

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

RECEIVED

Form C-122

458

|                                                                                                                           |              |                              |                           |                                    |                            |
|---------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------|---------------------------|------------------------------------|----------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |              |                              |                           | Test Date<br>12/17/95              |                            |
| Company<br>Yates Petroleum                                                                                                |              |                              |                           | Connection<br>Agave                |                            |
| Pool<br>Atoka (Morrow) West                                                                                               |              |                              |                           | Formation<br>Morrow                |                            |
| Completion Date<br>9/28/95                                                                                                |              | Total Depth<br>9030          |                           | Plug Back TD<br>8973               |                            |
|                                                                                                                           |              |                              |                           | Elevation<br>3410                  |                            |
| Csg. Size<br>5.500                                                                                                        | Wt<br>17.000 | d<br>4.892                   | Set At<br>9030            | Perforations:<br>From 8730 To 8794 |                            |
| Tbg. Size<br>2.875                                                                                                        | Wt<br>6.500  | d<br>2.441                   | Set At<br>8621            | Perforations:<br>From 8730 To 8794 |                            |
| Type Well<br>Single                                                                                                       |              |                              |                           | Packer Set At<br>8621              |                            |
| Producing Thru<br>Tubing                                                                                                  |              | Resv. Temp. °F<br>147 @ 8762 |                           | Mean Temp. °F<br>62                |                            |
|                                                                                                                           |              |                              |                           | Baro. Press. - Pa<br>13.2          |                            |
| L<br>8621                                                                                                                 | H<br>8621    | Gg<br>0.630                  | %CO <sub>2</sub><br>0.445 | %N <sub>2</sub><br>0.393           | %H <sub>2</sub> S<br>0.000 |
|                                                                                                                           |              |                              |                           | Prover<br>0.000                    | Meter Run<br>4.000         |
|                                                                                                                           |              |                              |                           | Taps<br>Flange                     |                            |

  

| FLOW DATA |                        |   |                 |                    |             |             | TUBING DATA        |             | CASING DATA        |             | Duration<br>of<br>Flow |
|-----------|------------------------|---|-----------------|--------------------|-------------|-------------|--------------------|-------------|--------------------|-------------|------------------------|
| NO        | Prover<br>Line<br>Size | X | Orifice<br>Size | Press.<br>p.s.i.g. | Diff.<br>hw | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F |                        |
| SI        | 0.000                  | x | 0.000           | 0                  | 0.0         | 0           | 911                | 0           |                    |             | 0                      |
| 1         | 4.026                  | x | 2.500           | 300                | 15.0        | 60          | 700                | 60          |                    |             | 24                     |
| 2         | 4.026                  | x | 2.500           | 300                | 25.0        | 60          | 567                | 60          |                    |             | 24                     |
| 3         | 4.026                  | x | 2.500           | 300                | 33.0        | 60          | 433                | 60          |                    |             | 24                     |
| 4         | 4.026                  | x | 2.500           | 300                | 40.0        | 60          | 300                | 60          |                    |             | 24                     |
| 5         |                        | x |                 |                    |             |             |                    |             |                    |             | 24                     |

  

| RATE OF FLOW CALCULATIONS |                          |                |                |                            |                         |                                   |                         |
|---------------------------|--------------------------|----------------|----------------|----------------------------|-------------------------|-----------------------------------|-------------------------|
| NO                        | Coefficient<br>(24 Hour) | $\sqrt{hwP_m}$ | Pressure<br>Pm | Flow Temp.<br>Factor<br>Ft | Gravity<br>Factor<br>Fg | Super<br>Compress.<br>Factor, Fpv | Rate of Flow<br>Q, Mcfd |
| 1                         | 32.640                   | 68.5           | 313.2          | 1.0000                     | 1.260                   | 1.029                             | 2900                    |
| 2                         | 32.640                   | 88.5           | 313.2          | 1.0000                     | 1.260                   | 1.029                             | 3744                    |
| 3                         | 32.640                   | 101.7          | 313.2          | 1.0000                     | 1.260                   | 1.029                             | 4302                    |
| 4                         | 32.640                   | 111.9          | 313.2          | 1.0000                     | 1.260                   | 1.029                             | 4736                    |
| 5                         |                          |                |                |                            |                         |                                   |                         |

  

| NO | Pr   | Temp °R | Tr   | Z     | Gas Liquid Hydrocarbon Ratio | Mcf/bbl.   |
|----|------|---------|------|-------|------------------------------|------------|
| 1  | 0.47 | 520     | 1.43 | 0.944 | 0                            |            |
| 2  | 0.47 | 520     | 1.43 | 0.944 | 0.000                        |            |
| 3  | 0.47 | 520     | 1.43 | 0.944 | 0.630                        | XXXXXXXXXX |
| 4  | 0.47 | 520     | 1.43 | 0.944 | 0.630                        | XXXXXXXXXX |
| 5  |      |         |      |       |                              |            |

