

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

Form G-122  
 Revised 9-1-65

|                                                                                                                              |                                   |                                           |                           |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|---------------------------|
| Type of Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                                   | Test Date<br>8-29-79                      |                           |
| Company<br>ARCO Oil & Gas Company                                                                                            |                                   | Connection<br>El Paso Natural Gas Company |                           |
| Pool<br>Undesignated                                                                                                         |                                   | Formation<br>Ellenburger Gas              |                           |
| Completion Date<br>7-30-79                                                                                                   |                                   | Total Length<br>15550                     | Play back TD<br>15455     |
|                                                                                                                              |                                   | Elevation<br>3547 G.L.                    |                           |
| Csq. Size<br>7                                                                                                               | Wt.<br>26                         | d<br>6.276                                | Set At<br>15548           |
| Perforations:<br>From 15148 To 15407                                                                                         |                                   | Well No.<br>1                             |                           |
| Tq. Size<br>2.375                                                                                                            | Wt.<br>4.7                        | d<br>1.945                                | Set At<br>15114           |
| Perforations:<br>From Open To Ended                                                                                          |                                   | Unit Sec. Twp. Rge.<br>H 20 22S 36E       |                           |
| Type Well - Single - Provenhead - G.G. or G.O. Multiple<br>Dual G-G                                                          |                                   | Packer Set At<br>15048                    | County<br>Lea             |
| Producing Thru<br>Tubing                                                                                                     | Reservoir Temp. °F<br>201 @ 15277 | Mean Annual Temp. °F<br>60°               | State<br>New Mexico       |
| L<br>15114                                                                                                                   | H<br>15114                        | Gg<br>0.623                               | % CO <sub>2</sub><br>0.27 |
|                                                                                                                              |                                   | % N <sub>2</sub><br>0.94                  | % H <sub>2</sub> S<br>Tr. |
|                                                                                                                              |                                   | Prover<br>-                               | Meter Run<br>4            |
|                                                                                                                              |                                   |                                           | Flg.<br>-                 |

  

| 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 |
| 5!        |                  |   |              |                 |                      |             | 3877            |             | Pkr.            |                  | 117 Hrs. |
| 1.        | 4x 2.25          |   |              | 568             | 5.06                 | 83          | 3839            | 79          |                 |                  | 2 Hrs.   |
| 2.        | 4 x 2.75         |   |              | 555             | 16.00                | 91          | 3676            | 84          |                 |                  | 3 Hrs.   |
| 3.        | 4 x 2.75         |   |              | 560             | 36.00                | 86          | 3402            | 87          |                 |                  | 2 Hrs.   |
| 4.        | 4 x 2.75         |   |              | 570             | 68.89                | 73          | 2942            | 86          |                 |                  | 2 Hrs.   |
| 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, Mcf/d |
| 1                         | 25.64                 | 54.23            | 581.2                   | 0.9786                | 1.267             | 1.045                        | 1802                  |
| 2                         | 41.10                 | 95.35            | 568.2                   | 0.9715                | 1.267             | 1.041                        | 5021                  |
| 3                         | 41.10                 | 143.65           | 573.2                   | 0.9759                | 1.267             | 1.044                        | 7621                  |
| 4                         | 41.10                 | 200.44           | 583.2                   | 0.9877                | 1.267             | 1.048                        | 10804                 |
| 5.                        |                       |                  |                         |                       |                   |                              |                       |

  

| NO. | P <sub>t</sub> | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|----------------|-------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1.  | 0.86           | 543      | 1.50           | 0.915 |                              |                                       | 0.623                          | XXXXXX                         | 674               | 361                  |
| 2.  | 0.84           | 551      | 1.53           | 0.923 |                              |                                       |                                | XXXXX                          |                   |                      |
| 3.  | 0.85           | 546      | 1.51           | 0.918 |                              |                                       |                                |                                |                   |                      |
| 4.  | 0.87           | 533      | 1.48           | 0.910 |                              |                                       |                                |                                |                   |                      |
| 5.  |                |          |                |       |                              |                                       |                                |                                |                   |                      |

  

| $P_c = 6147.2$ $P_c^2 = 37788.1$ |         |         |                 | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 41.2309$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 10.2215$ |
|----------------------------------|---------|---------|-----------------|---------------------------------------------|--------------------------------------------------------------|
| NO.                              | $P_c^2$ | $P_w^2$ | $P_c^2 - P_w^2$ |                                             |                                                              |
| 1                                | 6131.2  | 37591.6 | 196.5           |                                             |                                                              |
| 2                                | 6126.2  | 37530.3 | 257.8           |                                             |                                                              |
| 3                                | 6106.2  | 37285.7 | 502.4           |                                             |                                                              |
| 4                                | 6072.2  | 36871.6 | 916.5           |                                             |                                                              |
| 5                                |         |         |                 |                                             |                                                              |

  

|                    |  |        |                |                |        |          |       |
|--------------------|--|--------|----------------|----------------|--------|----------|-------|
| Absolute Open Flow |  | 110433 | Mcf/d @ 15.025 | Angle of Slope | 58°-6' | Slope, n | 0.625 |
|--------------------|--|--------|----------------|----------------|--------|----------|-------|

  

Remarks: BHP measured @ mid point of perforations 15277. Pkrs. @ 15048 and 12452.  
 Produced 3.36 bbls. water and 0 bbls. oil.

  

|                        |                           |                              |                                  |
|------------------------|---------------------------|------------------------------|----------------------------------|
| Approved By Commission | Conducted By:<br>R. Pagan | Calculated By:<br>J. Cogburn | Checked By:<br><i>L.C. Hudry</i> |
|------------------------|---------------------------|------------------------------|----------------------------------|