

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II

811 South First St., Artesia, NM 88210-2835

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410-1693

State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429Form C-107-A  
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

## APPLICATION FOR DOWNHOLE COMMINGLING

Operator UNION OIL COMPANY OF CALIFORNIA (UNOCAL) 1004 N. BIG SPRING, MIDLAND TX 79702 AddressLease RINCON UNIT Well No. 131 Unit Ltr. - Sec. - Twp. - Rge K 36-T27N-R7W County RIO ARRIBAOGRID NO. 023708 Property Code 011510 API NO. 30-039-20158 Spacing Unit Lease Types: (check 1 or more)  
Federal ☐ State ☒ (and/or) Fee ☐

| The following facts are submitted in support of downhole commingling:                                                                                                                                | Upper Zone                                      | Intermediate Zone | Lower Zone                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------|---------------------------------------------------|
| 1. Pool Name and Pool Code                                                                                                                                                                           | BLANCO MESAVERDE<br>72319                       |                   | BASIN DAKOTA<br>71599                             |
| 2. Top and Bottom of Pay Section (Perforations)                                                                                                                                                      | PROPOSED<br>5189-5256                           |                   | 7186-7447                                         |
| 3. Type of production (Oil or Gas)                                                                                                                                                                   | GAS                                             |                   | GAS                                               |
| 4. Method of Production (Flowing or Artificial Lift)                                                                                                                                                 | FLOWING                                         |                   | FLOWING                                           |
| 5. Bottomhole Pressure<br>Oil Zones - Artificial Lift:<br>Gas & Oil - Flowing:<br>All Gas Zones:<br>Estimated Current<br>Measured Current<br>Estimated Or Measured Original                          | a. (Current) 786 psia<br>b. (Original) 786 psia | a.<br>b.          | a. 492 psia<br>b. 3081 psia                       |
| 6. Oil Gravity ( $^{\circ}$ API) or Gas BTU Content                                                                                                                                                  | 1134 BTU                                        |                   | 1167 BTU                                          |
| 7. Producing or Shut-In?                                                                                                                                                                             | NEW COMPLETION                                  |                   | PRODUCING                                         |
| Production Marginal? (yes or no)                                                                                                                                                                     | YES                                             |                   | YES                                               |
| * If Shut-In, give date and oil/gas/water rates of last production<br>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data | Date:<br>Rates: SEE ATTACHED                    | Date:<br>Rates:   | Date:<br>Rates:                                   |
| * If Producing, give date and oil/gas/water rates of recent test (within 60 days)                                                                                                                    | Date:<br>Rates:                                 | Date:<br>Rates:   | Date: 1-98 154 mcf/d,<br>Rates: 1.3 bopd, .6 bwpd |
| 8. Fixed Percentage Allocation Formula - % for each zone                                                                                                                                             | Oil: % Gas: %                                   | Oil: % Gas: %     | Oil: % Gas: %                                     |

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? Yes ☐ No ☒  
If not, have all working, overriding, and royalty interests been notified by certified mail? R 9893 Yes ☐ No ☒  
Have all offset operators been given written notice of the proposed downhole commingling? No offset Yes ☐ No ☒11. Will cross-flow occur? Yes ☐ No ☒ If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. Yes ☐ No ☐ (If No, attach explanation)12. Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ☐13. Will the value of production be decreased by commingling? Yes ☐ No ☒ (If Yes, attach explanation)14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. Yes ☒ No ☐

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). SEE ATTACHED

## 16. ATTACHMENTS:

- \* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- \* Production curve for each zone for at least one year. (If not available, attach explanation.)
- \* For zones with no production history, estimated production rates and supporting data.
- \* Data to support allocation method or formula.
- \* Notification list of all offset operators.
- \* Notification list of working, overriding, and royalty interests for uncommon interest cases.
- \* Any additional statements, data, or documents required to support commingling.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Heather Dahlgren TITLE Engineering Tech DATE 3-23-98TYPE OR PRINT NAME HEATHER DAHLGREN TELEPHONE NO. ( 915 ) 685 7665

### **Supplemental Data for C-107-A, Rincon Unit Well No. 131**

**Well History:** The Rincon Unit Well No. 131 was drilled and completed as a Dakota gas producer in December 1968. Mesaverde reserves would be developed most economically at this time with a downhole commingled completion. An estimated completion date for the Mesaverde is late April or May 1998.

