

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL OCT 1 '90

|                                                                                                                           |  |                                |  |                            |  |                                       |  |                                     |  |
|---------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|--|----------------------------|--|---------------------------------------|--|-------------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |  |                                |  |                            |  | Test Date<br>07-09-90                 |  | O. C. D.<br>ARTESIA, OFFICE         |  |
| Company<br>Mewbourne Oil Company                                                                                          |  |                                |  |                            |  | Connection<br>AIR                     |  |                                     |  |
| Pool<br><i>Wildcat</i><br>Logan Draw Atoka                                                                                |  |                                |  |                            |  | Formation<br>Atoka                    |  |                                     |  |
| Completion Date<br>05-22-90                                                                                               |  | Total Depth<br>9120'           |  | Plug Back TD<br>8732       |  | Elevation<br>3367 GL                  |  | Unit<br>M                           |  |
| Csg. Size<br>4 1/2                                                                                                        |  | Wt.<br>11.6#                   |  | Set At<br>9120             |  | Perforations<br>From 8626 To 8638     |  | Well No.<br>1                       |  |
| Tbg. Size<br>2 3/8                                                                                                        |  | Wt.<br>4.7                     |  | Set At<br>1.995 8505       |  | Perforations<br>From OPEN To END      |  | Unit Sec. Twp. Rge.<br>M 17 17S 27E |  |
| Type Well - Single - Drivenhead - G.C. or G.O. Multiple<br>Single                                                         |  |                                |  |                            |  | Packer Set At<br>8505                 |  | County<br>Eddy                      |  |
| Producing Thru<br>Tbg.                                                                                                    |  | Reservoir Temp. °F<br>160 8632 |  | Mean Annual Temp. °F<br>60 |  | Buro. Press. - P <sub>g</sub><br>13.2 |  | State<br>New Mexico                 |  |
| L<br>* 8632                                                                                                               |  | H<br>*8632                     |  | Cg<br>.710                 |  | % CO <sub>2</sub><br>5.09             |  | % N <sub>2</sub><br>.84             |  |
|                                                                                                                           |  |                                |  |                            |  | % H <sub>2</sub> S<br>---             |  | Prover<br>Meter Run<br>2.067        |  |
|                                                                                                                           |  |                                |  |                            |  |                                       |  | Taps<br>Flg.                        |  |

  

| 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        |                        |   |                 |                    |                         |             | 1785               |             | PKR                |                        | 72 hrs.     |
| 1.        | 2                      | X | 1.250           | 285                | 9.00                    | 99          | 1641               |             | PKR                |                        | 1 hr.       |
| 2.        | 2                      | X | 1.250           | 290                | 16.00                   | 89          | 1580               |             | PKR                |                        | 1 hr.       |
| 3.        | 2                      | X | 1.250           | 300                | 27.50                   | 82          | 1492               |             | PKR                |                        | 1 hr.       |
| 4.        | 2                      | X | 1.250           | 300                | 49.00                   | 79          | 1300               |             | PKR                |                        | 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>sp</sub> | Rate of Flow<br>Q, Mcfd |
| 1                         | 8.120                    | 51.81            | 298.2                      | .9645                                  | 1.187                               | 1.023                                         | 493                     |
| 2.                        | 8.120                    | 69.65            | 303.2                      | .9732                                  | 1.187                               | 1.023                                         | 668                     |
| 3.                        | 8.120                    | 92.81            | 313.2                      | .9795                                  | 1.187                               | 1.024                                         | 897                     |
| 4.                        | 8.120                    | 123.88           | 313.2                      | .9822                                  | 1.187                               | 1.024                                         | 1201                    |
| 5.                        |                          |                  |                            |                                        |                                     |                                               |                         |

  

| NO. | R <sub>f</sub> | Temp. °R | T <sub>f</sub> | 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.  | .43            | 559      | 1.59           | .956 | 67.9                         | 55.9 @ 60°                            | .710                           | X X X X X X X X                | **689             | **350                |
| 2.  | .44            | 549      | 1.56           | .955 |                              |                                       |                                | X X X X X                      |                   |                      |
| 3.  | .45            | 542      | 1.54           | .954 |                              |                                       |                                |                                |                   |                      |
| 4.  | .45            | 539      | 1.54           | .954 |                              |                                       |                                |                                |                   |                      |
| 5.  |                |          |                |      |                              |                                       |                                |                                |                   |                      |

  

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| NO. | P <sub>1</sub> <sup>2</sup> | P <sub>w</sub> | P <sub>2</sub> <sup>2</sup> | P <sub>2</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup> |
|-----|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|
| 1   | 1752.1                      | 3069.9         | 330.8                       |                                                           |
| 2   | 1678.1                      | 2816.1         | 584.6                       |                                                           |
| 3   | 1570.6                      | 2466.8         | 933.9                       |                                                           |
| 4   | 1422.8                      | 2024.4         | 1376.3                      |                                                           |
| 5   |                             |                |                             |                                                           |

(1)  $\frac{P_c^2}{P_2^2 - R_w^2} = 2.471$

(2)  $\left[ \frac{P_2^2}{P_2^2 - R_w^2} \right]^n = 1.872$

LOF = 0  $\left[ \frac{P_2^2}{P_2^2 - R_w^2} \right]^n = 2.248$

*Post ID-2  
2-8-91  
comp & RK*

  

|                    |       |               |                  |      |          |      |
|--------------------|-------|---------------|------------------|------|----------|------|
| Absolute Open Flow | 2,248 | Mcfd @ 15.025 | Angle of Slope @ | 55.3 | Slope, n | .693 |
|--------------------|-------|---------------|------------------|------|----------|------|

  

Remarks: \*\*=BHP Instr. set @ this depth    \*\*\*=Pc cal. from known BHP's  
 \*\*\*=PR corrected to 5.09 % N<sub>2</sub>

Well made 2.00 BBLs 55.9 API CONDENSATE

|                      |                                   |                      |                   |
|----------------------|-----------------------------------|----------------------|-------------------|
| Approved By Division | Conducted By:<br>Pro Well Testers | Calculated By:<br>BM | Checked By:<br>BM |
|----------------------|-----------------------------------|----------------------|-------------------|