

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

RECEIVED

|                                                                                                                           |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                             |                              |                             | Test Date<br>6-10-83                                      |                                                                                                        |                                               |                         |
| Company<br>Manana Gas, Inc.                                                                                               |                             |                              |                             | Connection<br>Not connected                               |                                                                                                        |                                               |                         |
| Pool<br>Aztec Fruitland                                                                                                   |                             |                              |                             | Formation<br>Fruitland                                    |                                                                                                        | Unit<br>DIST. 0                               |                         |
| Completion Date<br>5-5-83                                                                                                 |                             | Total Depth<br>1800          |                             | Plug Back TD<br>1767                                      |                                                                                                        | Elevation<br>5571 GL                          |                         |
| Farm or Lease Name<br>Gale                                                                                                |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| Csq. Size<br>2.875                                                                                                        | Wt.<br>6.50                 | d<br>2.441                   | Set At<br>1780              | Perforations:<br>From 1600 To 1628                        |                                                                                                        | Well No.<br>1-R                               |                         |
| Thq. Size<br>None                                                                                                         | Wt.                         | d                            | Set At                      | Perforations:<br>From 1600 To 1628                        |                                                                                                        | Unit<br>M                                     | Sec.<br>13              |
| Twp.<br>29N                                                                                                               |                             | Rge.<br>11W                  |                             |                                                           |                                                                                                        |                                               |                         |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                             |                              |                             | Packer Set At<br>None                                     |                                                                                                        | County<br>San Juan                            |                         |
| Producing Thru<br>Casing                                                                                                  |                             | Reservoir Temp. °F<br>#      |                             | Mean Annual Temp. °F                                      |                                                                                                        | Baro. Press. - P <sub>a</sub><br>New Mexico   |                         |
| L<br>1072                                                                                                                 | H                           | Gg                           | % CO <sub>2</sub>           | % N <sub>2</sub>                                          | % H <sub>2</sub> S                                                                                     | Prover                                        | Meter Run               |
| Taps                                                                                                                      |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| FLOW DATA                                                                                                                 |                             |                              |                             | TUBING DATA                                               |                                                                                                        | CASING DATA                                   |                         |
| NO.                                                                                                                       | Prover<br>Line<br>Size      | X                            | Orifice<br>Size             | Press.<br>p.s.i.g.                                        | Diff.<br>hw                                                                                            | Temp.<br>°F                                   | Duration<br>of<br>Flow  |
| SI                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               | 7 days                  |
| 1.                                                                                                                        |                             |                              | .750                        | 46                                                        |                                                                                                        | 60                                            | 3 hrs.                  |
| 2.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 3.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 4.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 5.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| RATE OF FLOW CALCULATIONS                                                                                                 |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| NO.                                                                                                                       | Coefficient<br>(24 Hour)    | $\sqrt{h_w P_m}$             | Pressure<br>P <sub>m</sub>  | Flow Temp.<br>Factor<br>F <sub>t</sub>                    | Gravity<br>Factor<br>F <sub>g</sub>                                                                    | Super<br>Compress.<br>Factor, F <sub>pv</sub> | Rate of Flow<br>Q, Mcfd |
| 1                                                                                                                         | 12.365                      |                              | 58                          | 1.000                                                     | .9463                                                                                                  | 1.009                                         | 685                     |
| 2.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 3.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 4.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 5.                                                                                                                        |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| NO.                                                                                                                       | P <sub>r</sub>              | Temp. °R                     | T <sub>r</sub>              | Z                                                         | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.                                                            |                                               |                         |
| 1.                                                                                                                        |                             |                              |                             |                                                           | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.                                                       |                                               |                         |
| 2.                                                                                                                        |                             |                              |                             |                                                           | Specific Gravity Separator Gas .670    XXXXXXXXXX                                                      |                                               |                         |
| 3.                                                                                                                        |                             |                              |                             |                                                           | Specific Gravity Flowing Fluid    XXXXX                                                                |                                               |                         |
| 4.                                                                                                                        |                             |                              |                             |                                                           | Critical Pressure _____ P.S.I.A.    _____ P.S.I.A.                                                     |                                               |                         |
| 5.                                                                                                                        |                             |                              |                             |                                                           | Critical Temperature _____ R    _____ R                                                                |                                               |                         |
| P <sub>c</sub> 276    P <sub>c</sub> <sup>2</sup> 76176                                                                   |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 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) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0731$ (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0618$ |                                               |                         |
| 1                                                                                                                         | 3364                        | 72                           | 5184                        | 70988                                                     |                                                                                                        |                                               |                         |
| 2                                                                                                                         |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 3                                                                                                                         |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 4                                                                                                                         |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| 5                                                                                                                         |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 727$                                                              |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| Absolute Open Flow 727 Mcfd @ 15.025                                                                                      |                             |                              |                             |                                                           | Angle of Slope @ _____                                                                                 |                                               | Slope, n .85            |
| Remarks: Gas was dry                                                                                                      |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
|                                                                                                                           |                             |                              |                             |                                                           |                                                                                                        |                                               |                         |
| Approved By Division                                                                                                      |                             | Conducted By:<br>C.R. WAGNER |                             | Calculated By:<br>C.R. WAGNER                             |                                                                                                        | Checked By:                                   |                         |