

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

Form C-122

RECEIVED BY

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O. C. D.

ARTESIA, OFFICE

|                                                 |               |             |                   |                                          |                                             |  |                         |                     |                                 |
|-------------------------------------------------|---------------|-------------|-------------------|------------------------------------------|---------------------------------------------|--|-------------------------|---------------------|---------------------------------|
| Type Test<br>[x] Initial [ ] Annual [ ] Special |               |             |                   |                                          | Test Date<br>8/9/83                         |  |                         |                     |                                 |
| Company<br>Yates Petroleum Corporation          |               |             |                   |                                          | Connection<br>Transwestern Pipeline Company |  |                         |                     |                                 |
| Pool<br>West Pecos Slope                        |               |             |                   |                                          | Formation<br>Abo                            |  |                         |                     |                                 |
| Completion Date<br>3/11/83                      |               |             |                   |                                          | Total Depth<br>3250.0'                      |  | Plug Back TD<br>3217.0' |                     | Elevation<br>3885.8'            |
| Farm or Lease Name<br>Bajillo Draw "WQ" St      |               |             |                   |                                          | Well No.<br>1                               |  |                         |                     |                                 |
| Csg Size<br>4.500"                              | Wt.<br>3.500# | d<br>4.090" | Set At<br>3250.0' | Perforations:<br>From 2728.0' To 2844.0' |                                             |  |                         |                     | Unit Sec Twp Rge<br>D 28 7S 23E |
| Tbg Size<br>2.375"                              | Wt.<br>4.700# | d<br>1.995" | Set At<br>2694.0' | Perforations:<br>From 0.0' To 0.0'       |                                             |  |                         |                     |                                 |
| Type Well<br>Single                             |               |             |                   |                                          | Packer Set At<br>2694.0'                    |  |                         |                     |                                 |
| Producing Thru<br>Tubing                        |               |             |                   |                                          | Resv. Temp. °F<br>94 @ 2690'                |  | Mean Temp. °F<br>62.0   |                     | Baro. Press. - Pa<br>13.2 psia. |
| L<br>2694.0'                                    |               |             |                   |                                          | H<br>2694.0'                                |  | Gg<br>.609              | %CO2<br>.01         | %N2<br>6.58                     |
|                                                 |               |             |                   |                                          | %H2S<br>0.00                                |  | Prover<br>0.000"        | Meter Run<br>2.000" | Taps<br>Flange                  |

| FLOW DATA |                |                 |                |             |             | TUBING DATA    |             | CASING DATA    |             | Duration<br>of<br>Flow |
|-----------|----------------|-----------------|----------------|-------------|-------------|----------------|-------------|----------------|-------------|------------------------|
| NO        | Prover<br>Size | Orifice<br>Size | Press.<br>psig | Diff.<br>hw | Temp.<br>°F | Press.<br>psig | Temp.<br>°F | Press.<br>psig | Temp.<br>°F |                        |
| SI        | 0.000          | x 0.000         | 0              | 0.0         | 0           | 911            | 0           | 0              | 0           | 0 hrs.                 |
| 1.        | 2.067          | x 1.125         | 485            | 3.0         | 70          | 750            | 62          | 0              | 0           | 24 hrs.                |
| 2.        | 2.067          | x 1.125         | 480            | 8.0         | 70          | 690            | 62          | 0              | 0           | 24 hrs.                |
| 3.        | 2.067          | x 1.125         | 470            | 12.0        | 70          | 635            | 62          | 0              | 0           | 24 hrs.                |
| 4.        | 2.067          | x 1.125         | 465            | 17.0        | 70          | 570            | 62          | 0              | 0           | 24 hrs.                |
| 5.        | 0.000          | x 0.000         | 0              | 0.0         | 0           | 0              | 0           | 0              | 0           | 0 hrs.                 |

