

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 South Blanco Mesa Verde Formation Mesa Verde County Rio Arriba
Purchasing Pipeline Southern Union Gas Company Date Test Filed December 31, 1958
Operator Honolulu Oil Corporation Lease Jicarilla Apache Well No. 4 M
Unit K Sec. 4 Twp. 26 N Rge. 4 W Pay Zone: From 6074 To 6170
Casing: OD 3 1/2 WT. 9.2 Set At 6341 Tubing: OD 2" WT. T. Perf. OK 6156
Produced Through: Casing Tubing X Gas Gravity: Measured .635 Estimated
Date of Flow Test: From 12-1-58 To 12-8-58 * Date S.I.P. Measured 12-15-58
Meter Run Size 4.000 Orifice Size 1.000 Type Chart Sq. Rt. Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) -- psig + 12 = -- psia (a)
Flowing tubing pressure (Dwt) 564 psig + 12 = 576 psia (b)
Flowing meter pressure (Dwt) 564 psig + 12 = 576 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading psig + 12 = psia (d)
Square root chart reading (7.5)² x spring constant = 562 psia (d)
Meter error (c) - (d) or (d) - (c) = -14 psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing = -6- psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading 540 psig + 12 = 552 psia (g)
Square root chart average reading ()² x sp. const. = psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = 566 psia (h)
P_t = (h) + (f) = 566 psia (i)
Wellhead casing shut-in pressure (Dwt) -- psig + 12 = -- psia (j)
Wellhead tubing shut-in pressure (Dwt) 906 psig + 12 = 918 psia (k)
P_c = (j) or (k) whichever well flowed through = 918 psia (l)
Flowing Temp. (Meter Run) 60 °F + 460 = 520 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) = 459 psia (n)

Q = 372 X $\left(\frac{\text{FLOW RATE CALCULATION}}{\sqrt{(c)} = \sqrt{576} = 1.0123} \right) = \underline{376} \text{ MCF/da}$
(integrated) $\sqrt{(d)} = \sqrt{562}$

DELIVERABILITY CALCULATION

D = Q 376 $\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^{.75} = \underline{435} \text{ MCF/da.}$
 $\left[\frac{632,043}{519,194} \right]^{.75} = 1.1589$

SUMMARY

P_c = 918 psia
Q = 376 Mcf/day
P_w = 568 psia
P_d = 439 psia
D = 435 Mcf/day

Company Honolulu Oil Corporation
By J. B. Ewens
Title Division Gas Engineer
Witnessed by Paul F. Farnham
Company Southern Union Gas Company

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

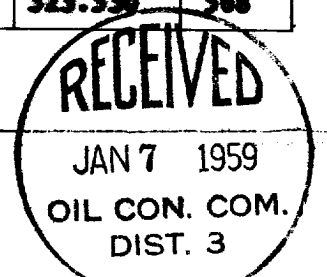
REMARKS OR FRICTION CALCULATIONS

GL	(1-e ^{-S})	(F _c Q) ²	(F _c Q) ² (1-e ^{-S}) R ²	P _t ² (Column i)	P _t ² + R ²	P _w
4032	.254	12.4962	3.174	320.356	323.530	568

$F_c = 9.402$

$F_c \times Q = 9.402 \times .376 = 3.535$

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