Meter error (c) - (d) or (d) - (c) 1 psi (e)
Friction loss, Flowing column to meter: 0 psi (f)
(b) - (c) Flow through tubing: (a) - (c) Flow through casing
Seven day average static meter pressure (from meter chart):
Normal chart average reading psig + 12 = psia (g)
Square root chart average reading (6.70) ² x sp. const. 500 = 225 psia (g)
Corrected seven day avg. meter pressure (g) + (e) 226 psia (h)
 $P_t = (h) + (f)$ 226 psia (i)
Wellhead casing shut-in pressure (Dwt) 346 psig + 12 = 358 psia (j)
Wellhead tubing shut-in pressure (Dwt) 346 psig + 12 = 358 psia (k)
 $P_c = (j) \text{ or } (k) \text{ whichever well flowed through}$ 358 psia (l)
Flowing Temp. (Meter Run) 51 °F + 460 = 511 °Abs (m)
 $P_d = \frac{1}{2} P_c = \frac{1}{2} (l)$ 179 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{473}{(\text{Integrated})} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{15.23}{15.20} = 1.002 \right) = 474 \text{ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{474}{\left[\frac{(P_c^2 - P_d^2)}{(P_c^2 - P_w^2)} = \frac{96123}{77086} \right]^{.85} \frac{1.206}{572}} = 572 \text{ MCF/day}$$

SUMMARY

$P_c =$ 358 psia
 $Q =$ 474 Mcf/day
 $P_w =$ 226 psia
 $P_d =$ 179 psia
 $D =$ 572 Mcf/day

Company Well Production Co.
By N.A. Neely
Title Agent
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 1)	P _t ² + R ²	P _w

