

MEXICO OIL CONSERVATION COMM. ON  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

| Type Test<br>4-POINT <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                             |                                  |                             | Test Date<br>2-15-84                                      |                                                                |                              |                      |          |                 |       |                  |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------|-----------------------------|-----------------------------------------------------------|----------------------------------------------------------------|------------------------------|----------------------|----------|-----------------|-------|------------------|
| Company<br>H.L. BROWN                                                                                                             |                             |                                  | Connection<br>TO AIR        |                                                           |                                                                |                              |                      |          |                 |       |                  |
| Pool<br>UNDESIGNATED                                                                                                              |                             |                                  | Formation<br>MORROW         |                                                           |                                                                |                              |                      |          |                 |       |                  |
| Completion Date                                                                                                                   |                             | Total Depth<br>13380             |                             | Plug Back To<br>13293                                     |                                                                |                              |                      |          |                 |       |                  |
| Elevation                                                                                                                         |                             | Farm or Lease Name<br>STATE "32" |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| Case Size<br>7.625                                                                                                                | Wt.<br>26.4                 | d<br>6.969                       | Set At<br>13293             | Perforations:<br>From 12132 To 12170                      |                                                                |                              |                      |          |                 |       |                  |
| Fig. Size<br>2.875                                                                                                                | Wt.<br>10.7                 | d<br>2.091                       | Set At<br>11999             | Perforations:<br>From 0 To 0                              |                                                                |                              |                      |          |                 |       |                  |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>SINGLE                                                                 |                             |                                  |                             | Packer Set At<br>11999                                    |                                                                |                              |                      |          |                 |       |                  |
| Producing thru<br>TUBING                                                                                                          |                             | Reservoir Temp. °F<br>168 12151  |                             | Mean Annual Temp. °F<br>60.0                              |                                                                |                              |                      |          |                 |       |                  |
| L<br>12151                                                                                                                        |                             | H<br>12151                       |                             | Cg<br>0.719                                               |                                                                |                              |                      |          |                 |       |                  |
| % CO <sub>2</sub><br>0.35                                                                                                         |                             | % N <sub>2</sub><br>1.23         |                             | % H <sub>2</sub> S<br>0                                   |                                                                |                              |                      |          |                 |       |                  |
| Prover<br>0                                                                                                                       |                             | Motor Run<br>4.0                 |                             | Taps<br>FLANGE                                            |                                                                |                              |                      |          |                 |       |                  |
| FLOW DATA                                                                                                                         |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| NO.                                                                                                                               | Prover Line Size            | X                                | Orifice Size                | Press. p.s.i.g.                                           | Diff. hw                                                       | Temp. °F                     | TUBING DATA          |          | B.H.P. DATA     |       | Duration of Flow |
|                                                                                                                                   |                             |                                  |                             |                                                           |                                                                |                              | Press. p.s.i.g.      | Temp. °F | Press. p.s.i.g. | CHOKE |                  |
| 51                                                                                                                                |                             |                                  |                             |                                                           |                                                                |                              | 2211.                |          | 3742.           |       | 72.0             |
| 1.                                                                                                                                | 4.03 X 1.000                |                                  |                             | 340.                                                      | 5.0                                                            | 85.                          | 1987.                |          | 3502.           | 3/64  | 1.0              |
| 2.                                                                                                                                | 4.03 X 1.000                |                                  |                             | 350.                                                      | 10.0                                                           | 83.                          | 1856.                |          | 3326.           | 6/64  | 1.0              |
| 3.                                                                                                                                | 4.03 X 1.000                |                                  |                             | 355.                                                      | 18.0                                                           | 81.                          | 1701.                |          | 3075.           | 8/64  | 1.0              |
| 4.                                                                                                                                | 4.03 X 1.000                |                                  |                             | 360.                                                      | 36.0                                                           | 78.                          | 1507.                |          | 2717.           | 10/64 | 1.0              |
