NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

| | | | | | |
|---|---|---|---|---|---|
| Type Test: [x] Initial [ ] Annual [ ] Special | | | | Test Date: 8/8/79 | |
| Company: AMOCO PRODUCTION COMPANY | | | Connection: NAT GAS PL CO OF AMERICA | | |
| Pool: TOWNSEND | | | Formation: MORROW | | Unit |
| Completion Date: 3/27/79 | Total Depth: 12902. | | Plug Back TD: 12866. | Elevation: 4014. | Farm or Lease Name: State GH |
| Csg. Size: 5.500 / Wt.: 17.0 / d: 4.892 / Set At: 12902 | | | Perforations: From 12392. To 12410. | | Well No.: 1 |
| Tbg. Size: 2.875 / Wt.: 6.5 / d: 2.441 / Set At: 12294. | | | Perforations: From 12611. To 12627. | | Unit: F / Sec.: 21 / Twp.: 16S / Rge.: 35E |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE | | | Packer Set At: 12192. | | County: LEA |
| Producing Thru: TUBING | Reservoir Temp. °F: 194 @ 12509. | Mean Annual Temp. °F: 60.0 | Baro. Press. – $P_a$: 13.2 | | State: NEW MEXICO |

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 12509. | 12509. | 0.638 | 0.50 | 1.14 | 0. | 0. | 4.0 | FLANGE |

| | FLOW DATA | | | | TUBING DATA | | CASING DATA | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | Press. p.s.i.g. | Temp. °F | Press. p.s.i.g. | Temp. °F | Duration of Flow |
| SI | | | | | 2039. | 76. | | | 46.0 |
| 1. | 4.03 x 2.750 | 640. | 2.0 | 73. | 1780. | 79. | 0 | 0 | 1.0 |
| 2. | 4.03 x 2.750 | 675. | 6.8 | 71. | 1379. | 83. | 0 | 0 | 1.0 |
| 3. | 4.03 x 2.750 | 685. | 11.5 | 74. | 1035. | 84. | 0 | 0 | 1.0 |
| 4. | 4.03 x 2.750 | 690. | 15.1 | 78. | 834. | 85. | 0 | 0 | 1.0 |
| 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 | 41.10 | 36.14 | 653.2 | 0.9877 | 1.2520 | 1.0583 | 1944. |
| 2. | 41.10 | 68.61 | 688.2 | 0.9896 | 1.2520 | 1.0622 | 3711. |
| 3. | 41.10 | 89.68 | 698.2 | 0.9868 | 1.2520 | 1.0618 | 4835. |
| 4. | 41.10 | 103.15 | 703.2 | 0.9831 | 1.2520 | 1.0604 | 5533. |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_t$ | Z |
|---|---|---|---|---|
| 1. | 0.97 | 533. | 1.45 | 0.893 |
| 2. | 1.03 | 531. | 1.45 | 0.886 |
| 3. | 1.04 | 534. | 1.46 | 0.887 |
| 4. | 1.05 | 538. | 1.47 | 0.889 |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio 4.6 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 0. Deg.

| | | |
|---|---|---|
| Specific Gravity Separator Gas | 0.638 | XXXXXXXXX |
| Specific Gravity Flowing Fluid | XXXXX | 1.376 |
| Critical Pressure | 671. P.S.I.A. | 634. P.S.I.A. |
| Critical Temperature | 366. R | 597. R |

$P_c$ 2022.3 $P_c^2$ 4090.

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | 3216. | 1773. | 3142 | 947 |
| 2 | 1938. | 1406. | 1977. | 2113 |
| 3 | 1099. | 1093. | 1195. | 2895. |
| 4 | 718. | 895. | 800. | 3290. |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.2433$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.2008$

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 6644.$

Absolute Open Flow 6644. Mcfd @ 15.025 | Angle of Slope θ 50.0 | Slope, n 0.840

Remarks:

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| Orig. Signed by Jerry Sexton Dist. Supv. | John West Engrg. | C.C. Weaver | W.D. Magness |

3 - NMOCD-H 1-Hou 1-Susp 1-WDM 1-DLB