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## 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>Meridian Oil Inc.</b>                                                                                      |                    |                                         |                                  |                                                    |                    | Lease or Unit Name<br><b>Moberly</b>        |                           |                                                    |  |  |  |
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                         |                                  |                                                    |                    | Test Date<br><b>8-15-95</b>                 |                           | Well No.<br><b>6</b>                               |  |  |  |
| Completion Date<br><b>8-15-95</b>                                                                                         |                    | Total Depth<br><b>3068</b>              |                                  | Plug Back TD<br><b>3060</b>                        |                    | Elevation                                   |                           | Unit Ltr. - Sec. - TWP - Rge.<br><b>K 21-26-37</b> |  |  |  |
| Csg. Size<br><b>7"</b>                                                                                                    | Wt.                | d                                       | Set At                           | Perforations:<br>From: <b>2925</b> To: <b>3042</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>2900</b>            | Perforations:<br>From: To:                         |                    |                                             |                           | Pool<br><b>Jalmat</b>                              |  |  |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br><b>Single</b>                                                  |                    |                                         |                                  |                                                    |                    | Packer Set At<br><b>None</b>                |                           | Formation<br><b>Upper Yates</b>                    |  |  |  |
| Producing Thru<br><b>TBG</b>                                                                                              |                    | Reservoir Temp. °F<br><b>91° @ 2900</b> |                                  | Mean Annual Temp. °F<br><b>60°</b>                 |                    | Baro. Press - P <sub>a</sub><br><b>13.2</b> |                           | Connection<br><b>Sid Richardson</b>                |  |  |  |
| L<br><b>2900</b>                                                                                                          | H<br><b>2900</b>   | Gg<br><b>.680</b>                       | % CO <sub>2</sub><br><b>3.33</b> | % N <sub>2</sub><br><b>1.92</b>                    | % H <sub>2</sub> S | Prover                                      | Meter Run<br><b>4.026</b> | Taps<br><b>FLG</b>                                 |  |  |  |

  

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|
| NO.       | Prover Line Size | X | 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. |                  |
| SI        |                  |   |              |                 |                      |             | 350             |             | 340             |                  |
| 1.        | 4                | X | 1.000        | 21              | 8.80                 | 90          | 325             |             | 320             |                  |
| 2.        | 4                | X | 1.000        | 21              | 13.50                | 96          | 339             |             | 331             |                  |
| 3.        | 4                | X | 1.000        | 21              | 32.00                | 94          | 331             |             | 328             |                  |
| 4.        | 4                | X | 1.000        | 21              | 50.00                | 90          | 310             |             | 309             |                  |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                                  |                               |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|----------------------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | COEFFICIENT (24 HOUR) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>L</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1.                        | 4.753                 | 17.35            | 34.2                    | .9723                            | 1.213                         | 1.003                                   | 98                   |
| 2.                        | 4.753                 | 21.49            | 34.2                    | .9671                            | 1.213                         | 1.003                                   | 120                  |
| 3.                        | 4.753                 | 33.08            | 34.2                    | .9688                            | 1.213                         | 1.003                                   | 185                  |
| 4.                        | 4.753                 | 41.35            | 34.2                    | .9723                            | 1.213                         | 1.003                                   | 232                  |
| 5.                        |                       |                  |                         |                                  |                               |                                         |                      |

  

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio | Mcf/bbl. |
|-----|----------------|----------|----------------|------|------------------------------|----------|
| 1.  | .05            | 550      | 1.47           | .994 | <b>Dry</b>                   |          |
| 2.  | .05            | 556      | 1.48           | .994 | <b>Dry</b>                   |          |
| 3.  | .05            | 554      | 1.48           | .994 |                              |          |
| 4.  | .05            | 550      | 1.47           | .994 |                              |          |
| 5.  |                |          |                |      |                              |          |

  

| NO. | P <sub>i</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.  |                             | 333.2          | 111.0                       | 20.9                                                      |
| 2.  |                             | 344.2          | 118.5                       | 13.4                                                      |
| 3.  |                             | 341.2          | 116.4                       | 15.5                                                      |
| 4.  |                             | 322.2          | 103.8                       | 28.1                                                      |
| 5.  |                             |                |                             |                                                           |

  

1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 4.694$

2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.911$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .907$

  

|                                              |                                     |                       |
|----------------------------------------------|-------------------------------------|-----------------------|
| Absolute Open Flow <b>.907</b> Mcfd @ 15.025 | Angle of Slope $\theta$ <b>48.6</b> | Slope, n <b>.8819</b> |
|----------------------------------------------|-------------------------------------|-----------------------|

  

Remarks: **\*CORRECTED TO 3.33% CO<sub>2</sub> & 1.92% N<sub>2</sub>**

**NO FLUID PRODUCED DURING TEST**

  

|                      |                                         |                               |                            |
|----------------------|-----------------------------------------|-------------------------------|----------------------------|
| Approved By Division | Conducted By:<br><b>West-Test, Inc.</b> | Calculated By:<br><b>B.M.</b> | Checked By:<br><b>B.M.</b> |
|----------------------|-----------------------------------------|-------------------------------|----------------------------|

