

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

Form C-122  
Revised 9-1-65

|                                                                                                                           |                                    |                                          |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                                    | Test Date<br>4-8-76                      |                                                                                                 |
| Company<br>Phillips Petroleum Company                                                                                     |                                    | Connection<br>Phillips Petroleum Company |                                                                                                 |
| Well<br>Lusk Morrow                                                                                                       |                                    | Unit<br>---                              |                                                                                                 |
| Completion Date<br>8-11-75                                                                                                | Total Length<br>12,453             | Flow Line TL<br>12,398                   | Elevation<br>3601' RKB                                                                          |
| Well No.<br>5                                                                                                             | WT.<br>17.93                       | Set At<br>4,276                          | Perforations:<br>From 12,034 To 12310                                                           |
| Tag. Size<br>2-3/8                                                                                                        | WT.<br>4.7                         | Set At<br>11,951                         | Perforations:<br>From                      To                                                   |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                                    | Packer Set At<br>11,900                  | County<br>Lea                                                                                   |
| Producing Thru<br>Tubing                                                                                                  | Reservoir Temp. °F<br>160 @ 12,450 | Mean Annual Temp. °F<br>60               | State<br>New Mexico                                                                             |
| L<br>11,951                                                                                                               | H<br>11,951                        | Gg<br>.675                               | % CO <sub>2</sub> % N <sub>2</sub> % H <sub>2</sub> S    Prover    Meter Run<br>4x1.5    Flange |

  

| 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. |                  |
| 1         | 4.00             | 1.5 | 549          | 1.0             | 74                   | 2041        | 70              | Packer      |                 | 48 hrs           |
| 2         | 4.00             | 1.5 | 549          | 2.6             | 84                   | 1824        | 71              |             |                 |                  |
| 3         | 4.00             | 1.5 | 549          | 5.3             | 91                   | 1734        | 74              |             |                 |                  |
| 4         | 4.00             | 1.5 | 549          | 9.6             | 99                   | 1565        | 75              |             |                 |                  |
| 5         |                  |     |              |                 |                      | 1259        | 75              |             |                 |                  |

  

| 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                         | 10.84                 | 23.71            | 562.2                   | .9868                 | 1.217             | 1.059                       | 327                  |
| 2                         | 10.84                 | 38.23            | 562.2                   | .9777                 | 1.217             | 1.055                       | 520                  |
| 3                         | 10.84                 | 54.59            | 562.2                   | .9715                 | 1.217             | 1.052                       | 736                  |
| 4                         | 10.84                 | 73.46            | 562.2                   | .9645                 | 1.217             | 1.049                       | 980                  |
| 5                         |                       |                  |                         |                       |                   |                             |                      |

  

| NO. | T <sub>r</sub> | Temp. °F | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio | A.P.G. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|----------------|------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1   | .84            | 534      | 1.39           | .891 | 47                           | 59.4                                  | .675                           | XXXXXXX                        | 669               | 383                  |
| 2   | .84            | 544      | 1.42           | .899 |                              |                                       |                                | 743                            |                   |                      |
| 3   | .84            | 551      | 1.44           | .904 |                              |                                       |                                | 667                            |                   |                      |
| 4   | .84            | 559      | 1.46           | .908 |                              |                                       |                                | 407                            |                   |                      |
| 5   |                |          |                |      |                              |                                       |                                |                                |                   |                      |

  

|                       |                       |                                            |                                                            |
|-----------------------|-----------------------|--------------------------------------------|------------------------------------------------------------|
| P <sub>c</sub> 2054.2 | P <sub>w</sub> 4219.7 | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4219.7$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.467$ |
| 1                     | 3375                  | 1838.1                                     | 3378.6                                                     |
| 2                     | 3053                  | 1749.4                                     | 3060.4                                                     |
| 3                     | 2491                  | 1583.1                                     | 2506.2                                                     |
| 4                     | 1618                  | 1282.9                                     | 1645.8                                                     |
| 5                     |                       |                                            |                                                            |

  

|                                         |      |               |                         |      |          |      |
|-----------------------------------------|------|---------------|-------------------------|------|----------|------|
| Absolute open flow                      | 1438 | Mcfd @ 15.025 | Angle of Slope $\theta$ | 52.2 | Slope, n | .775 |
| Remarks: Calculations made by computer. |      |               |                         |      |          |      |

  

|                         |                                         |                                 |             |
|-------------------------|-----------------------------------------|---------------------------------|-------------|
| Approved By Commission: | Conducted By:<br>Don Throp & B. W. Winn | Calculated By:<br>D. E. Simpson | Checked By: |
|-------------------------|-----------------------------------------|---------------------------------|-------------|