

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |             |                         |                   |                                    |                       |                                     |                                  |                                          |  |
|---------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|-------------------|------------------------------------|-----------------------|-------------------------------------|----------------------------------|------------------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                         |                   |                                    | Test Date<br>1-21-81  |                                     |                                  |                                          |  |
| Company<br>El Paso Natural Gas Company                                                                                    |             |                         |                   | Connection<br>Northwest Pipeline   |                       |                                     |                                  |                                          |  |
| Pool<br>Blanco                                                                                                            |             |                         |                   | Formation<br>Mesa Verde            |                       |                                     |                                  | Unit<br>San Juan 27-5                    |  |
| Completion Date<br>1-14-81                                                                                                |             | Total Depth<br>5804'    |                   | Plug Back TD<br>5785               |                       | Elevation<br>6524 GR                |                                  | Farm or Lease Name<br>San Juan 27-5 Unit |  |
| Csq. Size<br>7.0*                                                                                                         | Wt.<br>20.0 | d<br>6.456              | Set At<br>3522    | Perforations:<br>From 4844 To 5763 |                       |                                     | Well No.<br>#68A                 |                                          |  |
| Tbg. Size<br>2.375                                                                                                        | Wt.<br>4.7  | d<br>1.995              | Set At<br>5751    | Perforations:<br>From To           |                       |                                     | Unit Soc. Twp. Rge.<br>I 33 27 5 |                                          |  |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>G. G. Dual                                                     |             |                         |                   |                                    | Packer Set At<br>3382 |                                     | County<br>Rio Arriba             |                                          |  |
| Producing Thru<br>Tbg.                                                                                                    |             | Reservoir Temp. °F<br>p |                   | Mean Annual Temp. °F               |                       | Baro. Press. - P <sub>a</sub><br>12 |                                  | State<br>New Mexico                      |  |
| L                                                                                                                         | H           | Cg<br>0.67              | % CO <sub>2</sub> | % N <sub>2</sub>                   | % H <sub>2</sub> S    | Prover                              | Meter Run<br>4"                  | Taps<br>Flg.                             |  |

  

| FLOW DATA |                        |   |                 |                    |                         | TUBING DATA |                    | CASING DATA |                    | Duration<br>of<br>Flow |             |
|-----------|------------------------|---|-----------------|--------------------|-------------------------|-------------|--------------------|-------------|--------------------|------------------------|-------------|
| NO.       | Prover<br>Line<br>Size | X | Orifice<br>Size | Press.<br>p.s.i.g. | Diff.<br>h <sub>w</sub> | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. |                        | Temp.<br>°F |
| SI        |                        |   |                 |                    |                         |             | 612                |             |                    |                        | 7 Days      |
| 1.        | 4" X 2.500"            |   |                 | 23                 | 4.75                    | 54          | 111                |             |                    |                        | 3 Hr.       |
| 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                         | 103.21                   | 8.886            | 35                         | 1.006                                  | 1.222                               | 1.000                                         | 1128                    |
| 2.                        |                          |                  |                            |                                        |                                     |                                               |                         |
| 3.                        |                          |                  |                            |                                        |                                     |                                               |                         |
| 4.                        |                          |                  |                            |                                        |                                     |                                               |                         |
| 5.                        |                          |                  |                            |                                        |                                     |                                               |                         |

  

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

  

| P <sub>c</sub> 624 |                             | P <sub>c</sub> <sup>2</sup> 389,376 |                             | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1223$                |  | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0904$ |  |
|--------------------|-----------------------------|-------------------------------------|-----------------------------|-----------------------------------------------------------|--|-------------------------------------------------------------|--|
| NO.                | P <sub>t</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                  | 15,129                      | 206                                 | 42,436                      | 346,940                                                   |  |                                                             |  |
| 2                  |                             |                                     |                             |                                                           |  |                                                             |  |
| 3                  |                             |                                     |                             |                                                           |  |                                                             |  |
| 4                  |                             |                                     |                             |                                                           |  |                                                             |  |
| 5                  |                             |                                     |                             |                                                           |  |                                                             |  |

  

|                         |  |                |  |                  |  |               |  |
|-------------------------|--|----------------|--|------------------|--|---------------|--|
| Absolute Open Flow 1230 |  | Mcf/d @ 15.025 |  | Angle of Slope @ |  | Slope, n 0.75 |  |
|-------------------------|--|----------------|--|------------------|--|---------------|--|

  

|                                                          |  |
|----------------------------------------------------------|--|
| Remarks: * 4 1/2" Liner 3380 - 5804 - Gas Vented 164 MCF |  |
| Liquids Produced - 3.5 Bbl. Oil, 25.7 Bbls Water.        |  |

  

|                      |                              |                              |             |
|----------------------|------------------------------|------------------------------|-------------|
| Approved By Division | Conducted By:<br>Lyle Nation | Calculated By:<br>Bill Clark | Checked By: |
|----------------------|------------------------------|------------------------------|-------------|