  

| Pc | 924.2 | Pc'   | 854.1 |
|----|-------|-------|-------|
| NO | Pp'   | Pw    | Pw'   |
| 1  | 508.7 | 766.1 | 586.8 |
| 2  | 336.6 | 685.1 | 469.4 |
| 3  | 199.1 | 614.3 | 377.4 |
| 4  | 98.1  | 563.5 | 317.6 |
| 5  |       |       |       |

  

|                                                               |  |                                                            |  |
|---------------------------------------------------------------|--|------------------------------------------------------------|--|
| (1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.220$                     |  | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.753$ |  |
| AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6564$ |  |                                                            |  |

  

|                    |      |                |                |      |          |       |
|--------------------|------|----------------|----------------|------|----------|-------|
| Absolute Open Flow | 6564 | Mcf/d @ 15.025 | Angle of Slope | 0 35 | Slope, n | 0.704 |
| Remarks:           |      |                |                |      |          |       |

  

|                        |                               |                             |            |
|------------------------|-------------------------------|-----------------------------|------------|
| Approved By Commission | Conducted By<br>Johnny Blount | Calculated By<br>Mykol Reno | Checked By |
|------------------------|-------------------------------|-----------------------------|------------|

# WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw) C-122D

DATE 12/17/95

COMPANY Yates Petroleum

LEASE Vandiver CN Com

WELL NO. 2

LOCATION: Unit A

Section 18

Township 18S

Range 26E

L 8621

H 8621

L/H 1.000

G 0.630

%CO<sub>2</sub> 0.445

%N<sub>2</sub> 0.393

%H<sub>2</sub>S 0.000

d 2.441

Fr 0.010495

GH 5433.0

P<sub>cr</sub> 672.2

T<sub>cr</sub> 364.1

| LINE                                                  | 1st Rate | 2nd Rate | 3rd Rate | 4th Rate | 5th Rate |
|-------------------------------------------------------|----------|----------|----------|----------|----------|
| 1 Qm                                                  | 2.900    | 3.744    | 4.302    | 4.736    |          |
| 2 Tw(W.H.°R)                                          | 520      | 520      | 520      | 520      |          |
| 3 Ts(B.H.°R)                                          | 607      | 607      | 607      | 607      |          |
| 4 T = (Tw+Ts) / 2                                     | 563.2    | 563.2    | 563.2    | 563.2    |          |
| 5 Z (Est.)                                            | 0.894    | 0.908    | 0.922    | 0.934    |          |
| 6 TZ                                                  | 503.6    | 511.4    | 519.1    | 526.0    |          |
| 7 GH / TZ                                             | 10.787   | 10.623   | 10.467   | 10.329   |          |
| 8 e <sup>^s</sup> (Table XIV)                         | 1.499    | 1.489    | 1.481    | 1.473    |          |
| 9 1-e <sup>^s</sup> (Table XIV)                       | 0.333    | 0.329    | 0.325    | 0.321    |          |
| 10 Pt                                                 | 713.2    | 580.2    | 446.2    | 313.2    |          |
| 11 Pt <sup>2</sup> / 1000                             | 508.7    | 336.6    | 199.1    | 98.1     |          |
| 12 Fr (Table XV)                                      | 0.010495 | 0.010495 | 0.010495 | 0.010495 |          |
| 13 Fc = FrTZ                                          | 5.286    | 5.367    | 5.447    | 5.520    |          |
| 14 FcQm                                               | 15.33    | 20.10    | 23.43    | 26.14    |          |
| 15 L / H(FcQm) <sup>2</sup>                           | 235.0    | 403.9    | 549.2    | 683.5    |          |
| 16 Fw = L / H(FcQm) <sup>2</sup> (1-e <sup>^s</sup> ) | 78.19    | 132.72   | 178.26   | 219.48   |          |
| 17 Pw <sup>2</sup> = Pt <sup>2</sup> +Fw              | 586.8    | 469.4    | 377.4    | 317.6    |          |
| 18 Ps <sup>2</sup> = e <sup>^s</sup> Pw <sup>2</sup>  | 879.4    | 699.0    | 558.8    | 467.8    |          |
| 19 Ps                                                 | 937.8    | 836.1    | 747.5    | 684.0    |          |
| 20 P = (Pt+Ps) / 2                                    | 825.5    | 708.1    | 596.9    | 498.6    |          |
| 21 Pr = (P / Pcr)                                     | 1.23     | 1.05     | 0.89     | 0.74     |          |
| 22 Tr = (T / Tcr)                                     | 1.55     | 1.55     | 1.55     | 1.55     |          |
| 23 Z (Table XI)                                       | 0.894    | 0.908    | 0.922    | 0.934    |          |

Company  
Well  
Location  
10^4

Yates Petroleum  
Vandiver CN Com #2  
A 18-18S-26E

County  
Date

Eddy  
12-17-95

Q, Mcfd

10^3

P<sub>wf</sub> - P<sub>wf</sub>

10^2

10^3

10^4

AOF = 6584

10^5

