

Initial Deliverability Test

NEW MEXICO OIL CONSERVATION COMMISSION
GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVARDE, & ALL DAKOTA
EXCEPT BARKER DOME STORAGE AREA)

Pool Blanco Formation Black Tongue County San Juan
Purchasing Pipeline EL PASO NATURAL GAS COMPANY Date Test Filed 2-15-58
Operator EL PASO NATURAL GAS COMPANY Lease San Juan 20-1 Well No. 20-1
Unit 1 Sec. 6 Twp. 30N Rge. 2W Pay Zone: From 300 To 300
Casing: OD 3-1/2 WT. 10 Set At 300 Tubing: OD 1-3/4 WT. 2.4 T. Perf. 300
Produced Through: Casing Tubing XX Gas Gravity: Measured 1.00 Estimated
Date of Flow Test: From 1-16-58 To 1-23-58 * Date S.I.P. Measured 2-15-58
Meter Run Size Orifice Size 1.270 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 psig + 12 = psia (g)
Square root chart average reading (7.15) ² x sp. const. 10 = 501 psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = psia (h)
P_t = (h) + (f) = psia (i)
Wellhead casing shut-in pressure (Dwt) 1147 psig + 12 = 1159 psia (j)
Wellhead tubing shut-in pressure (Dwt) 1000 psig + 12 = 1012 psia (k)
P_c = (j) or (k) whichever well flowed through = psia (l)
Flowing Temp. (Meter Run) 60 °F + 460 = 520 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) = 506 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{766}{(\text{Integrated})} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} \right) = \frac{766}{1.00} = 766 \text{ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \cdot \left[\frac{(P_c^2 - P_d^2)}{(P_c^2 - P_w^2)} \right]^n = 766 \cdot \left[\frac{(1159^2 - 506^2)}{(1159^2 - 1012^2)} \right]^{1.00} = 769 \text{ MCF/day}$$

SUMMARY

P_c = 1159 psia
Q = 766 Mcf/day
P_w = 503 psia
P_d = 506 psia
D = 769 Mcf/day

Company EL PASO NATURAL GAS COMPANY
By Original signed by G. H. Pappin
Title Production Supervisor
Witnessed by
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})	P _t ²	P _t ² + R ²	P _w
			R ²	(Column 1)		
3475	0.483	155.400	75.313	288.000	363.313	503

OK



