

W MEXICO OIL CONSERVATION COMMISSION  
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>2-10-82                                  |                |                                            |  |
| Company<br>Harvey E. Yates Company                                                                                        |                |                                   |                           | Connection<br>El Paso Natural Gas      |                           |                                                       |                |                                            |  |
| Pool<br>Austin-Mississippian                                                                                              |                |                                   |                           | Formation<br>Mississippian             |                           |                                                       |                | Unit                                       |  |
| Completion Date<br>12/19/81                                                                                               |                | Total Depth<br>13,428'            |                           | Plug Back To<br>13,428'                |                           | Elevation<br>3969.8'                                  |                | Farm or Lease Name<br>Austin 18 State Com. |  |
| Log. Size<br>5 1/2"                                                                                                       | Wt.<br>20#-17# | d<br>4.653"                       | Set At<br>13315'          | Perforations:<br>From 13315' To 13428' |                           | Well No.<br>1                                         |                |                                            |  |
| Thq. Size<br>2 3/8"                                                                                                       | Wt.<br>4.7#    | d<br>1.995"                       | Set At<br>13228'          | Perforations:<br>From N/A To           |                           | Unit    Sec.    Twp.    Rge.<br>J    18    14S    36E |                |                                            |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                |                                   |                           |                                        |                           | Packer Set At<br>13100'                               |                | County<br>Lea                              |  |
| Producing Thru<br>Tubing                                                                                                  |                | Reservoir Temp. °F<br>191 @ 13372 |                           | Mean Annual Temp. °F<br>70             |                           | Baro. Press. - P <sub>a</sub><br>13.2                 |                | State<br>New Mexico                        |  |
| L<br>13372                                                                                                                | H<br>13372     | Gg<br>0.673                       | % CO <sub>2</sub><br>1.36 | % N <sub>2</sub><br>0.93               | % H <sub>2</sub> S<br>Nil | Prover                                                | Meter Run<br>X | 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        | 116 hours        |   |              |                 |                      |             | 2540            |             | Pkr.            | -                |          |
| 1.        | 4.026 X 1.500    |   |              | 123.700         | 4.84                 | 84          | 2300            | 70          | Pkr.            | -                | 60 mins. |
| 2.        | 4.026 X 1.500    |   |              | 127.425         | 9.00                 | 91          | 2163            | 70          | Pkr.            | -                | 60 mins. |
| 3.        | 4.026 X 1.500    |   |              | 142.825         | 26.01                | 100         | 1993            | 70          | Pkr.            | -                | 60 mins. |
| 4.        | 4.026 X 1.500    |   |              | 176.025         | 96.04                | 92          | 1830            | 70          | Pkr.            | -                | 60 mins. |
| 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                         | 10.84                 | 25.741           | 136.900                 | .9777                 | 1.219                         | 1.010                                   | 335.9                |
| 2                         | 10.84                 | 35.576           | 140.625                 | .9715                 | 1.219                         | 1.011                                   | 461.7                |
| 3                         | 10.84                 | 63.704           | 156.025                 | .9636                 | 1.219                         | 1.012                                   | 820.9                |
| 4                         | 10.84                 | 134.808          | 189.225                 | .9706                 | 1.219                         | 1.016                                   | 1756.6               |
| 5                         |                       |                  |                         |                       |                               |                                         |                      |

  

|     |                                                  |          |                |   |                                       |           |                 |
|-----|--------------------------------------------------|----------|----------------|---|---------------------------------------|-----------|-----------------|
| NO. | P <sub>f</sub>                                   | Temp. °R | T <sub>f</sub> | Z | Gas Liquid Hydrocarbon Ratio          | 32.989    | Mcfd/bbl.       |
| 1   | USED SIMPLIFIED<br>SUPERCOMPRESSIBILITY<br>TABLE |          |                |   | A.P.I. Gravity of Liquid Hydrocarbons |           | Deg.            |
| 2   |                                                  |          |                |   | Specific Gravity Separator Gas        | 0.673     | X X X X X X X X |
| 3   |                                                  |          |                |   | Specific Gravity Flowing Fluid        | X X X X X |                 |
| 4   |                                                  |          |                |   | Critical Pressure                     | 672       | P.S.I.A.        |
| 5   |                                                  |          |                |   | Critical Temperature                  | 378       | R               |

  

|                       |                                   |                             |
|-----------------------|-----------------------------------|-----------------------------|
| P <sub>f</sub> 3969.2 | P <sub>f</sub> <sup>2</sup> 15755 |                             |
| NO.                   | P <sub>s</sub>                    | P <sub>s</sub> <sup>2</sup> |
| 1                     | 3845.2                            | 14786                       |
| 2                     | 3742.2                            | 14004                       |
| 3                     | 3512.2                            | 12336                       |
| 4                     | 3009.2                            | 9055                        |
| 5                     |                                   |                             |

  

$$(1) \frac{P_f^2}{P_f^2 - P_s^2} = 2.35149$$

$$AOS = \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 4130.631$$

$$(2) \left[ \frac{P_f^2}{P_f^2 - P_s^2} \right]^n = 2.35149$$

  

|                    |          |               |                |       |          |        |
|--------------------|----------|---------------|----------------|-------|----------|--------|
| Absolute Open Flow | 4130.631 | Mcfd @ 15.025 | Angle of Slope | 45.0° | Slope, n | 1.0000 |
|--------------------|----------|---------------|----------------|-------|----------|--------|

  

Remarks: BHP measured with Amerada RPG-3 Gauge No. 50669, 0-6000 PSI Range

  

|                         |                                   |                                     |                          |
|-------------------------|-----------------------------------|-------------------------------------|--------------------------|
| Approved By Commission: | Conducted By:<br>Teffteller, Inc. | Calculated By:<br>D. A. Warren, Jr. | Checked By:<br>Ray Nokes |
|-------------------------|-----------------------------------|-------------------------------------|--------------------------|