

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPART ONE POINT BACK PRESTRESS TEST FOR GAS WELLS

RECEIVED

|                                                                                                                           |               |                                      |                             |                                    |                                   |
|---------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------|-----------------------------|------------------------------------|-----------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |               | Test Date<br>10-8-77                 |                             | NOV 14 1977                        |                                   |
| Company<br>Mesa Petroleum Company                                                                                         |               |                                      | Connection<br>Air           |                                    | O.C.C.<br>ARTESIA, OFFICE<br>Unit |
| Pool<br>Willcox Cisco - Canyon<br>Undersignated                                                                           |               |                                      | Formation<br>CISCO - Canyon |                                    |                                   |
| Completion Date<br>9-8-77                                                                                                 |               | Total Depth<br>9298                  |                             | Plug Back TD<br>9184               |                                   |
| Elevation<br>3364 Gr.                                                                                                     |               | Form or Lease Name<br>POTTER F&O Com |                             |                                    |                                   |
| Cas. Size<br>4.50"                                                                                                        | Wt.<br>11.60# | d.<br>4.000"                         | Set At<br>9298              | Perforations:<br>From 7697 To 7831 |                                   |
| Per. Size<br>2.375EUE                                                                                                     | Wt.<br>4.70#  | d.<br>1.995"                         | Set At<br>7640              | Perforations:<br>From To           |                                   |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single Completion                                              |               |                                      |                             | Packer Set At<br>7640              |                                   |
| Producing Thru<br>Tubing                                                                                                  |               | Reservoir Temp. °F<br>153 7764       |                             | Mean Annual Temp. °F<br>60         |                                   |
| Baro. Press. - P <sub>a</sub><br>13.2                                                                                     |               | State<br>New Mexico                  |                             |                                    |                                   |
| L<br>7764                                                                                                                 | H<br>7764     | G <sub>g</sub><br>0.739              | % CO <sub>2</sub><br>0.88   | % N <sub>2</sub><br>1.40           | % H <sub>2</sub> S<br>0.00        |
| Prover                                                                                                                    |               | Meter Run<br>X                       |                             | Taps                               |                                   |

  

| 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        |                  |   |              |                 |                      |             | 2013            | 70          |                 |                  | 384 hrs. |
| 1.        | 3.00             |   | 1.25         | 37              | 10.00"               | 62          | 1902            | 70          |                 |                  | 1.00 Hr. |
| 2.        | 3.00             |   | 1.25         | 38              | 21.00"               | 77          | 1835            | 70          |                 |                  | 1.00 Hr. |
| 3.        | 3.00             |   | 1.25         | 37              | 44.00"               | 70          | 1770            | 70          |                 |                  | 1.00 Hr. |
| 4.        | 3.00             |   | 1.25         | 37              | 83.00"               | 71          | 1670            | 70          |                 |                  | 1.00 Hr. |
| 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, Mc/d |
| 1.                        | 7.58                  | 22.405           | 50.20                   | 0.9981                | 1.1634                        | 1.0590                                  | 209                  |
| 2.                        | 7.58                  | 32.790           | 51.20                   | 0.9840                | 1.1634                        | 1.0590                                  | 301                  |
| 3.                        | 7.58                  | 46.998           | 50.20                   | 0.9905                | 1.1634                        | 1.0590                                  | 435                  |
| 4.                        | 7.58                  | 64.549           | 50.20                   | 0.9896                | 1.1634                        | 1.0590                                  | 596                  |
| 5.                        |                       |                  |                         |                       |                               |                                         |                      |

  

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio          | Mcf/Sbl.      |
|-----|----------------|----------|----------------|-------|---------------------------------------|---------------|
| 1.  | 0.08           | 522      | 1.29           | 0.908 | A.P.I. Gravity of Liquid Hydrocarbons | None Produced |
| 2.  | 0.08           | 537      | 1.33           | 0.908 | Specific Gravity Separator Gas        | 0.739         |
| 3.  | 0.08           | 530      | 1.31           | 0.908 | Specific Gravity Flowing Fluid        | X X X X X     |
| 4.  | 0.08           | 531      | 1.31           | 0.908 | Critical Pressure                     | 667 P.S.I.A.  |
| 5.  |                |          |                |       | Critical Temperature                  | 405 °R        |

  

| NO. | P <sub>r</sub> | 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) $\frac{P_c^2}{P_c^2 - P_w^2} =$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ |
|-----|----------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------|------------------------------------------------------|
| 1.  | 1915.6         | 3670           | 436                         |                                                           | 3.24740                             | 3.2474                                               |
| 2.  | 1848.8         | 3418           | 687                         |                                                           |                                     |                                                      |
| 3.  | 1784.6         | 3184           | 921                         |                                                           |                                     |                                                      |
| 4.  | 1685.6         | 2841           | 1264                        |                                                           |                                     |                                                      |
| 5.  |                |                |                             |                                                           |                                     |                                                      |

  

|                    |  |      |                |                  |       |          |       |
|--------------------|--|------|----------------|------------------|-------|----------|-------|
| Absolute Open Flow |  | 1935 | Mcf/d @ 15.025 | Angle of Slope @ | 45.00 | Slope, n | 1.000 |
|--------------------|--|------|----------------|------------------|-------|----------|-------|

  

|                         |               |                |             |
|-------------------------|---------------|----------------|-------------|
| Remarks:                |               |                |             |
| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |