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State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-122  
Revised 4-1-91

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><b>CONOCO, INC.</b>                                                                                           |                    |                                           |                                   |                                                    | Lease or Unit Name<br><b>SANDERSON A</b> |                                             |                           |                                                |  |
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                           |                                   |                                                    | Test Date<br><b>8-31-94</b>              |                                             | Well No.<br><b>18</b>     |                                                |  |
| Completion Date<br><b>8-25-94</b>                                                                                         |                    | Total Depth<br><b>3650</b>                |                                   | Plug Back TD<br><b>3607</b>                        |                                          | Elevation                                   |                           | Unit, Tr. Sec. - TWP - Rge.<br><b>11-20-36</b> |  |
| Csg. Size<br><b>5 1/2</b>                                                                                                 | Wt.<br><b>15.5</b> | d                                         | Set At<br><b>3562</b>             | Perforations:<br>From: <b>3247</b> To: <b>3562</b> |                                          |                                             | County<br><b>LEA</b>      |                                                |  |
| Tbg. Size<br><b>2 3/8</b>                                                                                                 | Wt.<br><b>4.7</b>  | d<br><b>1.995</b>                         | Set At<br><b>3418</b>             | Perforations:<br>From: To:                         |                                          |                                             | Pool<br><b>EUMONT</b>     |                                                |  |
| Type Well - Single - Bradenhead - G.G. or F.O. Multiple<br><b>SINGLE</b>                                                  |                    |                                           |                                   | Packer Set At<br><b>NONE</b>                       |                                          |                                             | Formation<br><b>QUEEN</b> |                                                |  |
| Producing Thru<br><b>tbg.</b>                                                                                             |                    | Reservoir Temp. °F<br><b>108.2 @ 34.8</b> |                                   | Mean Annual Temp. °F<br><b>60</b>                  |                                          | Baro. Press - P <sub>a</sub><br><b>13.2</b> |                           | Connection<br><b>VENTED</b>                    |  |
| L<br><b>3418</b>                                                                                                          | II<br><b>3418</b>  | Gg<br><b>.929</b>                         | % CO <sub>2</sub><br><b>26.21</b> | % N <sub>2</sub><br><b>1.11</b>                    | % H <sub>2</sub> S                       | Prover                                      | Meier Run<br><b>2.067</b> | Taps<br><b>FLG.</b>                            |  |

  

| FLOW DATA |                  |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |                |
|-----------|------------------|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|----------------|
| NO.       | Prover Line Size | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  | Temp. °F       |
| SI        |                  |              |                 |                      |             | <b>142</b>      |             | <b>X</b>        |                  | <b>12 hrs.</b> |
| 1.        | <b>2 X 1.500</b> |              | <b>50</b>       | <b>8.00</b>          | <b>72</b>   | <b>133</b>      |             | <b>X</b>        |                  | <b>1 hr.</b>   |
| 2.        | <b>2 X 1.500</b> |              | <b>50</b>       | <b>10.00</b>         | <b>71</b>   | <b>127</b>      |             | <b>X</b>        |                  | <b>1 hr.</b>   |
| 3.        | <b>2 X 1.500</b> |              | <b>50</b>       | <b>15.00</b>         | <b>70</b>   | <b>120</b>      |             | <b>X</b>        |                  | <b>1 hr.</b>   |
| 4.        | <b>2 X 1.500</b> |              | <b>50</b>       | <b>19.00</b>         | <b>70</b>   | <b>113</b>      |             | <b>X</b>        |                  | <b>1 hr.</b>   |
| 5.        |                  |              |                 |                      |             |                 |             |                 |                  |                |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                                  |                               |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|----------------------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | COEFFICIENT (24 HOUR) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1.                        | <b>12.76</b>          | <b>22.49</b>     | <b>63.2</b>             | <b>.9887</b>                     | <b>1.038</b>                  | <b>1.001</b>                            | <b>295</b>           |
| 2.                        | <b>12.76</b>          | <b>25.14</b>     | <b>63.2</b>             | <b>.9896</b>                     | <b>1.038</b>                  | <b>1.001</b>                            | <b>330</b>           |
| 3.                        | <b>12.76</b>          | <b>30.79</b>     | <b>63.2</b>             | <b>.9905</b>                     | <b>1.038</b>                  | <b>1.001</b>                            | <b>404</b>           |
| 4.                        | <b>12.76</b>          | <b>34.65</b>     | <b>63.2</b>             | <b>.9905</b>                     | <b>1.038</b>                  | <b>1.001</b>                            | <b>455</b>           |
| 5.                        |                       |                  |                         |                                  |                               |                                         |                      |

  

| NO. | P <sub>r</sub> | Temp. °R     | T <sub>r</sub> | Z           | Gas Liquid Hydrocarbon Ratio           | DRY GAS       | Mcf/bbl           |
|-----|----------------|--------------|----------------|-------------|----------------------------------------|---------------|-------------------|
| 1.  | <b>.08</b>     | <b>532.5</b> | <b>1.27</b>    | <b>.999</b> | A.P. I. Gravity of Liquid Hydrocarbons | <b>DRY</b>    | Deg.              |
| 2.  | <b>.08</b>     | <b>531</b>   | <b>1.27</b>    | <b>.999</b> | Specific Gravity Separator Gas         | <b>.929</b>   | <b>XXXXXXXXXX</b> |
| 3.  | <b>.08</b>     | <b>530</b>   | <b>1.27</b>    | <b>.999</b> | Specific Gravity Flowing Fluid         | <b>XXXXXX</b> |                   |
| 4.  | <b>.08</b>     | <b>530</b>   | <b>1.27</b>    | <b>.999</b> | Critical Pressure                      | <b>*774</b>   | P.S.I.A. P.S.I.A. |
| 5.  |                |              |                |             | Critical Temperature                   | <b>*417</b>   | R R               |

  

| NO. | P <sub>t</sub> <sup>2</sup> | 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.  |                             | <b>151.6</b>   | <b>23.0</b>                 | <b>1.1</b>                                                |
| 2.  |                             | <b>147.2</b>   | <b>21.7</b>                 | <b>2.4</b>                                                |
| 3.  |                             | <b>144.1</b>   | <b>20.8</b>                 | <b>3.3</b>                                                |
| 4.  |                             | <b>140.6</b>   | <b>19.8</b>                 | <b>4.3</b>                                                |
| 5.  |                             |                |                             |                                                           |

  

1)  $\frac{P_c^2}{P_c^2 - P_w^2} = \underline{21.739}$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{1.371}$

(2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{4.648}$

  

|                                               |                                     |                      |
|-----------------------------------------------|-------------------------------------|----------------------|
| Absolute Open Flow <b>1,371</b> Mcfd @ 15.025 | Angle of Slope $\theta$ <b>63.5</b> | Slope, n <b>.499</b> |
|-----------------------------------------------|-------------------------------------|----------------------|

  

Remarks: **NO FLUID PRODUCED DURING TEST**

**\* CORRECTED TO 26.11% CO<sub>2</sub> & % N<sub>2</sub>**

  

|                                                |                                         |                             |                          |
|------------------------------------------------|-----------------------------------------|-----------------------------|--------------------------|
| Approved By Division<br><b>PRO WELL TESTER</b> | Conducted By:<br><b>PRO WELL TESTER</b> | Calculated By:<br><b>BM</b> | Checked By:<br><b>BM</b> |
|------------------------------------------------|-----------------------------------------|-----------------------------|--------------------------|

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