

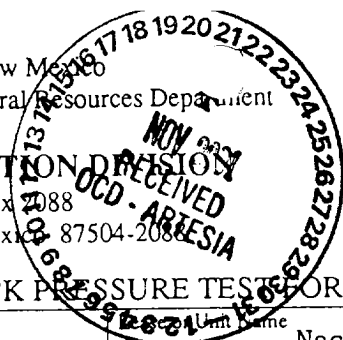
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See Rule 401 & Rule 1122

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-122  
Revised 4-1-91

OIL CONSERVATION DIVISION

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



MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                        |  |                                       |  |                                |  |                                                   |  |
|------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------|--|--------------------------------|--|---------------------------------------------------|--|
| Operator <b>Murchison Oil &amp; Gas, Inc.</b>                                                                          |  |                                       |  | Well Name <b>Nash Unit</b>     |  |                                                   |  |
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |  |                                       |  | Test Date <b>11/15/01</b>      |  | Well No. <b>52</b>                                |  |
| Completion Date <b>9-10-01</b>                                                                                         |  | Total Depth <b>14,434</b>             |  | Plug Back TD <b>14,215</b>     |  | Elevation <b>2985' G1</b>                         |  |
| Csg Size <b>5 1/2</b>                                                                                                  |  | Wi. d <b>23# 4.670</b>                |  | Set At                         |  | Unit Ltr. - Sec. - TWP - Rge. <b>K 12 23s 29e</b> |  |
| Perforations: From <b>12,956</b> To <b>13,061</b>                                                                      |  |                                       |  | County <b>Eddy</b>             |  |                                                   |  |
| Tbg Size <b>2 7/8 6.5# 2.441</b>                                                                                       |  |                                       |  | Set At <b>12814</b>            |  |                                                   |  |
| Perforations: From <b>OPEN</b> To <b>ENDED</b>                                                                         |  |                                       |  | Pool <b>Nash Draw</b>          |  |                                                   |  |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple <b>Single</b>                                                  |  |                                       |  | Packer Set At <b>12770</b>     |  | Formation <b>Atoka</b>                            |  |
| Producing Thru <b>Tubing</b>                                                                                           |  | Reservoir Temp. °F <b>202.1@12814</b> |  | Mean Annual Temp. °F <b>60</b> |  | Baro. Press - P. <b>13.2</b>                      |  |
| Connection <b>Duke Energy</b>                                                                                          |  | Meter Run <b>3.068</b>                |  | Taps <b>FLG</b>                |  |                                                   |  |
| 12814                                                                                                                  |  | 12814                                 |  | Gg <b>0.574</b>                |  | % CO <sub>2</sub> <b>0.473</b>                    |  |
|                                                                                                                        |  |                                       |  | % N <sub>2</sub> <b>0.866</b>  |  | % H <sub>2</sub> S                                |  |
|                                                                                                                        |  |                                       |  | Prover                         |  |                                                   |  |

| FLOW DATA |                  |   |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|
| NO        | Prover Line Size | X | Onifice 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. | Temp. °F         |
| 1         | 3.068 x 2.000    |   |              |                 |                      |             | 1291            |             | PACKER          | 2 mos.           |
| 2         | 3.068 x 2.000    |   |              |                 |                      |             | 1276            |             |                 | 1.0 Hr.          |
| 3         | 3.068 x 2.000    |   |              |                 |                      |             | 1258            |             |                 | 1.0 Hr.          |
| 4         | 3.068 x 2.000    |   |              |                 |                      |             | 1224            |             |                 | 1.0 Hr.          |
| 5         | 3.068 x 2.000    |   |              |                 |                      |             | 1031            |             |                 | 1.0 Hr.          |

