Form C-122-A
Revised April 20, 1955

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 Undesignated Dakota Formation Dakota County San Juan

Purchasing Pipeline El Paso Natural Gas Company Date Test Filed April 29, 1959

Operator El Paso Natural Gas Products ~~Co~~, / Lease Delhi-Taylor Well No. 1-C (GD)

Unit M Sec. 4 Twp. 26N Rge. 11W Pay Zone: From 6282' To 6376'

Casing: OD 7-5/8" WT. 26.40# Set At 4497' Tubing: OD 2-3/8" WT. 4.70# T. Perf. 6211'

Liner: 5-1/2" Wt. 15.50# Set at 4404'-6524'

Produced Through: Casing X Tubing Gas Gravity: Measured 0.677 Estimated

Date of Flow Test: From 4-22-59 To 4-30-59 * Date S.I.P. Measured January 14, 1959

Meter Run Size -- 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 | psig + 12 = | psia | (g) |
| Square root chart average reading (7.00) $^2$ x sp. const. 10 | = 490 | psia | (g) |
| Corrected seven day avge. meter press. ($p_f$) (g) + (e) | = 490 | psia | (h) |
| $P_t$ = (h) + (f) | = 490 | psia | (i) |
| Wellhead casing shut-in pressure (Dwt) 2,029 | psig + 12 = 2,041 | psia | (j) |
| Wellhead tubing shut-in pressure (Dwt) -- | psig + 12 = -- | psia | (k) |
| $P_c$ = (j) or (k) whichever well flowed through | = 2,041 | psia | (l) |
| Flowing Temp. (Meter Run) 74 °F + 460 | = 534 | °Abs | (m) |
| $P_d$ = ½ $P_c$ = ½ (l) | = 1,021 | psia | (n) |

## FLOW RATE CALCULATION

Q = (integrated) X $\left( \frac{\sqrt{(c)}}{\sqrt{(d)}} = \frac{\quad}{\quad} = \quad \right)^*$ = 2,708 MCF/da

## DELIVERABILITY CALCULATION

$D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{3,124,000}{3,880,396} \right]^n$ $(0.805)^{.75}$ X 2,708 = 2,302 MCF/da

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SUMMARY

| | | |
|---|---|---|
| $P_c$ = | 2,041 | psia |
| Q = | 2,708 | Mcf/day |
| $P_w$ = | 535 | psia |
| $P_d$ = | 1,021 | psia |
| D = | 2,302 | Mcf/day |

Company El Paso Natural Gas Products Company
By John J. Strojek John J. Strojek
Title Petroleum Engineer
Witnessed by
Company

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

$D_{500} = 2,708 \left( \frac{3,904,000}{3,926,000} \right)^N = 2,708 (0.994)^{.75} = 2,695$ MCF/d.

REMARKS OR FRICTION CALCULATIONS

| | GL | $(1-e^{-S})$ | $(F_cQ)^2$ | $\frac{(FcQ)^2 (1-e^{-S})}{R^2}$ | $P_t^2$ (Column i) | $P_t^2 + R^2$ | $P_w$ |
|---|---|---|---|---|---|---|---|
| 2" | 621 | 0.0441 | 648.2 | 28,586 | | | |
| 5-1/2" | 602 | 0.0428 | 21.0 | 898 | 240,100 | 285,604 | 535 |
| 7-5/8" | 2,982 | 0.195 | 2.0 | 390 | | | |
| 31/32" | | | | 15,630 | | | |
| | | | | 45,504 | | | |

*Weymouths formula used to calculate friction in change over tube.

Note: Dakota flows as follows: 2-3/8" O.D. Tbg. from 6211' to 5293'. Annular flow through 5-1/2" O.D. Liner from 5293' to 4404' and through 7-5/8" csg. from 4404' to surface. A 31/32" I.D. changeover tube [illegible]" long directs flow from tubing into the 5-1/2" Liner @ 5293'. Two packers are set, one @ 5293' & one @ 6210'.