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State of New Mexico  
Energy, Minerals and Natural Resources Department

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Form C-122  
Revised 4-1-91

OIL CONSERVATION DIVISION

SEP 30 1993

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

G.I.D.

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |                    |                                  |                                 |                                                     |                                                |                                             |                            |                                                    |                     |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------|---------------------------------|-----------------------------------------------------|------------------------------------------------|---------------------------------------------|----------------------------|----------------------------------------------------|---------------------|
| Operator<br><b>NAUMANN OIL &amp; GAS</b>                                                                                  |                    |                                  |                                 |                                                     | Lease or Unit Name<br><b>INEXCO FED. COMM.</b> |                                             |                            |                                                    |                     |
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                    |                                  |                                 |                                                     | Test Date<br><b>9-4-93</b>                     |                                             | Well No.<br><b>1</b>       |                                                    |                     |
| Completion Date<br><b>8-26-93</b>                                                                                         |                    | Total Depth<br><b>11375'</b>     |                                 | Plug Back TD<br><b>10190</b>                        |                                                | Elevation<br><b>3195</b>                    |                            | Unit Ltr. - Sec. - TWP - Rge.<br><b>12 21S 26E</b> |                     |
| Csg. Size<br><b>5 1/2</b>                                                                                                 | Wt.<br><b>20#</b>  | d<br><b>4.778</b>                | Set At<br><b>11375</b>          | Perforations:<br>From: <b>9914</b> To: <b>10132</b> |                                                |                                             |                            | County<br><b>EDDY</b>                              |                     |
| Tbg. Size<br><b>2-3/8"</b>                                                                                                | Wt.<br><b>5.95</b> | d<br><b>1.867</b>                | Set At                          | Perforations:<br>From: To:                          |                                                |                                             |                            | Pool                                               |                     |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br><b>single</b>                                                  |                    |                                  |                                 |                                                     | Packer Set At<br><b>9850'</b>                  |                                             | Formation<br><b>MORROW</b> |                                                    |                     |
| Producing Thru<br><b>TBG.</b>                                                                                             |                    | Reservoir Temp. °F<br><b>60°</b> |                                 | Mean Annual Temp. °F<br><b>60°</b>                  |                                                | Baro. Press - P <sub>a</sub><br><b>13.2</b> |                            | Connection                                         |                     |
| L<br><b>*10023</b>                                                                                                        | H<br><b>10023</b>  | Gg<br><b>.688</b>                | % CO <sub>2</sub><br><b>.69</b> | % N <sub>2</sub><br><b>.40</b>                      | % H <sub>2</sub> S                             | Prover                                      |                            | Meter Run<br><b>4.026</b>                          | Taps<br><b>FLG.</b> |

| FLOW DATA |                        |                      |                    |                         | TUBING DATA |                    | CASING DATA |                    | Duration<br>of<br>Flow |             |
|-----------|------------------------|----------------------|--------------------|-------------------------|-------------|--------------------|-------------|--------------------|------------------------|-------------|
| NO.       | Prover<br>Line<br>Size | Orifice<br>X<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        |                        |                      |                    |                         |             | 2965               |             | PKR.               |                        | 0           |
| 1.        | 4.026                  | X 1.5                | 700                | 7                       | 50          | 2835               |             | "                  |                        | 1 hr.       |
| 2.        | 4.026                  | X 1.5                | 700                | 14                      | 42          | 2685               |             | "                  |                        | 1 hr.       |
| 3.        | 4.026                  | X 1.5                | 700                | 25                      | 37          | 2520               |             | "                  |                        | 1 hr.       |
| 4.        | 4.026                  | X 1.5                | 700                | 44                      | 32          | 2210               |             | "                  |                        | 1 hr.       |
| 5.        |                        |                      |                    |                         |             |                    |             |                    |                        |             |

| RATE OF FLOW CALCULATIONS |                          |                  |                            |                          |                       |                                              |                         |
|---------------------------|--------------------------|------------------|----------------------------|--------------------------|-----------------------|----------------------------------------------|-------------------------|
| NO.                       | COEFFICIENT<br>(24 HOUR) | $\sqrt{h_w P_m}$ | Pressure<br>P <sub>m</sub> | Flow Temp.<br>Factor Ft. | Gravity Factor<br>Fg. | Super Compress.<br>Factor, F <sub>pv</sub> . | Rate of Flow<br>Q, Mcfd |
| 1.                        | 10.84                    | 70.66            | 713.2                      | 1.010                    | 1.206                 | 1.100                                        | 1026                    |
| 2.                        | 10.84                    | 99.92            | 713.2                      | 1.018                    | 1.206                 | 1.100                                        | 1463                    |
| 3.                        | 10.84                    | 133.53           | 713.2                      | 1.023                    | 1.206                 | 1.100                                        | 1964                    |
| 4.                        | 10.84                    | 177.15           | 713.2                      | 1.028                    | 1.206                 | 1.100                                        | 2619                    |
| 5.                        |                          |                  |                            |                          |                       |                                              |                         |

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio           | Mcf/bbl.     |
|-----|----------------|----------|----------------|------|----------------------------------------|--------------|
| 1.  | 1.066          | 510      | 1.33           | .827 | A.P. I. Gravity of Liquid Hydrocarbons | Deg.         |
| 2.  | 1.066          | 502      | 1.30           | .827 | Specific Gravity Separator Gas         | .688         |
| 3.  | 1.066          | 497      | 1.29           | .827 | Specific Gravity Flowing Fluid         | XXXXXX       |
| 4.  | 1.066          | 492      | 1.28           | .827 | Critical Pressure                      | 669 P.S.I.A. |
| 5.  |                |          |                |      | Critical Temperature                   | 385 R        |

| P <sub>c</sub> <b>3063.1</b> |                             | P <sub>c</sub> <sup>2</sup> <b>9382.6</b> |                             |
|------------------------------|-----------------------------|-------------------------------------------|-----------------------------|
| NO.                          | P <sub>c</sub> <sup>2</sup> | P <sub>w</sub>                            | P <sub>w</sub> <sup>2</sup> |
| 1.                           |                             | 2906.6                                    | 8448.3                      |
| 2.                           |                             | 2751.8                                    | 7572.4                      |
| 3.                           |                             | 2579.4                                    | 6653.3                      |
| 4.                           |                             | 2306.8                                    | 5321.3                      |
| 5.                           |                             |                                           |                             |

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.310 \quad (2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.850$$

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.845$$

Absolute Open Flow **4,845** Mcfd @ 15.025 Angle of Slope  $\theta$  **54** Slope, n **.73468**

Remarks:  
**\* BHP ISNT. SET @ THIS DEPTH.**

|                      |                                          |                             |                          |
|----------------------|------------------------------------------|-----------------------------|--------------------------|
| Approved By Division | Conducted By:<br><b>PRO WELL TESTERS</b> | Calculated By:<br><b>KS</b> | Checked By:<br><b>BM</b> |
|----------------------|------------------------------------------|-----------------------------|--------------------------|