| 5.                                                                                                                                |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| RATE OF FLOW CALCULATIONS                                                                                                         |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| NO.                                                                                                                               | Coefficient (24 Hour)       | $\sqrt{h_w P_m}$                 | Pressure P <sub>m</sub>     | Flow Temp. Factor Ft.                                     | Gravity Factor Fg                                              | Super. Compress. Factor, Fpv | Rate of Flow Q, Mcfd |          |                 |       |                  |
| 1                                                                                                                                 | 4.75                        | 42.02                            | 353.2                       | 0.9768                                                    | 1.1793                                                         | 1.0367                       | 239.                 |          |                 |       |                  |
| 2                                                                                                                                 | 4.75                        | 60.27                            | 363.2                       | 0.9786                                                    | 1.1793                                                         | 1.0384                       | 343.                 |          |                 |       |                  |
| 3                                                                                                                                 | 4.75                        | 81.41                            | 368.2                       | 0.9804                                                    | 1.1793                                                         | 1.0395                       | 465.                 |          |                 |       |                  |
| 4                                                                                                                                 | 4.75                        | 115.91                           | 373.2                       | 0.9831                                                    | 1.1793                                                         | 1.0410                       | 665.                 |          |                 |       |                  |
| 5                                                                                                                                 |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| NO.                                                                                                                               | P <sub>f</sub>              | Temp. °R                         | T <sub>f</sub>              | Z                                                         | Gas Liquid Hydrocarbon Ratio 15.6 Mcf/bbl.                     |                              |                      |          |                 |       |                  |
| 1                                                                                                                                 | 0.53                        | 545.                             | 1.39                        | 0.930                                                     | A.P.I. Gravity of Liquid Hydrocarbons 62.0 Deg.                |                              |                      |          |                 |       |                  |
| 2                                                                                                                                 | 0.55                        | 543.                             | 1.39                        | 0.927                                                     | Specific Gravity Separator Gas 0.719 XXXXXXXXX                 |                              |                      |          |                 |       |                  |
| 3                                                                                                                                 | 0.55                        | 541.                             | 1.38                        | 0.925                                                     | Specific Gravity Flowing Fluid XXXXXX 0.872                    |                              |                      |          |                 |       |                  |
| 4                                                                                                                                 | 0.56                        | 538.                             | 1.37                        | 0.923                                                     | Critical Pressure 666. P.S.I.A. 658. P.S.I.A.                  |                              |                      |          |                 |       |                  |
| 5                                                                                                                                 |                             |                                  |                             |                                                           | Critical Temperature 392. °R 440. °R                           |                              |                      |          |                 |       |                  |
| P <sub>c</sub> 2257.3 P <sub>c</sub> <sup>2</sup> 5095.                                                                           |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| NO.                                                                                                                               | P <sub>f</sub> <sup>2</sup> | P <sub>w</sub>                   | P <sub>w</sub> <sup>2</sup> | P <sub>f</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | (1) $\frac{P_c^2}{P_f^2 - P_w^2} = 1.9076$                     |                              |                      |          |                 |       |                  |
| 1                                                                                                                                 | 12357.                      | 2078.                            | 4318.                       | 778.                                                      | (2) $\left[ \frac{P_c^2}{P_f^2 - P_w^2} \right]^n = 1.7129$    |                              |                      |          |                 |       |                  |
| 2                                                                                                                                 | 11150.                      | 1953.                            | 3815.                       | 1280.                                                     |                                                                |                              |                      |          |                 |       |                  |
| 3                                                                                                                                 | 9537.                       | 1782.                            | 3177.                       | 1919.                                                     |                                                                |                              |                      |          |                 |       |                  |
| 4                                                                                                                                 | 7454.                       | 1557.                            | 2424.                       | 2671.                                                     | AOI = Q $\left[ \frac{P_c^2}{P_f^2 - P_w^2} \right]^n = 1139.$ |                              |                      |          |                 |       |                  |
| 5                                                                                                                                 |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| Absolute Open Flow 1139. Mcfd @ 15.025                                                                                            |                             |                                  |                             |                                                           | Angle of Slope 50.2                                            |                              | Slope, n 0.833       |          |                 |       |                  |
| Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS.                                                           |                             |                                  |                             |                                                           |                                                                |                              |                      |          |                 |       |                  |
| Approved By Commission                                                                                                            |                             | Conducted By:<br>RICHARD TOWNLEY |                             | Calculated By:<br>BENNETT & CATHEY                        |                                                                | Checked By:                  |                      |          |                 |       |                  |

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