

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

Form C-122  
Revised 9-1-65

**RECEIVED**

|                                                                                                                        |                             |                  |                                   |                                                           |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|-----------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|--------------------------------------|---------------------------------------|-------------------------|---------|----------------------------|--|------------------|--|
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                             |                  |                                   |                                                           |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       | Test Date<br>11-7-1977  |         | NOV 21 1977                |  |                  |  |
| Company<br>WESTERN OIL PRODUCERS, Inc.                                                                                 |                             |                  |                                   |                                                           | Connection<br>NGPL of AMERICA                                                                                                                                                                                                                                |                                        |                     |                                      |                                       | O. C. C.                |         |                            |  |                  |  |
| Pool<br>West Carlsbad Wolfcamp                                                                                         |                             |                  |                                   |                                                           | Formation<br>Wolfcamp                                                                                                                                                                                                                                        |                                        |                     |                                      |                                       | Unit<br>ARTESIA, OFFICE |         |                            |  |                  |  |
| Completion Date<br>9-9-77                                                                                              |                             |                  | Total Depth<br>12045              |                                                           |                                                                                                                                                                                                                                                              | Plug back TD<br>10490                  |                     |                                      | Elevation<br>3078.6 GR                |                         |         | Form or Lease Name<br>Bass |  |                  |  |
| Csg. Size<br>5.5                                                                                                       |                             | Wt.<br>17 & 20   |                                   | Set At<br>4.7                                             |                                                                                                                                                                                                                                                              | 12045                                  |                     | Perforations:<br>From 9699 To 9775   |                                       | Well No.<br>1           |         |                            |  |                  |  |
| Tub. Size<br>2.7/8                                                                                                     |                             | Wt.<br>6.4       |                                   | Set At<br>2.4                                             |                                                                                                                                                                                                                                                              | 9621                                   |                     | Perforations:<br>From Packer To 9621 |                                       | Unit<br>H               |         | Sec. Twp. Rge.<br>11 22 27 |  |                  |  |
| Type Well - Single - Prodenhead - G.G. or G.O. Multiple<br>Single                                                      |                             |                  |                                   |                                                           |                                                                                                                                                                                                                                                              |                                        |                     | Packer Set At<br>9621                |                                       | County<br>Eddy          |         |                            |  |                  |  |
| Producing Thru<br>2 7/8"                                                                                               |                             |                  | Reservoir Temp. °F<br>160 @ 10000 |                                                           |                                                                                                                                                                                                                                                              | Mean Annual Temp. °F<br>70             |                     |                                      | Baro. Press. - I <sub>a</sub><br>13.2 |                         |         | State<br>New Mexico        |  |                  |  |
| L<br>9699                                                                                                              |                             | H<br>9699        |                                   | Gg<br>.671                                                |                                                                                                                                                                                                                                                              | % CO <sub>2</sub>                      |                     | % N <sub>2</sub>                     |                                       | % H <sub>2</sub> S      |         | Prover<br>4" 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                |         |                            |  |                  |  |
| 1.                                                                                                                     | 4"                          |                  | 1"                                | 845                                                       | 2.5                                                                                                                                                                                                                                                          | 84                                     | 2875                | -                                    | Pkr.                                  | Pkr.                    | 70 min. |                            |  |                  |  |
| 2.                                                                                                                     | 4"                          |                  | 1"                                | 845                                                       | 3.3                                                                                                                                                                                                                                                          | 82                                     | 2715                | -                                    | "                                     | "                       | 90 min. |                            |  |                  |  |
| 3.                                                                                                                     | 4"                          |                  | 1"                                | 840                                                       | 2.0                                                                                                                                                                                                                                                          | 80                                     | 2545                | -                                    | "                                     | "                       | 90 min. |                            |  |                  |  |
| 4.                                                                                                                     | 4"                          |                  | 1"                                | 840                                                       | 3.6                                                                                                                                                                                                                                                          | 85                                     | 2314                | -                                    | "                                     | "                       | 60 min. |                            |  |                  |  |
| 5.                                                                                                                     | 4"                          |                  | 1"                                | 840                                                       | 4.5                                                                                                                                                                                                                                                          | 81                                     | 2060                | -                                    | "                                     | "                       | 45 min. |                            |  |                  |  |
