

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

Form C-122  
Revised 7-1-65

|                                                                                                                           |             |                                           |                           |                                    |                           |
|---------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|---------------------------|------------------------------------|---------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                                           |                           | Test Date<br>6-8-67                |                           |
| Company<br>CHARLES B. READ                                                                                                |             |                                           |                           | Connection<br>N.C.                 |                           |
| Pool<br>BUFFALO VALLEY PLANT, UNDESIGNATED                                                                                |             |                                           |                           | Formation<br>ATOKA                 |                           |
| Completion Date                                                                                                           |             | Total Depth<br>7550                       |                           | Plug Back TD<br>8315               |                           |
| Elevation                                                                                                                 |             | Farm or Lease Name<br>BUFFALO VALLEY CORP |                           |                                    |                           |
| Csg. Size<br>4.500                                                                                                        | Wt.<br>11.6 | d<br>4.000                                | Set At<br>7549            | Perforations:<br>From 8180 To 8213 |                           |
| Trg. Size<br>2.375                                                                                                        | Wt.<br>4.7  | d<br>1.995                                | Set At<br>8100            | Perforations:<br>From OE To        |                           |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>SINGLE                                                         |             |                                           |                           | Packer Set At<br>8100              |                           |
| Producing Thru<br>TUBING                                                                                                  |             | Reservoir Temp. °F<br>173.8 92.00         |                           | Mean Annual Temp. °F<br>60         |                           |
| Baro. Press. - P <sub>a</sub><br>13.2                                                                                     |             | State<br>NEW MEXICO                       |                           |                                    |                           |
| L<br>8100                                                                                                                 | H<br>8100   | G <sub>g</sub><br>0.684                   | % CO <sub>2</sub><br>0.41 | % N <sub>2</sub><br>0.67           | % H <sub>2</sub> S<br>0.0 |
| Prover<br>2.000                                                                                                           |             | Meter Run<br>—                            |                           | Taps<br>—                          |                           |

  

| 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        | —                | — | —            | —               | —                    | —           | 2419            | —           | PICK            | —                | —       |
| 1.        | 2.000            | — | 1.4375       | 285             | —                    | 93          | 2210            | 71          | —               | —                | 1.20    |
| 2.        | 2.000            | — | 1.4375       | 553             | —                    | 82          | 1954            | 72          | —               | —                | 1.20    |
| 3.        | 2.000            | — | 1.6750       | 378             | —                    | 81          | 1742            | 71          | —               | —                | 1.20    |
| 4.        | 2.000            | — | 1.6750       | 507             | —                    | 82          | 1382            | 72          | —               | —                | 1.20    |
| 5.        | 2.000            | — | 1.4375       | 361             | —                    | 96          | 2172            | 73          | —               | —                | —       |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                   |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                         | 3.408                 | —                | 292.2                   | 0.9697                | 1.209             | 1.028                                   | 1,224.9              |
| 2                         | 3.408                 | —                | 571.2                   | 0.9795                | 1.209             | 1.057                                   | 2,436.6              |
| 3                         | 6.473                 | —                | 391.2                   | 0.9804                | 1.209             | 1.039                                   | 3,118.5              |
| 4                         | 6.473                 | —                | 520.2                   | 0.9795                | 1.209             | 1.052                                   | 4,194.9              |
| 5                         | 3.408                 | —                | 374.2                   | 0.9671                | 1.209             | 1.037                                   | 1,546.2              |

  

|     |                |          |                |       |                                       |                              |          |
|-----|----------------|----------|----------------|-------|---------------------------------------|------------------------------|----------|
| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio          | Prod. SE, 962; G. 12, 20,710 | Mcf/obi. |
| 1.  | 2.45           | 553      | 1.44           | 0.947 | A.P.I. Gravity of Liquid Hydrocarbons | 60.6                         | Deg.     |
| 2.  | 0.95           | 542      | 1.41           | 0.895 | Specific Gravity Separator Gas        | 0.684                        | XXXXXXX  |
| 3.  | 0.58           | 541      | 1.41           | 0.92  | Specific Gravity Flowing Fluid        | XXXXXX                       | —        |
| 4.  | 0.78           | 542      | 1.41           | 0.903 | Critical Pressure                     | 669.72                       | P.S.I.A. |
| 5.  | 0.56           | 556      | 1.44           | 0.930 | Critical Temperature                  | 384.83                       | R        |

Calculated Gas analysis.

  

|     |                |                |                |                                 |                                                                               |                                                             |
|-----|----------------|----------------|----------------|---------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------|
| NO. | P <sub>r</sub> | P <sub>w</sub> | P <sub>s</sub> | P <sub>r</sub> - P <sub>w</sub> | (1) $\frac{P_r^2}{P_r^2 - P_s^2} = 1.7031$                                    | (2) $\left[ \frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 1.5414$ |
| 1   | —              | 2096.2         | 9549.3         | 1494.4                          | $AOF = Q \left[ \frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 6,466.0$<br>$6,825.2$ | 4.4142                                                      |
| 2   | —              | 2192.2         | 7796.1         | 2498.6                          |                                                                               |                                                             |
| 3   | —              | 2533.2         | 6401.9         | 4641.8                          |                                                                               |                                                             |
| 4   | —              | 2135.2         | 4559.1         | 6484.6                          |                                                                               |                                                             |
| 5   | —              | 3644.2         | 9767.2         | 1776.5                          |                                                                               |                                                             |

  

|                    |       |              |                |         |          |       |
|--------------------|-------|--------------|----------------|---------|----------|-------|
| Absolute Open Flow | 6,400 | Mcf @ 15.025 | Angle of Slope | 50° 54' | Slope, n | 0.913 |
|--------------------|-------|--------------|----------------|---------|----------|-------|

Remarks: 240 Hg. measured during test. Transwestern Pipeline Co. will record test. Prover measured and tubing pressures measured by dead weight gauges. Gauge checked before test.

|                        |                 |                 |             |
|------------------------|-----------------|-----------------|-------------|
| Approved By Commission | Conducted By:   | Calculated By:  | Checked By: |
|                        | C.R. APPLEDOORN | C.R. APPLEDOORN | —           |