NEW MEXICO OIL CONSERVATION COMMISSION

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
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122 file
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5460

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 1-27-77

Company: Yates Petroleum Corp. — Connection: Transwestern Pipeline Company — Unit:

Pool: ~~Undesignated~~ Eagle Creek Strawn — Formation: Atoka

Completion Date: 1-14-76 — Total Depth: 8570'KB — Plug Back TD: 8451' — Elevation: 3443'KB — Farm or Lease Name: Caskey "EV" Com.

| Csg. Size | Wt. | d | Set At | Perforations | Well No. |
|---|---|---|---|---|---|
| 4½" | 11.6 | 4.000 | 8496 | From 8015' To 8166' | 1 |

| Tbg. Size | Wt. | d | Set At | Perforations | Unit | Sec. | Twp. | Rge. |
|---|---|---|---|---|---|---|---|---|
| 2-3/8" | 4.7 | 1.995 | 8013 | From 7968' To 7970' | N | 30 | 17S | 26E |

Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single — Packer Set At: 7962' — County: Eddy

Producing Thru: tubing — Reservoir Temp. °F: @ 135 — Mean Annual Temp. °F: 62 — Baro. Press. – $P_a$: 13.2 — State: New Mexico

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 8075 | 8075 | | 1.74 | 1.15 | Nil | | 2" | Flange |

| NO. | FLOW DATA: Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | TUBING DATA: Press. p.s.i.g. | Temp. °F | CASING DATA: Press. p.s.i.g. | Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | 2275 | 62 | | | Months |
| 1. | 2.067 X 1.250 | 450 | 8 | 69 | 2121 | 63 | | | 1 hr. |
| 2. | | 453 | 16 | 68 | 2047 | 63 | | | 1 hr. |
| 3. | | 455 | 27 | 67 | 1975 | 62 | | | 1 hr. |
| 4. | | 455 | 52 | 67 | 1852 | 62 | | | 1 hr. |
| 5. | | | | | | | | | |

## RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure $P_m$ | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|---|---|---|---|---|---|---|---|
| 1 | 8.120 | 60.874 | 463.2 | .9915 | 1.185 | 1.0541 | 612 |
| 2. | | 86.367 | 466.2 | .9924 | 1.185 | 1.0547 | 870 |
| 3. | | 112.434 | 468.2 | .9933 | 1.185 | 1.0553 | 1134 |
| 4. | | 156.033 | 468.2 | .9933 | 1.185 | 1.0553 | 1574 |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1. | .686 | 529 | 1.349 | .900 |
| 2. | .691 | 528 | 1.347 | .899 |
| 3. | .694 | 527 | 1.344 | .898 |
| 4. | .694 | 527 | 1.344 | .898 |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio: 51.56 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 61.6 Deg.
Specific Gravity Separator Gas: 0.712 — xxxxxxxxx
Specific Gravity Flowing Fluid: xxxxx — 0.765
Critical Pressure: 675 P.S.I.A. — 672.5 P.S.I.A.
Critical Temperature: 392 R — 407 R

$P_c$ 3077.2 $P_c^2$ 9469

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | | | 8335 | 1134 |
| 2 | | | 7846 | 1623 |
| 3 | | | 7379 | 2090 |
| 4 | | | 6552 | 2917 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.2461$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.2461$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5109$

Absolute Open Flow: 5109 Mcfd @ 15.025 — Angle of Slope θ: 45 deg. — Slope, n: 1.00

Remarks: Pressures by Dead Weight Tester. Calculation Worksheet C-122D attached.

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | Don Weaver | Eddie Mahfood | |