

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 Mesa Formation Mesa Verde County San Juan  
Purchasing Pipeline PACIFIC NORTHWEST PIPELINE CORPORATION Date Test Filed JAN 9 1957  
Operator PACIFIC NORTHWEST Lease ONE SECTION Well No. 9-20  
Unit 1 Sec. 20 Twp. 38 Rge. 11 Pay Zone: From 9200 To 9200  
Casing: OD 5 1/2 WT. 10 Set At 9700 Tubing: OD 2 3/8 WT. 4.7 T. Perf. 9877  
Produced Through: Casing --- Tubing --- Gas Gravity: Measured 0.650 Estimated ---  
Date of Flow Test: From 10-1-56 To 10-2-56 Date S.I.P. Measured 10-2-56  
Meter Run Size --- Orifice Size --- Type Chart --- Type Taps ---

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 ( --- )<sup>2</sup> 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 ( --- )<sup>2</sup> x sp. const. --- = 630 psia (g)  
Corrected seven day avge. meter press. (p<sub>f</sub>) (g) + (e) --- = --- psia (h)  
P<sub>t</sub> = (h) + (f) --- = 630 psia (i)  
Wellhead casing shut-in pressure (Dwt) 1020 psig + 12 = 1032 psia (j)  
Wellhead tubing shut-in pressure (Dwt) 970 psig + 12 = 982 psia (k)  
P<sub>c</sub> = (j) or (k) whichever well flowed through --- = 982 psia (l)  
Flowing Temp. (Meter Run) 70 °F + 460 --- = 530 °Abs (m)  
P<sub>d</sub> = 1/2 P<sub>c</sub> = 1/2 (l) --- = 491 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{1197}{(\text{integrated})} \times \left( \frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{1197}{1197} = 1 \right) = 1197 \text{ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q = 1197 \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^{1/n} = 1197 \left[ \frac{1032^2 - 491^2}{1032^2 - 982^2} \right]^{1/2} = 1500 \text{ MCF/day}$$

SUMMARY

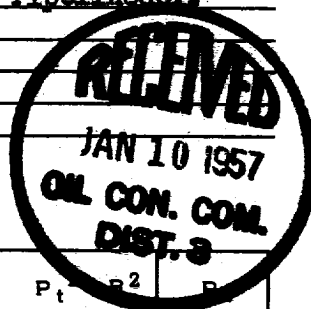
P<sub>c</sub> = 982 psia  
Q = 1197 Mcf/day  
P<sub>w</sub> = 982 psia  
P<sub>d</sub> = 491 psia  
D = 1500 Mcf/day

Company Pacific Northwest Pipeline Corp.  
By Donald C. Adams  
Title Well Test Engineer  
Witnessed by ---  
Company ---

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

REMARKS OR FRICTION CALCULATIONS

| GL          | (1-e <sup>-s</sup> ) | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )<br>R <sup>2</sup> | P <sub>t</sub> <sup>2</sup><br>(Column i) | P <sub>t</sub> <sup>2</sup> - R <sup>2</sup> | P <sub>d</sub> |
|-------------|----------------------|---------------------------------|------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------|----------------|
| <u>9800</u> | <u>.999</u>          | <u>28653</u>                    | <u>28653</u>                                                           | <u>106,300</u>                            | <u>106,300</u>                               | <u>643</u>     |



OK

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