**Production History:** Current gas production is 154 Mcfd from the Dakota with trace oil and water production. An estimated initial rate for the first 30 days of Mesaverde production is 307 Mcfd and 4 Bopd. This estimate is an average based on actual IP's and production from six recent Mesaverde completions on the Rincon Unit. Please see attachments for this supporting data.

**Pressure Data:** Original and current bottom hole pressures were calculated from surface shut-in casing pressures. The Rincon Unit well #168 Mesaverde pressure data was used for the original pressure for the #131 Mesaverde. This well is an offset to the #131 and was recently completed in January 1998. Please see attachments for the bottom hole calculation, date and duration of these tests.

**Allocation of Production:** Unocal proposes to use an allocation based on an established Dakota annual decline rate of 6.22%. Dakota production will be extrapolated monthly using NMOCD recommended allocation methods with the remainder of the commingled production being allocated to the Mesaverde formation. Please see attachments for the Dakota forecast. Initial flush production volumes have been added to the Dakota due to the anticipated extended shut-in during the workover. While tabular data has been provided for the first five years of the Dakota forecast, we anticipate being able to convert to a fixed allocation factor within 12 to 24 months. Unocal also proposes to use a yield factor for allocating liquid production. This factor based on the average oil and water yield for 1997.

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State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102  
Revised October 18, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                         |                                                                        |                                        |
|-----------------------------------------|------------------------------------------------------------------------|----------------------------------------|
| <sup>1</sup> API Number<br>30-039-20158 | <sup>2</sup> Pool Code<br>71599                                        | <sup>3</sup> Pool Name<br>BASIN DAKOTA |
| <sup>4</sup> Property Code<br>011510    | <sup>5</sup> Property Name<br>RINCON UNIT                              | <sup>6</sup> Well Number<br>131        |
| <sup>7</sup> OGRID No.<br>023708        | <sup>8</sup> Operator Name<br>UNION OIL COMPANY OF CALIFORNIA (UNOCAL) | <sup>9</sup> Elevation<br>6552'        |

<sup>10</sup> Surface Location

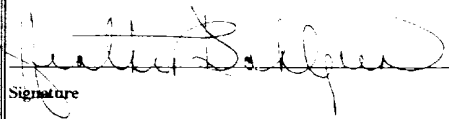
|                    |               |                 |             |         |                       |                       |                       |                     |                      |
|--------------------|---------------|-----------------|-------------|---------|-----------------------|-----------------------|-----------------------|---------------------|----------------------|
| UL or lot no.<br>K | Section<br>36 | Township<br>27N | Range<br>7W | Lot Idn | Feet from the<br>1800 | North/South line<br>S | Feet from the<br>1550 | East/West line<br>W | County<br>Rio Arriba |
|--------------------|---------------|-----------------|-------------|---------|-----------------------|-----------------------|-----------------------|---------------------|----------------------|

<sup>11</sup> Bottom Hole Location If Different From Surface

|               |         |          |       |         |               |                  |               |                |        |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|

|                                         |                                    |                                       |                                        |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------------------------------|
| <sup>12</sup> Dedicated Acres<br>320.00 | <sup>13</sup> Joint or Infill<br>Y | <sup>14</sup> Consolidation Code<br>U | <sup>15</sup> Order No.<br>Unitization |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------------------------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|               |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <sup>16</sup> |  |  |  |  | <sup>17</sup> OPERATOR CERTIFICATION<br><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i><br><br>Signature<br>Printed Name <b>HEATHER DAHLGREN</b><br>Title <b>ENGINEERING TECHNICIAN</b><br>Date <b>3-16-98</b> |
|               |  |  |  |  | <sup>18</sup> SURVEYOR CERTIFICATION<br><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my</i>                                                                                                                                                                                               |
|               |  |  |  |  | Date of Survey<br>Signature and Seal of Professional Surveyor:                                                                                                                                                                                                                                                                                                                |
|               |  |  |  |  | Certificate Number                                                                                                                                                                                                                                                                                                                                                            |

