

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 Otero Pictured Cliffs Formation Pictured Cliffs County Rio Arriba
Purchasing Pipeline Southern Union Gas Company Date Test Filed January 12, 1957
Operator Humble Oil & Refining Co. Lease Jicarilla Apache Tribe of Indians H Well No. 4
Unit A Sec. 31 Twp. 24N Rge. 9W Pay Zone: From 2107 To 2148
Casing: OD 4-1/2" WT. 11.60#/ft. Set At 2220 Tubing: OD 2-3/8" WT. 4.70#/ft. Perf. 2080
Produced Through: Casing _____ Tubing X Gas Gravity: Measured - Estimated .680
Date of Flow Test: From 11-30-56 To 12-8-56 * Date S.I.P. Measured 12-21-56
Meter Run Size 4" Orifice Size 1" Type Chart Normal Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) 512 psig + 12 = 524 psia (a)
Flowing tubing pressure (Dwt) 513 psig + 12 = 525 psia (b)
Flowing meter pressure (Dwt) 510 psig + 12 = 522 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading 505 psig + 12 = 517 psia (d)
Square root chart reading () ² x spring constant = _____ psia (d)
Meter error (c) - (d) or (d) - (c) ± = 4.5 psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing = 3 psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading 508 psig + 12 = 520 psia (g)
Square root chart average reading () ² x sp. const. = _____ psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = 525 psia (h)
P_t = (h) + (f) = 528 psia (i)
Wellhead casing shut-in pressure (Dwt) 668 psig + 12 = 680 psia (j)
Wellhead tubing shut-in pressure (Dwt) 668 psig + 12 = 680 psia (k)
P_c = (j) or (k) whichever well flowed through = 680 psia (l)
Flowing Temp. (Meter Run) 86 °F + 460 = 546 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) = 340 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{316}{(\text{integrated})} \times \left(\frac{\sqrt{(c)} = \frac{22.85}{22.74} = 1.0048}{\sqrt{(d)}} \right) = 316 \text{ MCF/day}$$

DELIVERABILITY CALCULATION n = 0.85 for Pictured Cliffs

$$D = Q \frac{316}{\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{346.8}{182.7} \right]^n} = \frac{(316)(1.724)}{1} = 545 \text{ MCF/day}$$

SUMMARY

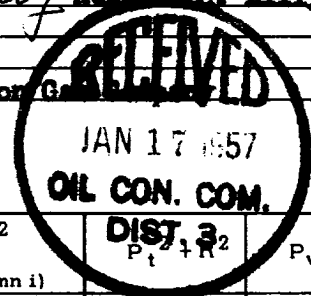
P_c = 680 psia
Q = 316 ~~325.38~~ Mcf/day
P_w = 529 ~~528.9~~ psia
P_d = 340 psia
D = 545 Mcf/day

Company Humble Oil & Refining Company
By Russell M. Lilly Russell M. Lilly
Title Agent
Witnessed by F. Lynch
Company Southern Union Gas 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)	DIST. 3 P _t ² + R ²	P _w
1414	.098	8.8	0.9	278.8	279.7	528.9



OK