| 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 Compens. Factor, F <sub>pv</sub> | Rate of Flow Q, Mgd |                                      |                                       |                         |         |                            |  |                  |  |
| 1                                                                                                                      | 4.758                       | 46.32            | 858.2                             | .9777                                                     | 1.221                                                                                                                                                                                                                                                        | 1.085                                  | 285.46              |                                      |                                       |                         |         |                            |  |                  |  |
| 2                                                                                                                      | 4.758                       | 53.22            | 858.2                             | .9795                                                     | 1.221                                                                                                                                                                                                                                                        | 1.088                                  | 329.50              |                                      |                                       |                         |         |                            |  |                  |  |
| 3                                                                                                                      | 4.758                       | 41.38            | 856.2                             | .9813                                                     | 1.221                                                                                                                                                                                                                                                        | 1.089                                  | 256.90              |                                      |                                       |                         |         |                            |  |                  |  |
| 4                                                                                                                      | 4.758                       | 55.42            | 853.2                             | .9768                                                     | 1.221                                                                                                                                                                                                                                                        | 1.083                                  | 340.60              |                                      |                                       |                         |         |                            |  |                  |  |
| 5                                                                                                                      | 4.758                       | 61.96            | 853.2                             | .9804                                                     | 1.221                                                                                                                                                                                                                                                        | 1.085                                  | 382.90              |                                      |                                       |                         |         |                            |  |                  |  |
| NO.                                                                                                                    | R <sub>1</sub>              | Temp. °R         | T <sub>r</sub>                    | Z                                                         | Gas Liquid Hydrocarbon Ratio 5.07 - 1 Mcf/cub. A.P.L. Gravity of Liquid Hydrocarbon 52 @ 60 Deg. Specific Gravity Separator Gas .671 XXXXXXXXXX Specific Gravity Flowing Fluid XXXXXX Critical Pressure 669 P.S.I.A. P.S.I.A. Critical Temperature 382 °R °R |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 1                                                                                                                      | 1.283                       | 544              | 1.424                             | .849                                                      |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 2                                                                                                                      | 1.283                       | 542              | 1.419                             | .845                                                      |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 3                                                                                                                      | 1.293                       | 540              | 1.414                             | .844                                                      |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 4                                                                                                                      | 1.280                       | 545              | 1.427                             | .853                                                      |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 5                                                                                                                      | 1.280                       | 541              | 1.416                             | .849                                                      |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| P <sub>1</sub> 5075.2 P <sub>2</sub> 25757.7                                                                           |                             |                  |                                   |                                                           | (1) $\frac{P_2^2}{P_2^2 - P_1^2} = 1.793849$ (2) $\left[ \frac{P_2^2}{P_2^2 - P_1^2} \right]^n = 1.754454$                                                                                                                                                   |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| NO.                                                                                                                    | P <sub>1</sub> <sup>2</sup> | P <sub>w</sub>   | P <sub>2</sub> <sup>2</sup>       | P <sub>2</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | (3) $\left[ \frac{P_2^2}{P_2^2 - P_w^2} \right]^n = 597.567114$                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 1                                                                                                                      |                             | 4189.21          | 17549.48                          | 208.3                                                     |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 2                                                                                                                      |                             | 3875.2           | 15017.21                          | 10740.5                                                   |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 3                                                                                                                      |                             | 3766.2           | 14194.31                          | 11473.4                                                   |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 4                                                                                                                      |                             | 3376.2           | 11398.71                          | 14358.9                                                   |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| 5                                                                                                                      |                             | 3025.2           | 9151.8                            | 16605.8                                                   |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| Absolute Open Flow 597 MCFD Mcf @ 15.025                                                                               |                             |                  |                                   |                                                           | Angle of Slope θ                                                                                                                                                                                                                                             |                                        |                     |                                      |                                       | Slope, n .962           |         |                            |  |                  |  |
| Remarks: This well was very difficult to 4 point due to the excess amount of condensate.                               |                             |                  |                                   |                                                           |                                                                                                                                                                                                                                                              |                                        |                     |                                      |                                       |                         |         |                            |  |                  |  |
| Approved By Commission                                                                                                 |                             |                  |                                   | Conducted By: Sam A. Snow                                 |                                                                                                                                                                                                                                                              |                                        |                     | Calculated By: Sam L. Snow           |                                       |                         |         | Checked By:                |  |                  |  |