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|                                         |                                                                        |                                            |
|-----------------------------------------|------------------------------------------------------------------------|--------------------------------------------|
| <sup>1</sup> API Number<br>30-039-20158 | <sup>2</sup> Pool Code<br>72319                                        | <sup>3</sup> Pool Name<br>BLANCO MESAVERDE |
| <sup>4</sup> Property Code<br>011510    | <sup>4</sup> Property Name<br>RINCON UNIT                              | <sup>5</sup> Well Number<br>131            |
| <sup>7</sup> OGRID No.<br>023708        | <sup>1</sup> Operator Name<br>UNION OIL COMPANY OF CALIFORNIA (UNOCAL) | <sup>8</sup> Elevation<br>6552'            |

<sup>10</sup> Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| K             | 36      | 27N      | 7W    |         | 1800          | S                | 1550          | W              | Rio Arriba |

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|               |         |          |       |         |               |                  |               |                |        |

|                                         |                                    |                                       |                                        |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------------------------------|
| <sup>12</sup> Dedicated Acres<br>320.00 | <sup>13</sup> Joint or Infill<br>Y | <sup>14</sup> Consolidation Code<br>U | <sup>15</sup> Order No.<br>Unitization |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------------------------------|

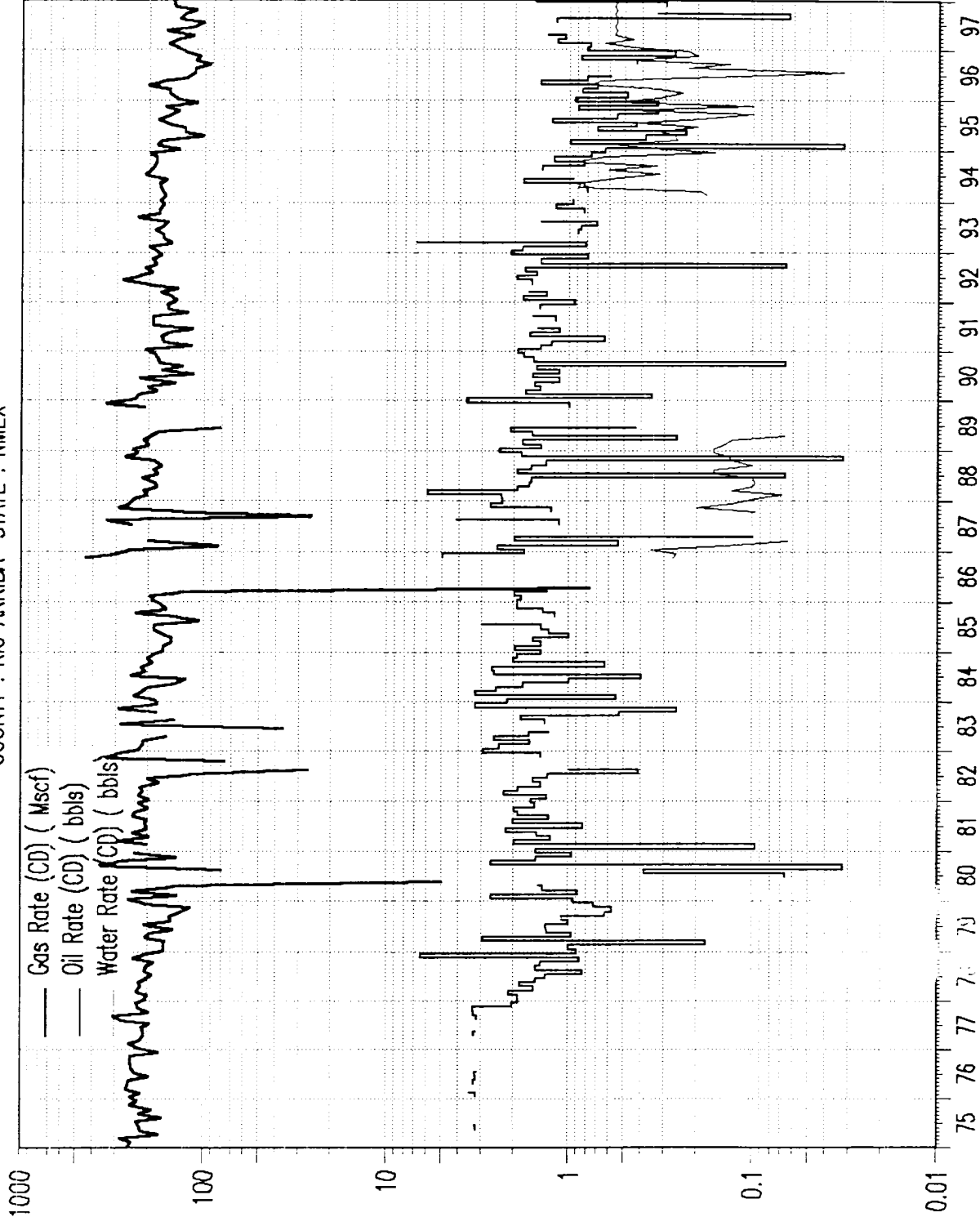
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|  |                                                                                                                                                                                                                                                                                         |  |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
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|  | <sup>18</sup> SURVEYOR CERTIFICATION<br><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my</i><br><br><br>Date of Survey<br>Signature and Seal of Professional Surveyor:<br><br><br>Certificate Number |  |
|  |                                                                                                                                                                                                                                                                                         |  |
|  |                                                                                                                                                                                                                                                                                         |  |

