

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AT 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>4-10-81                 |                    | APR 27 1981                           |  |
| Company<br>Mesa Petroleum Co.   |              |                                   | Connection<br>Unconnected |                                      |                    | O. C. D.                              |  |
| Pool<br>Undesignated Abo  |              |                                   | Formation<br>Abo          |                                      |                    | Unit<br>ARRESIA, OFFICE               |  |
| Completion Date<br>4-10-81  |              | Total Depth<br>3500' 3502         |                           | Plug Back TD<br>3334'                |                    | Elevation<br>3934'                    |  |
| Farm or Lease Name<br>Ned State   |              | Well No.<br>1                     |                           | Unit<br>K                            |                    | Sec. Twp. Rge.<br>5 9S 23E            |  |
| Csg. Size<br>4 1/2  | Wt.<br>10.5# | d                                 | Set At<br>3453            | Perforations:<br>From 3123 To 3220   |                    | Well No.                              |  |
| Thg. Size<br>2 3/8  | Wt.<br>4.7   | d                                 | Set At<br>3154            | Perforations:<br>From Open End to TP |                    | Unit Sec. Twp. Rge.<br>K 5 9S 23E     |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single   |              |                                   |                           | Packer Set At<br>None                |                    | County<br>Chaves                      |  |
| Producing Thru<br>Tubing  |              | Reservoir Temp. °F<br>95° @ 3500' |                           | Mean Annual Temp. °F<br>60°          |                    | Baro. Press. - P <sub>a</sub><br>13.2 |  |
| State<br>New Mexico   |              | Prover<br>2" Orifice Well Tester  |                           | Meter Run                            |                    | Taps                                  |  |
| L<br>3154   | H<br>3154    | Gg<br>.65                         | % CO <sub>2</sub><br>1    | % N <sub>2</sub><br>4                | % H <sub>2</sub> S | 2" Orifice Well Tester                |  |

  

| 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        | 2" Orifice       |   |              |                 |                      |          | 740             |          | 750             |          | 67 hr.           |
| 1.        | Well             |   | 3/4"         | 5               |                      | 80       | 725             | 80       | 730             |          | 3/4 hr.          |
| 2.        | Tester           |   | 3/4"         | 16              |                      | 80       | 690             | 80       | 700             |          | 1/2 hr.          |
| 3.        |                  |   | 3/4"         | 30              |                      | 80       | 640             | 80       | 645             |          | 1/2 hr.          |
| 4.        |                  |   | 3/4"         | 42              |                      | 80       | 585             | 80       | 590             |          | 1/2 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 Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
| 1                         | 164                   | 2" orifice well tester |                         | .9813                 | .9608             |                             | 155                  |
| 2.                        | 325                   |                        |                         | .9813                 | .9608             |                             | 306                  |
| 3.                        | 521                   |                        |                         | .9813                 | .9608             |                             | 491                  |
| 4.                        | 665                   |                        |                         | .9813                 | .9608             |                             | 627                  |
| 5.                        |                       |                        |                         |                       |                   |                             |                      |

  

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

  

| NO. | P <sub>c</sub> | 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> |
|-----|----------------|----------------|-----------------------------|---|
|     | 750            |                |                             | 563   |
| 1   |                | 730            | 533                         | 30  |
| 2   |                | 700            | 490                         | 73  |
| 3   |                | 645            | 416                         | 147   |
| 4   |                | 590            | 348                         | 215   |
| 5   |                |                |                             |   |

  

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.6186$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.9807$$

  

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1,240$$

  

|                    |       |                |                |       |          |     |
|--------------------|-------|----------------|----------------|-------|----------|-----|
| Absolute Open Flow | 1,240 | Mcf/d @ 15.025 | Angle of Slope | 54.6° | Slope, n | .71 |
|--------------------|-------|----------------|----------------|-------|----------|-----|

  

Remarks: \_\_\_\_\_

  

|                         |                              |  |             |
|-------------------------|------------------------------|--|-------------|
| Approved By Commission: | Conducted By:<br>James Crain | Calculated By:<br>EIB<br>F. I. Ruttruss, Jr. | Checked By: |
|-------------------------|------------------------------|--|-------------|