

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

Form C-122  
Revised 9-1-65

**JUN 7 1982**

|                                                                                                                           |  |                                         |  |                                          |  |                                                    |  |
|---------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------|--|------------------------------------------|--|----------------------------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |  |                                         |  | Test Date<br><b>5-31-82</b>              |  | <b>O. C. D.</b>                                    |  |
| Company<br><b>MESA PETROLEUM CO.</b>                                                                                      |  |                                         |  | Connection<br><b>UNCONNECTED</b>         |  | ARTESIA, OFFICE                                    |  |
| Location<br><b>PECOS SLOPE ABO</b>                                                                                        |  |                                         |  | Formation<br><b>ABO</b>                  |  | Unit                                               |  |
| Completion Date<br><b>5-31-82</b>                                                                                         |  | Total Depth<br><b>3402'</b>             |  | Plug Back TD<br><b>3356'</b>             |  | Elevation<br><b>3969'</b>                          |  |
| Csg. Size<br><b>4 1/2"</b>                                                                                                |  | Wt.<br><b>10.5#</b>                     |  | Set At<br><b>3402'</b>                   |  | Perforations:<br>From <b>2907'</b> To <b>3103'</b> |  |
| Trq. Size<br><b>2 3/8"</b>                                                                                                |  | Wt.<br><b>4.7#</b>                      |  | Set At<br><b>3031'</b>                   |  | Perforations:<br>From <b>OPEN ENDED</b> To         |  |
| Type Well - Single - Brokenhead - G.G. or G.O. Multiple<br><b>SINGLE</b>                                                  |  |                                         |  | Packer Set At<br><b>NONE</b>             |  | County<br><b>CHAVES</b>                            |  |
| Producing Thru<br><b>TUBING</b>                                                                                           |  | Reservoir Temp. °F<br><b>100°@ 3402</b> |  | Mean Annual Temp. °F<br><b>60</b>        |  | Baro. Press. - P <sub>a</sub><br><b>13.2</b>       |  |
| L                                                                                                                         |  | H                                       |  | G <sub>g</sub><br><b>.65</b>             |  | % CO <sub>2</sub><br><b>1</b>                      |  |
|                                                                                                                           |  |                                         |  | % N <sub>2</sub><br><b>1</b>             |  | % H <sub>2</sub> S                                 |  |
|                                                                                                                           |  |                                         |  | Prover<br><b>2" CRITICAL FLOW PROVER</b> |  | 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. |                  | Temp. °F |
| 51        |                  |   |              |                 |                      |             | 850             |             | 853             |                  | 72 HR SI |
| 1.        | 2" X 1"          |   |              | 30              |                      | 42          | 585             | 72          | 680             |                  | 1 HR     |
| 2.        | 2" X 1"          |   |              | 31              |                      | 52          | 440             | 76          | 465             |                  | 1 HR     |
| 3.        | 2" X 1"          |   |              | 32              |                      | 58          | 335             | 77          | 365             |                  | 1 HR     |
| 4.        | 2" X 1"          |   |              | 34              |                      | 60          | 240             | 78          | 330             |                  | 1 HR     |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |          |

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                         | 17.09                 | FLOW PROVER      | 43                      | 1.018                 | 1.24                          |                                         | 928                  |
| 2                         | 17.09                 | FLOW PROVER      | 44                      | 1.008                 | 1.24                          |                                         | 939                  |
| 3                         | 17.09                 | FLOW PROVER      | 45                      | 1.002                 | 1.24                          |                                         | 956                  |
| 4                         | 17.09                 | FLOW PROVER      | 47                      | 1.000                 | 1.24                          |                                         | 996                  |
| 5.                        |                       |                  |                         |                       |                               |                                         |                      |

|     |                |          |                |   |                                                      |
|-----|----------------|----------|----------------|---|------------------------------------------------------|
| NO. | P <sub>t</sub> | Temp. °R | T <sub>r</sub> | Z | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.          |
| 1.  |                |          |                |   | A.P.L. 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 <sub>c</sub> <b>866</b> | P <sub>c</sub> <sup>2</sup> <b>750</b> | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.1867$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.0894$ |
| NO.                       | 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                         | 693                                    | 480                                        | 270                                                         |
| 2                         | 478                                    | 228                                        | 522                                                         |
| 3                         | 378                                    | 143                                        | 607                                                         |
| 4                         | 343                                    | 118                                        | 632                                                         |
| 5                         |                                        |                                            |                                                             |