RATE OF FLOW CALCULATIONS

| NO | COEFFICIENT (24 HOUR) | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>L</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
|----|-----------------------|-------------------------|----------------------------------|-------------------------------|-----------------------------------------|----------------------|
| 1  |                       |                         |                                  |                               |                                         | 516                  |
| 2  |                       |                         |                                  |                               |                                         | 1006                 |
| 3  |                       |                         |                                  |                               |                                         | 1557                 |
| 4  |                       |                         |                                  |                               |                                         | 2513                 |
| 5  |                       |                         |                                  |                               |                                         |                      |

MEASURED BY TOTAL FLOW METER

| NO | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z | Gas Liquid Hydrocarbon Ratio                 | Mcf/bbl.   |
|----|----------------|----------|----------------|---|----------------------------------------------|------------|
| 1  |                |          |                |   | Dry Gas                                      |            |
| 2  |                |          |                |   | A.P. I. Gravity of Liquid Hydrocarbons       | Deg        |
| 3  |                |          |                |   | Specific Gravity Separator Gas <b>0.574</b>  | XXXXXXXXXX |
| 4  |                |          |                |   | Specific Gravity Flowing Fluid <b>XXXXXX</b> |            |
| 5  |                |          |                |   | Critical Pressure                            | P.S.I.A.   |
|    |                |          |                |   | Critical Temperature                         | R          |

| P <sub>c</sub> <b>1304.2</b> | P <sub>c</sub> <b>1700.9</b> |                |                             |                                                           |                                           |                                                            |
|------------------------------|------------------------------|----------------|-----------------------------|-----------------------------------------------------------|-------------------------------------------|------------------------------------------------------------|
| NO                           | P <sub>c</sub> <sup>2</sup>  | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> | 1) $\frac{P_c^2}{P_c^2 - P_w^2} = 12.245$ | (2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7.401$ |
| 1                            | 1290.5                       | 1665.5         | 35.5                        |                                                           |                                           |                                                            |
| 2                            | 1276.3                       | 1629.0         | 71.9                        |                                                           |                                           |                                                            |
| 3                            | 1249.8                       | 1562.0         | 138.9                       |                                                           |                                           |                                                            |
| 4                            | 1083.2                       | 1173.3         | 527.7                       |                                                           |                                           |                                                            |
| 5                            |                              |                |                             |                                                           |                                           |                                                            |

