

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

Form C-122  
Revised 9-1-65

**RECEIVED**

NOV 17 1971

|                                                                                                                           |                    |                                         |                       |                                                  |                    |                                              |                                          |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------|-----------------------|--------------------------------------------------|--------------------|----------------------------------------------|------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                         |                       | Test Date<br><b>11-13-71</b>                     |                    |                                              |                                          |
| Company<br><b>El Paso Natural Gas Company</b>                                                                             |                    |                                         |                       | Connection<br><b>None</b>                        |                    | O. G. E.<br><b>ARTESIA, OFFICE</b>           |                                          |
| Pool<br><b>Wildcat</b>                                                                                                    |                    |                                         |                       | Formation<br><b>Lower Wolfcamp</b>               |                    | Unit                                         |                                          |
| Completion Date<br><b>11-10-71</b>                                                                                        |                    | Total Depth<br><b>9380</b>              |                       | Plug Back TD<br><b>9353</b>                      |                    | Elevation                                    |                                          |
| Farm or Lease Name<br><b>Rocky Arroyo</b>                                                                                 |                    |                                         |                       |                                                  |                    |                                              |                                          |
| Csg. Size<br><b>5 1/2</b>                                                                                                 | Wt.<br><b>15.5</b> | d                                       | Set At<br><b>9380</b> | Perforations:<br>From <b>6563</b> To <b>6600</b> |                    | Well No.<br><b>1</b>                         |                                          |
| Tbg. Size<br><b>2 3/8</b>                                                                                                 | Wt.<br><b>4.7</b>  | d                                       | Set At<br><b>8959</b> | Perforations:<br>From <b>8956</b> To <b>9052</b> |                    | Unit Sec. Twp. Rge.<br><b>J 8 22 22</b>      |                                          |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br><b>Gas-Gas Dual</b>                                            |                    |                                         |                       | Packer Set At<br><b>8906</b>                     |                    | County<br><b>Eddy</b>                        |                                          |
| Producing Thru<br><b>Csg.</b>                                                                                             |                    | Reservoir Temp. °F<br><b>134 @ 6563</b> |                       | Mean Annual Temp. °F<br><b>60</b>                |                    | Baro. Press. - P <sub>a</sub><br><b>13.2</b> |                                          |
| State<br><b>New Mexico</b>                                                                                                |                    |                                         |                       |                                                  |                    |                                              |                                          |
| L<br><b>6582</b>                                                                                                          | H<br><b>6582</b>   | G <sub>g</sub><br><b>.687</b>           | % CO <sub>2</sub>     | % N <sub>2</sub>                                 | % H <sub>2</sub> S | Prover                                       | Meter Run Taps<br><b>Positive Chokes</b> |

  

| FLOW DATA |             |                 |                      |           | TUBING DATA     |          | CASING DATA     |           | Duration of Flow |
|-----------|-------------|-----------------|----------------------|-----------|-----------------|----------|-----------------|-----------|------------------|
| NO.       | Pos. chokes | 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        |             |                 |                      |           |                 |          | <b>1873</b>     | <b>74</b> | <b>72 Hr.</b>    |
| 1.        | <b>3/16</b> | <b>1845</b>     |                      | <b>64</b> |                 |          | <b>1845</b>     | <b>64</b> | <b>1 Hr.</b>     |
| 2.        | <b>7/32</b> | <b>1835</b>     |                      | <b>66</b> |                 |          | <b>1835</b>     | <b>66</b> | <b>1 Hr.</b>     |
| 3.        | <b>1/4</b>  | <b>1805</b>     |                      | <b>70</b> |                 |          | <b>1805</b>     | <b>70</b> | <b>1 Hr.</b>     |
| 4.        | <b>5/16</b> | <b>1768</b>     |                      | <b>75</b> |                 |          | <b>1768</b>     | <b>75</b> | <b>1 Hr.</b>     |
| 5.        | <b>3/8</b>  | <b>1696</b>     |                      | <b>78</b> |                 |          | <b>1696</b>     | <b>78</b> | <b>1 Hr.</b>     |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                         | <b>0.6101</b>         |                  | <b>1858.2</b>           | <b>.9962</b>          | <b>1.206</b>                  | <b>1.211</b>                            | <b>1649</b>          |
| 2                         | <b>0.8419</b>         |                  | <b>1848.2</b>           | <b>.9943</b>          | <b>1.206</b>                  | <b>1.203</b>                            | <b>2245</b>          |
| 3                         | <b>1.112</b>          |                  | <b>1818.2</b>           | <b>.9905</b>          | <b>1.206</b>                  | <b>1.194</b>                            | <b>2884</b>          |
| 4                         | <b>1.771</b>          |                  | <b>1781.2</b>           | <b>.9859</b>          | <b>1.206</b>                  | <b>1.185</b>                            | <b>4445</b>          |
| 5                         | <b>2.691</b>          |                  | <b>1709.2</b>           | <b>.9831</b>          | <b>1.206</b>                  | <b>1.174</b>                            | <b>6164</b>          |

