

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 Basin Formation Dakota County San Juan
Purchasing Pipeline El Paso Natural Gas Company Date Test Filed March 13, 1961
Operator Antec Oil and Gas Company Lease Happed B Well No. 4
Unit D Sec. 34 Twp. 29N Rge. 13W Pay Zone: From 6114 To 6238
Casing: OD 4 1/2 WT. 9.50 Set At 6320 Tubing: OD 2 3/8 WT. 4.70 T. Perf. 6082
Produced Through: Casing _____ Tubing X Gas Gravity: Measured 0.653 Estimated _____
Date of Flow Test: From 2/6/61 To 2/14/61 * Date S.I.P. Measured 3/28/61
Meter Run Size 4 Orifice Size 2 Type Chart SR Type Taps F

OBSERVED DATA

Flowing casing pressure (Dwt) _____ psig + 12 = _____ psia (a)
Flowing tubing pressure (Dwt) _____ psig + 12 = _____ psia (b)
Flowing meter pressure (Dwt) _____ psig + 12 = _____ psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken):
Normal chart reading _____ psig + 12 = _____ psia (d)
Square root chart reading (_____) ² x spring constant _____ = _____ 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 _____ = _____ psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading _____ psig + 12 = _____ psia (g)
Square root chart average reading (7.80) ² x sp. const. 10 _____ = 518 psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) _____ = 518 psia (h)
P_t = (h) + (f) _____ = 518 psia (i)
Wellhead casing shut-in pressure (Dwt) 2120 psig + 12 = 2132 psia (j)
Wellhead tubing shut-in pressure (Dwt) 2116 psig + 12 = 2128 psia (k)
P_c = (j) or (k) whichever well flowed through _____ = 2128 psia (l)
Flowing Temp. (Meter Run) 92 °F + 460 _____ = 552 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) _____ = 1064 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{1797}{(\text{integrated})} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} \right)^* = \frac{1797}{1.0000} \text{ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{1797}{\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^{0.75}} = \frac{1797}{\left[\frac{339608}{418985} \right]^{0.75}} = 1535 \text{ MCF/day}$$

SUMMARY

P_c = 2128 psia
Q = 1797 MCF/day
P_w = 583 psia
P_d = 1064 psia
D = 1535 MCF/day
Company Antec Oil and Gas Company
By ORIGINAL SIGNED BY L. M. STEVENS
Title L. M. Stevens, Dist. Engineer
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
3932	0.249	285.441	71.075	268.304	339.399	583

OK