

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR 3 WELL

Form C-122

*Handwritten:* 0151  
File

|                                                                                                              |        |               |                  |                             |                   |                   |           |
|--------------------------------------------------------------------------------------------------------------|--------|---------------|------------------|-----------------------------|-------------------|-------------------|-----------|
| Type Test                                                                                                    |        |               |                  | Test Date                   |                   |                   |           |
| <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |        |               |                  | 9/16/92                     |                   |                   |           |
| Company                                                                                                      |        |               |                  | Connection                  |                   |                   |           |
| Yates Petroleum Corporation                                                                                  |        |               |                  | Yates Petroleum Corporation |                   |                   |           |
| Pool                                                                                                         |        |               |                  | Unit                        |                   |                   |           |
| Wolfcamp                                                                                                     |        |               |                  | Scanlon                     |                   |                   |           |
| Completion Date                                                                                              |        | Total Depth   |                  | Plug Back TD                |                   | Elevation         |           |
| 09/14/1992                                                                                                   |        | 12220         |                  | 12147                       |                   | 3665              |           |
| Farm or Lease Name                                                                                           |        |               |                  | Well No.                    |                   |                   |           |
| Chamois AKE Federal Com                                                                                      |        |               |                  | 1                           |                   |                   |           |
| Csg. Size                                                                                                    | Wt.    | d             | Set At           | Perforations                |                   |                   |           |
| 5.500                                                                                                        | 17.000 | 4.892         | 12220            | From 9528                   | To 9609           |                   |           |
| Tbg. Size                                                                                                    | Wt.    | d             | Set At           | Perforations                |                   | Unit              | Sec.      |
| 2.875                                                                                                        | 6.500  | 2.441         | 9492             | From 0                      | To 0              | G                 | 33        |
| Type Well                                                                                                    |        |               |                  | Packer Set At               |                   | County            |           |
| Single                                                                                                       |        |               |                  | 9492                        |                   | Eddy              |           |
| Producing Thru                                                                                               |        | Resv. Temp. F |                  | Mean Temp. F                |                   | Baro. Press. - Pa |           |
| Tubing                                                                                                       |        | 167 @ 11086   |                  | 62                          |                   | 13.2              |           |
| State                                                                                                        |        |               |                  | New Mexico                  |                   |                   |           |
| L                                                                                                            | H      | Gg            | %CO <sub>2</sub> | %N <sub>2</sub>             | %H <sub>2</sub> S | Prover            | Meter Run |
| 9492                                                                                                         | 9492   | 0.710         | 0.043            | 1.042                       | 0.000             | 0.000             | 4.000     |
|                                                                                                              |        |               |                  |                             |                   | Flange            |           |

  

| FLOW DATA |                  |   |              |                 |             | TUBING DATA |                 | CASING DATA |                 | Duration |         |
|-----------|------------------|---|--------------|-----------------|-------------|-------------|-----------------|-------------|-----------------|----------|---------|
| NO        | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. in w. | Temp. F     | Press. p.s.i.g. | Temp. F     | Press. p.s.i.g. | Temp. F  | of Flow |
| SI        | 0.000            | x | 0.000        | 0               | 0.0         | 0           | 1200            | 0           |                 |          | 0       |
| 1         | 4.026            | x | 1.625        | 447             | 4.9         | 72          | 1120            | 62          |                 |          | 24      |
| 2         | 4.026            | x | 1.625        | 524             | 31.4        | 72          | 930             | 62          |                 |          | 24      |
| 3         | 4.026            | x | 1.625        | 504             | 58.7        | 72          | 740             | 62          |                 |          | 24      |
| 4         | 4.026            | x | 1.625        | 550             | 92.0        | 72          | 550             | 62          |                 |          | 24      |
| 5         |                  | x |              |                 |             |             |                 |             |                 |          |         |

  

| RATE OF FLOW CALCULATIONS |                       |        |             |                      |                   |                             |                      |
|---------------------------|-----------------------|--------|-------------|----------------------|-------------------|-----------------------------|----------------------|
| NO                        | Coefficient (24 Hour) | in wPm | Pressure Pm | Flow Temp. Factor Ft | Gravity Factor Fg | Super. Compress. Factor Fpv | Rate of Flow Q, Mcfd |
| 1                         | 12.790                | 47.4   | 460.1       | 0.9887               | 1.187             | 1.052                       | 748                  |
| 2                         | 12.790                | 129.9  | 536.8       | 0.9887               | 1.187             | 1.061                       | 2068                 |
| 3                         | 12.790                | 174.2  | 517.2       | 0.9887               | 1.187             | 1.059                       | 2767                 |
| 4                         | 12.790                | 227.6  | 563.2       | 0.9887               | 1.187             | 1.064                       | 3636                 |
| 5                         |                       |        |             |                      |                   |                             |                      |

  

| NO | Pr   | Temp. R | Tr   | Z     | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature | Mcf/bbl | Deg. |
|----|------|---------|------|-------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|---------|------|
| 1  | 0.69 | 532     | 1.37 | 0.904 | 8                            | 42.700                                | 0.710                          | xxxxxxx                        | 667               | 389                  | 748     |      |
| 2  | 0.81 | 532     | 1.37 | 0.888 |                              |                                       | xxxxxxx                        | 1.087                          |                   |                      | 2068    |      |
| 3  | 0.78 | 532     | 1.37 | 0.892 |                              |                                       |                                |                                |                   |                      | 2767    |      |
| 4  | 0.84 | 532     | 1.37 | 0.883 |                              |                                       |                                |                                |                   |                      | 3636    |      |
| 5  |      |         |      |       |                              |                                       |                                |                                |                   |                      |         |      |

