

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

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C-122

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|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-------------------------|------------------------------------|-------------------------------|-----------------------------------------|----------------------|
| Type Test<br><input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special                                                                                                                                                                                                                                                                                                             |                       |                                    |                         | Test Date<br>10-29-73              |                               | NOV 12 1973                             |                      |
| Company<br>Texas American Oil Corp.                                                                                                                                                                                                                                                                                                                                                                                                   |                       |                                    |                         | Connection<br>El Paso Natural Gas  |                               |                                         |                      |
| Pool<br>Sand Dunes Morrow                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                                    |                         | Formation<br>Morrow                |                               | Unit<br>O.C.G.<br>ARTESIA, OFFICE       |                      |
| Completion Date<br>3-18-71                                                                                                                                                                                                                                                                                                                                                                                                            |                       | Total Depth<br>15,400              |                         | Plug Back TD<br>15,250             |                               | Elevation<br>3499 GL                    |                      |
| Csg. Size<br>5 1/2                                                                                                                                                                                                                                                                                                                                                                                                                    |                       | Wt.<br>23                          |                         | Set At<br>4,670                    |                               | Perforations:<br>From 14,862 To 14,898  |                      |
| Tbg. Size<br>2 7/8                                                                                                                                                                                                                                                                                                                                                                                                                    |                       | Wt.<br>6.4                         |                         | Set At<br>2,441                    |                               | Perforations:<br>From To                |                      |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                                                                                                                                                                                                                                                                                                                                     |                       |                                    |                         | Packer Set At<br>13,233            |                               | County<br>Eddy                          |                      |
| Producing Thru<br>Tubing                                                                                                                                                                                                                                                                                                                                                                                                              |                       | Reservoir Temp. °F<br>208 @ 14,806 |                         | Mean Annual Temp. °F<br>80         |                               | Baro. Press. - P <sub>a</sub><br>13.2   |                      |
| L<br>14,880                                                                                                                                                                                                                                                                                                                                                                                                                           |                       | H<br>14,880                        |                         | G <sub>g</sub><br>.596             |                               | % CO <sub>2</sub><br>.80                |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | % N <sub>2</sub><br>.21            |                               | % H <sub>2</sub> S<br>-                 |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | Prover<br>None                     |                               | Meter Run<br>X                          |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               | Taps<br>Flange                          |                      |
| FLOW DATA                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                                    |                         |                                    |                               |                                         |                      |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Prover Line Size      | X                                  | Orifice Size            | Press. p.s.i.g.                    | Diff. h <sub>w</sub>          | Temp. °F                                | Duration of Flow     |
| SI                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                                    |                         |                                    |                               |                                         | SI 73 hrs            |
| 1.                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.026 x 1.750         |                                    |                         | 679                                | 9.0                           | 71                                      | 60 min.              |
| 2.                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.026 x 1.750         |                                    |                         | 683                                | 13.0                          | 70                                      | 60 min.              |
| 3.                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.026 x 1.750         |                                    |                         | 686                                | 17.6                          | 70                                      | 60 min.              |
| 4.                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.026 x 1.750         |                                    |                         | 686                                | 21.2                          | 68                                      | 60 min.              |
| 5.                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                                    |                         |                                    |                               |                                         |                      |
| TUBING DATA                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                                    |                         |                                    |                               |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | Press. p.s.i.g.                    | Temp. °F                      |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | 4318                               | 75                            |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | 3387                               | 73                            |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | 2957                               | 74                            |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | 2582                               | 74                            |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | 2245                               | 74                            |                                         |                      |
| CASING DATA                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                                    |                         |                                    |                               |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         | Press. p.s.i.g.                    | Temp. °F                      |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
| RATE OF FLOW CALCULATIONS                                                                                                                                                                                                                                                                                                                                                                                                             |                       |                                    |                         |                                    |                               |                                         |                      |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                   | Coefficient (24 Hour) | $\sqrt{h_w P_m}$                   | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>t</sub>   | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14.93                 | 78.93                              | 692.2                   | .9896                              | 1.295                         | 1.055                                   | 1593.2               |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14.93                 | 95.13                              | 696.2                   | .9905                              | 1.295                         | 1.055                                   | 1922.0               |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14.93                 | 110.93                             | 699.2                   | .9905                              | 1.295                         | 1.055                                   | 2241.2               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                     | 14.93                 | 121.75                             | 699.2                   | .9924                              | 1.295                         | 1.055                                   | 2464.6               |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                                    |                         |                                    |                               |                                         |                      |
| Gas Liquid Hydrocarbon Ratio <u>1151.7</u> Mcf/bbl.<br>A.P.I. Gravity of Liquid Hydrocarbons <u>54.4</u> (55 @ 66°) Deg.<br>Specific Gravity Separator Gas <u>.596</u> X X X X X X X X<br>Specific Gravity Flowing Fluid <u>X X X X X</u><br>Critical Pressure _____ P.S.I.A. _____ P.S.I.A.<br>Critical Temperature _____ R _____ R                                                                                                  |                       |                                    |                         |                                    |                               |                                         |                      |
| NO.                                                                                                                                                                                                                                                                                                                                                                                                                                   | P <sub>r</sub>        | Temp. °R                           | T <sub>r</sub>          | Z                                  |                               |                                         |                      |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.03                  | 531                                | 1.52                    | .903                               |                               |                                         |                      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.03                  | 530                                | 1.51                    | .901                               |                               |                                         |                      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.04                  | 530                                | 1.51                    | .900                               |                               |                                         |                      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.04                  | 528                                | 1.51                    | .900                               |                               |                                         |                      |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                                    |                         |                                    |                               |                                         |                      |
| P <sub>c</sub> <u>4331.2</u> P <sub>c</sub> <sup>2</sup> <u>18,759.3</u><br>NO. P <sub>r</sub> <sup>2</sup> P <sub>f</sub> X P <sub>r</sub> P <sub>f</sub> <sup>2</sup> X P <sub>s</sub> <sup>2</sup> X X X X X<br>1 5946.2 35,357 P <sub>f</sub> <sup>2</sup> - P <sub>r</sub> <sup>2</sup><br>2 11,561.4 4769.2 22,745 12,612<br>3 8,822.1 4209.2 17,717 17,640<br>4 6,735.1 3715.2 13,803 21,554<br>5 5,099.5 3254.2 10,590 24,767 |                       |                                    |                         |                                    |                               |                                         |                      |
| (1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{18,759.3}{18,759.3 - 13,803} = 1.34$<br>(2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.34^n = 1.34$<br>AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.34^n = 1.34$                                                                                                                                                                                                         |                       |                                    |                         |                                    |                               |                                         |                      |
| Absolute Open Flow <u>3,190</u> Mcfd @ 15.025                                                                                                                                                                                                                                                                                                                                                                                         |                       |                                    |                         | Angle of Slope <u>54.5</u>         |                               | Slope, m <u>.713</u>                    |                      |
| Remarks: <u>Pressure obtained by Amerada RPG-3, Gauge # 31016 set @ 14,806'</u>                                                                                                                                                                                                                                                                                                                                                       |                       |                                    |                         |                                    |                               |                                         |                      |
| Approved By Commission:                                                                                                                                                                                                                                                                                                                                                                                                               |                       | Conducted By:<br>James Harrington  |                         | Calculated By:<br>James Harrington |                               | Checked By:<br><i>[Signature]</i>       |                      |