

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

Copy 621  
Form C-122  
Revised 9-1-65  
C-122-  
2558

24915  
12-1

|                                                                                                                           |                                               |                                   |                           |                                      |                                  |                                           |                    |                     |                                      |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------|---------------------------|--------------------------------------|----------------------------------|-------------------------------------------|--------------------|---------------------|--------------------------------------|
| Type Test<br><input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special |                                               |                                   |                           |                                      |                                  | Test Date<br>6-5-7-74                     |                    |                     |                                      |
| Company<br>CITIES SERVICE OIL COMPANY                                                                                     |                                               |                                   |                           |                                      |                                  | Connection<br>EL PASO NATURAL GAS COMPANY |                    |                     |                                      |
| Pool<br>Benton Flat manow<br>WINCHESTER UNDESIGNATED                                                                      |                                               |                                   |                           |                                      |                                  | Formation<br>MORROW                       |                    | Unit                |                                      |
| Completion Date<br>2-28-74                                                                                                |                                               |                                   | Total Depth<br>11500'     |                                      | Plug Back TD<br>11448'           |                                           | Elevation<br>3274' |                     | Farm or Lease Name<br>Government "U" |
| Csg. Size<br>5 1/2"                                                                                                       | Wt.<br>17# - 10,380'<br>20# - 10,360'-11,500' | d<br>4.892"<br>4.778"             | Set At<br>11500           | Perforations:<br>From 11271 To 11429 |                                  | Well No.<br>1                             |                    |                     |                                      |
| Thg. Size<br>2 7/8"                                                                                                       | Wt.<br>6.4#                                   | d<br>2.441"                       | Set At<br>11356           | Perforations:<br>From OPEN To END    |                                  | Unit<br>G                                 | Sec.<br>22         | Twp.<br>20S         | Rge.<br>28E                          |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                                               |                                   |                           |                                      |                                  | Packer Set At<br>H315 11165               |                    | County<br>Eddy      |                                      |
| Producing Thru<br>Tubing                                                                                                  |                                               | Reservoir Temp. °F<br>186 @ 11435 |                           | Mean Annual Temp. °F<br>60           |                                  | Baro. Press. - P <sub>a</sub><br>13.2     |                    | State<br>New Mexico |                                      |
| L<br>11.356                                                                                                               | H<br>11356                                    | G <sub>g</sub><br>0.593           | % CO <sub>2</sub><br>0.97 | % N <sub>2</sub><br>---              | % H <sub>2</sub> S<br>.02Gr./100 | Prover                                    | Meter Run<br>4"    | Taps<br>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. | Temp. °F |                  |
| SI        |                  |   |              | L - 10 CHART    |                      |          | 3562.0          |          | PKR             | CHOKE    |                  |
| 1.        | 4                | x | 1.50"        | 7.40            | 2.90                 | 34       | 3390.0          | 75       |                 | 6/64"    | 60 Min.          |
| 2.        | 4                | x | 1.50"        | 7.40            | 4.60                 | 64       | 3100.0          | 73       |                 | 9/64"    | 60 Min.          |
| 3.        | 4                | x | 1.50"        | 7.50            | 5.50                 | 70       | 2737.0          | 74       |                 | 12/64"   | 60 Min.          |
| 4.        | 4                | x | 1.50"        | 7.50            | 6.30                 | 70       | 2464.0          | 80       |                 | 15/64"   | 60 Min.          |
| 5.        |                  |   |              |                 |                      |          |                 |          |                 |          |                  |

  

| RATE OF FLOW CALCULATIONS |                       |                                                       |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|-------------------------------------------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | 100" - 1000#<br>L-10 $\sqrt{h_w P_m}$<br>Meter Factor | 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                         | 10.84                 | 3.162                                                 | 547.6                   | 1.026                 | 1.299                         | 1.056                                   | 1035                 |
| 2                         | 10.84                 | 3.162                                                 | 547.6                   | .9962                 | 1.299                         | 1.046                                   | 1479                 |
| 3                         | 10.84                 | 3.162                                                 | 562.5                   | .9905                 | 1.299                         | 1.044                                   | 1899                 |
| 4                         | 10.84                 | 3.162                                                 | 562.5                   | .9905                 | 1.299                         | 1.044                                   | 2175                 |
| 5.                        |                       |                                                       |                         |                       |                               |                                         |                      |

  

| NO. | P <sub>f</sub> | Temp. °R | T <sub>f</sub> | Z    | Gas Liquid Hydrocarbon Ratio --- Mcf/bbl. | A.P.I. Gravity of Liquid Hydrocarbons --- Deg. |
|-----|----------------|----------|----------------|------|-------------------------------------------|------------------------------------------------|
| 1.  | 0.82           | 494      | 1.40           | .897 | Specific Gravity Separator Gas 0.593      | XXXXXXX                                        |
| 2.  | 0.82           | 524      | 1.48           | .914 | Specific Gravity Flowing Fluid XXXXX      |                                                |
| 3.  | 0.84           | 530      | 1.50           | .917 | Critical Pressure 668 P.S.I.A.            | P.S.I.A.                                       |
| 4.  | 0.84           | 530      | 1.50           | .917 | Critical Temperature 353 R                | R                                              |
| 5.  |                |          |                |      |                                           |                                                |

  

| P <sub>f</sub> 4573.2 | P <sub>w</sub> <sup>2</sup> 20914 |                |                             |
|-----------------------|-----------------------------------|----------------|-----------------------------|
| NO.                   | P <sub>f</sub> <sup>2</sup>       | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> |
| 1                     | 11582                             | 4333.2         | 18777                       |
| 2                     | 9692                              | 4151.2         | 17232                       |
| 3                     | 7564                              | 4011.2         | 16090                       |
| 4                     | 6137                              | 3881.2         | 15064                       |
| 5                     |                                   |                |                             |

  

$$(1) \frac{P_f^2}{P_f^2 - P_s^2} = 3.5750$$

$$(2) \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 2.3153$$

  

$$AOF = Q \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 5036$$

  

|                                       |                               |                |
|---------------------------------------|-------------------------------|----------------|
| Absolute Open Flow 5036 Mcfd @ 15.025 | Angle of Slope $\theta$ 56.6° | Slope, n 0.659 |
|---------------------------------------|-------------------------------|----------------|

  

Remarks: 100" - 1000# Meter Range - L-10 Chart Readings  
Bottom Hole pressures measured with Amerada gage at 11435'

  

|                         |                           |                           |                                    |
|-------------------------|---------------------------|---------------------------|------------------------------------|
| Approved By Commission: | Conducted By:<br>D. Tyson | Calculated By:<br>R. West | Checked By:<br><i>Roger L. ...</i> |
|-------------------------|---------------------------|---------------------------|------------------------------------|