

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

Form C-122

clsr  
File

JAN 23 '90

|                                                 |               |                               |                   |                                             |                       |                                 |                                |                                        |
|-------------------------------------------------|---------------|-------------------------------|-------------------|---------------------------------------------|-----------------------|---------------------------------|--------------------------------|----------------------------------------|
| Type Test<br>[x] Initial [ ] Annual [ ] Special |               |                               |                   |                                             | Test Date<br>12/18/88 |                                 | JAN 23 '90                     |                                        |
| Company<br>Yates Petroleum Corporation          |               |                               |                   | Connection<br>Transwestern Pipeline Company |                       |                                 | O. C. D.<br>ARTESIA, OFFICE    |                                        |
| Pool<br>Pecos Slope                             |               |                               |                   | Formation<br>Abo                            |                       |                                 | Unit                           |                                        |
| Completion Date<br>1/24/84                      |               | Total Depth<br>4800.0'        |                   | Plug Back TD<br>4737.0'                     |                       | Elevation<br>3751.5'            |                                | Farm or Lease Name<br>Galleta YT State |
| Csg Size<br>4.500"                              | Wt.<br>9.500# | d<br>4.090"                   | Set At<br>4800.0' | Perforations:<br>From 4277.0' To 4288.0'    |                       |                                 | Well No.<br>1                  |                                        |
| Tbg Size<br>2.375"                              | Wt.<br>4.700# | d<br>1.995"                   | Set At<br>4224.0' | Perforations:<br>From 0.0' To 0.0'          |                       |                                 | Unit Sec Twp Rge<br>L 2 7S 26E |                                        |
| Type Well<br>Single                             |               |                               |                   | Packer Set At<br>4224.0'                    |                       |                                 | County<br>Chaves               |                                        |
| Producing Thru<br>Tubing                        |               | Resv. Temp. °F<br>103 @ 4293' |                   | Mean Temp. °F<br>62.0                       |                       | Baro. Press. - Pa<br>13.2 psia. |                                | State<br>New Mexico                    |
| L<br>4224.0'                                    | H<br>4224.0'  | Gg<br>.660                    | %CO2<br>.03       | %N2<br>6.01                                 | %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 Orifice<br>Size X 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         | 56          | 1034           | 0           | 0              | 0           | 0 hrs.                 |
| 1.        | 2.067 X 1.125                 | 250            | 5.2         | 57          | 788            | 62          | 0              | 0           | 24 hrs.                |
| 2.        | 2.067 X 1.125                 | 250            | 7.3         | 56          | 714            | 62          | 0              | 0           | 24 hrs.                |
| 3.        | 2.067 X 1.125                 | 270            | 8.0         | 59          | 596            | 62          | 0              | 0           | 24 hrs.                |
| 4.        | 2.067 X 1.125                 | 300            | 13.0        | 55          | 350            | 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 HOUR) | √hwPm | 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                    | 37.00 | 263.20         | 1.003                      | 1.231                   | 1.023                           | 299                     |
| 2. | 6.397                    | 43.83 | 263.20         | 1.004                      | 1.231                   | 1.023                           | 354                     |
| 3. | 6.397                    | 47.60 | 283.20         | 1.001                      | 1.231                   | 1.024                           | 384                     |
| 4. | 6.397                    | 63.81 | 313.20         | 1.005                      | 1.231                   | 1.028                           | 519                     |
| 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 _____ Dry _____ Mcf/bbl. |  |  |
| 1. | .40  | 517         | 1.44 | .956  | A.P.I. Gravity of Liquid Hydrocarbons 0.000 Deg.      |  |  |
| 2. | .40  | 516         | 1.44 | .956  | Specific Gravity Separator Gas .660 xxxxxxxxxxxxxxx   |  |  |
| 3. | .43  | 519         | 1.45 | .953  | Specific Gravity Flowing Fluid xxxxxx .660            |  |  |
| 4. | .47  | 515         | 1.43 | .947  | Critical Pressure 660.0 PSIA 660.0 PSIA               |  |  |
| 5. | 0.00 | 0           | 0.00 | 0.000 | Critical Temperature 358.9°R 358.9°R                  |  |  |

