

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

Form C-122  
Revised 9-1-68

OLD WELL WORKOVER FROM Miss.-Penn. to Organ Rock

|                                                                                                                           |             |                         |                                          |                                               |                            |                                                       |
|---------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|------------------------------------------|-----------------------------------------------|----------------------------|-------------------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                         |                                          |                                               | Test Date<br>Dec. 16, 1987 |                                                       |
| Company<br>S. E. R. H., Inc.                                                                                              |             |                         | Connection<br>Navajo Refined Helium line |                                               |                            |                                                       |
| Pool<br>Big Gap Organ Rock                                                                                                |             |                         | Formation<br>Organ Rock                  |                                               | Unit                       |                                                       |
| Completion Date<br>12/16/87                                                                                               |             | Total Depth<br>6125     |                                          | Plug Back TD<br>3872                          | Elevation<br>5812' Gr.     | Farm or Lease Name<br>Navajo Nation                   |
| Csg. Size<br>4.5"                                                                                                         | Wt.<br>10.5 | d                       | Set At<br>6120                           | Perforations:<br>From 3704' To 3842'          |                            | Well No.<br>29 #6                                     |
| Thq. Size<br>2-3/8"                                                                                                       | Wt.<br>4.7  | d                       | Set At<br>3818                           | Perforations:<br>From Open end with cross pin |                            | Unit    Sec.    Twp.    Rge.<br>L    29    27N    19W |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |             |                         |                                          | Packer Set At<br>None                         |                            | County<br>San Juan                                    |
| Producing Thru<br>Tubing                                                                                                  |             | Reservoir Temp. °F<br>? |                                          | Mean Annual Temp. °F<br>?                     |                            | Baro. Press. - P <sub>a</sub><br>12 Est.              |
| State<br>New Mexico                                                                                                       |             |                         |                                          |                                               |                            |                                                       |
| L                                                                                                                         | H           | Gg                      | % CO <sub>2</sub>                        | % N <sub>2</sub>                              | % H <sub>2</sub> S         | Prover<br>2"                                          |
| Meter Run                                                                                                                 |             | Taps                    |                                          |                                               |                            |                                                       |

  

| 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>h <sub>w</sub> | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. |                        | Temp.<br>°F |
| SI        | 168 hours              |   |                 |                    |                         |             | 1552               |             | 1552               |                        | -           |
| 1.        | 2" X 7/32"             |   |                 | 653                |                         |             | 653                |             | 680                |                        | 1/2 hr.     |
| 2.        | "                      |   |                 | 307                |                         |             | 307                |             | 383                |                        | 1 hr.       |
| 3.        | "                      |   |                 | 94                 |                         |             | 94                 |             | 255                |                        | 1 1/2 hr.   |
| 4.        | "                      |   |                 | 36                 |                         |             | 36                 | 46          | 226                |                        | 2 hr.       |
| 5.        | "                      |   |                 | TSTM               |                         |             | TSTM               | 46          | 276                |                        | 3 hr.       |

  

| RATE OF FLOW CALCULATIONS |                          |                  |                            |                                        |                                     |                                               |                         |
|---------------------------|--------------------------|------------------|----------------------------|----------------------------------------|-------------------------------------|-----------------------------------------------|-------------------------|
| NO.                       | Coefficient<br>(24 Hour) | $\sqrt{h_w P_m}$ | Pressure<br>P <sub>m</sub> | Flow Temp.<br>Factor<br>F <sub>t</sub> | Gravity<br>Factor<br>F <sub>g</sub> | Super<br>Compress.<br>Factor, F <sub>pv</sub> | Rate of Flow<br>Q, Mcfd |
| 1                         | 0.8393                   |                  | 665                        |                                        | 1.0                                 | Nil                                           | 558                     |
| 2.                        | "                        |                  | 319                        |                                        | "                                   | "                                             | 268                     |
| 3.                        | "                        |                  | 106                        |                                        | "                                   | "                                             | 89                      |
| 4.                        | "                        |                  | 48                         | 1.014                                  | "                                   | "                                             | 41 *                    |
| 5.                        |                          |                  | -                          | -                                      |                                     |                                               |                         |

  

| NO. | P <sub>t</sub> | Temp. °R | T <sub>r</sub> | Z | Gas Liquid Hydrocarbon Ratio   |  | A.P.I. Gravity of Liquid Hydrocarbons |  |
|-----|----------------|----------|----------------|---|--------------------------------|--|---------------------------------------|--|
| 1.  |                |          |                |   | DEC 23                         |  | Mcf/bbl.                              |  |
| 2.  |                |          |                |   |                                |  | Deg.                                  |  |
| 3.  |                |          |                |   | Specific Gravity Separator Gas |  | XXXXXXXXXX                            |  |
| 4.  |                |          |                |   | Specific Gravity Flowing Fluid |  | XXXXXX                                |  |
| 5.  |                |          |                |   | Critical Pressure              |  | P.S.I.A.                              |  |
|     |                |          |                |   | Critical Temperature           |  | R                                     |  |

  

| NO. | P <sub>t</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|
| 1   |                             |                             |                             |                                                           |
| 2   |                             |                             |                             |                                                           |
| 3   |                             |                             |                             |                                                           |
| 4   |                             |                             |                             |                                                           |
| 5   |                             |                             |                             |                                                           |

  

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{N/A *}{Q}$

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

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n =$  Q = 41 MCFD

P<sub>c</sub> 1564    P<sub>c</sub><sup>2</sup> 2446096

  

|                                                 |  |  |                      |              |
|-------------------------------------------------|--|--|----------------------|--------------|
| Information for well completion only. To retest |  |  | Angle of Slope θ 45° | Slope, n 1.0 |
| Absolute Open Flow N/A Mcfd @ 15.025            |  |  |                      |              |

  

Remarks: \*This is natural flow. Very light water vapor appeared in 11 min & cleared Fluid buildup noted during latter part of test in wellbore. Propose to reconnect well and observe flow conditions before stimulating this zone. Used 2 hr. flow for cal.

|                         |                            |                             |             |
|-------------------------|----------------------------|-----------------------------|-------------|
| Approved By Commission: | Conducted By:<br>J. Heller | Calculated By:<br>J. Heller | Checked By: |
|-------------------------|----------------------------|-----------------------------|-------------|