WELL: RINCON UNIT 131:DK

LOCATION : N027 W007 36 SWNESW

COUNTY : RIO ARriba STATE : NMEX



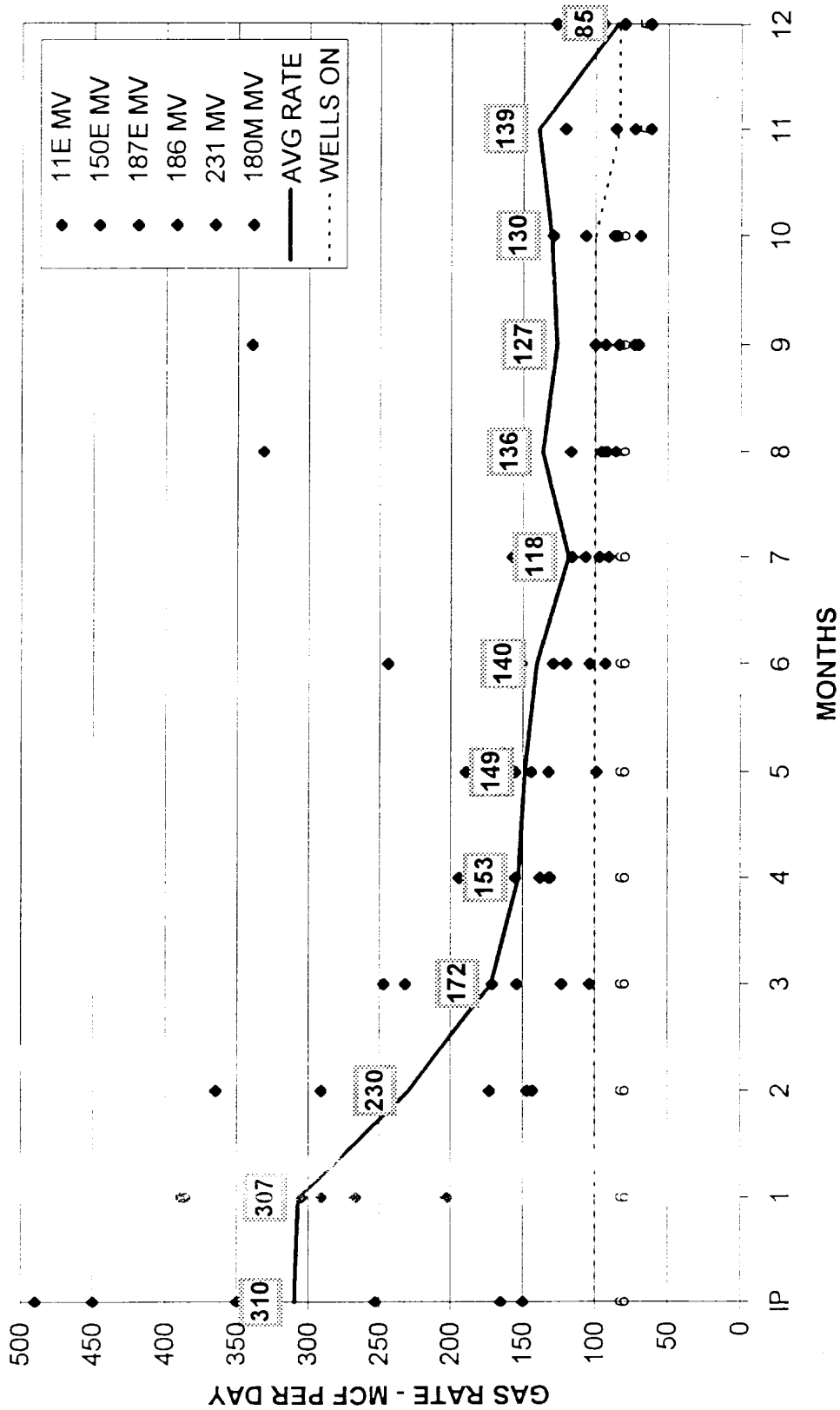
WELL: RINCON UNIT 131:DK

LOCATION : N027 W007 36 SWNESW

COUNTY : RIO ARRIBA STATE : NMEX

| DATE | DAYS<br>ON<br>PROD<br>Days | OIL<br>VOL<br>PROD<br>bbls | GAS<br>VOL<br>PROD<br>Mscf | WATER<br>VOL<br>PROD<br>bbls | OIL<br>RATE<br>(PD)<br>bbls | GAS<br>RATE<br>(PD)<br>Mscf | WATER<br>RATE<br>(PD)<br>bbls | CUM<br>OIL<br>PROD<br>bbls | CUM<br>GAS<br>PROD<br>Mscf |
|------|----------------------------|----------------------------|----------------------------|------------------------------|-----------------------------|-----------------------------|-------------------------------|----------------------------|----------------------------|
| 9601 | 31                         | 15                         | 4431                       | 10                           | 0.5                         | 143                         | 0.3                           | 18377                      | 2093367                    |
| 9602 | 29                         | 25                         | 4524                       | 7                            | 0.9                         | 156                         | 0.2                           | 18402                      | 2097891                    |
| 9603 | 25                         | 22                         | 4856                       | 10                           | 0.9                         | 194                         | 0.4                           | 18424                      | 2102747                    |
| 9604 | 29                         | 44                         | 6088                       | 23                           | 1.5                         | 210                         | 0.8                           | 18468                      | 2108835                    |
| 9605 | 31                         | 25                         | 5306                       | 21                           | 0.8                         | 171                         | 0.7                           | 18493                      | 2114141                    |
| 9606 | 30                         | 18                         | 3740                       | 5                            | 0.6                         | 125                         | 0.2                           | 18511                      | 2117881                    |
| 9607 | 31                         | 0                          | 3510                       | 1                            | 0.0                         | 113                         | 0.0                           | 18511                      | 2121391                    |
| 9608 | 31                         | 0                          | 3492                       | 7                            | 0.0                         | 113                         | 0.2                           | 18511                      | 2124883                    |
| 9609 | 25                         | 13                         | 2805                       | 4                            | 0.5                         | 112                         | 0.2                           | 18524                      | 2127688                    |
| 9610 | 31                         | 27                         | 3473                       | 15                           | 0.9                         | 112                         | 0.5                           | 18551                      | 2131161                    |
| 9611 | 30                         | 8                          | 3184                       | 6                            | 0.3                         | 106                         | 0.2                           | 18559                      | 2134345                    |
