

Chaplin Petroleum Company  
 L-36-21-27 Eddy Co.  
 State 36 #1 (Wolfcamp)  
 Aof 2,903 mcf/d  $n = .650$

8/26/74

$$Q_2 \text{ Log } 3750 = 3.574031$$

$$Q_1 \text{ Log } 840 = 2.924279$$

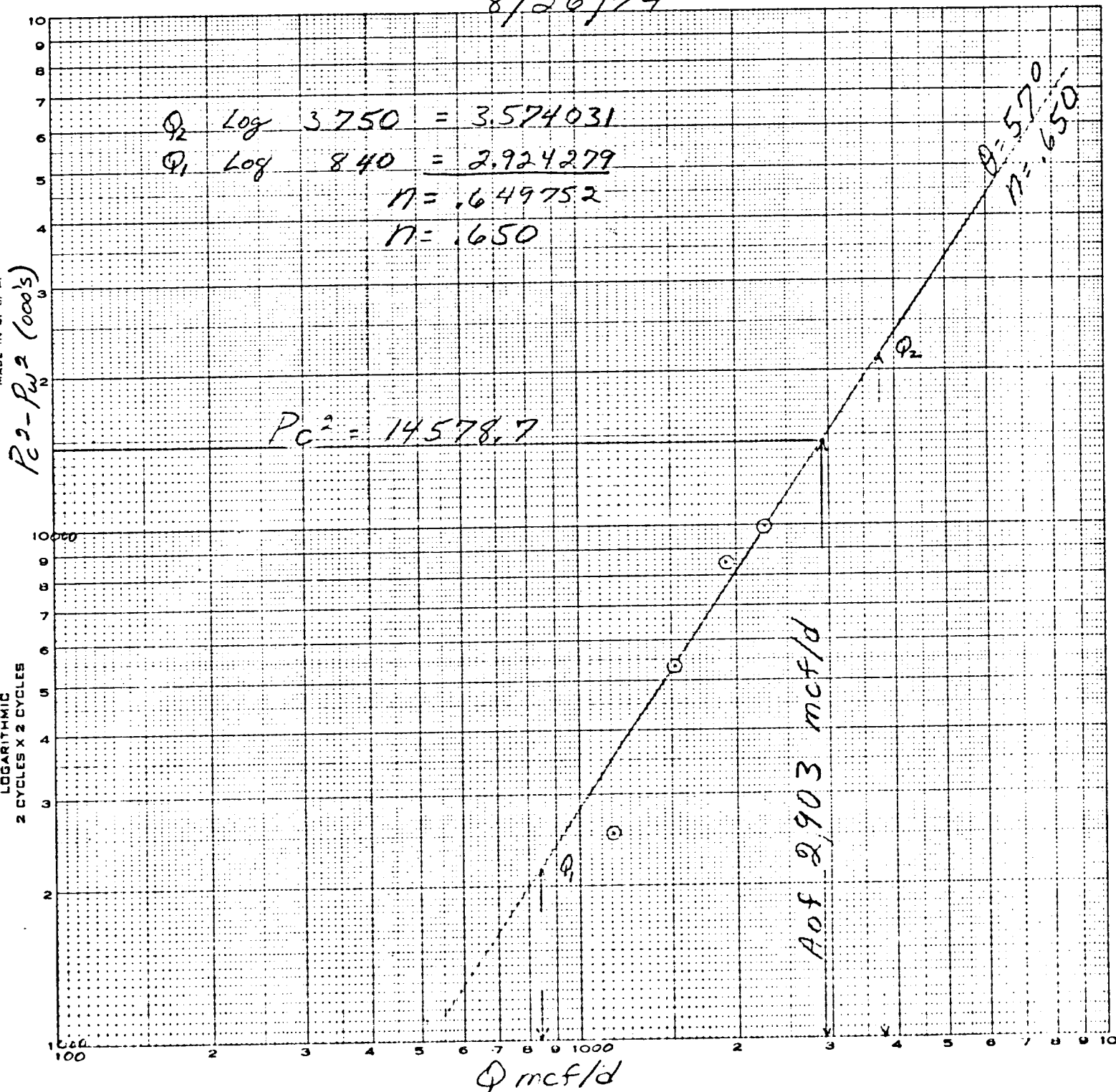
$$n = .649752$$

$$n = .650$$

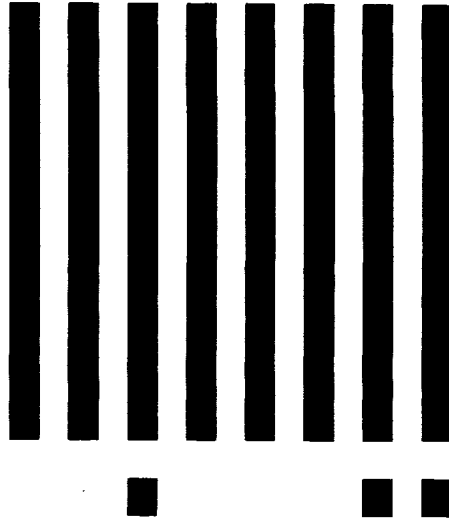
$$P_C^2 = 14578.7$$

MADE IN U. S. A.

NO. 341-124 UTILIZED DRAWN PAPER  
 LOGARITHMIC  
 2 CYCLES X 2 CYCLES



Aof 2,903 mcf/d



**LTR**



**Job separation sheet**

Copy 6515  
C-122  
Form C-122  
Revised 9-1-65

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

**RECEIVED**

SEP 16 1974

|                                                                                                                           |                |                                  |                                       |                                       |                                     |
|---------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|---------------------------------------|---------------------------------------|-------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                | Test Date<br>8-6-74              |                                       | SEP 16 1974                           |                                     |
| Company<br>Champlin Petroleum Company                                                                                     |                |                                  | Connection<br>El Paso Natural Gas Co. |                                       | O.C.C.<br>ARTESIA, OFFICE           |
| Pool<br>Undesignated                                                                                                      |                |                                  | Formation<br>Wolfcamp                 |                                       | Unit                                |
| Completion Date<br>8-24-74                                                                                                |                | Total Depth<br>12,044'           |                                       | Ring Back TD<br>11,971'               | Elevation<br>3102 GL                |
| Farm or Lease Name<br>State "36"                                                                                          |                | Well No.<br>1                    |                                       |                                       |                                     |
| Csg. Size<br>7"                                                                                                           | Wt.<br>23 & 26 | d<br>6.276                       | Set At<br>12,041'                     | Perforations:<br>From 9747' To 9821'  | Unit Sec. Twp. Rge.<br>L 36 21S 27E |