|    |                 |                 |                 |                                  |                                       |                                                        |  |
|----|-----------------|-----------------|-----------------|----------------------------------|---------------------------------------|--------------------------------------------------------|--|
| Pc | 1047.2          | Pc <sup>2</sup> | 1096.6          |                                  |                                       |                                                        |  |
| NO | Pt <sup>2</sup> | Pw              | Pw <sup>2</sup> | Pc <sup>2</sup> -Pw <sup>2</sup> | (1) $\frac{Pc^2}{Pc^2-Pw^2} = 1.1439$ | (2) $\left[ \frac{Pc^2}{Pc^2-Pw^2} \right]^n = 1.1035$ |  |
| 1. | 641.9           | 802.0           | 643.2           | 453.4                            |                                       |                                                        |  |
| 2. | 528.8           | 728.4           | 530.6           | 566.0                            |                                       |                                                        |  |
| 3. | 371.1           | 611.0           | 373.3           | 723.3                            |                                       |                                                        |  |
| 4. | 131.9           | 368.8           | 136.0           | 960.6                            |                                       |                                                        |  |
| 5. | 0.0             | 0.0             | 0.0             | 0.0                              |                                       |                                                        |  |

$$ROF = Q \left[ \frac{Pc^2}{Pc^2 - Pw^2} \right]^n = 573 \text{ Mcfd}$$

Absolute Open Flow 573 Mcfd @ 15.025 Angle of Slope, 0 36 Slope, n .733  
Remarks:

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

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELL HEAD PRESSURE (Pw) C-122D

Adopted 9-1-65

DATE 1/22/90

COMPANY Yates Petroleum Corporation LEASE Galletta YT State WELL NO. 1

LOCATION: Unit L Section 2 Township 7S Range 26E

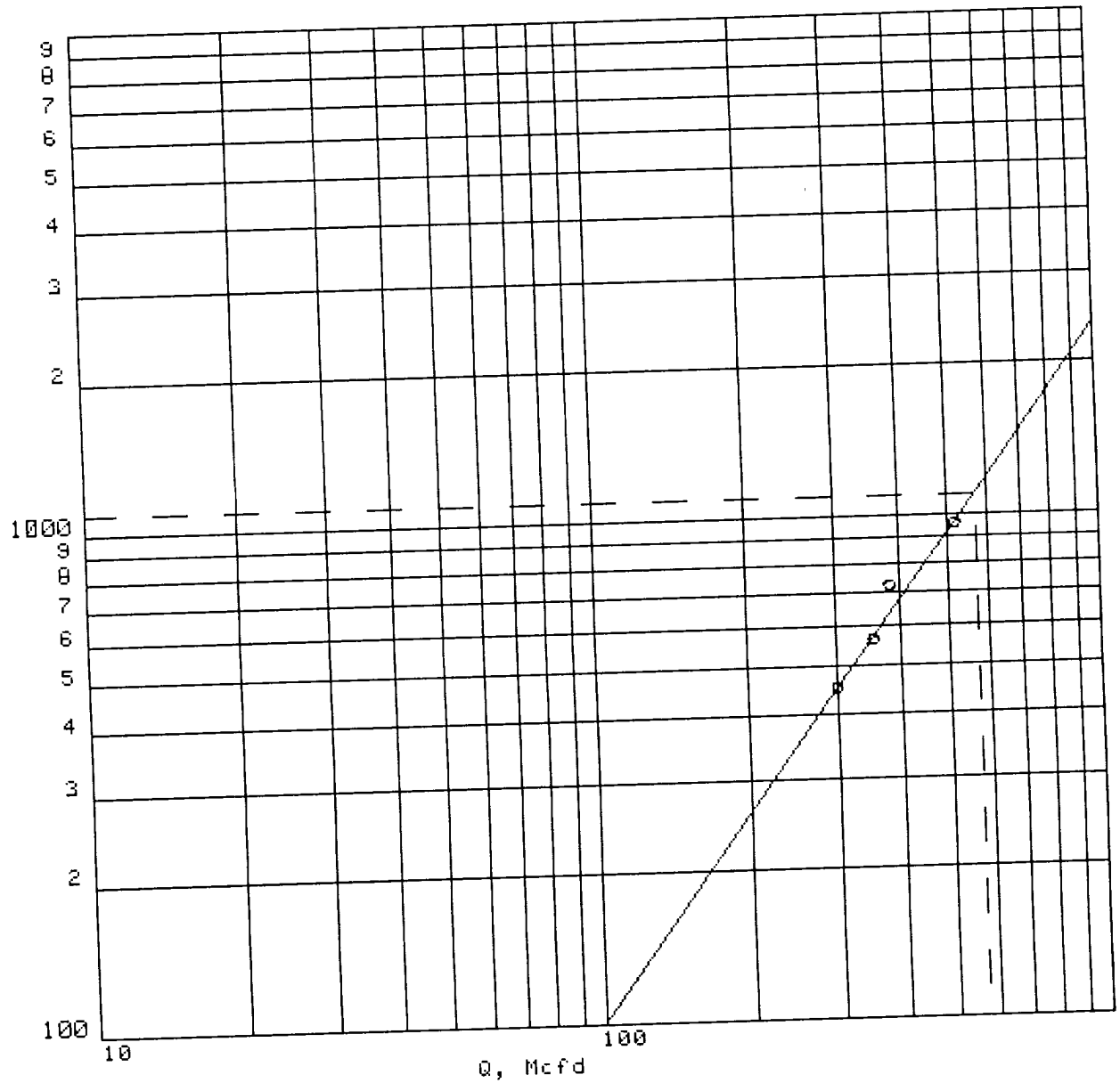
L 4224.0 H 4224.0 L/H 1.000 G .660 %CO2 .03 %N2 6.01 %H2S 0.00

