

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-63

|                                                                                                                           |              |                                 |                        |                                      |                    |                                                       |  |                             |  |
|---------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------|------------------------|--------------------------------------|--------------------|-------------------------------------------------------|--|-----------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |              |                                 |                        |                                      |                    | Test Date<br>10-31-81                                 |  | RECEIVED<br><br>NOV 16 1981 |  |
| Company<br>MESA PETROLEUM CO. ✓                                                                                           |              |                                 |                        | Connection<br>UNCONNECTED            |                    |                                                       |  | Unit<br>O. C. D.            |  |
| Pool<br>UNDESIGNATED ABO                                                                                                  |              |                                 |                        | Formation<br>ABO                     |                    |                                                       |  | Artesia Office              |  |
| Completion Date<br>10-31-81                                                                                               |              | Total Depth<br>4850'            |                        | Plug Back TD<br>4813'                |                    | Elevation<br>3743'                                    |  | Farm or Lease Name<br>ACME  |  |
| Csg. Size<br>4 1/2"                                                                                                       | Wt.<br>10.5# | d                               | Set At<br>4850'        | Perforations:<br>From 4355' To 4723' |                    | Well No.<br>2                                         |  |                             |  |
| Tub. Size<br>2 3/8"                                                                                                       | Wt.<br>4.7#  | d                               | Set At<br>4238'        | Perforations:<br>From OPEN ENDED To  |                    | Unit    Sec.    Twp.    Range<br>G    29    8S    26E |  |                             |  |
| Type Well - Single - Prodenhead - G.G. or G.O. Multiple<br>SINGLE                                                         |              |                                 |                        |                                      |                    | Packer Set At<br>NONE                                 |  | County<br>CHAVES            |  |
| Producing Thru<br>TUBING                                                                                                  |              | Reservoir Temp. °F<br>102° 4850 |                        | Mean Annual Temp. °F<br>60           |                    | Buro. Press. - P <sub>a</sub><br>13.2                 |  | State<br>NEW MEXICO         |  |
| L<br>4238                                                                                                                 | H<br>4238    | Gg<br>.65                       | % CO <sub>2</sub><br>1 | % N <sub>2</sub><br>1                | % H <sub>2</sub> S | Prover<br>2" ORIFICE WELL TESTER                      |  | 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  |
| SI        |                  |       |              |                 |                      |             | 900             |             | 905             |                  | 24 hr. SI |
| 1.        | 2" ORIFICE       | 1 1/4 |              | 19              |                      | 44          | 670             | 62          | 775             |                  | 1 hr.     |
| 2.        | WELL             | 1 1/4 |              | 26              |                      | 52          | 470             | 68          | 625             |                  | 1 hr.     |
| 3.        | TESTER           | 1 1/4 |              | 29              |                      | 58          | 270             | 70          | 530             |                  | 1 hr.     |
| 4.        |                  | 1 1/4 |              | 31              |                      | 60          | 180             | 72          | 465             |                  | 1 hr.     |
| 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                         | 1122                  | 2" ORIFICE WELL  |                         | 1.0157                           | .9608                         |                                        | 1095                 |
| 2                         | 1463                  | TESTER           |                         | 1.0078                           | .9608                         |                                        | 1417                 |
| 3                         | 1578                  |                  |                         | 1.0019                           | .9608                         |                                        | 1519                 |
| 4                         | 1653                  |                  |                         | 1.0000                           | .9608                         |                                        | 1588                 |
| 5                         |                       |                  |                         |                                  |                               |                                        |                      |

  

| NO. | P <sub>r</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> 918    P <sub>c</sub> <sup>2</sup> 843 |                             |                |                             |                                                           | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3707$ |  | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.1708$ |  |
|-------------------------------------------------------|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|--------------------------------------------|--|-------------------------------------------------------------|--|
| 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                                                     |                             | 788            | 621                         | 222                                                       |                                            |  |                                                             |  |
| 2                                                     |                             | 638            | 407                         | 436                                                       |                                            |  |                                                             |  |
| 3                                                     |                             | 548            | 300                         | 543                                                       |                                            |  |                                                             |  |
| 4                                                     |                             | 478            | 228                         | 615                                                       |                                            |  |                                                             |  |
| 5                                                     |                             |                |                             |                                                           |                                            |  |                                                             |  |

  

|                                                                                                                                                                              |  |                              |                        |                                                        |             |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------|------------------------|--------------------------------------------------------|-------------|-------------|
| Absolute Open Flow 1,850 Mcfd @ 15.025                                                                                                                                       |  |                              | Angle of Slope @ 63.5° |                                                        | Slope, n .5 |             |
| Remarks: Plot of P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> vs. yielded a straight line with a θ greater than 63.5°<br>Drew 63.5° line through highest point. |  |                              |                        |                                                        |             |             |
| Approved by Commission:                                                                                                                                                      |  | Conducted By:<br>JAMES CRAIG |                        | Calculated By: <u>EB 11-3-81</u><br>E.L. BUTTROSS, JR. |             | Checked By: |