

## 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>10-21-80                                     |                                                        |                                               |                         |
| Company<br>El Paso Natural Gas Company                                                                                    |                             |                                          |                             | Connection<br>Northwest Pipeline Corp.                    |                                                        |                                               |                         |
| Pool<br>Tapacito                                                                                                          |                             |                                          |                             | Formation<br>Pictured Cliff                               |                                                        |                                               |                         |
| Completion Date<br>9-24-80                                                                                                |                             | Total Depth<br>6683                      |                             | Plug Back TD                                              |                                                        |                                               |                         |
| Elevation<br>7177 GR                                                                                                      |                             | Farm or Lease Name<br>San Juan 27-4 Unit |                             |                                                           |                                                        |                                               |                         |
| Csg. Size<br>7.000                                                                                                        | Wt.<br>23.0                 | d<br>6.366                               | Set At<br>4473              | Perforations:<br>From 4058 To 4132                        |                                                        |                                               |                         |
| Well No.<br>#138 (PC)                                                                                                     |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| Thq. Size<br>1.660                                                                                                        | Wt.<br>2.3                  | d<br>1.380                               | Set At<br>4134              | Perforations:<br>From To                                  |                                                        |                                               |                         |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>G.G. Dual                                                      |                             |                                          |                             | Packer Set At<br>4340                                     |                                                        |                                               |                         |
| Producing Thru<br>Csg.                                                                                                    |                             | Reservoir Temp. °F<br>p                  |                             | Baro. Press. - P <sub>a</sub><br>12                       |                                                        |                                               |                         |
| State<br>New Mexico                                                                                                       |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| L                                                                                                                         | H                           | G <sub>g</sub><br>0.650                  | % CO <sub>2</sub>           | % N <sub>2</sub>                                          | % H <sub>2</sub> S                                     |                                               |                         |
| Prover                                                                                                                    |                             | Meter Run<br>X                           |                             | Taps<br>Flange                                            |                                                        |                                               |                         |
| FLOW DATA                                                                                                                 |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| NO.                                                                                                                       | Prover<br>Line<br>Size      | X                                        | Orifice<br>Size             | Press.<br>p.s.i.g.                                        | Diff.<br>h <sub>w</sub>                                |                                               |                         |
| SI                                                                                                                        |                             |                                          |                             |                                                           | Temp.<br>°F                                            |                                               |                         |
| 1.                                                                                                                        | 4"                          |                                          | 2.750                       | 80                                                        | 5.2                                                    |                                               |                         |
| 2.                                                                                                                        |                             |                                          |                             |                                                           | 52                                                     |                                               |                         |
| 3.                                                                                                                        |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 4.                                                                                                                        |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 5.                                                                                                                        |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| TUBING DATA                                                                                                               |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| Casing Data                                                                                                               |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| Duration<br>of<br>Flow                                                                                                    |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 26 Days                                                                                                                   |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 3 Hours                                                                                                                   |                             |                                          |                             |                                                           |                                                        |                                               |                         |
|                                                                                                                           |                             |                                          |                             |                                                           |                                                        |                                               |                         |
|                                                                                                                           |                             |                                          |                             |                                                           |                                                        |                                               |                         |
|                                                                                                                           |                             |                                          |                             |                                                           |                                                        |                                               |                         |
|                                                                                                                           |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 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                                                                                                                         | 129.96                      | 15.77                                    |                             | 1.0080                                                    | 1.240                                                  | 1.009                                         | 2585                    |
| 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 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                           |                                               |                         |
| P <sub>c</sub> 1067 P <sub>c</sub> <sup>2</sup> 1138489                                                                   |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 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) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0372$             |                                               |                         |
| 1                                                                                                                         |                             | 202                                      | 40804                       | 1097685                                                   |                                                        |                                               |                         |
| 2                                                                                                                         |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 3                                                                                                                         |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 4                                                                                                                         |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| 5                                                                                                                         |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2666$                                                             |                             |                                          |                             |                                                           | (2) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.0315$             |                                               |                         |
| Absolute Open Flow 2666 Mcfd @ 15.025                                                                                     |                             |                                          |                             |                                                           | Angle of Slope $\theta$                                |                                               | Slope, n 0.85           |
| Remarks: No Liquids Produced During The Test. Gas Vented 402 MCF.                                                         |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| Approved By Division                                                                                                      |                             |                                          |                             |                                                           |                                                        |                                               |                         |
| Conducted By:<br>Roger Hardy                                                                                              |                             |                                          |                             | Calculated By:<br>H. E. McAnally                          |                                                        | Checked By:                                   |                         |