

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 Blanco FORMATION Mesaverde COUNTY San Juan
PURCHASING PIPELINE Southern Union Gathering System DATE TEST FILED July 19, 1960
OPERATOR Astec Oil & Gas Company LEASE Richardson WELL NO. 5
UNIT G SEC. 21 TWP. 31 RGE. 12 PAY ZONE: From 4876 To 5255
CASING: OD 7 WT. 20 & 23 SET AT 5186 TUBING: OD 2 WT. 4.7 T. Perf. 5116 ~~5116~~
PRODUCED THROUGH: CASING TUBING X GAS GRAVITY: MEASURED 0.685 ESTIMATED
DATE OF FLOW TEST: From 5/31 To 6/7 *Date S.I.P. MEASURED 6/14/60
METER RUN SIZE 4 ORIFICE SIZE 1.050 TYPE CHART 2-B TYPE TAPS Fig.

OBSERVED DATA

Flowing casing pressure (Dwt) 555 psig + 12 = 567 psia (a)
Flowing tubing pressure (Dwt) 525 psig + 12 = 537 psia (b)
Flowing meter pressure (Dwt) 524 psig + 12 = 536 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading. psig + 12 = psia (d)
Square root chart reading (7.25) ²x spring constant 10 = 526 psia (d)
Meter error (c) - (d) or (d) - (c) ± = ±10 psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing. . . = 1 psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading. 536 psig + 12 = 548 psia (g)
Square root chart average reading (7.25) ²x sp. const. = psia (g)
Corrected seven day ave. meter press. (Pf) (g) + (e) = 558 psia (h)
P_t = (h) + (f) = 559 psia (i)
Wellhead casing shut-in pressure (Dwt) 807 psig + 12 = 819 psia (j)
Wellhead tubing shut-in pressure (Dwt) 767 psig + 12 = 779 psia (k)
P_o = (j) or (k) whichever well flowed through. = 779 psia (l)
Flowing Temp. (Meter Run) 76 °F + 460 = 536 °Abs (m)
P_d = $\frac{1}{2}$ P_o = $\frac{1}{2}$ (l) = 390 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{670}{(\text{integrated})} \times \left(\frac{\sqrt{V(o)}}{\sqrt{V(d)}} \right)^{0.5} = \frac{(1.0190)^{0.5}}{1.0095} = 1.0095 = 676 \text{ MCF/da.}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{676}{\left[\frac{P_o^2 - P_d^2}{P_o^2 - P_w^2} \right]} = \frac{676}{\left[\frac{779^2 - 390^2}{779^2 - 567^2} \right]} = \frac{676}{1.4186} = 477 \text{ MCF/da.}$$

SUMMARY

P _o =	<u>779</u>	psia	Company	<u>Astec Oil & Gas Company</u>
Q =	<u>676</u>	Mcf/day	By	<u>ORIGINAL SIGNED BY L. M. STEVENS</u>
P _w =	<u>567</u>	psia	Title	<u>Dr. M. Stevens, Dist. Engr.</u>
P _d =	<u>390</u>	psia	Witnessed by	
D =	<u>477</u>	Mcf/day	Company	

* This is date of completion test.

* Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

GL	(1-e ^{-s})	(F _c Q) ²	(F _o Q) ²	(1-e ^{-s})	P _t ² (Column 1)	P _t ² + R ²	P _w
3504	0.225	40.399	0.090	0.225	312.451	321.571	567

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(To be used for hydraulic fracture, reservoir, & all tests except Barker loss storage tests)

FOOT _____
PROPERTY _____
COUNTY _____
DATE TEST FILLED _____
OPERATOR _____
UNIT _____
Casing: JO _____
Produced Through: Casing _____
DATE OF FLOW TEST: From _____ To _____
METER RUN SIZE _____
TYPE CHART _____
TYPE TAP _____
ESTIMATED _____
TUBING: OD _____ ID _____
TUBING: MEASURED _____
GAS GRAVITY: MEASURED _____
WELL NO. _____

OBSERVED DATA

(a) _____ data _____
(b) _____ data _____
(c) _____ data _____
(d) _____ data _____
(e) _____ data _____
(f) _____ data _____
(g) _____ data _____
(h) _____ data _____
(i) _____ data _____
(j) _____ data _____
(k) _____ data _____
(l) _____ data _____
(m) _____ data _____
(n) _____ data _____

FLOW RATE CALCULATION

$$Q = \frac{V}{t} \times \frac{1}{\text{conversion factor}}$$

PRESSURE CALCULATION

$$P_2 = P_1 - \frac{Q^2}{K}$$

SUMMARY

REMARKS OR FLOW RATE CALCULATIONS

GL	(1-2)	(3-4)	(5-6)	(7-8)	(9-10)