

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

Form C-122  
 Revised 9-1-65

|                                                                                                                           |           |                                  |                           |                                            |                                    |                                       |
|---------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------|---------------------------|--------------------------------------------|------------------------------------|---------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |           |                                  |                           |                                            | Test Date<br>4-13-79               |                                       |
| Company<br>Amoco Production Company                                                                                       |           |                                  |                           | Connection<br>Northern Natural Gas Company |                                    |                                       |
| Pool<br>Eumont                                                                                                            |           |                                  |                           | Formation<br>Queen                         |                                    | Unit                                  |
| Completion Date<br>2-16-79                                                                                                |           | Total Depth<br>7200'             |                           | Plug Back TD<br>3765'                      |                                    | Elevation<br>3553'                    |
| Csg. Size<br>5.500                                                                                                        |           | Wt.<br>14.0                      | d<br>5.012                | Set At<br>4200                             | Perforations:<br>From 3461 To 3623 |                                       |
| Thq. Size<br>2.875                                                                                                        |           | Wt.<br>6.4                       | d<br>2.441                | Set At<br>3455                             | Perforations:<br>From 0 To 0       |                                       |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>Single                                                         |           |                                  |                           | Packer Set At<br>0                         |                                    | County<br>Lea                         |
| Producing Thru<br>Tubing                                                                                                  |           | Reservoir Temp. °F<br>100 @ 3542 |                           | Mean Annual Temp. °F<br>60                 |                                    | Baro. Press. - P <sub>a</sub><br>13.2 |
| State<br>New Mexico                                                                                                       |           |                                  |                           |                                            |                                    |                                       |
| L<br>3542                                                                                                                 | H<br>3542 | G <sub>g</sub><br>0.716          | % CO <sub>2</sub><br>4.34 | % N <sub>2</sub><br>1.62                   | % H <sub>2</sub> S<br>0.15         | Prover<br>0                           |
| Meter Run<br>4.0                                                                                                          |           | Taps<br>Flange                   |                           |                                            |                                    |                                       |

  

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |          |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|----------|
| NO.       | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  | Temp. °F |
| SI        |                  |   |              |                 |                      |             | 250             | 53          |                 |                  | 72.0     |
| 1.        | 4.03 x 0.750     |   |              | 50              | 1.0                  | 60          | 211             | 52          | 0               | 0                | 1.0      |
| 2.        | 4.03 x 0.750     |   |              | 50              | 2.0                  | 62          | 178             | 60          | 0               | 0                | 1.0      |
| 3.        | 4.03 x 0.750     |   |              | 50              | 4.0                  | 63          | 165             | 64          | 0               | 0                | 1.0      |
| 4.        | 4.03 x 0.750     |   |              | 50              | 8.0                  | 64          | 122             | 66          | 0               | 0                | 1.0      |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                         |                        |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|------------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mscf/d |
| 1                         | 2.66                  | 7.95             | 63.2                    | 1.0000                | 1.1818                        | 1.0068                                  | 25                     |
| 2                         | 2.66                  | 11.24            | 63.2                    | 0.9981                | 1.1818                        | 1.0067                                  | 36                     |
| 3                         | 2.66                  | 15.90            | 63.2                    | 0.9971                | 1.1818                        | 1.0066                                  | 50                     |
| 4                         | 2.66                  | 22.49            | 63.2                    | 0.9962                | 1.1818                        | 1.0066                                  | 71                     |
| 5.                        |                       |                  |                         |                       |                               |                                         |                        |

  

|     |                |          |                |       |                                                  |
|-----|----------------|----------|----------------|-------|--------------------------------------------------|
| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio _____ Mol/Lb.       |
| 1.  | 0.09           | 520      | 1.36           | 0.987 | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg. |
| 2.  | 0.09           | 522      | 1.36           | 0.987 | Specific Gravity Separator Gas _____             |
| 3.  | 0.09           | 523      | 1.36           | 0.987 | Specific Gravity Flowing Fluid _____             |
| 4.  | 0.09           | 524      | 1.37           | 0.987 | Critical Pressure _____ P.S.I.A.                 |
| 5.  |                |          |                |       | Critical Temperature _____ R                     |

  

|     |                             |                |                             |                                                           |                                                                                                                                                                           |
|-----|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NO. | P <sub>i</sub> <sup>2</sup> | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3577$ (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3577$<br><br>AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 96$ |
| 1   | 50                          | 224            | 50                          | 19                                                        |                                                                                                                                                                           |
| 2   | 37                          | 191            | 37                          | 33                                                        |                                                                                                                                                                           |
| 3   | 32                          | 178            | 32                          | 38                                                        |                                                                                                                                                                           |
| 4   | 18                          | 135            | 18                          | 51                                                        |                                                                                                                                                                           |

  

|                                                 |                                        |                            |
|-------------------------------------------------|----------------------------------------|----------------------------|
| Absolute Open Flow _____ 96 _____ Mscf @ 15.025 | Angle of Slope _____ 45.0 _____        | Slope, n _____ 1.000 _____ |
| Remarks: _____                                  |                                        |                            |
| Approved By Commission:                         | Conducted By:<br>John West Engineering | Calculated By:<br>CCW      |
|                                                 |                                        | Checked By:<br>RMB         |