

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

RECEIVED BY

Form C-122  
Revised 9-1-65

4/5P  
File

O. C. D.

ARTESIA, CALIFORNIA

|                                                                                                                           |                    |                                           |                          |                                        |                           |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|--------------------------|----------------------------------------|---------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                           |                          | Test Date<br>6-4-84                    |                           |
| Company<br>TEXACO Inc. ✓                                                                                                  |                    |                                           |                          | Connection<br>None                     |                           |
| Pool<br>Nimenim Ridge <i>Morrow</i>                                                                                       |                    |                                           |                          | Formation<br>Morrow                    |                           |
| Completion Date<br>4-1-84                                                                                                 |                    | Total Depth<br>13,206                     |                          | Plug Back TD<br>11,750                 |                           |
| Elevation                                                                                                                 |                    | Farm or Lease Name<br>L.R. Manning Fed. B |                          |                                        |                           |
| Csg. Size<br>5.5                                                                                                          | Wt.<br>17.00       | d<br>4.686                                | Set At<br>13,206         | Perforations:<br>From 11,610 To 11,670 |                           |
| Well No.<br>21                                                                                                            |                    |                                           |                          |                                        |                           |
| Teg. Size<br>2.375                                                                                                        | Wt.<br>4.70        | d<br>1.995                                | Set At<br>11,540         | Perforations:<br>From To               |                           |
| Unit<br>I                                                                                                                 | Sec.<br>28         | Twp.<br>18                                | Age.<br>30               |                                        |                           |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                    |                                           |                          | Packer Set At<br>11,644                |                           |
| Producing Thru<br>Tubing                                                                                                  |                    | Reservoir Temp. °F<br>174 @ 11643         |                          | Mean Annual Temp. °F<br>60             |                           |
| Baro. Press. - P <sub>a</sub><br>13.2                                                                                     |                    | State<br>New Mexico                       |                          |                                        |                           |
| L<br>11,643                                                                                                               | H<br>11,643        | Gg<br>0.662                               | % CO <sub>2</sub><br>3.0 | % N <sub>2</sub><br>1.5                | % H <sub>2</sub> S<br>0.0 |
| Prover<br>-                                                                                                               | Meter Run<br>2.067 | 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        |                  |   |              |                 |                      |             | 3190            | 60          |                 |                  |
| 1.        | 2 x 0.750        |   |              | 88.0            | 60.8                 | 50          | 3152            | 76          |                 | 1 hr.            |
| 2.        | 2 x 1.250        |   |              | 401.6           | 7.8                  | 40          | 3080            | 78          |                 | "                |
| 3.        | 2 x 1.250        |   |              | 421.2           | 12.3                 | 36          | 3032            | 78          |                 | "                |
| 4.        | 2 x 1.250        |   |              | 434.5           | 15.2                 | 28          | 2973            | 78          |                 | "                |
| 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 Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|-----|-----------------------|------------------|-------------------------|-----------------------|-------------------|-----------------------------|----------------------|
| 1   | 2.7090                | 78.5             | 101.2                   | 1.0098                | 1.229             | 1.011                       | 272                  |
| 2   | 8.1200                | 57.0             | 414.8                   | 1.0198                | 1.229             | 1.056                       | 626                  |
| 3   | 8.1200                | 72.9             | 434.4                   | 1.0239                | 1.229             | 1.061                       | 807                  |
| 4   | 8.1200                | 82.5             | 447.4                   | 1.0323                | 1.229             | 1.066                       | 925                  |
| 5.  |                       |                  |                         |                       |                   |                             |                      |

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | z     | Gas Liquid Hydrocarbon Ratio          | Mcf/bbl.     |
|-----|----------------|----------|----------------|-------|---------------------------------------|--------------|
|     |                |          |                |       | 385                                   |              |
|     |                |          |                |       | 59.0                                  |              |
| 1.  | 0.15           | 510      | 1.31           | 0.977 | A.P.I. Gravity of Liquid Hydrocarbons |              |
| 2.  | 0.16           | 500      | 1.29           | 0.896 | Specific Gravity Separator Gas        | 0.662        |
| 3.  | 0.64           | 496      | 1.28           | 0.889 | Specific Gravity Flowing Fluid        | 0.735        |
| 4.  | 0.66           | 488      | 1.26           | 0.880 | Critical Pressure                     | 680 P.S.I.A. |
| 5.  |                |          |                |       | Critical Temperature                  | 369 °R       |

| NO. | P <sub>c</sub> | P <sub>w</sub> | P <sub>c</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
|-----|----------------|----------------|-----------------------------|-----------------------------|-----------------------------------------------------------|
| 1   | 3165           | 3167           | 10032.8                     | 227.2                       |                                                           |
| 2   | 3093           | 3097           | 9593.6                      | 666.8                       |                                                           |
| 3   | 3045           | 3051           | 9308.3                      | 952.2                       |                                                           |
| 4   | 2986           | 2993           | 8959.6                      | 1300.9                      |                                                           |
| 5   |                |                |                             |                             |                                                           |

