

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

SF  
File ✓  
122  
Form C-122  
Revised 9-1-65

RECEIVED

|                                                                                                                           |  |                                     |  |                            |  |                                               |  |
|---------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|----------------------------|--|-----------------------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |  |                                     |  | Test Date<br>10-22-79      |  | OCT 31 1979                                   |  |
| Company<br>PENROC OIL CORPORATION                                                                                         |  |                                     |  | Connection<br>PHILLIPS     |  |                                               |  |
| Pool<br>WINCHESTER <i>Morrow Gas</i>                                                                                      |  |                                     |  | Formation<br>MORROW        |  | Unit<br>O.C.C.<br>ARTESIA, OFFICE             |  |
| Completion Date<br>10-14-79                                                                                               |  | Total Depth<br>11,252'              |  | Plug Back TD<br>11,204'    |  | Elevation<br>3295                             |  |
| Cag. Size<br>4 1/2"                                                                                                       |  | Wt.<br>13.5#                        |  | Set At<br>3.920" 11,252'   |  | Perforations:<br>From 11,167' To 11,179'      |  |
| Thq. Size<br>2 3/8"                                                                                                       |  | Wt.<br>4.7#                         |  | Set At<br>1.995" 11,108'   |  | Perforations:<br>From OPEN <sup>o</sup> ENDED |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>SINGLE                                                         |  |                                     |  | Packer Set At<br>11,108'   |  | County<br>EDDY                                |  |
| Producing Thru<br>TUBING                                                                                                  |  | Reservoir Temp. °F<br>185 @ 11,173' |  | Mean Annual Temp. °F<br>60 |  | Baro. Press. - P <sub>a</sub><br>13.2         |  |
| L<br>11173                                                                                                                |  | H<br>11173                          |  | Gg<br>.607                 |  | % CO <sub>2</sub><br>.914                     |  |
|                                                                                                                           |  |                                     |  | % N <sub>2</sub><br>.417   |  | % H <sub>2</sub> S<br>-0-                     |  |
|                                                                                                                           |  |                                     |  | Prover                     |  | Meter Run<br>4"                               |  |
|                                                                                                                           |  |                                     |  |                            |  | Taps<br>FLANGE                                |  |

  

| FLOW DATA |                        |   |                 |                    |                         |             | TUBING DATA        |             | CASING DATA        |             | Duration<br>of<br>Flow |
|-----------|------------------------|---|-----------------|--------------------|-------------------------|-------------|--------------------|-------------|--------------------|-------------|------------------------|
| NO.       | Prover<br>Line<br>Size | X | Orifice<br>Size | Press.<br>p.s.i.g. | Diff.<br>h <sub>w</sub> | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F |                        |
| SI        |                        |   |                 |                    |                         |             | 3271               |             | PKR.               |             | 72 HRS                 |
| 1.        | 4"                     | x | 1.500"          | 448                | 1.00                    | 72          | 3202               | 68          |                    |             | 1 HR                   |
| 2.        | 4"                     | x | 1.500"          | 448                | 4.41                    | 67          | 3105               | 70          |                    |             | 1 HR                   |
| 3.        | 4"                     | x | 1.500"          | 455                | 13.69                   | 66          | 2868               | 69          |                    |             | 1 HR                   |
| 4.        | 4"                     | x | 1.500"          | 472                | 60.84                   | 65          | 2350               | 70          |                    |             | 1 HR                   |
| 5.        |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |

  

| RATE OF FLOW CALCULATIONS |                          |                  |                            |                                        |                                     |                                               |                         |
|---------------------------|--------------------------|------------------|----------------------------|----------------------------------------|-------------------------------------|-----------------------------------------------|-------------------------|
| NO.                       | Coefficient<br>(24 Hour) | $\sqrt{h_w P_m}$ | Pressure<br>P <sub>m</sub> | Flow Temp.<br>Factor<br>F <sub>t</sub> | Gravity<br>Factor<br>F <sub>g</sub> | Super<br>Compress.<br>Factor, F <sub>pv</sub> | Rate of Flow<br>Q, Mcfd |
| 1                         | 10.84                    | 21.48            | 461.2                      | .9887                                  | 1.284                               | 1.039                                         | 307                     |
| 2                         | 10.84                    | 45.10            | 461.2                      | .9933                                  | 1.284                               | 1.040                                         | 648                     |
| 3                         | 10.84                    | 80.06            | 468.2                      | .9943                                  | 1.284                               | 1.042                                         | 1155                    |
| 4                         | 10.84                    | 171.81           | 485.2                      | .9952                                  | 1.284                               | 1.043                                         | 2482                    |
| 5                         |                          |                  |                            |                                        |                                     |                                               |                         |

  

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio | Mcf/bbl. |
|-----|----------------|----------|----------------|------|------------------------------|----------|
| 1   | .69            | 532      | 1.47           | .926 | 23.108                       |          |
| 2   | .69            | 527      | 1.46           | .924 | 56 @ 60                      |          |
| 3   | .70            | 526      | 1.45           | .921 |                              |          |
| 4   | .72            | 525      | 1.45           | .919 |                              |          |
| 5   |                |          |                |      |                              |          |

  

| NO. | P <sub>r</sub> | 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) $\frac{P_c^2}{P_c^2 - P_w^2} =$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$ |
|-----|----------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------|------------------------------------------------------|
| 1   | 4194.2         | 3275.7         | 10730.2                     | 281.6                                                     | 2.225                               | 1.863                                                |
| 2   | 4082.2         | 3181.0         | 10118.8                     | 893.0                                                     |                                     |                                                      |
| 3   | 3822.2         | 2965.3         | 8793.0                      | 2218.8                                                    |                                     |                                                      |
| 4   | 3199.2         | 2462.1         | 6061.9                      | 4949.9                                                    |                                     |                                                      |
| 5   | 4245.2         | SIP            |                             |                                                           |                                     |                                                      |

  

|                                               |  |  |  |                                    |  |                      |  |
|-----------------------------------------------|--|--|--|------------------------------------|--|----------------------|--|
| Absolute Open Flow <u>4,624</u> Mcfd @ 15.025 |  |  |  | Angle of Slope $\theta$ <u>52°</u> |  | Slope, n <u>.778</u> |  |
|-----------------------------------------------|--|--|--|------------------------------------|--|----------------------|--|

  

Remarks: BOTTOM HOLE PRESSURES WERE MEASURED WITH AMERADA BOMB @ 11,173 FEET  
WELL MADE 8.28 BBLs OF CONDENSATE DURING THE TEST

  

|                         |                       |                        |                     |
|-------------------------|-----------------------|------------------------|---------------------|
| Approved By Commission: | Conducted By:<br>W.S. | Calculated By:<br>R.P. | Checked By:<br>J.W. |
|-------------------------|-----------------------|------------------------|---------------------|