| Thq. Size<br>2-7/8"                                                                                                       | Wt.<br>6.5     | d<br>2.441                       | Set At<br>11,450'                     | Perforations:<br>From To              |                                     |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Dual                                                           |                |                                  | Packer Set At<br>11,450'              |                                       | County<br>Eddy                      |
| Producing Thru<br>Casing                                                                                                  |                | Reservoir Temp. °F<br>172° 9784' | Mean Annual Temp. °F<br>60 (E)        | Baro. Press. - P <sub>a</sub><br>13.2 | State<br>New Mexico                 |
| L<br>9784                                                                                                                 | H<br>9784      | G <sub>g</sub><br>.599           | % CO <sub>2</sub>                     | % N <sub>2</sub>                      | % H <sub>2</sub> S                  |
| Prover<br>2"                                                                                                              |                | Meter Run                        | Taps                                  |                                       |                                     |

| FLOW DATA |                        |   |                 |                    |                         |             | TUBING DATA        |             | CASING DATA        |             | Duration<br>of<br>Flow |
|-----------|------------------------|---|-----------------|--------------------|-------------------------|-------------|--------------------|-------------|--------------------|-------------|------------------------|
| NO.       | Prover<br>Line<br>Size | X | Orifice<br>Size | Press.<br>p.s.i.g. | Diff.<br>h <sub>w</sub> | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F |                        |
| SI        |                        |   |                 |                    |                         |             |                    |             | 3805               | 60 (E)      | 72 hr.                 |
| 1.        | 2 x 1.250              |   |                 | 20                 |                         | 83          |                    |             | 3460               | 75 (E)      | 1 hr.                  |
| 2.        | 2 x 1.250              |   |                 | 30                 |                         | 70          |                    |             | 3025               | 75 (E)      | 1 hr.                  |
| 3.        | 2 x 1.250              |   |                 | 40                 |                         | 58          |                    |             | 2467               | 75 (E)      | 1 hr.                  |
| 4.        | 2 x 1.250              |   |                 | 50                 |                         | 55          |                    |             | 2135               | 75 (E)      | 1 hr.                  |
| 5.        |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |

