

## OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |               |                           |                          |                                     |                           |                         |                    |                                                |                |
|---------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|--------------------------|-------------------------------------|---------------------------|-------------------------|--------------------|------------------------------------------------|----------------|
| Operator<br>EOG Resources                                                                                                 |               |                           |                          |                                     | Lease or Unit Name<br>ROC |                         |                    |                                                |                |
| Test Type<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |               |                           |                          |                                     | Test Date<br>08-07-00     |                         | Well No.<br>#2     |                                                |                |
| Completion Date<br>06/24/00                                                                                               |               | Total Depth<br>12315      |                          | Plug Back TD<br>12,660              |                           | Elevation<br>3500       |                    | Unit - Sec - TWP - Rge.<br>Sec. 26, T16S, R35E |                |
| Csg. Size<br>5.500                                                                                                        | Wt.<br>17.000 | d<br>4.892                | Set At<br>12853          | Perforation:<br>From 12356 To 12374 |                           |                         | County<br>Lea      |                                                |                |
| Tbg. Size<br>2.875                                                                                                        | Wt.<br>6.500  | d<br>2.440                | Set At<br>12315          | Perforation:<br>From 12356 To 12374 |                           |                         | Pool               |                                                |                |
| Type Well-Single-Bradenhead-G.G. or G.O. Multiple<br>Single                                                               |               |                           |                          |                                     | Packer Set At<br>12,315   |                         | Formation<br>Atoka |                                                |                |
| Producing Thru<br>Tubing                                                                                                  |               | Reservoir Temp.F<br>177.4 |                          | Mean Annual Temp.F<br>60            |                           | Baro. Pressure<br>13.20 |                    | Connection<br>Sales                            |                |
| L<br>12315                                                                                                                | H<br>12315    | Gg<br>.631                | % CO <sub>2</sub><br>.51 | % N <sub>2</sub><br>1.09            | % H <sub>2</sub> S        | Prover                  |                    | Meter Run<br>4.026                             | Taps<br>Flange |

| Flow Data        |                                        |                |                         |            | Tubing Data    |            | Casing Data    |            | SIP/Flow<br>Duration<br>( HRS. ) |
|------------------|----------------------------------------|----------------|-------------------------|------------|----------------|------------|----------------|------------|----------------------------------|
| No.              | ( Prover )<br>Line Size x Orifice Size | Press.<br>PSIG | Diff.<br>h <sub>w</sub> | Temp.<br>F | Press.<br>PSIG | Temp.<br>F | Press.<br>PSIG | Temp.<br>F |                                  |
| Shut-in Pressure |                                        |                |                         |            | 1286           |            |                |            | 24                               |
| 1.               | 4.03 x 2.00                            | 372.70         | 1.90                    | 75         | 1172           | 75         |                | 75         | 1                                |
| 2.               | 4.03 x 2.00                            | 381.00         | 6.30                    | 66         | 1140           | 66         |                | 66         | 1                                |
| 3.               | 4.03 x 2.00                            | 404.30         | 14.90                   | 59         | 1074           | 59         |                | 59         | 1                                |
| 4.               | 4.03 x 2.00                            | 405.10         | 28.60                   | 58         | 992            | 58         |                | 58         | 1                                |

## RATE OF FLOW CALCULATIONS

| No. | Coefficient<br>( 24 Hour ) | $\sqrt{h_w P_m}$ | Pressure<br>P <sub>m</sub> | Flow Temp.<br>FACTOR F <sub>t</sub> | Gravity<br>FACTOR F <sub>g</sub> | Super Compress.<br>FACTOR F <sub>pv</sub> | Rate of Flow<br>( Q ) MCFD |
|-----|----------------------------|------------------|----------------------------|-------------------------------------|----------------------------------|-------------------------------------------|----------------------------|
| 1.  | 19.810                     | 27.078           | 385.9                      | .9859                               | 1.2589                           | 1.0313                                    | 686.6                      |
| 2.  | 19.810                     | 49.834           | 394.2                      | .9943                               | 1.2589                           | 1.0340                                    | 1277.7                     |
| 3.  | 19.810                     | 78.872           | 417.5                      | 1.0010                              | 1.2589                           | 1.0379                                    | 2043.5                     |
| 4.  | 19.810                     | 109.377          | 418.3                      | 1.0019                              | 1.2589                           | 1.0382                                    | 2837.5                     |

| No. | P <sub>r</sub> | TEMP. | T <sub>r</sub> | Z     |
|-----|----------------|-------|----------------|-------|
| 1.  | .575           | 535   | 1.475          | .9403 |
| 2.  | .588           | 526   | 1.450          | .9353 |
| 3.  | .622           | 519   | 1.430          | .9283 |
| 4.  | .624           | 518   | 1.428          | .9277 |

|                                    |          |          |
|------------------------------------|----------|----------|
| Gas-Liquid Hydrocarbon Ratio       | 5.0      | Mcf/bbl  |
| API Gravity of Liquid Hydrocarbons | 51.0     | Deg.     |
| Specific Gravity Separator Gas     | .631     |          |
| Specific Gravity Flowing Fluid     | 1.175    |          |
| Critical Pressure                  | 670 PSIA | 644 PSIA |
| Critical Temperature               | 362 R    | 536 R    |

$$P_C = 1299.2 \quad P_C^2 = 1687.9$$

| No. | 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.  | 1187.9         | 1411                        | 276.874                                                   |
| 2.  | 1161.7         | 1349                        | 338.473                                                   |
| 3.  | 1107.8         | 1227                        | 460.727                                                   |
| 4.  | 1044.3         | 1090                        | 597.262                                                   |

$$(1) \quad \frac{P_C^2}{P_C^2 - P_W^2} = \frac{2.826}{\quad} \quad (2) \quad \left[ \frac{P_C^2}{P_C^2 - P_W^2} \right]^n = \frac{2.826}{\quad}$$

$$AOF = Q \left[ \frac{P_C^2}{P_C^2 - P_W^2} \right]^n = \frac{8019}{\quad}$$

|                    |      |                |                  |      |          |       |
|--------------------|------|----------------|------------------|------|----------|-------|
| Absolute Open Flow | 8019 | Mcf/d @ 15.025 | Angle of Slope - | 45.0 | Slope, n | 1.000 |
|--------------------|------|----------------|------------------|------|----------|-------|

Remarks Test was performed through company production equipment.

5.9 BBLS of oil were produced during test.

|                       |                            |                                  |                             |
|-----------------------|----------------------------|----------------------------------|-----------------------------|
| Approved By Division: | Conducted By:<br>Ray Ables | Calculated By:<br>BPT System/PPS | Checked By:<br>Bobby Fowler |
|-----------------------|----------------------------|----------------------------------|-----------------------------|