

Revised April 20, 1955

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 Dakota Formation Dakota County San Juan
Purchasing Pipeline Southern Union Gas Co. Date Test Filed _____
Operator Astec Oil and Gas Lease Hudson Well No. 4-2
Unit 1 Sec. 29 Twp 21N Rge. 9W Pay Zone: From 6614 To 6802
Casing: OD 4 1/2 WT. 9.5 Ser. At. 6890 Tubing: OD 2 3/8 WT. 4.7 T. Perf. 5566
Produced Through: Casing _____ Tubing ☒ Gas Gravity: Measured .651 Estimator _____
Date of Flow Test: From 12/2/61 To 12/10/61 Date S.I.P. Measured 12/18/61
Meter Run Size 1" Orifice Size 1 3/4 Type Chart SR Type Taps F

OBSERVED DATA

Flowing casing pressure (Dwt) 673 psig + 12 = 685 psia (a)
Flowing tubing pressure (Dwt) 426 psig + 12 = 438 psia (b)
Flowing meter pressure (Dwt) 199 psig + 12 = 211 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken):
Normal chart reading _____ psig + 12 = _____ psia (d)
Square root chart reading (4.6)² x spring constant 10 = 212 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 = 227 psi (f)
Seven day average static meter pressure (from meter charts):
Normal chart average reading _____ psig + 12 = _____ psia (g)
Square root chart average reading (4.2)² x sp. const. 10 = 176 psia (g)
Corrected seven day avg. meter press. (p_f) (g) + (e) = 175 psia (h)
P_f = (h) + (f) = 402 psia (i)
Wellhead casing shut-in pressure (Dwt) 1697 psig + 12 = 1709 psia (j)
Wellhead tubing shut-in pressure (Dwt) 1697 psig + 12 = 1709 psia (k)
P_c = (j) or (k) whichever well flowed through = 1709 psia (l)
Flowing Temp. (Meter Run) 76°F + 460 = 536 °Abs (m)
P_d = 1/2 P_c = 855 psia (n)

FLOW RATE CALCULATION

Q = 846 x $\left(\frac{\sqrt{P_c - P_d}}{\sqrt{P_c - P_w}} \right) = \frac{14.5258}{19.2602} = .9976$ = 844 MCF/day
(Integrated)

DELIVERABILITY CALCULATION

D = Q $\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = \frac{2189456}{2742266} = .8448$ = 713 MCF/day

SUMMARY

P_c = 1709 psia
Q = 844 MCF/day
P_w = 422 psia
P_d = 855 psia
D = 713 MCF/day

Company Astec Oil and Gas
By Jan E. [Signature]
Title Chief Engineer
Witnessed by _____
Company _____



- This is date of completion test.
- Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

GL	(F _c Q) ²	(F _c Q) ²	(F _c Q) ²	P _i ²	P _i ² + R _i	P _w
			R _i	(Column 1)		
<u>4274</u>	<u>267</u>	<u>62.964</u>	<u>14.811</u>	<u>161.604</u>	<u>178.415</u>	<u>422</u>

Initial and Annual Test