

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

Form C-122  
Revised 9-1-55

**RECEIVED**

|                                                                                                                        |                      |                                      |                               |                                         |                             |                                                              |                          |                                          |  |
|------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------|-------------------------------|-----------------------------------------|-----------------------------|--------------------------------------------------------------|--------------------------|------------------------------------------|--|
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                      |                                      |                               |                                         |                             | Test Date <b>9-5-75</b>                                      |                          | SEP 17 1975                              |  |
| Company <b>Mobil Oil Corp.</b>                                                                                         |                      |                                      |                               | Connection <b>None</b>                  |                             |                                                              |                          | O. C. C.                                 |  |
| Pool <b>Atoka Penn. (Gas)</b>                                                                                          |                      |                                      |                               | Formation <b>Penn. Gas</b>              |                             |                                                              |                          | Unit <b>ARTESIA, OFFICE</b>              |  |
| Completion Date <b>8-27-75</b>                                                                                         |                      | Total Depth <b>9,000</b>             |                               | Log Depth <b>8959</b>                   |                             | Elevation <b>3307 G.L.</b>                                   |                          | Farm or Lease Name <b>Brainerd Comm.</b> |  |
| Csg. Size <b>4 1/2"</b>                                                                                                | Wt. <b>10.5 #/ft</b> | d <b>3.958</b>                       | Set At <b>8997'</b>           | Perforations <b>From 8853' To 8888'</b> |                             | Well No. <b>2</b>                                            |                          |                                          |  |
| Tbg. Size <b>2 3/8"</b>                                                                                                | Wt. <b>4.60</b>      | d <b>1.995</b>                       | Set At <b>8843'</b>           | Perforations <b>From 8843'(OE) To</b>   |                             | Unit <b>6</b> Sec. <b>11</b> Twp. <b>18S</b> Rge. <b>26E</b> |                          |                                          |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple <b>Single</b>                                                  |                      |                                      |                               | Packer Set At <b>8843-45'</b>           |                             | County <b>Eddy</b>                                           |                          |                                          |  |
| Producing Thru <b>Tubing</b>                                                                                           |                      | Reservoir Temp. °F <b>141 @ 8959</b> |                               | Mean Annual Temp. °F <b>60</b>          |                             | Baro. Press. - P <sub>a</sub> <b>13.2</b>                    |                          | State <b>New Mexico</b>                  |  |
| L <b>8843</b>                                                                                                          | H <b>8870</b>        | G <sub>g</sub> <b>0.615</b>          | % CO <sub>2</sub> <b>0.41</b> | % N <sub>2</sub> <b>0.26</b>            | % H <sub>2</sub> S <b>—</b> | Prover                                                       | Meter Run <b>4" x 2"</b> | Taps <b>Flange</b>                       |  |

  

| 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 | of Flow          |
| SI        |                  |   |              |                 |                      |          | <b>2092</b>     |          | <b>1175</b>     |          | <b>75.5</b>      |
| 1.        | 4                | x | 2            | 455.0           | 4                    | 97       | 1865            | 60       | 1175            | 60       | 1.0              |
| 2.        | 4                | x | 2            | 480.0           | 12                   | 70       | 1450            | 60       | 1175            | 60       | 1.0              |
| 3.        | 4                | x | 2            | 500.0           | 26                   | 70       | 1321            | 60       | 1175            | 60       | 1.0              |
| 4.        | 4                | x | 2            | 595.0           | 33.5                 | 68       | 955             | 60       | 1175            | 60       | 1.0              |
| 5.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                         |                       |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|-----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd. |
| 1                         | 19.81                 | 43.27            | 468.2                   | 0.9662                | 1.2751                        | 1.0336                                  | 1091.7                |
| 2                         | 19.81                 | 76.93            | 493.2                   | 0.9905                | 1.2751                        | 1.0426                                  | 2006.9                |
| 3                         | 19.81                 | 115.51           | 513.2                   | 0.9905                | 1.2751                        | 1.0443                                  | 3018.4                |
| 4                         | 19.81                 | 142.73           | 608.2                   | 0.9923                | 1.2751                        | 1.0532                                  | 3768.9                |
| 5.                        |                       |                  |                         |                       |                               |                                         |                       |

  

|     |                |          |                |       |                                                             |
|-----|----------------|----------|----------------|-------|-------------------------------------------------------------|
| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio <b>138</b> Mcf/bbl.            |
| 1.  | 0.69           | 557      | 1.53           | 0.935 | A.P.I. Gravity of Liquid Hydrocarbons <b>54.6</b> Deg.      |
| 2.  | 0.73           | 530      | 1.46           | 0.919 | Specific Gravity Separator Gas <b>0.615</b> X X X X X X X X |
| 3.  | 0.76           | 530      | 1.46           | 0.916 | Specific Gravity Flowing Fluid X X X X X <b>0.636</b>       |
| 4.  | 0.90           | 528      | 1.45           | 0.901 | Critical Pressure <b>671</b> P.S.I.A. <b>670</b> P.S.I.A.   |
| 5.  |                |          |                |       | Critical Temperature <b>362</b> R <b>372</b> R              |

  

|                              |                                           |                                           |                                                            |
|------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------|
| P <sub>c</sub> <b>2105.2</b> | P <sub>c</sub> <sup>2</sup> <b>4431.8</b> | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.323$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.276$ |
| NO.                          | P <sub>t</sub> <sup>2</sup>               | P <sub>w</sub>                            | P <sub>w</sub> <sup>2</sup>                                |
| 1                            | 3527.6                                    | 1880.6                                    | 3536.6                                                     |
| 2                            | 2766.2                                    | 1472.5                                    | 2797.5                                                     |
| 3                            | 1780.0                                    | 1361.5                                    | 1853.8                                                     |
| 4                            | 937.4                                     | 1029.5                                    | 1059.8                                                     |
| 5                            |                                           |                                           |                                                            |

  

ACF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4808.2$  (Computer Composite)

  

|                                                |                              |                      |
|------------------------------------------------|------------------------------|----------------------|
| Absolute Open Flow <b>4808.2</b> Mcfd @ 15.025 | Angle of Slope <b>48.872</b> | Slope, n <b>0.87</b> |
|------------------------------------------------|------------------------------|----------------------|

  

Remarks: **1st point disregarded for AOF. Total volume produced during test was 412 MCF.**

  

|                         |                                  |                                   |                                      |
|-------------------------|----------------------------------|-----------------------------------|--------------------------------------|
| Approved By Commission: | Conducted By: <b>W. L. Riley</b> | Calculated By: <b>H. W. Lewis</b> | Checked By: <b>J. C. Gordon, Jr.</b> |
|-------------------------|----------------------------------|-----------------------------------|--------------------------------------|