

N MEXICO OIL CONSERVATION COMM. ON  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

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>12-23-75                  |                         | JAN 8 1976                                           |                        |
| Company<br>Mesa Petroleum Company                                                                                         |             |                             |                          | Connection<br>AIR                      |                         |                                                      |                        |
| Pool<br>Red Hills Wolfcamp                                                                                                |             |                             |                          | Formation<br>Wolfcamp                  |                         | UR <del>MESA</del> - PBD                             |                        |
| Completion Date<br>12-9-75                                                                                                |             | Total Depth<br>15249'       |                          | Plug Back TD<br>15,194'                |                         | Elevation<br>3372 RKB                                |                        |
| Farm or Lease Name<br>Red Hills Federal                                                                                   |             |                             |                          |                                        |                         |                                                      |                        |
| Csg. Size<br>7"                                                                                                           | Wt.<br>29   | d<br>6.875                  | Set At<br>15,249'        | Perforations:<br>From 13431' To 13653' |                         | Well No.<br>1                                        |                        |
| Thg. Size<br>2 3/8"                                                                                                       | Wt.<br>5.95 | d<br>1.867                  | Set At                   | Perforations:<br>From To               |                         | Unit    Sec.    Twp.    Rge.<br>A    6    26s    33e |                        |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>DUAL                                                           |             |                             |                          | Packer Set At<br>13333'                |                         | County<br>LEA                                        |                        |
| Producing Thru<br>Tubing                                                                                                  |             | Reservoir Temp. °F<br>188 @ |                          | Mean Annual Temp. °F                   |                         | Baro. Press. - P <sub>a</sub><br>13.2                |                        |
| State<br>New Mexico                                                                                                       |             |                             |                          |                                        |                         |                                                      |                        |
| L<br>13542'                                                                                                               | H<br>13542' | Gg<br>.60                   | % CO <sub>2</sub><br>.4% | % N <sub>2</sub><br>.2%                | % H <sub>2</sub> S<br>0 | Prover                                               | Meter Run    Taps<br>X |

  

| 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. |                        |
| SI        |                        |   |                 |                    |                         |             | 3605               |             |                    |                        |
| 1.        | 4.0                    |   | 2.5             | 150                | 7"                      | 85°         | 3530               | 53°         |                    |                        |
| 2.        |                        |   |                 | 155                | 13"                     | 90°         | 3400               | 54°         |                    | 1 Hr                   |
| 3.        |                        |   |                 | 155                | 28"                     | 85°         | 3265               | 53°         |                    | 1 Hr                   |
| 4.        |                        |   |                 | 155                | 53"                     | 75°         | 3080               | 55°         |                    | 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                         | 32.64                    | 33.799           | 163.2                      | .9768                                  | 1.2910                              | 1.012                                         | 1408                    |
| 2                         | 32.64                    | 46.7611          | 168.2                      | .9723                                  | 1.2910                              | 1.012                                         | 1939                    |
| 3                         | 32.64                    | 68.6265          | 168.2                      | .9768                                  | 1.2910                              | 1.012                                         | 2859                    |
| 4                         | 32.64                    | 94.4173          | 168.2                      | .9859                                  | 1.2910                              | 1.013                                         | 3973                    |
| 5                         |                          |                  |                            |                                        |                                     |                                               |                         |

  

|     |                |          |                |      |                                       |            |                       |
|-----|----------------|----------|----------------|------|---------------------------------------|------------|-----------------------|
| NO. | P <sub>t</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio          | 153668     | Mcf/bbl.              |
| 1.  | .24            | 545      | 1.52           | .976 | A.P.I. Gravity of Liquid Hydrocarbons | 54 (.7389) | Deg.                  |
| 2.  | .25            | 550      | 1.54           | .976 | Specific Gravity Separator Gas        | .60        | X X X X X X X X       |
| 3.  | .25            | 545      | 1.52           | .976 | Specific Gravity Flowing Fluid        | X X X X X  | .619                  |
| 4.  | .25            | 535      | 1.49           | .974 | Critical Pressure                     | 671        | P.S.I.A. 671 P.S.I.A. |
| 5.  |                |          |                |      | Critical Temperature                  | 358        | R 365 R               |

  

|                       |                                   |                |                             |
|-----------------------|-----------------------------------|----------------|-----------------------------|
| P <sub>c</sub> 3618.2 | P <sub>c</sub> <sup>2</sup> 13091 |                |                             |
| NO.                   | P <sub>t</sub> <sup>2</sup>       | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> |
| 1                     |                                   | 3557.2         | 12654                       |
| 2                     |                                   | 3437.1         | 11814                       |
| 3                     |                                   | 3329.8         | 11088                       |
| 4                     |                                   | 3198.6         | 10231                       |
| 5                     |                                   |                |                             |

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 4.57727$       (2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.7541$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 14915$

  

|                    |       |                |                          |               |
|--------------------|-------|----------------|--------------------------|---------------|
| Absolute Open Flow | 14915 | Mcf/d @ 15.025 | Angle of Slope @ 48° 59' | Slope, n .869 |
|--------------------|-------|----------------|--------------------------|---------------|

  

Remarks:

  

|                         |                              |                               |             |
|-------------------------|------------------------------|-------------------------------|-------------|
| Approved By Commission: | Conducted By:<br>Larry Davis | Calculated By:<br>Larry Davis | Checked By: |
|-------------------------|------------------------------|-------------------------------|-------------|