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 **El Paso Natural Gas** _____ Date Test Filed _____

Operator **El Paso Natural Gas** _____ Lease **San Juan 27-5** _____ Well No. **13** _____

Unit **B** _____ Sec. **30** _____ Twp. **27** _____ Rge. **5** _____ Pay Zone: From **5216** _____ To **5622**

Casing: OD **5½** _____ WT. **15.5** _____ Set At **5672** _____ Tubing: OD **2** _____ WT. **4.7** _____ T. Perf. **5517**

Produced Through: Casing _____ Tubing **X** _____ Gas Gravity: Measured **.670** _____ Estimated _____

Date of Flow Test: From **3/23** _____ To **3/31/57** * Date S.I.P. Measured **12/30/56 (10 days)**

Meter Run Size **4** _____ Orifice Size **.750** _____ Type Chart **Sq. Rt.** Type Taps **Flange**

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 (**7.55**)^2 x sp. const. **10** = **570** psia (g)

  Corrected seven day avge. meter press. (p_f) (g) + (e) = **570** psia (h)

P_t = (h) + (f) = **570** psia (i)

Wellhead casing shut-in pressure (Dwt) **1003** psig + 12 = **1015** psia (j)

Wellhead tubing shut-in pressure (Dwt) **1001** psig + 12 = **1013** psia (k)

P_c = (j) or (k) whichever well flowed through = **1013** psia (l)

Flowing Temp. (Meter Run) **50** °F + 460 = **510** °Abs (m)

P_d = ½ P_c = ½ (l) = **507** psia (n)

FLOW RATE CALCULATION

$$Q = \underline{\hspace{2cm}} \text{ X } \left(\frac{\sqrt{(c)} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}}{\sqrt{(d)} \quad \underline{\hspace{2cm}}} \right)^* = \underline{\text{ 86 }} \text{ MCF/da}$$
(integrated)

DELIVERABILITY CALCULATION

$$D = Q \underline{\text{ 86 }} \left[\frac{\left(P_c^2 - P_d^2 \right) = \mathbf{769,120}}{\left(P_c^2 - P_w^2 \right) = \mathbf{701,269}} \right]^n \quad \frac{1.0967}{1.0716} = \underline{\text{ 92 }} \text{ MCF/da.}$$

SUMMARY

P_c = **1013** psia

Q = **86** Mcf/day

P_w = **570** psia

P_d = **507** psia

D = **92** Mcf/day

Company **El Paso Natural Gas**

By Original Signed

Title Lewis D. Galloway

Witnessed by _____

Company _____

* This is date of completion test.

* Meter error correction factor ≅

REMARKS OR FRICTION CALCULATIONS

GL	$(1-e^{-s})$	$(F_cQ)2$	$\frac{(F_cQ)^2 \quad (1-e^{-s})}{R^2}$	$\frac{Pt^2}{\text{(Column i)}}$	$P_t{}^2 + R^2$	P_w
			FRICTION NEGLIGIBLE			

D @ 500 = 92