  

| NO | Pc     | Pw     | Pwf    | Pc' - Pw' | (1) $\frac{Pc'}{Pc' - Pw'}$ | (2) $\left[ \frac{Pc'}{Pc' - Pw'} \right]^n$ |
|----|--------|--------|--------|-----------|-----------------------------|----------------------------------------------|
| 1  | 1284.1 | 1134.6 | 1287.3 | 184.6     | 2.626                       | 2.417                                        |
| 2  | 889.6  | 954.7  | 911.5  | 560.4     |                             |                                              |
| 3  | 567.3  | 779.2  | 607.1  | 864.7     |                             |                                              |
| 4  | 317.2  | 654.8  | 428.8  | 1043.0    |                             |                                              |
| 5  |        |        |        |           |                             |                                              |

  

| Absolute Open Flow |  |  |  | Mcf/d @ 15.025 | Angle of Slope (°) | Slope, n |
|--------------------|--|--|--|----------------|--------------------|----------|
| 4999               |  |  |  |                | 42                 | 0.914    |

  

|                        |              |
|------------------------|--------------|
| Remarks                |              |
| Approved By Commission | Conducted By |
|                        | Ed Perry     |
| Calculated By          | Checked By   |
| Andrea Carpenter       |              |

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

DATE 9/16/92

COMPANY Yates Petroleum Corporation LEASE Chamois AKE Federal Com WELL NO. 1

LOCATION: Unit G Section 33 Township 20S Range 29E

L 9492 H 9492 L/H 1.000 G 1.087 %CO<sub>2</sub> 0.043 %N<sub>2</sub> 1.042 %H<sub>2</sub>S 0.000

d 2.441 Fr 0.010495 GH 10322.5 Pcr 653.4 Tcr 513.9

| LINE                                                  | 1st Rate | 2nd Rate | 3rd Rate | 4th Rate | 5th Rate |
|-------------------------------------------------------|----------|----------|----------|----------|----------|
| 1 Qm                                                  | 0.748    | 2.068    | 2.767    | 3.636    |          |
| 2 Tw(W.H.°R)                                          | 522      | 522      | 522      | 522      |          |
| 3 Ts(B.H.°R)                                          | 627      | 627      | 627      | 627      |          |
| 4 T = (Tw+Ts) / 2                                     | 574.2    | 574.2    | 574.2    | 574.2    |          |
| 5 Z (Est.)                                            | 0.445    | 0.419    | 0.424    | 0.582    |          |
| 6 TZ                                                  | 255.5    | 240.7    | 243.3    | 334.1    |          |
| 7 GH / TZ                                             | 40.396   | 42.881   | 42.428   | 30.895   |          |
| 8 e <sup>-s</sup> (Table XIV)                         | 4.552    | 4.994    | 4.903    | 3.184    |          |
| 9 1-e <sup>-s</sup> (Table XIV)                       | 0.780    | 0.800    | 0.796    | 0.686    |          |
| 10 Pt                                                 | 1133.2   | 943.2    | 753.2    | 563.2    |          |
| 11 Pt <sup>2</sup> / 1000                             | 1284.1   | 889.6    | 567.3    | 317.2    |          |
| 12 Fr (Table XV)                                      | 0.010495 | 0.010495 | 0.010495 | 0.010495 |          |
| 13 Fc = FrTZ                                          | 2.682    | 2.526    | 2.553    | 3.507    |          |
| 14 FcQm                                               | 2.00     | 5.23     | 7.07     | 12.75    |          |
| 15 L / H(FcQm) <sup>2</sup>                           | 4.0      | 27.3     | 49.9     | 162.6    |          |
| 16 Fw = L / H(FcQm) <sup>2</sup> (1-e <sup>-s</sup> ) | 3.13     | 21.83    | 39.81    | 111.61   |          |
| 17 Pw <sup>2</sup> = Pt <sup>2</sup> +Fw              | 1287.3   | 911.5    | 607.1    | 428.8    |          |
| 18 Ps <sup>2</sup> = e <sup>-s</sup> Pvr <sup>2</sup> | 5859.9   | 4552.0   | 2976.7   | 1365.2   |          |
| 19 Ps                                                 | 2420.7   | 2133.5   | 1725.3   | 1168.4   |          |
| 20 P = (Pt+Ps) / 2                                    | 1777.0   | 1538.4   | 1239.3   | 865.8    |          |
| 21 Pr = (P / Pcr)                                     | 2.72     | 2.35     | 1.90     | 1.33     |          |
| 22 Tr = (T / Tcr)                                     | 1.12     | 1.12     | 1.12     | 1.12     |          |
| 23 Z (Table XI)                                       | 0.445    | 0.419    | 0.424    | 0.582    |          |

Q, Mcfd

10<sup>4</sup>

10<sup>3</sup>

10<sup>2</sup>

10<sup>2</sup>

10<sup>3</sup>

AOF = 4999

10<sup>4</sup>

Pc-Pw