| 9612 | 31                         | 25                         | 3971                       | 7                            | 0.8                         | 128                         | 0.2                           | 18584                      | 2138316                    |
| 9701 | 31                         | 24                         | 4346                       | 14                           | 0.8                         | 140                         | 0.5                           | 18608                      | 2142662                    |
| 9702 | 28                         | 33                         | 4441                       | 18                           | 1.2                         | 159                         | 0.6                           | 18641                      | 2147103                    |
| 9703 | 31                         | 33                         | 4423                       | 14                           | 1.1                         | 143                         | 0.5                           | 18674                      | 2151526                    |
| 9704 | 30                         | 40                         | 3504                       | 17                           | 1.3                         | 117                         | 0.6                           | 18714                      | 2155030                    |
| 9705 | 30                         | 0                          | 5025                       | 17                           | 0.0                         | 168                         | 0.6                           | 18714                      | 2160055                    |
| 9706 | 30                         | 0                          | 3399                       | 17                           | 0.0                         | 113                         | 0.6                           | 18714                      | 2163454                    |
| 9707 | 31                         | 37                         | 3171                       | 17                           | 1.2                         | 102                         | 0.5                           | 18751                      | 2166625                    |
| 9708 | 31                         | 2                          | 4256                       | 17                           | 0.1                         | 137                         | 0.5                           | 18753                      | 2170881                    |
| 9709 | 31                         | 10                         | 3849                       | 17                           | 0.3                         | 124                         | 0.5                           | 18763                      | 2174730                    |
| 9710 | 31                         | 0                          | 3465                       | 17                           | 0.0                         | 112                         | 0.5                           | 18763                      | 2178195                    |
| 9711 | 30                         | 9                          | 4375                       | 17                           | 0.3                         | 146                         | 0.6                           | 18772                      | 2182570                    |
| 9712 | 30                         | 48                         | 4612                       | 17                           | 1.6                         | 154                         | 0.6                           | 18820                      | 2187182                    |