RATE OF FLOW CALCULATIONS

| NO | Coefficient<br>(24 HOURS) | $\sqrt{hwP_m}$ | Pressure<br>Pm | Flow Temp<br>Factor<br>Ft. | Gravity<br>Factor<br>Fg | Super<br>Compress.<br>Fact. Fpv | Rate of Flow<br>Q, Mcfd |
|----|---------------------------|----------------|----------------|----------------------------|-------------------------|---------------------------------|-------------------------|
| 1. | 6.397                     | 38.66          | 498.20         | .991                       | 1.281                   | 1.034                           | 324                     |
| 2. | 6.397                     | 62.81          | 493.20         | .991                       | 1.281                   | 1.033                           | 527                     |
| 3. | 6.397                     | 76.15          | 483.20         | .991                       | 1.281                   | 1.033                           | 638                     |
| 4. | 6.397                     | 90.16          | 478.20         | .991                       | 1.281                   | 1.032                           | 756                     |
| 5. | 0.000                     | 0.00           | 0.00           | 0.000                      | 0.000                   | 0.000                           | 0                       |

| NO | Pr   | Temp.<br>°R | Tr   | Z     | Gas Liquid Hydrocarbon Ratio<br>Dry Mcf/bbl. | A.P.I. Gravity of Liquid Hydrocarbons<br>0.000 Deg. | Specific Gravity Separator Gas<br>.609 | Specific Gravity Flowing Fluid<br>.609 | Critical Pressure<br>660.7 PSIA | Critical Temperature<br>340.5°R |
|----|------|-------------|------|-------|----------------------------------------------|-----------------------------------------------------|----------------------------------------|----------------------------------------|---------------------------------|---------------------------------|
| 1. | .75  | 530         | 1.56 | .936  |                                              |                                                     |                                        |                                        |                                 |                                 |
| 2. | .75  | 530         | 1.56 | .936  |                                              |                                                     |                                        |                                        |                                 |                                 |
| 3. | .73  | 530         | 1.56 | .938  |                                              |                                                     |                                        |                                        |                                 |                                 |
| 4. | .72  | 530         | 1.56 | .938  |                                              |                                                     |                                        |                                        |                                 |                                 |
| 5. | 0.00 | 0           | 0.00 | 0.000 |                                              |                                                     |                                        |                                        |                                 |                                 |

|    |                 |                 |                 |                                  |                              |   |        |                                               |   |        |
|----|-----------------|-----------------|-----------------|----------------------------------|------------------------------|---|--------|-----------------------------------------------|---|--------|
| Pc | 924.2           | Pc <sup>2</sup> | 854.1           |                                  |                              |   |        |                                               |   |        |
| NO | Pt <sup>2</sup> | Pw              | Pw <sup>2</sup> | Pc <sup>2</sup> -Pw <sup>2</sup> | (1) $\frac{Pc^2}{Pc^2-Pw^2}$ | = | 1.6787 | (2) $\left[ \frac{Pc^2}{Pc^2-Pw^2} \right]^n$ | = | 1.6787 |
| 1. | 582.5           | 763.8           | 583.4           | 270.7                            |                              |   |        |                                               |   |        |
| 2. | 494.5           | 705.0           | 497.0           | 357.2                            |                              |   |        |                                               |   |        |
| 3. | 420.2           | 651.0           | 423.8           | 430.3                            |                              |   |        |                                               |   |        |
| 4. | 340.1           | 587.6           | 345.3           | 508.8                            |                              |   |        |                                               |   |        |
| 5. | 0.0             | 0.0             | 0.0             | 0.0                              |                              |   |        |                                               |   |        |

$$ROF = Q \left[ \frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 1269 \text{ Mcfd}$$

Absolute Open Flow 1269 Mcfd @ 15.025 Angle of Slope, 0 45 Slope, n1.000  
Remarks:

|              |                               |                                   |             |
|--------------|-------------------------------|-----------------------------------|-------------|
| Approved By: | Conducted By:<br>David Weaver | Calculated By:<br>Andie Carpenter | Checked By: |
|--------------|-------------------------------|-----------------------------------|-------------|