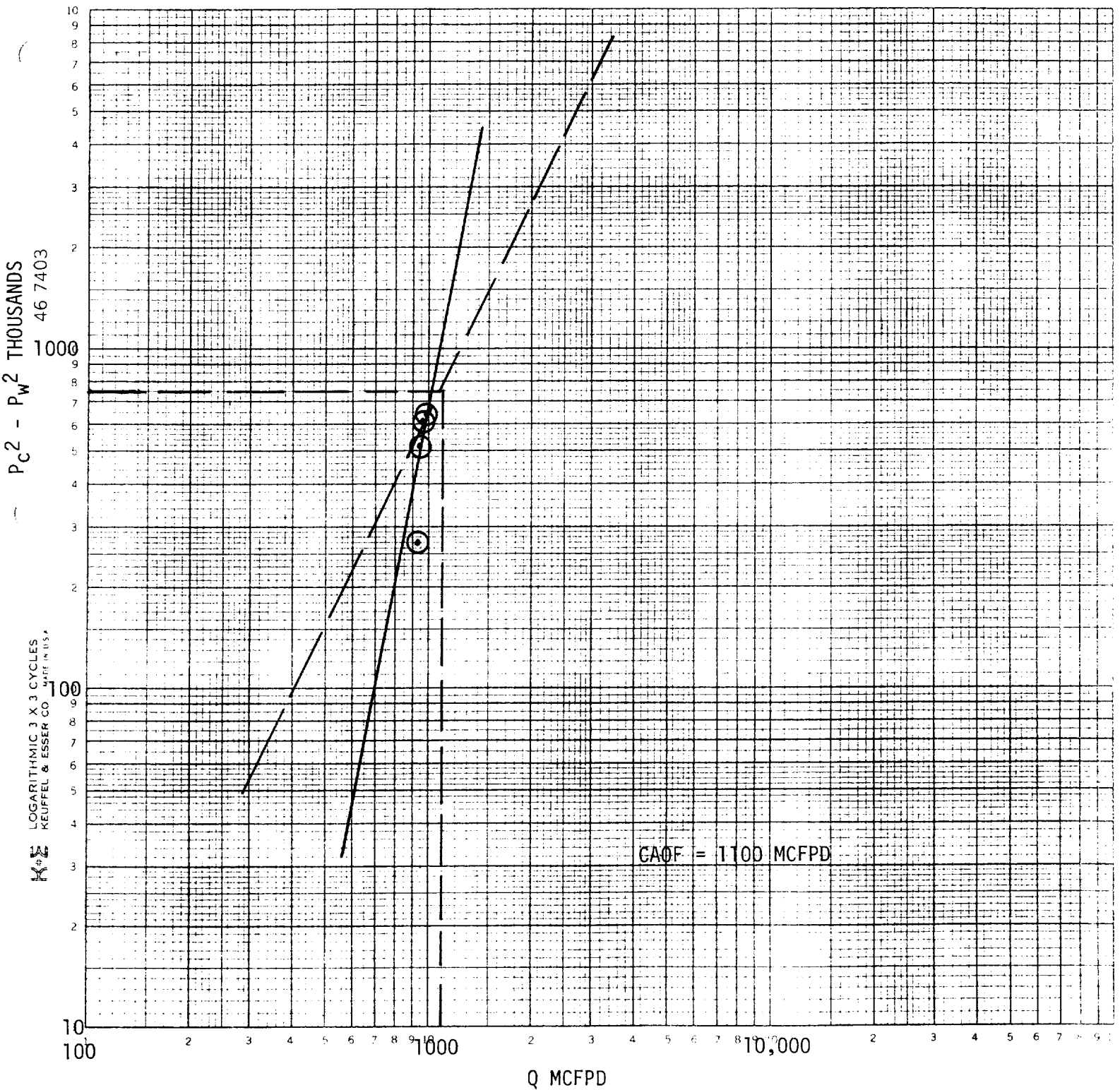
Absolute Open Flow **1100** Mcfd @ 15.025    Angle of Slope **63°**    Slope, n **.5**

Remarks: **PLOT OF P<sub>c</sub><sup>2</sup> - P<sub>w</sub><sup>2</sup> VS Q YIELDED A STRAIGHT LINE WITH A θ GREATER THAN 63.5°. DREW 63.5° LINE THROUGH HIGHEST POINT.**

Approved By Commission: \_\_\_\_\_ Conducted By: **JAMES CRAIG**    Calculated By: **E. L. BUTTROSS, JR.**    Checked By: \_\_\_\_\_

*Posted FD-2  
6-11-82  
Comp + RK*

MESA PETROLEUM CO.  
 ROUND TOP STATE NO. 5  
 CHAVES CO., NM  
 5-31-82



ASSUMED  $n = .5$  AND  $\theta = 63.5^\circ$