AOF = Q

$$\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 11.523$$

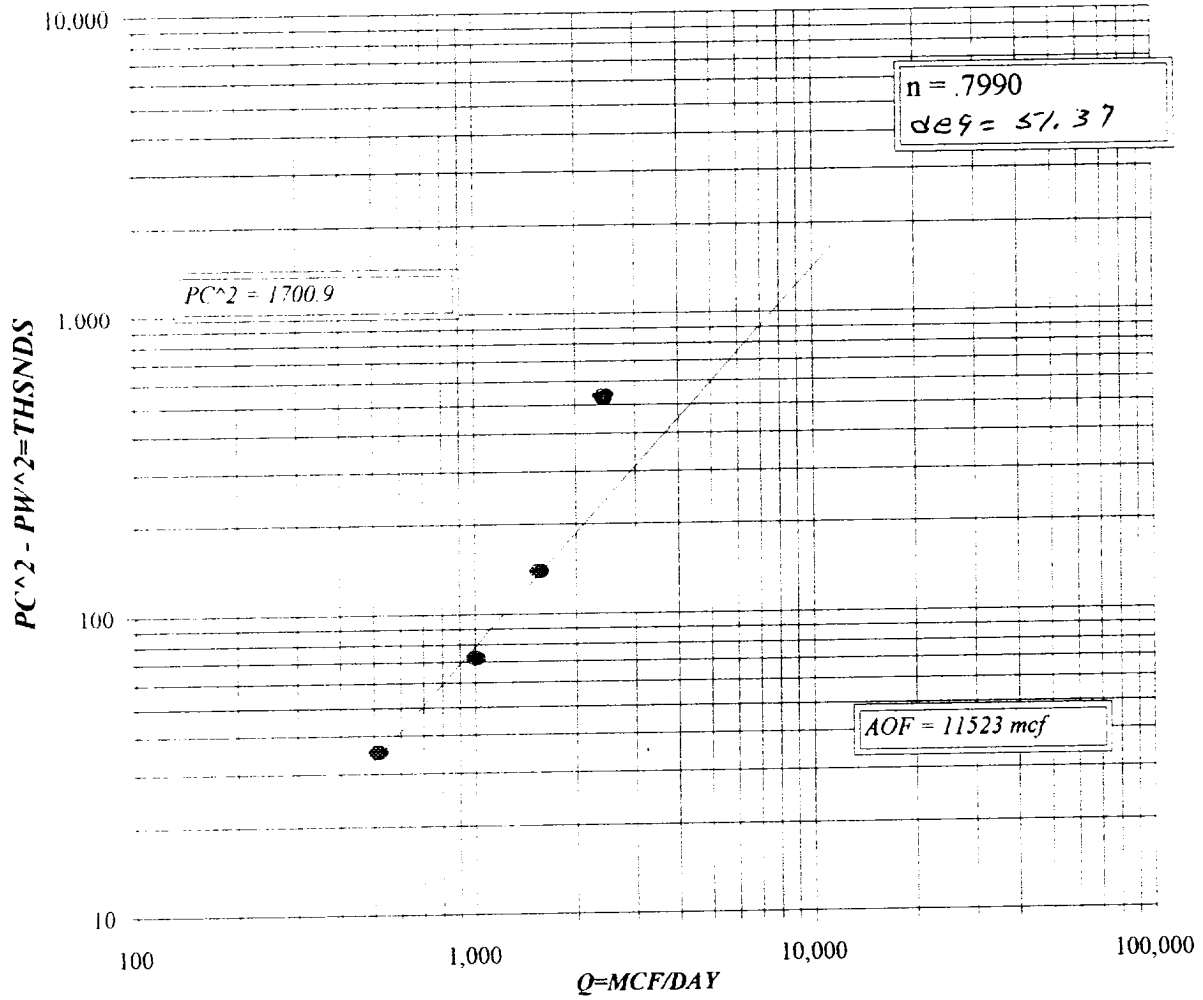
Absolute Open Flow **11,523** Mcfd @ 15.025 Angle of Slope  $\theta$  **51.37** Slope, n **0.7990**

Remarks **Well Produced No Fluid**

Approved By Division \_\_\_\_\_ Conducted By **Jarrel Services, Inc.** Calculated By **Bob Murray** Checked By **Bob Murray**

# MURCHISON OIL & GAS

NASH DRAW # 52



COMPANY : MURCHISON OIL & GAS LEASE : SH DRAW WELL NO. : 52  
 UNIT : SECTION : 12 TOWNSHIP : 23  
 L : 12814 H : 12814 L/H : 1 G/GMIX : 0.574  
 %CO2 : 0.473 %N2 : 0.866 H2S : DATE : 11-15-01  
 d : 2.441 Fr : 0.010763 GH : 7355.2 RANGE : 29

Pc = 1304.2 Pc2 = 1700.9  
 Pt2 = 1662.0 Pw = 1290.5  
 1615.9 1276.3  
 1530.7 1249.8  
 1090.4 1083.2

VOL 1 : 516 PSIA 1 : 1289.2 RESV.TEMP 202.1  
 VOL 2 : 1006 PSIA 2 : 1271.2  
 VOL 3 : 1557 PSIA 3 : 1237.2 SHUT-IN PR= 1304.2  
 VOL 4 : 2513 PSIA 4 : 1044.2

