

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

Form C-122  
Revised 9-1-65

**RECEIVED**

|                                                                                                                        |            |                                  |                          |                                      |                           |                                       |                 |                                    |
|------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------|--------------------------|--------------------------------------|---------------------------|---------------------------------------|-----------------|------------------------------------|
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |            |                                  |                          |                                      | Test Date<br>6-19-70      |                                       | JUN 24 1970     |                                    |
| Company<br>Cities Service Oil Company                                                                                  |            |                                  |                          | Connection<br>6-8-70                 |                           |                                       |                 |                                    |
| Pool<br>Springs Upper Penn                                                                                             |            |                                  |                          | Formation<br>Cisco Canyon            |                           | Unit<br>O. C. C.<br>ARTESIA, OFFICE   |                 |                                    |
| Completion Date<br>5/8/70                                                                                              |            | Total Depth<br>8100              |                          | Plug Back TD<br>8104                 |                           | Elevation<br>3317DF                   |                 | Farm or Lease Name<br>Springs Unit |
| Csg. Size<br>5 1/2                                                                                                     | Wt.<br>4.6 | d<br>1.995                       | Set At<br>7950           | Perforations:<br>From 8090 To 8100   |                           | Well No.<br>4                         |                 |                                    |
| Tbg. Size<br>2 3/8                                                                                                     | Wt.<br>4.6 | d<br>1.995                       | Set At<br>7950           | Perforations:<br>From Open 76X Ended |                           | Unit Sec. Twp. Rge.<br>A 3 21S 25E    |                 |                                    |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                      |            |                                  |                          | Packer Set At<br>7950                |                           | County<br>Eddy                        |                 |                                    |
| Producing Thru<br>Tbg                                                                                                  |            | Reservoir Temp. °F<br>130 @ 8104 |                          | Mean Annual Temp. °F<br>75 -         |                           | Baro. Press. - P <sub>a</sub><br>13.2 |                 | State<br>New Mexico                |
| L<br>7950                                                                                                              | H<br>7950  | G <sub>g</sub><br>.6450          | % CO <sub>2</sub><br>.37 | % N <sub>2</sub><br>.63              | % H <sub>2</sub> S<br>.45 | Prover                                | Meter Run<br>3" | Taps<br>Flange                     |

  

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | TBG 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        | BHP <sub>max</sub> p.s.i.g. |                  |
| SI        |                  |   |              |                 |                      |             | 2450            |                 | 3068                        |                  |
| 1.        | 3" x 1 3/4       |   |              | 725             | 11.7                 | 79          | 2358            | 69              | 3031                        |                  |
| 2.        | 3" x 1 3/4       |   |              | 735             | 20.0                 | 72          | 2312            | 69              | 2987                        |                  |
| 3.        | 3" x 1 3/4       |   |              | 740             | 29.0                 | 65          | 2261            | 69              | 2943                        |                  |
| 4.        | 3" x 1 3/4       |   |              | 745             | 42                   | 60          | 2195            | 69              | 2888                        |                  |
| 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                         | 15.61 ✓               | 92.9 ✓           | 738.2 ✓                 | .9822 ✓               | 1.245 ✓                       | 1.064 <sup>1009</sup>                   | 1,886 <sup>1892</sup> |
| 2                         | 15.61 ✓               | 122.3 ✓          | 748.2 ✓                 | .9887 ✓               | 1.245 ✓                       | 1.075 <sup>1012</sup>                   | 2,525 <sup>2517</sup> |
| 3                         | 15.61 ✓               | 147.8 ✓          | 753.2 ✓                 | .9952 ✓               | 1.245 ✓                       | 1.076 <sup>1074</sup>                   | 3,076 <sup>3070</sup> |
| 4                         | 15.61 ✓               | 178.4 ✓          | 758.2 ✓                 | 1.000 ✓               | 1.245 ✓                       | 1.080 ✓                                 | 3,743 <sup>3744</sup> |
| 5.                        |                       |                  |                         |                       |                               |                                         |                       |

  

|     |                |          |                |                     |                                                           |
|-----|----------------|----------|----------------|---------------------|-----------------------------------------------------------|
| NO. | P <sub>f</sub> | Temp. °R | T <sub>f</sub> | Z                   | Gas Liquid Hydrocarbon Ratio 36 Bbls/MMCF (28.1 Mcf/bbl.) |
| 1   | 1.10 ✓         | 539 ✓    | 1.453 ✓        | .883 <sup>771</sup> | A.P.I. Gravity of Liquid Hydrocarbons 62                  |
| 2   | 1.12 ✓         | 532 ✓    | 1.43 ✓         | .865 <sup>870</sup> | Specific Gravity Separator Gas .645                       |
| 3   | 1.12 ✓         | 525 ✓    | 1.42 ✓         | .863 <sup>861</sup> | Specific Gravity Flowing Fluid X X X X X                  |
| 4   | 1.13 ✓         | 520 ✓    | 1.40 ✓         | .858 ✓              | Critical Pressure 671 P.S.I.A.                            |
| 5.  |                |          |                |                     | Critical Temperature 371 R                                |

  

|                       |                                    |                                           |                                                           |
|-----------------------|------------------------------------|-------------------------------------------|-----------------------------------------------------------|
| P <sub>c</sub> 3081.2 | P <sub>c</sub> <sup>2</sup> 9493.8 | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 13.56$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.68$ |
| NO.                   | P <sub>t</sub> <sup>2</sup>        | P <sub>w</sub>                            | P <sub>w</sub> <sup>2</sup>                               |
| 1                     | 3044.2                             | 9267.2                                    | 226.6                                                     |
| 2                     | 3000.2                             | 9001.2                                    | 492.6                                                     |
| 3                     | 2956.2                             | 8739.1                                    | 754.7                                                     |
| 4                     | 2901.2                             | 8417.0                                    | 1076.8                                                    |
| 5                     |                                    |                                           |                                                           |

  

|                                           |  |                  |               |
|-------------------------------------------|--|------------------|---------------|
| Absolute Open Flow 11.04 MM Mcfd @ 15.025 |  | Angle of Slope 0 | Slope, n 5057 |
|-------------------------------------------|--|------------------|---------------|

  

Remarks: Pressure reading from bottom hole pressure chart

\* Because of water production in the area the pressure draw down was not 25% of shut-in

|                                        |                                     |                          |                        |
|----------------------------------------|-------------------------------------|--------------------------|------------------------|
| Approved By Commission:<br>6-27-70 RLS | Conducted By:<br>Sexton and Nichols | Calculated By:<br>Sexton | Checked By:<br>Nichols |
|----------------------------------------|-------------------------------------|--------------------------|------------------------|