

**MULTIPLE POINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL**

Form C-122  
Revised 9-1-65

|                                                                                                                                   |             |                                        |                           |                                        |                          |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------|---------------------------|----------------------------------------|--------------------------|
| Type Test<br>4 POINT <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                                        |                           | Test Date<br>9-6-84                    |                          |
| Company<br>H.L. BROWN                                                                                                             |             |                                        | Connection<br>TO AIR      |                                        |                          |
| Pool<br>WILDCAT                                                                                                                   |             |                                        | Formation<br>MORROW       |                                        |                          |
| Completion Date<br>9-2-84                                                                                                         |             | Total Depth<br>12520.                  |                           | Plug Back To<br>12446.                 |                          |
| Elevation<br>4299.                                                                                                                |             | Form of Lease Name<br>UTP <i>State</i> |                           |                                        |                          |
| Case Size<br>5.500                                                                                                                | Wt.<br>17.0 | d<br>4.892                             | Set At<br>12446.          | Perforations:<br>From 12373. To 12398. |                          |
| Reg. Size<br>2.375                                                                                                                | Wt.<br>4.7  | d<br>1.995                             | Set At<br>12398.          | Perforations:<br>From 0. To 0.         |                          |
| Type Well - Single - Headhead - G.G. or G.O. Multiple<br>SINGLE                                                                   |             |                                        |                           | Packoff Set At<br>12398.               |                          |
| Producing thru<br>TUBING                                                                                                          |             | Reservoir Temp. °F<br>217.0 12385.     |                           | Mean Annual Temp. °F<br>60.0           |                          |
| Baro. Press. - P <sub>a</sub><br>13.2                                                                                             |             | State<br>NEW MEXICO                    |                           |                                        |                          |
| L<br>12385.                                                                                                                       | H<br>12385. | Gg<br>0.737                            | % CO <sub>2</sub><br>0.48 | % N <sub>2</sub><br>1.44               | % H <sub>2</sub> S<br>0. |
| Prover<br>0.                                                                                                                      |             | Motor Run<br>4.0                       |                           | Tap<br>FLANGE                          |                          |

  

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | B.H.P. DATA |                 | Duration of Flow |       |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|-------|
| NO        | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  | CHOKE |
| 1         | 4.03 X 2.250     |   |              | 240.            | 1.0                  | 86.         | 2443.           |             | 4600.           |                  | 90.0  |
| 2         | 4.03 X 2.250     |   |              | 250.            | 4.0                  | 80.         | 2037.           |             | 4356.           | 7/64             | 1.0   |
| 3         | 4.03 X 2.250     |   |              | 250.            | 6.0                  | 82.         | 1942.           |             | 3995.           | 12/64            | 1.0   |
| 4         | 4.03 X 2.250     |   |              | 255.            | 12.0                 | 80.         | 1910.           |             | 3923.           | 13.5/64          | 1.0   |
| 5         |                  |   |              |                 |                      |             | 1697.           |             | 3597.           | 18.5/64          | 1.0   |

  

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                   |                                          |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------|------------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor Fg | Super. Compress. Factor, F <sub>sp</sub> | Rate of Flow Q, Mcfd |
| 1                         | 25.64                 | 15.91            | 253.2                   | 0.9759                | 1.1648            | 1.0272                                   | 476.                 |
| 2                         | 25.64                 | 32.45            | 263.2                   | 0.9813                | 1.1648            | 1.0296                                   | 979.                 |
| 3                         | 25.64                 | 39.74            | 263.2                   | 0.9795                | 1.1648            | 1.0292                                   | 1197.                |
| 4                         | 25.64                 | 56.73            | 268.2                   | 0.9813                | 1.1648            | 1.0302                                   | 1713.                |
| 5                         |                       |                  |                         |                       |                   |                                          |                      |

  

| NO. | P <sub>h</sub> | Temp. °R | T <sub>g</sub> | 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   | 0.38           | 546.     | 1.38           | 0.948 | 5.7                          | 55.0                                  | 0.737                          | XXXXXX                         | 665.              | 397.                 |
| 2   | 0.40           | 540.     | 1.36           | 0.943 |                              |                                       |                                | XXXXXX                         |                   |                      |
| 3   | 0.40           | 542.     | 1.37           | 0.944 |                              |                                       |                                |                                |                   |                      |
| 4   | 0.40           | 540.     | 1.36           | 0.942 |                              |                                       |                                |                                |                   |                      |
| 5   |                |          |                |       |                              |                                       |                                |                                |                   |                      |

  

| NO. | P <sub>1</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>2</sub> <sup>2</sup> | P <sub>2</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|
| 1   | 19090.                      | 2248.                       | 5055.                       | 1023.                                                     |
| 2   | 16066.                      | 1933.                       | 3735.                       | 2344.                                                     |
| 3   | 15494.                      | 1871.                       | 3501.                       | 2578.                                                     |
| 4   | 13034.                      | 1598.                       | 2554.                       | 3525.                                                     |
| 5   |                             |                             |                             |                                                           |

  

(1)  $\frac{P_c^2}{P_2^2 - P_w^2} = 1.7244$

AOF = Q  $\left[ \frac{P_c^2}{P_2^2 - P_w^2} \right]^n = 2954.$

(2)  $\left[ \frac{P_c^2}{P_2^2 - P_w^2} \right]^n = 1.7244$

  

|                    |       |               |                  |      |          |       |
|--------------------|-------|---------------|------------------|------|----------|-------|
| Absolute Open Flow | 2954. | Mcfd @ 15.025 | Angle of Slope @ | 45.0 | Slope, n | 1.000 |
|--------------------|-------|---------------|------------------|------|----------|-------|

  

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS.

  

|                         |                 |                       |             |
|-------------------------|-----------------|-----------------------|-------------|
| Approved By Commission: | Conducted By:   | Calculated By:        | Checked By: |
|                         | RICHARD TOWNLEY | BENNETT & CATHEY INC. |             |

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