Pc2-Pw2= 35.5 Pw2 = 1665.5  
 71.9 1629.0  
 138.9 1562.0  
 527.7 1173.3

PCR : 672  
 TCR : 346

n = 0.799

Pc2/(Pc2-Pw2) = 47.958  
 23.650  
 12.245  
 3.224

| LINE |           | RATE 1   |          | RATE 2   |          | RATE 3   |          | RATE 4   |           |
|------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|      |           | 1ST      | 2ND      | 1ST      | 2ND      | 1ST      | 2ND      | 1ST      | 2ND       |
| 1    | QM        | 0.516    | 0.516    | 1.006    | 1.006    | 1.557    | 1.557    | 2.513    | 2.513     |
| 2    | TW        | 534      | 534      | 534      | 534      | 534      | 534      | 534      | 534       |
| 3    | Ts        | 662.1    | 662.1    | 662.1    | 662.1    | 662.1    | 662.1    | 662.1    | 662.1     |
| 4    | T         | 598.1    | 598.1    | 598.1    | 598.1    | 598.1    | 598.1    | 598.1    | 598.1     |
|      | PR (est)  | 1.92     |          | 1.89     |          | 1.84     |          | 1.55     |           |
| 5    | Z(est)    | 0.879    | 0.870    | 0.880    | 0.870    | 0.882    | 0.872    | 0.893    | 0.882     |
| 6    | TZ        | 525.6    | 520.0    | 526.2    | 520.5    | 527.2    | 521.5    | 534.0    | 527.7     |
| 7    | GH/TZ     | 13.994   | 14.143   | 13.979   | 14.130   | 13.950   | 14.105   | 13.773   | 13.939    |
| 8    | eS        | 1.690    | 1.700    | 1.689    | 1.699    | 1.687    | 1.697    | 1.676    | 1.687     |
| 9    | l-e-S     | 0.408    | 0.412    | 0.408    | 0.411    | 0.407    | 0.411    | 0.403    | 0.407     |
| 10   | Pt        | 1289.2   | 1289.2   | 1271.2   | 1271.2   | 1237.2   | 1237.2   | 1044.2   | 1044.2    |
| 11   | Pt2 /1000 | 1662.0   | 1662.0   | 1615.9   | 1615.9   | 1530.7   | 1530.7   | 1090.4   | 1090.4    |
| 12   | Fr        | 0.010763 | 0.010763 | 0.010763 | 0.010763 | 0.010763 | 0.010763 | 0.010763 | 0.0107631 |
| 13   | Fc=FrTZ   | 5.657    | 5.597    | 5.663    | 5.602    | 5.675    | 5.612    | 5.748    | 5.680     |
| 14   | PcQm      | 2.92     | 2.89     | 5.70     | 5.64     | 8.84     | 8.74     | 14.44    | 14.27     |
| 15   | L/H(PcQm) | 8.5      | 8.3      | 32.5     | 31.8     | 78.1     | 76.4     | 208.6    | 203.7     |
| 16   | Pw        | 3.479053 | 3.433620 | 13.24150 | 13.06609 | 31.80064 | 31.36791 | 84.15971 | 82.927215 |
| 17   | Pw2       | 1665.5   | 1665.5   | 1629.2   | 1629.0   | 1562.5   | 1562.0   | 1174.5   | 1173.3    |
| 18   | Ps2       | 2814.9   | 2830.6   | 2751.9   | 2767.3   | 2636.4   | 2651.0   | 1968.7   | 1978.8    |
| 19   | Ps        | 1677.8   | 1682.4   | 1658.9   | 1663.5   | 1623.7   | 1628.2   | 1403.1   | 1406.7    |
| 20   | P         | 1483.5   | 1485.8   | 1465.0   | 1467.4   | 1430.4   | 1432.7   | 1223.6   | 1225.5    |
| 21   | Pr        | 2.21     | 2.21     | 2.18     | 2.18     | 2.13     | 2.13     | 1.82     | 1.82      |
| 22   | Tr        | 1.73     | 1.73     | 1.73     | 1.73     | 1.73     | 1.73     | 1.73     | 1.73      |
| 23   | Z         | 0.870    | 0.869    | 0.870    | 0.870    | 0.872    | 0.872    | 0.882    | 0.882     |

[Pc2/Pc2-Pw2]n = 22.030  
 12.522  
 7.401  
 2.548

AOF= Q 11.367  
 12.598  
 11.523  
 6.403

FORM C122-D