Adopted 9-1-65

DATE 10/6/83

COMPANY Yates Petroleum Corporation LEASE Bajillo Draw "WQ" St WELL NO. 1LOCATION: Unit D Section 28 Township 7S Range 23EL 2694.0 H 2694.0 L/H 1.000 G .609 %CO<sub>2</sub> .01 %N<sub>2</sub> 6.58 %H<sub>2</sub>S 0.00d 1.995 Fr .017777 GH 1640.6 Pcr 660.7 Tcr 340.5

| LINE |                                                 | 1st Rate | 2nd Rate | 3rd Rate | 4th Rate | 5th Rate |
|------|-------------------------------------------------|----------|----------|----------|----------|----------|
| 1    | Qm                                              | .324     | .527     | .638     | .756     | 0.000    |
| 2    | Tw(W.H.°R)                                      | 522.0    | 522.0    | 522.0    | 522.0    | 0.0      |
| 3    | Ts(B.H.°R)                                      | 554.0    | 554.0    | 554.0    | 554.0    | 0.0      |
| 4    | T=(Tw+Ts)/2                                     | 538.0    | 538.0    | 538.0    | 538.0    | 0.0      |
| 5    | Z(Est.)                                         | .906     | .913     | .919     | .927     | 0.000    |
| 6    | TZ                                              | 487.3    | 491.0    | 494.4    | 498.5    | 0.0      |
| 7    | GH/TZ                                           | 3.367    | 3.342    | 3.319    | 3.291    | 0.000    |
| 8    | e <sup>s</sup> (Table XIV)                      | 1.135    | 1.133    | 1.132    | 1.131    | 0.000    |
| 9    | 1-e <sup>-s</sup> (Table XIV)                   | .119     | .118     | .117     | .116     | 0.000    |
| 10   | Pt                                              | 763.2    | 703.2    | 648.2    | 583.2    | 0.0      |
| 11   | Pt <sup>2</sup> /1030                           | 582.5    | 494.5    | 420.2    | 340.1    | 0.0      |
| 12   | Fr(Table XV)                                    | .017777  | .017777  | .017777  | .017777  | 0.000000 |
| 13   | Fc=FrTZ                                         | 8.665    | 8.730    | 8.790    | 8.863    | 0.000    |
| 14   | FcQm                                            | 2.812    | 4.601    | 5.612    | 6.698    | 0.000    |
| 15   | L/H(FcQm) <sup>2</sup>                          | 7.905    | 21.167   | 31.497   | 44.862   | 0.000    |
| 16   | Fw=L/H(FcQm) <sup>2</sup> (1-e <sup>-s</sup> )  | .937     | 2.493    | 3.685    | 5.208    | 0.000    |
| 17   | Pw <sup>2</sup> =Pt <sup>2</sup> +Fw            | 583.4    | 497.0    | 423.8    | 345.3    | 0.0      |
| 18   | Ps <sup>2</sup> =e <sup>s</sup> Pw <sup>2</sup> | 661.9    | 563.3    | 480.0    | 398.7    | 0.0      |
| 19   | Ps                                              | 813.6    | 750.5    | 692.8    | 625.0    | 0.0      |
| 20   | P=(Pt+Ps)/2                                     | 788.4    | 726.9    | 670.5    | 604.1    | 0.0      |
| 21   | Pr=(P/Pcr)                                      | 1.19     | 1.10     | 1.01     | .91      | 0.00     |
| 22   | Tr=(T/Tcr)                                      | 1.58     | 1.58     | 1.58     | 1.58     | 0.00     |
| 23   | Z(Table XI)                                     | .906     | .913     | .919     | .927     | 0.000    |

|          |                             |
|----------|-----------------------------|
| Company  | Yates Petroleum Corporation |
| Well     | Bajillo Draw "WQ" St. No. 1 |
| Location | D, 28-7S-23E                |
| County   | Chaves                      |
| Date     | 10/6/83                     |