d 1.995 Fr .017777 GH 2787.8 Pcr 660.0 Tcr 358.9

| LINE                                               | 1st Rate | 2nd Rate | 3rd Rate | 4th Rate | 5th Rate |
|----------------------------------------------------|----------|----------|----------|----------|----------|
| 1 Qm                                               | .299     | .354     | .384     | .519     | 0.000    |
| 2 Tw(W.H.°R)                                       | 522.0    | 522.0    | 522.0    | 522.0    | 0.0      |
| 3 Ts(B.H.°R)                                       | 563.0    | 563.0    | 563.0    | 563.0    | 0.0      |
| 4 T=(Tw+Ts)/2                                      | 542.5    | 542.5    | 542.5    | 542.5    | 0.0      |
| 5 Z(Est.)                                          | .881     | .891     | .908     | .945     | 0.000    |
| 6 TZ                                               | 478.0    | 483.6    | 492.8    | 512.6    | 0.0      |
| 7 GH/TZ                                            | 5.832    | 5.765    | 5.658    | 5.439    | 0.000    |
| 8 e <sup>s</sup> (Table XIV)                       | 1.244    | 1.241    | 1.236    | 1.226    | 0.000    |
| 9 1-e <sup>s</sup> (Table XIV)                     | .196     | .194     | .191     | .184     | 0.000    |
| 10 Pt                                              | 801.2    | 727.2    | 609.2    | 363.2    | 0.0      |
| 11 Pt <sup>2</sup> /1000                           | 641.9    | 528.8    | 371.1    | 131.9    | 0.0      |
| 12 Fr(Table XV)                                    | .017777  | .017777  | .017777  | .017777  | 0.000000 |
| 13 Fc=FrTZ                                         | 8.498    | 8.597    | 8.760    | 9.113    | 0.000    |
| 14 FcQm                                            | 2.539    | 3.047    | 3.366    | 4.729    | 0.000    |
| 15 L/H(FcQm) <sup>2</sup>                          | 6.447    | 9.284    | 11.329   | 22.363   | 0.000    |
| 16 Fw=L/H(FcQm) <sup>2</sup> (1-e <sup>s</sup> )   | 1.266    | 1.805    | 2.166    | 4.126    | 0.000    |
| 17 Pw <sup>2</sup> =Pt <sup>2</sup> +Fw            | 643.2    | 530.6    | 373.3    | 136.0    | 0.0      |
| 18 Ps <sup>2</sup> =e <sup>s</sup> Pw <sup>2</sup> | 800.4    | 658.7    | 461.5    | 166.8    | 0.0      |
| 19 Ps                                              | 894.7    | 811.6    | 679.4    | 408.4    | 0.0      |
| 20 P=(Pt+Ps)/2                                     | 847.9    | 769.4    | 644.3    | 385.8    | 0.0      |
| 21 Pr=(P/Pcr)                                      | 1.28     | 1.17     | .98      | .58      | 0.00     |
| 22 Tr=(T/Tcr)                                      | 1.51     | 1.51     | 1.51     | 1.51     | 0.00     |
| 23 Z(Table XI)                                     | .881     | .891     | .908     | .945     | 0.000    |

|          |                         |    |
|----------|-------------------------|----|
| Compar.  | Yates Petroleum Corpora | 20 |
| Well     | Galleta YT State No. 1  |    |
| Location | L, 2-7S-26E             |    |
| County   | Chaves                  |    |
| Date     | 1/22/90                 |    |

$P_c^2 - P_w^2$ , THOUSANDS



ROF= 573