

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

Form C-122  
Revised 7-1-65

**RECEIVED**

|                                                                                                                        |             |                                    |                            |                                           |                           |                                       |                     |                                      |  |
|------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------|----------------------------|-------------------------------------------|---------------------------|---------------------------------------|---------------------|--------------------------------------|--|
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                                    |                            |                                           | Test Date<br>4-15-76      |                                       | APR 28 1976         |                                      |  |
| Company<br>Cities Service Oil Company                                                                                  |             |                                    |                            | Connection<br>El Paso Natural Gas Company |                           |                                       |                     | O. C. C.<br>ARTESIA, OFFICE          |  |
| Pool<br>North Burton Flat                                                                                              |             |                                    |                            | Formation<br>Wolfcamp                     |                           |                                       |                     | Unit                                 |  |
| Completion Date<br>4-15-76                                                                                             |             | Total Depth<br>11,486'             |                            | Plug Back TD<br>10,764'                   |                           | Elevation<br>3245.5' gr.              |                     | Farm or Lease Name<br>Government "T" |  |
| Csg. Size<br>5 1/2"                                                                                                    | Wt.<br>17#  | d                                  | Set At<br>11,486'          | Perforations:<br>From 9123' To 9205'      |                           | Well No.<br>2                         |                     |                                      |  |
| Tub. Size<br>2 7/8"                                                                                                    | Wt.<br>6.5# | d                                  | Set At<br>9,014'           | Perforations:<br>From open To ended       |                           | Unit Sec. Twp. Rge.<br>G 15 20S 28E   |                     |                                      |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                      |             |                                    |                            |                                           | Packer Set At<br>9,014'   |                                       | County<br>Eddy      |                                      |  |
| Producing Thru<br>Tubing                                                                                               |             | Reservoir Temp. °F<br>168° @ 9042' |                            | Mean Annual Temp. °F<br>60°               |                           | Baro. Press. - P <sub>g</sub><br>13.2 |                     | State<br>New Mexico                  |  |
| L<br>9042'                                                                                                             | H<br>9042'  | G <sub>g</sub><br>0.7079           | % CO <sub>2</sub><br>1.348 | % N <sub>2</sub><br>1.175                 | % H <sub>2</sub> S<br>-0- | Prover<br>---                         | Meter Run<br>4 inch | 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        | L - 10 Readings  |   |              |                 |                      |             | 2895.0          |             | Packer          | Choke            | 143.0 hrs. |
| 1.        | 4" X 1.50"       |   |              | 6.90            | 7.10                 | 73          | 1747.0          | 59          |                 | 19/64"           | 120 Min.   |
| 2.        | 4" X 1.50"       |   |              | 6.90            | 5.90                 | 73          | 1712.0          | 59          |                 | 17/64"           | 60 Min.    |
| 3.        | 4" X 1.50"       |   |              | 6.90            | 4.20                 | 73          | 1740.0          | 59          |                 | 15/64"           | 60 Min.    |
| 4.        | 4" X 1.50"       |   |              | 6.90            | 2.10                 | 73          | 1910.0          | 59          |                 | 12/64"           | 60 Min.    |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |            |

  

| RATE OF FLOW CALCULATIONS |                       |                                       |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|---------------------------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$<br>L-10 meter factor | 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, Mcfd |
| 1                         | 10.84                 | 3.162                                 | 476.1                   | 0.9877                | 1.188                         | 1.053                                   | 2075                 |
| 2                         | 10.84                 | 3.162                                 | 476.1                   | 0.9877                | 1.188                         | 1.053                                   | 1724                 |
| 3                         | 10.84                 | 3.162                                 | 476.1                   | 0.9877                | 1.188                         | 1.053                                   | 1227                 |
| 4                         | 10.84                 | 3.162                                 | 476.1                   | 0.9877                | 1.188                         | 1.053                                   | 613.7                |
| 5.                        |                       |                                       |                         |                       |                               |                                         |                      |

  

| NO. | P <sub>f</sub> | Temp. °R | T <sub>f</sub> | Z    | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|----------------|------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1.  | 0.71           | 533      | 1.37           | .902 | 4,812                        | 53.2                                  | 0.7661                         | X X X X X X X X                |                   |                      |
| 2.  | 0.71           | 533      | 1.37           | .902 |                              |                                       |                                | X X X X X                      |                   |                      |
| 3.  | 0.71           | 533      | 1.37           | .902 |                              |                                       |                                |                                | P.S.I.A.          | P.S.I.A.             |
| 4.  | 0.71           | 533      | 1.37           | .902 |                              |                                       |                                |                                | R                 | R                    |
| 5.  |                |          |                |      |                              |                                       |                                |                                |                   |                      |

  

| NO. | P <sub>f</sub> <sup>2</sup> | P <sub>s</sub> | P <sub>s</sub> <sup>2</sup> | P <sub>f</sub> <sup>2</sup> - P <sub>s</sub> <sup>2</sup> |
|-----|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|
| 1   | 3098                        | 3019.2         | 9116                        | 10440                                                     |
| 2   | 2976                        | 3043.2         | 9261                        | 10295                                                     |
| 3   | 3074                        | 3200.2         | 10241                       | 9315                                                      |
| 4   | 3699                        | 3477.2         | 12091                       | 7465                                                      |
| 5   |                             |                |                             |                                                           |

  

$$(1) \frac{P_f^2}{P_f^2 - P_s^2} = 1.8732$$

$$ACF = Q \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 3887$$

$$(2) \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 1.8732$$

  

|                                       |  |                      |  |                      |  |
|---------------------------------------|--|----------------------|--|----------------------|--|
| Absolute Open Flow 3887 Mcfd @ 15.025 |  | Angle of Slope 45.0° |  | Slope, n 1.000 limit |  |
|---------------------------------------|--|----------------------|--|----------------------|--|

  

Remarks: L-10 meter 100"-1000# range  
Bottom hole pressures measured with kuster gauge @ 9042 feet  
Good point alignment but in excess of 1.000 limits, drew 1.000 slope through high rate of flow

|                         |                            |                           |                       |
|-------------------------|----------------------------|---------------------------|-----------------------|
| Approved by Commission: | Conducted By:<br>Don Tyson | Calculated By:<br>r. West | Checked By:<br>J.W.W. |
|-------------------------|----------------------------|---------------------------|-----------------------|