

3 - NMOCD

1 - McHugh 1 - Devon  
OIL CONSERVATION DIVISION

1 - File

1 - EPNG

Form C-122  
Revised 10-1-78STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

## 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>10-7-81          |                                                           |
| Company<br>Jerome P. McHugh                                                                                               |                                  | Connection                    |                                                           |
| Pool<br>Basin/Wildhorse                                                                                                   |                                  | Formation<br>Dakota Gallup    |                                                           |
| Completion Date<br>9-14-81                                                                                                |                                  | Total Depth<br>8191'          |                                                           |
| Perforations<br>From 7882 To 8074 DK<br>7418 To 7430 GA                                                                   |                                  | Elevation<br>7013' G.L.       |                                                           |
| Well No.<br>3E                                                                                                            |                                  | Form or Lease Name<br>Apache  |                                                           |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>G.O. Multiple                                                  |                                  | Packer Set At<br>-----        |                                                           |
| Producing Thru<br>tubing                                                                                                  |                                  | Baro. Press. - P <sub>a</sub> |                                                           |
| Reservoir Temp. °F<br>#                                                                                                   |                                  | Mean Annual Temp. °F          |                                                           |
| L                                                                                                                         |                                  | H                             |                                                           |
| G <sub>g</sub>                                                                                                            |                                  | G <sub>g</sub>                |                                                           |
| % CO <sub>2</sub>                                                                                                         |                                  | % N <sub>2</sub>              |                                                           |
| % H <sub>2</sub> S                                                                                                        |                                  | Prover                        |                                                           |
| Meter Run                                                                                                                 |                                  | Taps                          |                                                           |
| COUNTY<br>Rio Arriba                                                                                                      |                                  |                               |                                                           |
| STATE<br>New Mexico                                                                                                       |                                  |                               |                                                           |
| FLOW DATA                                                                                                                 |                                  |                               |                                                           |
| NO.                                                                                                                       | Prover Line Size                 | X                             | Orifice Size                                              |
| 1.                                                                                                                        | 1/2" pos. choke                  |                               |                                                           |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| TUBING DATA                                                                                                               |                                  |                               |                                                           |
| NO.                                                                                                                       | Prover Line Size                 | X                             | Orifice Size                                              |
| 1.                                                                                                                        | 1/2" pos. choke                  |                               |                                                           |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| CASING DATA                                                                                                               |                                  |                               |                                                           |
| NO.                                                                                                                       | Prover Line Size                 | X                             | Orifice Size                                              |
| 1.                                                                                                                        | 1/2" pos. choke                  |                               |                                                           |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| RATE OF FLOW CALCULATIONS                                                                                                 |                                  |                               |                                                           |
| NO.                                                                                                                       | Coefficient (24 Hour)            | $\sqrt{h_w P_m}$              | Pressure P <sub>m</sub>                                   |
| 1.                                                                                                                        | 5.4315                           |                               | 28                                                        |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| Flow Temp. Factor F <sub>t</sub>                                                                                          |                                  |                               |                                                           |
| NO.                                                                                                                       | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor F <sub>pv</sub>                    |
| 1.                                                                                                                        | .999                             | .9608                         | 1.007                                                     |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| Rate of Flow Q, Mc/d                                                                                                      |                                  |                               |                                                           |
| NO.                                                                                                                       | R <sub>f</sub>                   | Temp. °R                      | T <sub>r</sub>                                            |
| 1.                                                                                                                        |                                  |                               |                                                           |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.                                                                               |                                  |                               |                                                           |
| A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.                                                                          |                                  |                               |                                                           |
| Specific Gravity Separator Gas _____                                                                                      |                                  |                               |                                                           |
| Specific Gravity Flowing Fluid _____                                                                                      |                                  |                               |                                                           |
| Critical Pressure _____ P.S.I.A.                                                                                          |                                  |                               |                                                           |
| Critical Temperature _____ R                                                                                              |                                  |                               |                                                           |
| P <sub>c</sub> 913 P <sub>c</sub> <sup>2</sup> 833,569                                                                    |                                  |                               |                                                           |
| NO.                                                                                                                       | P <sub>r</sub> <sup>2</sup>      | P <sub>w</sub> <sup>2</sup>   | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
| 1.                                                                                                                        |                                  | 452                           | 204,304                                                   |
| 2.                                                                                                                        |                                  |                               |                                                           |
| 3.                                                                                                                        |                                  |                               |                                                           |
| 4.                                                                                                                        |                                  |                               |                                                           |
| 5.                                                                                                                        |                                  |                               |                                                           |
| (1) $\frac{P_c^2}{P_r^2 - P_w^2} = 1.33$                                                                                  |                                  |                               |                                                           |
| (2) $\left[ \frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.24$                                                                 |                                  |                               |                                                           |
| AOF = Q $\left[ \frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 181.5$                                                            |                                  |                               |                                                           |
| Absolute Open Flow 182 Mc/d @ 15.025                                                                                      |                                  |                               |                                                           |
| Angle of Slope 37°                                                                                                        |                                  |                               |                                                           |
| Slope, n .75                                                                                                              |                                  |                               |                                                           |
| Remarks: Heavy mist of oil and water increasing throughout test!                                                          |                                  |                               |                                                           |
| Approved By Division                                                                                                      |                                  |                               |                                                           |
| Conducted By                                                                                                              |                                  |                               |                                                           |
| Calculated By                                                                                                             |                                  |                               |                                                           |
| Checked By                                                                                                                |                                  |                               |                                                           |