

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 Blanco Formation Mesa Verde County Rio Arriba
Purchasing Pipeline Pacific Northwest Pipeline Corporation Date Test Filed 8-8-57
Operator Northwest Production Corp. Lease "M" Well No. 8-8
Unit M Sec. 8 Twp. 26N Rge. 4W Pay Zone: From 5156 To 5770
Casing: OD 5 1/2 WT. 15.5 & 17 Set At 7910 Tubing: OD 2-3/8 WT. 4.7 T. Perf. 5156
Produced Through: Casing X Tubing _____ Gas Gravity: Measured .287 Estimated _____
Date of Flow Test: From 7-17-57 To 7-24-57 * Date S.I.P. Measured 6-3-57
Meter Run Size 2" 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 (_____) 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 545 psig + 12 = 557 psia (g)
Square root chart average reading (_____) ² x sp. const. _____ = _____ psia (g)
Corrected seven day avge. meter press. (pf) (g) + (e) _____ = _____ psia (h)
 $P_t = (h) + (f)$ _____ = 557 psia (i)
Wellhead casing shut-in pressure (Dwt) 1070 psig + 12 = 1082 psia (j)
Wellhead tubing shut-in pressure (Dwt) ----- psig + 12 = ----- psia (k)
 $P_c = (j) \text{ or } (k) \text{ whichever well flowed through}$ _____ = 1082 psia (l)
Flowing Temp. (Meter Run) _____ °F + 460 _____ = _____ °Abs (m)
 $P_d = \frac{1}{2} P_c = \frac{1}{2} (l)$ _____ = 541 psia (n)

Q = 66 X $\left(\frac{\text{FLOW RATE CALCULATION}}{\sqrt{(c)}} = \frac{\text{FLOW RATE CALCULATION}}{\sqrt{(d)}}} \right)^* = \text{_____ MCF/da}$
(integrated)

DELIVERABILITY CALCULATION

D = Q 66 $\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{1082^2 - 541^2}{1082^2 - 557^2} = \frac{878.043}{860.474} \right]^n \frac{1.0152}{1} = \text{67 MCF/da.}$

SUMMARY

$P_c =$	<u>1082</u>	psia	Company	<u>Northwest Production Corp.</u>
$Q =$	<u>66</u>	Mcf/day	By	<u>Ray Phillips RAY PHILLIPS</u>
$P_w =$	<u>557</u>	psia	Title	<u>Asst Mgr. Prod Operations</u>
$P_d =$	<u>541</u>	psia	Witnessed by	_____
D =	<u>67</u>	Mcf/day	Company	_____

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

REMARKS OR FRICTION CALCULATIONS

GL	$(1-e^{-S})$	$(F_c Q)^2$	$(F_c Q)^2 (1-e^{-S})$ R ²	P_t^2 (Column i)	$P_t^2 + R^2$	P_w
* <u>1062</u>	<u>0.074</u>	<u>.014</u>	<u>.001</u>	<u>310,249</u>	<u>310,250</u>	<u>557</u>
** <u>2583</u>	<u>0.171</u>	<u>.002</u>	<u>0</u>			
Total			<u>1</u>			

- * tubing x 5 1/2" csg annulus
** tubing x 7-3/8" csg annulus

