

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Revised 9-1-63

RECEIVED

C/SF  
C-122

|                                                                                                                           |  |                                       |  |                                    |  |
|---------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|--|------------------------------------|--|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |  | Test Date<br>4-20-82                  |  | MAY - 3 1982                       |  |
| Company<br>Viking Petroleum Inc.<br>JACK GRYNBERG ASSOCIATES<br>Pecos Slope abo                                           |  | Connection<br>AIR NEW WELL            |  |                                    |  |
| Well No.<br>4-20-82                                                                                                       |  | Total Depth<br>4150                   |  | Unit<br>O. C. D.                   |  |
| Perforations:<br>From 3592 To 3763                                                                                        |  | Plug Back TD<br>4076                  |  | P<br>ARTESIA, OFFICE               |  |
| Perforations:<br>From OPEN To ENDED                                                                                       |  | Elevation<br>3988 KB                  |  | Form of Lease<br>GRYNBERG STATE    |  |
| Type Well - Single - Bradenhead - G.C. or G.O. Multiple<br>SINGLE                                                         |  | Packer Set At<br>NONE                 |  | Well No.<br>1                      |  |
| Producing Thru<br>TIBING                                                                                                  |  | Reservoir Temp. °F<br>100 • 3681      |  | Unit Sec. Twp. Rge.<br>P 16 5S 24E |  |
| Mean Annual Temp. °F<br>60°                                                                                               |  | Baro. Press. - P <sub>a</sub><br>13.2 |  | County<br>CHAVES                   |  |
| L<br>3681                                                                                                                 |  | H<br>3681                             |  | State<br>NEW MEXICO                |  |
| % CO <sub>2</sub><br>2.08                                                                                                 |  | % N <sub>2</sub><br>10.14             |  | Prover<br>2.00                     |  |
| % H <sub>2</sub> S                                                                                                        |  | Meter Run                             |  | Days                               |  |

| FLOW DATA |                |   |              |                 |          | TUBING DATA |                 | B.H.P. DATA |                 | Duration of Flow |
|-----------|----------------|---|--------------|-----------------|----------|-------------|-----------------|-------------|-----------------|------------------|
| NO        | Flow Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. hw | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  |
| 1         | 2.00           | X | .09375       | 853             | 0        | 59          | 856             | 974         | 953             | 9/64             |
| 2         | 2.00           | X | .1875        | 400             | 0        | 48          | 811             | 904         | 904             | 10/64            |
| 3         | 2.00           | X | .1875        | 640             | 0        | 51          | 735             | 819         | 819             | 11/64            |
| 4         | 2.00           | X | .21875       | 490             | 0        | 51          | 543             | 679         | 679             | 13/64            |

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                        |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|----------------------------------------|----------------------|
| NO                        | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                         | .1410                 | .00              | 856.2                   | 1.001                 | 1.207                         | 1.079                                  | 159                  |
| 2                         | .6082                 | .00              | 413.2                   | 1.012                 | 1.207                         | 1.041                                  | 319                  |
| 3                         | .6082                 | .00              | 653.2                   | 1.009                 | 1.207                         | 1.063                                  | 514                  |
| 4                         | .8393                 | .00              | 503.2                   | 1.009                 | 1.207                         | 1.048                                  | 539                  |

| NO | h    | Temp. °F | γ    | Z    | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|----|------|----------|------|------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1  | 1.31 | 519      | 1.45 | .859 |                              |                                       | .686                           | X X X X X X X X                | 660               | 357                  |
| 2  | .63  | 508      | 1.42 | .923 |                              |                                       | X X X X X                      |                                |                   |                      |
| 3  | .99  | 511      | 1.43 | .885 |                              |                                       |                                |                                |                   |                      |
| 4  | .76  | 511      | 1.43 | .911 |                              |                                       |                                |                                |                   |                      |

| NO | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | (1) $\frac{P_c^2}{P_w^2 - P_w^2}$ | (2) $\left[ \frac{P_c^2}{P_w^2 - P_w^2} \right]^n$ |
|----|----------------|-----------------------------|-----------------------------------------------------------|-----------------------------------|----------------------------------------------------|
| 1  | 879.2          | 762.0                       | 33.2                                                      | 3.4816                            | 2.1342                                             |
| 2  | 828.9          | 686.8                       | 108.4                                                     |                                   |                                                    |
| 3  | 752.9          | 566.8                       | 228.4                                                     |                                   |                                                    |
| 4  | 627.4          | 393.6                       | 401.6                                                     |                                   |                                                    |

$Q = 1,097.0$        $\text{Mold} = 15.025$       Angle of Slope = 58.5      Slope, n = .613

BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMTNS. CORRECTED ON

N.M. FORM C122F

|                         |                                  |                                  |             |
|-------------------------|----------------------------------|----------------------------------|-------------|
| Approved By: Commission | Conducted By:<br>RICHARD TOWNLEY | Calculated By:<br>BENNETT-CATHEY | Checked By: |
|-------------------------|----------------------------------|----------------------------------|-------------|