  

| NO. | P <sub>r</sub> | Temp. °R   | T <sub>r</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 |
|-----|----------------|------------|----------------|-------------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
|     |                |            |                |             | <b>Dry</b>                   | <b>Dry</b>                            |                                |                                |                   |                      |
| 1   | <b>2.78</b>    | <b>524</b> | <b>1.36</b>    | <b>.682</b> |                              |                                       | <b>.687</b>                    | <b>X X X X X X X X</b>         |                   |                      |
| 2   | <b>2.76</b>    | <b>526</b> | <b>1.37</b>    | <b>.691</b> |                              |                                       |                                | <b>X X X X X</b>               |                   |                      |
| 3   | <b>2.72</b>    | <b>530</b> | <b>1.38</b>    | <b>.701</b> |                              |                                       |                                |                                | <b>669</b>        | <b>P.S.I.A.</b>      |
| 4   | <b>2.66</b>    | <b>535</b> | <b>1.39</b>    | <b>.712</b> |                              |                                       |                                |                                | <b>385</b>        | <b>P.S.I.A.</b>      |
| 5   | <b>2.55</b>    | <b>538</b> | <b>1.40</b>    | <b>.725</b> |                              |                                       |                                |                                |                   | <b>R</b>             |

  

| <b>1886.2</b> <b>P<sub>c</sub><sup>2</sup> 3557.8</b> |                             |                |                             |                                                           | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.812$ |  | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.327$ |  |
|-------------------------------------------------------|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------------|--|------------------------------------------------------------|--|
| NO.                                                   | P <sub>r</sub> <sup>2</sup> | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |                                           |  |                                                            |  |
| 1                                                     | <b>3452.9</b>               | <b>1858.7</b>  | <b>3454.7</b>               | <b>103.1</b>                                              |                                           |  |                                                            |  |
| 2                                                     | <b>3415.8</b>               | <b>1849.1</b>  | <b>3419.0</b>               | <b>138.8</b>                                              |                                           |  |                                                            |  |
| 3                                                     | <b>3305.8</b>               | <b>1819.7</b>  | <b>3311.2</b>               | <b>246.6</b>                                              |                                           |  |                                                            |  |
| 4                                                     | <b>3172.7</b>               | <b>1784.7</b>  | <b>3185.3</b>               | <b>372.5</b>                                              |                                           |  |                                                            |  |
| 5                                                     | <b>2921.4</b>               | <b>1716.3</b>  | <b>2945.7</b>               | <b>612.1</b>                                              |                                           |  |                                                            |  |

  

|                                                |  |  |  |  |                                      |  |                      |  |
|------------------------------------------------|--|--|--|--|--------------------------------------|--|----------------------|--|
| Absolute Open Flow <b>20,508</b> Mcfd @ 15.025 |  |  |  |  | Angle of Slope $\theta$ <b>55.75</b> |  | Slope, n <b>.683</b> |  |
| Remarks:                                       |  |  |  |  |                                      |  |                      |  |
|                                                |  |  |  |  |                                      |  |                      |  |

  

|                         |                                                        |                                    |                                  |
|-------------------------|--------------------------------------------------------|------------------------------------|----------------------------------|
| Approved By Commission: | Conducted By: <b>J. B. Murray, R. Kiker, R. Reston</b> | Calculated By: <b>J. B. Murray</b> | Checked By: <b>Earl G. Smith</b> |
|-------------------------|--------------------------------------------------------|------------------------------------|----------------------------------|