

NEW MEXICO MINERAL RESOURCES COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

N. M. O. C. C. CORY

RECEIVED

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------|------------------------------------|-----------------------------------------------------------|-------------------------------------------------|-----------------------------|----------------------|-----------------------------|-----------------|----------|------------------|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|---|--|--------|--------|--------|---|--|--------|--------|--------|---|--|--------|--------|--------|---|--|--------|--------|--------|---|--|--|--|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             | Test Date<br>4-23-73             |                                    | MAY 3 1973                                                |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Company<br>El Paso Natural Gas Company                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             | Connection<br>None               |                                    | O. G. C.<br>ARTESIA, OFFICE                               |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Well<br>Wildcat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             | Formation<br>Atoka               |                                    | Unit<br>Patterson                                         |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Completion Date<br>4-23-73                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             | Total Depth<br>9456              | Plug Back TD<br>9456               | Elevation<br>4621 ft.                                     | Farm or Lease Name<br>Patterson                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Orig. Size<br>5 1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Wt.<br>17                   | Set At<br>9456                   | Perforations:<br>From 9030 To 9042 | Well No.<br>1                                             |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Top. Size<br>2 3/8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Wt.<br>4.7                  | Set At<br>8933                   | Perforations:<br>From open To end  | Unit<br>H                                                 | Sec. 30 Twp. 22 Rge. 22                         |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Type Well - Single - Brodenhead - G.G. or G.O. Multiple                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |                                  | Packer Set At<br>8900              | County<br>Eddy                                            |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Single<br>Producing Thru                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             | Reservoir Temp. °F<br>154 @ 9030 | Mean Annual Temp. °F<br>13.2       | State<br>New Mexico                                       |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| TBG<br>L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | H                           | Gg                               | % CO <sub>2</sub>                  | % N <sub>2</sub>                                          | % H <sub>2</sub> S                              |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 8933                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8933                        | 589                              |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| FLOW DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |                                  | TUBING DATA                        |                                                           | CASING DATA                                     |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 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                    | Procc. p.s.i.g. | Temp. °F | Duration of Flow |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 x 2.250                   |                                  |                                    | 600                                                       | 19.50                                           | 86                          | 2634                 | 74                          | 0               |          | 2 1/2 hr.        |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 x 2.250                   |                                  |                                    | 605                                                       | 29.00                                           | 85                          | 2242                 | 67                          | 0               |          | 1 hr.            |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 x 2.250                   |                                  |                                    | 605                                                       | 39.00                                           | 84                          | 2085                 | 70                          | 0               |          | 1 hr.            |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 x 2.250                   |                                  |                                    | 645                                                       | 52.50                                           | 83                          | 1865                 | 68                          | 0               |          | 1 hr.            |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                             |                                  |                                    |                                                           |                                                 |                             | 1490                 | 67                          | 0               |          | 2 hr.            |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| RATE OF FLOW CALCULATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Coefficient (24 Hour)       | $\sqrt{h_w P_m}$                 | Pressure P <sub>m</sub>            | Flow Temp. Factor Ft.                                     | Gravity Factor Fg                               | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25.64                       | 109.35                           | 613.2                              | .9759                                                     | 1.303                                           | 1.037                       | 3,697                |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25.64                       | 133.89                           | 618.2                              | .9768                                                     | 1.303                                           | 1.038                       | 4,535                |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25.64                       | 155.27                           | 618.2                              | .9777                                                     | 1.303                                           | 1.038                       | 5,264                |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25.64                       | 185.89                           | 658.2                              | .9785                                                     | 1.303                                           | 1.040                       | 6,321                |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | P <sub>i</sub>              | Temp. °R                         | T <sub>r</sub>                     | Z                                                         | Gas Liquid Hydrocarbon Ratio Dry Mcf/bbl.       |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .91                         | 516                              | 1.56                               | .930                                                      | A.P.I. Gravity of Liquid Hydrocarbons None Deg. |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .92                         | 515                              | 1.56                               | .929                                                      | Specific Gravity Separator Gas .589             |                             | X X X X X X X X      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .92                         | 514                              | 1.55                               | .929                                                      | Specific Gravity Flowing Fluid X X X X X        |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .93                         | 513                              | 1.55                               | .925                                                      | Critical Pressure 672 P.S.I.A.                  |                             | P.S.I.A.             |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |                                  |                                    |                                                           | Critical Temperature 50 R                       |                             | R                    |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| $P_c = 2617.2 \quad P_w = 7007.7$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>NO.</td> <td>P<sub>i</sub><sup>2</sup></td> <td>P<sub>w</sub><sup>2</sup></td> <td>P<sub>w</sub><sup>2</sup></td> <td>P<sub>c</sub><sup>2</sup> - P<sub>w</sub><sup>2</sup></td> </tr> <tr> <td>1</td> <td></td> <td>2406.6</td> <td>5791.7</td> <td>1216.0</td> </tr> <tr> <td>2</td> <td></td> <td>2295.3</td> <td>5272.1</td> <td>1735.6</td> </tr> <tr> <td>3</td> <td></td> <td>2135.1</td> <td>4558.7</td> <td>2449.0</td> </tr> <tr> <td>4</td> <td></td> <td>1947.0</td> <td>3790.8</td> <td>3216.9</td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  | NO. | P <sub>i</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | 1 |  | 2406.6 | 5791.7 | 1216.0 | 2 |  | 2295.3 | 5272.1 | 1735.6 | 3 |  | 2135.1 | 4558.7 | 2449.0 | 4 |  | 1947.0 | 3790.8 | 3216.9 | 5 |  |  |  |  |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | P <sub>i</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup>      | P <sub>w</sub> <sup>2</sup>        | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | 2406.6                           | 5791.7                             | 1216.0                                                    |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | 2295.3                           | 5272.1                             | 1735.6                                                    |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | 2135.1                           | 4558.7                             | 2449.0                                                    |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             | 1947.0                           | 3790.8                             | 3216.9                                                    |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| $(1) \frac{P_c^2 - P_w^2}{P_c^2 - P_w^2} \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.526$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| $ACF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Absolute Open Flow 9646 Mcfd @ 15.025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |                                  |                                    | Angle of Slope 61.5                                       |                                                 |                             |                      | Slope, n .543               |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Remarks: amount of 49.3 condensate @ 60° produced during test. Calculated from known BHP'S.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Approved By Commission:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |                                  |                                    | Conducted By: J. C. Roberts                               |                                                 |                             |                      | Calculated By: J. B. Murray |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |
| Checked By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |                                  |                                    |                                                           |                                                 |                             |                      |                             |                 |          |                  |     |                             |                             |                             |                                                           |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |        |        |        |   |  |  |  |  |