

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

REVISED 9-1-03

|                                                                                                                           |              |                                   |                      |                                      |                                  |                                     |                       |                     |                                   |  |
|---------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|----------------------|--------------------------------------|----------------------------------|-------------------------------------|-----------------------|---------------------|-----------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |              |                                   |                      |                                      | Test Date                        |                                     |                       |                     |                                   |  |
| Company<br>Mesa Petroleum Co.                                                                                             |              |                                   |                      |                                      | Connection<br>Southern Union Gas |                                     |                       |                     |                                   |  |
| Pool<br>Blanco                                                                                                            |              |                                   |                      |                                      | Formation<br>Mesaverde           |                                     |                       |                     |                                   |  |
| Completion Date<br>5/24/78                                                                                                |              |                                   | Total Depth<br>5610' |                                      | Plug Back TD                     |                                     | Elevation<br>6381' GL |                     | Farm or Lease Name<br>State Com F |  |
| Csq. Size<br>4 1/2"                                                                                                       | Wt.<br>10.5# | d                                 | Set At<br>5605'      | Perforations:<br>From 4555' To 5568' |                                  | Well No.<br>1A                      |                       |                     |                                   |  |
| Tbg. Size<br>2 3/8"                                                                                                       | Wt.          | d                                 | Set At<br>5403'      | Perforations:<br>From To             |                                  | Unit Sec. Twp. Rge.<br>P 36 32N 12W |                       |                     |                                   |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |              |                                   |                      |                                      | Packer Set At<br>None            |                                     | County<br>San Juan    |                     |                                   |  |
| Producing Thru<br>Tbg.                                                                                                    |              | Reservoir Temp. °F<br>#79 Degrees |                      | Mean Annual Temp. °F                 |                                  | Baro. Press. - P <sub>a</sub>       |                       | State<br>New Mexico |                                   |  |
| L<br>5403                                                                                                                 | H<br>5403    | Gg<br>.650                        | % CO <sub>2</sub>    | % N <sub>2</sub>                     | % H <sub>2</sub> S               | Prover                              |                       | Meter Run           | 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        |                  |   |              |                 |                      |          | 725             |          | 720             |          |                  |
| 1.        | 2"               |   | .75"         | Pitot Tube      |                      |          | 177             |          | 662             |          | 4 hrs.           |
| 2.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |
| 3.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |
| 4.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |
| 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 Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
| 1                         |                       | Based on NMOCC Manual Pitot Tube Testing Procedures. |                         |                      |                   |                             |                      |
| 2.                        |                       |                                                      |                         | .9822                | .9608             | 1.017                       | 2243                 |
| 3.                        |                       |                                                      |                         |                      |                   |                             |                      |
| 4.                        |                       |                                                      |                         |                      |                   |                             |                      |
| 5.                        |                       |                                                      |                         |                      |                   |                             |                      |

  

| NO. | P <sub>t</sub> | Temp. °R | T <sub>f</sub> | Z | Gas Liquid Hydrocarbon Ratio          | Mcf/bbl.  |
|-----|----------------|----------|----------------|---|---------------------------------------|-----------|
| 1.  |                |          |                |   | A.P.I. Gravity of Liquid Hydrocarbons | Deg.      |
| 2.  |                |          |                |   | Specific Gravity Separator Gas        | .650      |
| 3.  |                |          |                |   | Specific Gravity Flowing Fluid        | X X X X X |
| 4.  |                |          |                |   | Critical Pressure                     | P.S.I.A.  |
| 5.  |                |          |                |   | Critical Temperature                  | R         |

  

| NO. | P <sub>c</sub> | P <sub>c</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) $\frac{P_c^2}{P_c^2 - P_w^2} =$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ |
|-----|----------------|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------|------------------------------------------------------|
| 1   |                |                             |                |                             |                                                           | 6.1104                              | 3.8864                                               |
| 2   |                |                             |                |                             |                                                           |                                     |                                                      |
| 3   |                |                             |                |                             |                                                           |                                     |                                                      |
| 4   |                |                             |                |                             |                                                           |                                     |                                                      |
| 5   |                |                             |                |                             |                                                           |                                     |                                                      |

  

|                         |  |  |  |                |  |                  |  |              |  |
|-------------------------|--|--|--|----------------|--|------------------|--|--------------|--|
| Absolute Open Flow 8717 |  |  |  | Mcf/d @ 15.025 |  | Angle of Slope θ |  | Slope, n .75 |  |
| Remarks:                |  |  |  |                |  |                  |  |              |  |

  

|                         |                                     |                              |                            |
|-------------------------|-------------------------------------|------------------------------|----------------------------|
| Approved By Commission: | Conducted By:<br>Mesa Petroleum Co. | Calculated By:<br>Dave Green | Checked By:<br>C.R. Wagner |
|-------------------------|-------------------------------------|------------------------------|----------------------------|

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