

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>1-15-81  |                                                          |                      |                                          |  |
| Company<br>El Paso Natural Gas Company                                                                                    |             |                         |                   | Connection<br>Northwest Pipeline Corp.                  |                       |                                                          |                      |                                          |  |
| Pool<br>S. Blanco                                                                                                         |             |                         |                   | Formation<br>Pictured Cliff                             |                       |                                                          |                      | Unit                                     |  |
| Completion Date<br>11-19-80                                                                                               |             | Total Depth<br>5875     |                   | Plug Back TD<br>5848                                    |                       | Elevation<br>6667                                        |                      | Farm or Lease Name<br>San Juan 27-5 Unit |  |
| Csg. Size<br>2.00                                                                                                         | wt.<br>20.0 | d<br>6.456              | Set At<br>3390    | Perforations:<br>From                      To           |                       | Well No.<br>48A                                          |                      |                                          |  |
| Tub. Size<br>1.660                                                                                                        | wt.<br>2.90 | d<br>1.580              | Set At<br>5287    | Perforations:<br>From 3239                      To 5310 |                       | Unit    Sec.    Twp.    Rge.<br>E       32    27       5 |                      |                                          |  |
| Type Well - Single - Broadhead - G.C. or G.C. Multiple<br>G. C. Dual                                                      |             |                         |                   |                                                         | Packer Set At<br>3501 |                                                          | County<br>Rio Arriba |                                          |  |
| Producing Thru<br>Csg.                                                                                                    |             | Reservoir Temp. °F<br>B |                   | Mean Annual Temp. °F                                    |                       | Baro. Press. - P <sub>a</sub><br>12                      |                      | State<br>New Mexico                      |  |
| L                                                                                                                         | H           | Gg<br>0.670             | % CO <sub>2</sub> | % N <sub>2</sub>                                        | % H <sub>2</sub> S    | Prover                                                   | Veter Run            | Taps                                     |  |

  

| 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. |                        |
| SI        |                        |   |                 |                    |                         |             | 1066               |             | 1066               |                        |
| 1.        | 3/4" choke             |   |                 | 109                |                         | 52          | 111                |             |                    |                        |
| 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                         | 12.565                   |                  | 121                        | 1.008                                  | 0.9465                              | 1.012                                         | 1460                    |
| 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 _____ X X X X X X X X X |
| 3.  |                |          |                |   | Specific Gravity Flowing Fluid _____ X X X X X         |
| 4.  |                |          |                |   | Critical Pressure _____ P.S.I.A. _____ P.S.I.A.        |
| 5.  |                |          |                |   | Critical Temperature _____ R _____ R                   |

  

|                     |                                       |                        |
|---------------------|---------------------------------------|------------------------|
| P <sub>c</sub> 1675 | P <sub>c</sub> <sup>2</sup> 1,162,081 |                        |
| NO.                 | P <sub>r</sub>                        | P <sub>w</sub>         |
| 1                   | 125                                   | 125, 129, 11, 146, 955 |
| 2                   |                                       |                        |
| 3                   |                                       |                        |
| 4                   |                                       |                        |
| 5                   |                                       |                        |

  

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.0132}{1.0132 - 1.0112} = 1.0132$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1460$

(2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0112$

  

|                    |      |                |                       |          |      |
|--------------------|------|----------------|-----------------------|----------|------|
| Absolute Open Flow | 1460 | Mcf/d @ 15.025 | Angle of Slope $\phi$ | Slope, n | 0.85 |
|--------------------|------|----------------|-----------------------|----------|------|

  

Remarks: No Liquids Produced, Gas Vented 267 MCF

  

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