

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |                    |                                |                       |                                                    |                  |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------|-----------------------|----------------------------------------------------|------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                |                       | Test Date<br><b>10-30-87</b>                       |                  |
| Company<br><b>MERIDIAN OIL, INC.</b>                                                                                      |                    |                                |                       | Connection                                         |                  |
| Pool<br><b>BLANCO</b>                                                                                                     |                    |                                |                       | Formation<br><b>MESAVERDE</b>                      |                  |
| Completion Date<br><b>10-19-87</b>                                                                                        |                    | Total Depth<br><b>5472'</b>    |                       | Plug Back TD<br><b>5325'</b>                       |                  |
|                                                                                                                           |                    | Elevation<br><b>6163' GL</b>   |                       | Farm or Lease Name<br><b>MURPHY COM</b>            |                  |
| Coq. Size<br><b>7.0000</b>                                                                                                | Wt.<br><b>20.0</b> | d<br><b>6.4560</b>             | Set At<br><b>2911</b> | Perforations:<br>From <b>4300'</b> To <b>5246'</b> |                  |
| Thq. Size<br><b>2.3750</b>                                                                                                | Wt.<br><b>4.7</b>  | d<br><b>1.9950</b>             | Set At<br><b>5260</b> | Perforations:<br>From                      To      |                  |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br><b>SINGLE</b>                                                  |                    |                                |                       | Packer Set At<br><b>NONE</b>                       |                  |
| Producing Thru<br><b>TUBING</b>                                                                                           |                    | Reservoir Temp. °F<br><b>ρ</b> |                       | Mean Annual Temp. °F<br><b>12.2</b>                |                  |
| L                                                                                                                         |                    | H                              | Gg<br><b>.700</b>     | % CO <sub>2</sub>                                  | % N <sub>2</sub> |
|                                                                                                                           |                    |                                |                       | % H <sub>2</sub> S                                 | Prover           |
|                                                                                                                           |                    |                                |                       | Meter Run                                          | Taps             |

  

| 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        |                  |   |              |                 |                      |             | <b>1123</b>     |             | <b>1123</b>     |                  |
| 1.        | <b>2" X 3/4"</b> |   |              |                 |                      |             | <b>407</b>      |             | <b>926</b>      | <b>67°</b>       |
| 2.        |                  |   |              |                 |                      |             | <b>356</b>      |             | <b>866</b>      | <b>69°</b>       |
| 3.        |                  |   |              |                 |                      |             | <b>324</b>      |             | <b>832</b>      | <b>69°</b>       |
| 4.        |                  |   |              |                 |                      |             |                 |             |                 |                  |
| 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>12.365</b>         |                  | <b>336.2</b>            | <b>1.0000</b>                    | <b>.9258</b>                  | <b>1.0000</b>                           | <b>3849</b>          |
| 2.                        |                       |                  |                         |                                  |                               |                                         |                      |
| 3.                        |                       |                  |                         |                                  |                               |                                         |                      |
| 4.                        |                       |                  |                         |                                  |                               |                                         |                      |
| 5.                        |                       |                  |                         |                                  |                               |                                         |                      |

  

|     |   |          |                |   |                                                      |  |
|-----|---|----------|----------------|---|------------------------------------------------------|--|
| NO. | R | Temp. °R | T <sub>g</sub> | Z | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.          |  |
| 1   |   |          |                |   | A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.     |  |
| 2.  |   |          |                |   | Specific Gravity Separator Gas _____ X X X X X X X X |  |
| 3.  |   |          |                |   | Specific Gravity Flowing Fluid _____ X X X X X       |  |
| 4.  |   |          |                |   | Critical Pressure _____ P.S.I.A. _____ P.S.I.A.      |  |
| 5   |   |          |                |   | Critical Temperature _____ R _____ R                 |  |

  

|                                            |         |              |                 |                 |
|--------------------------------------------|---------|--------------|-----------------|-----------------|
| $P_c$ <b>1135.2</b> $P_c^2$ <b>1288679</b> |         |              |                 |                 |
| NO.                                        | $P_1^2$ | $P_w$        | $P_w^2$         | $P_c^2 - P_w^2$ |
| 1                                          |         | <b>844.2</b> | <b>712673.6</b> | <b>576005.4</b> |
| 2                                          |         |              |                 |                 |
| 3                                          |         |              |                 |                 |
| 4                                          |         |              |                 |                 |
| 5                                          |         |              |                 |                 |

  

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{1288679}{576005.4} = 2.2373$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{1.82932}{1} = 1.82932$$

  

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7041$$

$$AOF = 7041$$

  

|                    |             |              |                        |                     |
|--------------------|-------------|--------------|------------------------|---------------------|
| Absolute Open Flow | <b>7041</b> | Mcf @ 15.025 | Angle of Slope @ _____ | Slope, n <b>.75</b> |
|--------------------|-------------|--------------|------------------------|---------------------|

  

Remarks: **MIST OF OIL THROUGHOUT TEST. 4.5000 - 10.5# LINER SET FROM 2746' - 5342'.**  
**AMENDED REPORT - LEASE NAME CORRECTION.**

  

|                      |                                        |                                          |             |
|----------------------|----------------------------------------|------------------------------------------|-------------|
| Approved By Division | Conducted By:<br><b>STEVE MCCAMENT</b> | Calculated By:<br><b>JAMES WM. SMITH</b> | Checked By: |
|----------------------|----------------------------------------|------------------------------------------|-------------|