| RATE OF FLOW CALCULATIONS |                          |                  |                            |                                        |                                     |                                               |                         |
|---------------------------|--------------------------|------------------|----------------------------|----------------------------------------|-------------------------------------|-----------------------------------------------|-------------------------|
| NO.                       | Coefficient<br>(24 Hour) | $\sqrt{h_w P_m}$ | Pressure<br>P <sub>m</sub> | Flow Temp.<br>Factor<br>F <sub>L</sub> | Gravity<br>Factor<br>F <sub>g</sub> | Super<br>Compress.<br>Factor, F <sub>pv</sub> | Rate of Flow<br>Q, Mcfd |
| 1                         | 27.63                    |                  | 33.2                       | .9786                                  | 1.292                               | 1.003                                         | 1163                    |
| 2                         | 27.63                    |                  | 43.2                       | .9905                                  | 1.292                               | 1.003                                         | 1532                    |
| 3                         | 27.63                    |                  | 53.2                       | 1.002                                  | 1.292                               | 1.004                                         | 1911                    |
| 4                         | 27.63                    |                  | 63.2                       | 1.005                                  | 1.292                               | 1.005                                         | 2279                    |
| 5                         |                          |                  |                            |                                        |                                     |                                               |                         |

|     |                |          |                |   |                                                            |
|-----|----------------|----------|----------------|---|------------------------------------------------------------|
| NO. | P <sub>t</sub> | Temp. °R | T <sub>f</sub> | Z | Gas Liquid Hydrocarbon Ratio<br>9,848 Mcf/bbl.             |
| 1.  |                |          |                |   | A.P.I. Gravity of Liquid Hydrocarbons<br>57.8 @ 60° F Deg. |
| 2.  |                |          |                |   | Specific Gravity Separator Gas<br>.599 XXXXXXXX            |
| 3.  |                |          |                |   | Specific Gravity Flowing Fluid<br>XXXXXX .871              |
| 4.  |                |          |                |   | Critical Pressure<br>671 P.S.I.A. 663 P.S.I.A.             |
| 5.  |                |          |                |   | Critical Temperature<br>358 R 447 R                        |

|                                              |                |                |                             |                                                           |                                           |  |                                                            |  |
|----------------------------------------------|----------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------------|--|------------------------------------------------------------|--|
| P <sub>c</sub> 3818.2 P <sub>w</sub> 14578.7 |                |                |                             |                                                           | (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.802$ |  | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.409$ |  |
| NO.                                          | P <sub>t</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> |                                           |  |                                                            |  |
| 1                                            |                | 3473.6         | 12065.9                     | 2512.8                                                    |                                           |  |                                                            |  |
| 2                                            |                | 3038.6         | 9233.1                      | 5345.6                                                    |                                           |  |                                                            |  |
| 3                                            |                | 2480.8         | 6154.4                      | 8424.3                                                    |                                           |  |                                                            |  |
| 4                                            |                | 2148.9         | 4617.8                      | 9960.9                                                    |                                           |  |                                                            |  |
| 5                                            |                |                |                             |                                                           |                                           |  |                                                            |  |

|                                       |  |  |  |  |                  |  |               |  |
|---------------------------------------|--|--|--|--|------------------|--|---------------|--|
| Absolute Open Flow 2802 Mcfd @ 15.025 |  |  |  |  | Angle of Slope θ |  | Slope, n .500 |  |
|---------------------------------------|--|--|--|--|------------------|--|---------------|--|

Remarks: P<sub>w</sub> calculated by time-share program using stepwise procedure.  
The slope of the back pressure curve was less than .500, therefore, a slope of .500 was drawn through the lowest rate included in the test.

|                         |               |                  |                  |
|-------------------------|---------------|------------------|------------------|
| Approved By Commission: | Conducted By: | Calculated By:   | Checked By:      |
|                         | Joe Ragan     | J. K. Adair, Jr. | Donald C. Condie |