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 15.3876$  (2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 76.839$

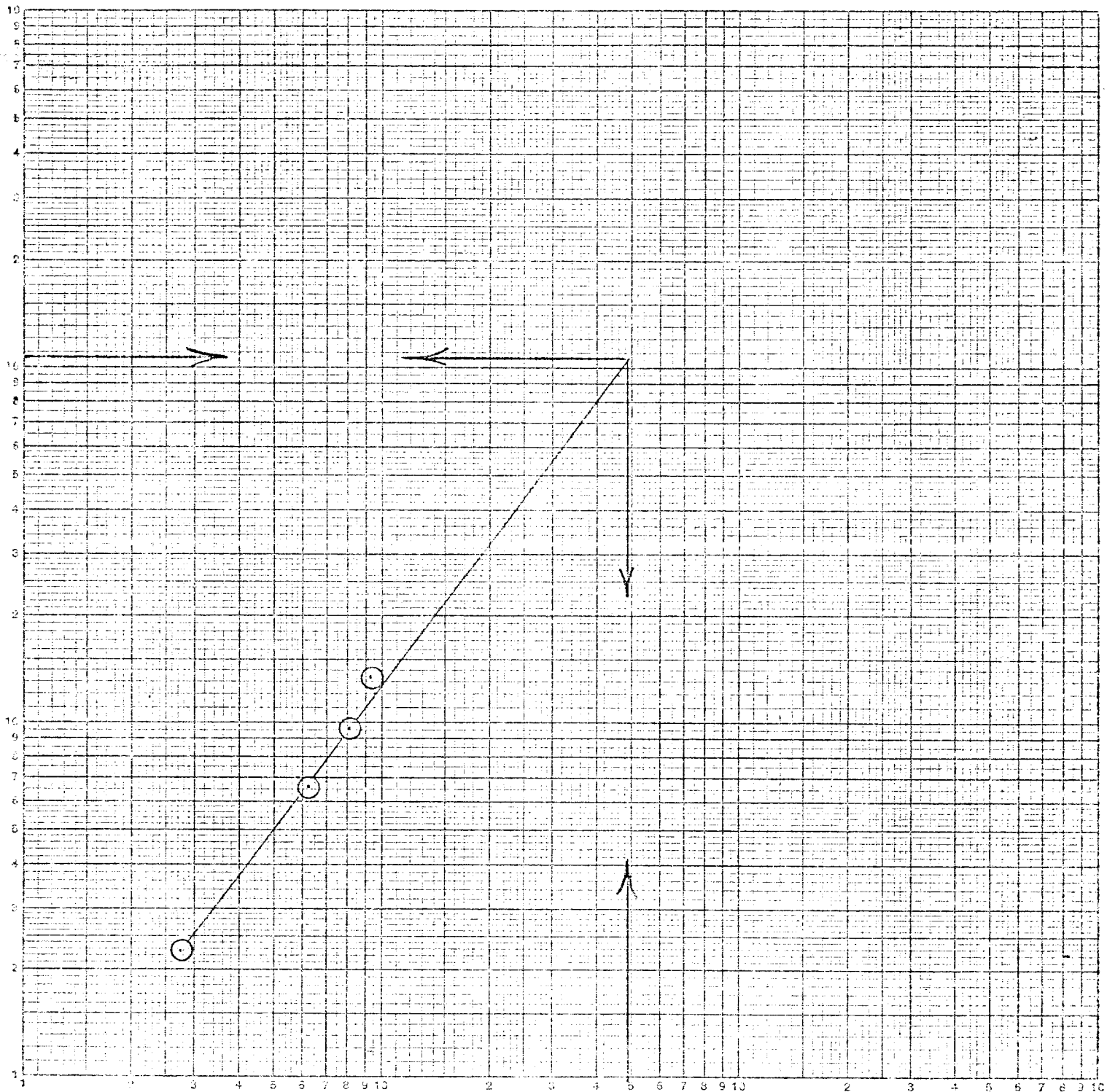
AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4810$

Post ID-2  
1-18-85  
Comp + BK

|                                          |  |                            |  |                            |  |
|------------------------------------------|--|----------------------------|--|----------------------------|--|
| Absolute Open Flow<br>4810 Mcfd @ 15.025 |  | Angle of Slope θ<br>53     |  | Slope, n<br>747            |  |
| Remarks:                                 |  |                            |  |                            |  |
| Approved By Commission:                  |  | Conducted By:<br>R. E. Lee |  | Calculated By:<br>computer |  |
|                                          |  | Checked By:                |  |                            |  |

*P. Frank Lewis*

TEXACO Inc.  
 L. R. Manning Fed. 'B' #21  
 I 28-18-30  
 Eddy County, New Mexico  
 6-4-84



Q = 4810 MCFD  
 Angle 53 degrees  
 N = 747