

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

Form C-122  
 Revised 9-1-65

|                                                                                                                           |                                   |                              |                                             |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------|---------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                                   | Test Date<br>6-15-85         |                                             |
| Company<br>POGO                                                                                                           |                                   | Connection<br>AIR NEW WELL   |                                             |
| Pool<br>GAMA RIDGE                                                                                                        |                                   | Formation<br>MORROW          |                                             |
| Completion Date<br>6-10-85                                                                                                | Total Depth<br>13183              | Plug Hard<br>12595           | Elevation<br>3650                           |
| Form or Lease Name<br>STATE L COM                                                                                         |                                   |                              |                                             |
| Well No.<br>2                                                                                                             |                                   |                              |                                             |
| Well Size<br>5.500                                                                                                        | Wt.<br>17.0                       | d<br>4.892                   | Set At<br>13183                             |
| Perforations:<br>From 12505 To 12514                                                                                      |                                   |                              |                                             |
| Well Size<br>2.375                                                                                                        | Wt.<br>4.7                        | d<br>1.995                   | Set At<br>12440                             |
| Perforations:<br>From 0 To 0                                                                                              |                                   |                              |                                             |
| Type Well - Single - Freehead - G.O. or G.O. Multiple<br>SINGLE                                                           |                                   | Perfor Set At<br>12440       | County<br>LEA                               |
| Producing thru<br>TUBING                                                                                                  | Reservoir Temp. °F<br>197 @ 12510 | Mean Annual Temp. °F<br>60.0 | Baro. Press. - P <sub>a</sub><br>NEW MEXICO |
| L<br>12510                                                                                                                | M<br>12510                        | Q <sub>g</sub><br>0.695      | % CO <sub>2</sub><br>11.56                  |
|                                                                                                                           |                                   | % N <sub>2</sub><br>0.29     | % H <sub>2</sub> S<br>0                     |
|                                                                                                                           |                                   | Prover<br>0                  | Meter Run<br>4.0                            |
|                                                                                                                           |                                   |                              | Type<br>FLANGE                              |

  

| FLOW DATA |                  |       |              |                 |                            | TUBING DATA |                 | B.H.P. DATA |                 | Duration of Flow |
|-----------|------------------|-------|--------------|-----------------|----------------------------|-------------|-----------------|-------------|-----------------|------------------|
| NO.       | Prover Line Size | X     | Orifice Size | Press. p.s.i.g. | Diff. In. H <sub>2</sub> O | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  |
| SI        |                  |       |              |                 |                            |             | 4985.2          | 197         | 7712.2          |                  |
| 1         | 4.03 X           | 0.750 |              | 400             | 6.0                        | 90          | 3720.2          | 197         | 6793.2          | 1.5/64           |
| 2         | 4.03 X           | 0.750 |              | 400             | 9.0                        | 90          | 3325.2          | 197         | 6408.2          | 2/64             |
| 3         | 4.03 X           | 0.750 |              | 400             | 16.0                       | 90          | 2935.2          | 197         | 5953.2          | 2.5/64           |
| 4         | 4.03 X           | 1.250 |              | 170             | 16.0                       | 90          | 1840.2          | 197         | 5598.2          | 14/64            |
| 5         |                  |       |              |                 |                            |             |                 |             |                 |                  |

  

| RATE OF FLOW CALCULATIONS |                       |                |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|----------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h/P_a}$ | Pressure P <sub>a</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>sp</sub> | Rate of Flow O. Mcfd |
| 1                         | 2.66                  | 49.79          | 413.2                   | 0.9723                | 1.1995                        | 1.0308                                  | 159                  |
| 2                         | 2.66                  | 60.98          | 413.2                   | 0.9723                | 1.1995                        | 1.0308                                  | 195                  |
| 3                         | 2.66                  | 81.31          | 413.2                   | 0.9723                | 1.1995                        | 1.0308                                  | 260                  |
| 4                         | 7.47                  | 54.14          | 183.2                   | 0.9723                | 1.1995                        | 1.0135                                  | 478                  |
| 5                         |                       |                |                         |                       |                               |                                         |                      |

  

| NO. | P <sub>a</sub> | Temp. °F | Q    | Z     | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|------|-------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1   | 0.58           | 550      | 1.50 | 0.941 | 0                            | 0                                     | 0.695                          | XXXXXXX                        | 718               | 368                  |
| 2   | 0.58           | 550      | 1.50 | 0.941 |                              |                                       |                                |                                |                   |                      |
| 3   | 0.58           | 550      | 1.50 | 0.941 |                              |                                       |                                |                                |                   |                      |
| 4   | 0.26           | 550      | 1.50 | 0.974 |                              |                                       |                                |                                |                   |                      |
| 5   |                |          |      |       |                              |                                       |                                |                                |                   |                      |

  

| NO. | P <sub>1</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | R <sub>u</sub> <sup>2</sup> | P <sub>1</sub> <sup>2</sup> - R <sub>u</sub> <sup>2</sup> |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|
| 1   |                             | 5181                        | 26841                       | 9093                                                      |
| 2   |                             | 4845                        | 23478                       | 12457                                                     |
| 3   |                             | 4454                        | 19840                       | 16095                                                     |
| 4   |                             | 4154                        | 17255                       | 18680                                                     |
| 5   |                             |                             |                             |                                                           |

  

(1)  $\frac{P_c^2}{R_u^2 - R_w^2} = 1.9237$

(2)  $\left[ \frac{R_u^2}{R_u^2 - R_w^2} \right]^n = 1.9237$

AOF = 0  $\left[ \frac{R_u^2}{R_u^2 - R_w^2} \right]^n = 920$

1. 5994.6 P<sub>c</sub><sup>2</sup> 35935

  

|                    |     |                |                |      |          |       |
|--------------------|-----|----------------|----------------|------|----------|-------|
| Absolute Open Flow | 920 | Mcf/d @ 15.025 | Angle of Slope | 45.0 | Slope, n | 1.000 |
|--------------------|-----|----------------|----------------|------|----------|-------|

  

Remarks: BHP MEASURED WITH AMARADA PRESSURE ELEMENTS

  

|                         |                  |                 |             |
|-------------------------|------------------|-----------------|-------------|
| Approved By Commission: | Conducted By:    | Calculated By:  | Checked By: |
|                         | BENNETT & CATHEY | RICHARD TOWNLEY |             |