# RINCON MESAVERDE RECOMPLETIONS SEPARATELY METERED VOLUMES



--BHPCALC--

Calculated BHP and Z-factor from surface shut-in pressure

TEST DATE: Jul-97

WELL NAME : Rincon Unit 131 DK (Current Pressure)

|                     |           |       |          |
|---------------------|-----------|-------|----------|
| GAS GRAVITY:        | 0.68      | % N2  | 0.93     |
| CONDENSATE (YF =1): | 1         | % CO2 | 1.17 %   |
| RESERVOIR TEMI      | 186 F     | % H2S | 0.00 %   |
| SURFACE TEMP:       | 60 F      | PC =  | 669.61 % |
| DEPTH OF ZONE:      | 7317 Foot | TC =  | 376.23   |

| SURFACE PRES | BHP  | Z      | BHP/Z |
|--------------|------|--------|-------|
| Psia         | psia |        | psia  |
| 415          | 492  | 0.9557 | 515   |

Current pressure obtained after 5 day shut-in.

--BHPCALC--

Calculated BHP and Z-factor from surface shut-in pressure

TEST DATE: Jan-69

WELL NAME : Rincon Unit 131 DK (Original Pressure)

|                     |           |       |          |
|---------------------|-----------|-------|----------|
| GAS GRAVITY:        | 0.68      | % N2  | 0.93     |
| CONDENSATE (YES=1): | 1         | % CO2 | 1.17 %   |
| RESERVOIR TEMP:     | 186 F     | % H2S | 0.00 %   |
| SURFACE TEMP:       | 60 F      | Pc =  | 669.61 % |
| DEPTH OF ZONE:      | 7317 Foot | Tc =  | 376.23   |

| SURFACE PRES | BHP   | Z      | BHP/Z |
|--------------|-------|--------|-------|
| psia         | psia  |        | psia  |
| 2519         | 3,081 | 0.8857 | 3,479 |

Original pressure obtained after 24 day shut-in following completion.

--BHPCALC--

Calculated BHP and Z-factor from surface shut-in pressure

TEST DATE: 01/23/98

WELL NAME : Rincon Unit 168 MV (Original Pressure)

|                     |           |       |          |
|---------------------|-----------|-------|----------|
| GAS GRAVITY:        | 0.69      | % N2  | 0.28     |
| CONDENSATE (YES=1): | 1         | % CO2 | 1.10 %   |
| RESERVOIR TEMP:     | 140 F     | % H2S | 0.00 %   |
| SURFACE TEMP:       | 60 F      | Pc =  | 670.05 % |
| DEPTH OF ZONE:      | 5298 Foot | Tc =  | 378.61   |

| SURFACE PRES | BHP  | Z      | BHP/Z |
|--------------|------|--------|-------|
| Psia         | psia |        | psia  |
| 685          | 786  | 0.9087 | 865   |

Current pressure obtained after 30 day shut-in following completion of Mesaverde.

RU 131DK Forecast

Well

Existing Completion Prior to DHC

Annular decline

Monthly Effective Decline Factor

Average 3 month volume (Mcf) prior to DHC

Average Yield (bbbls/mcf) Oil

Average Yield (bbbls/mcf) Water

Volume prior to DHC (Mcf)

|        |
|--------|
| RU 131 |
| DK     |
| 6.22%  |
| 0.0053 |
| 4151   |
| 0.0048 |
| 0.0041 |
|        |

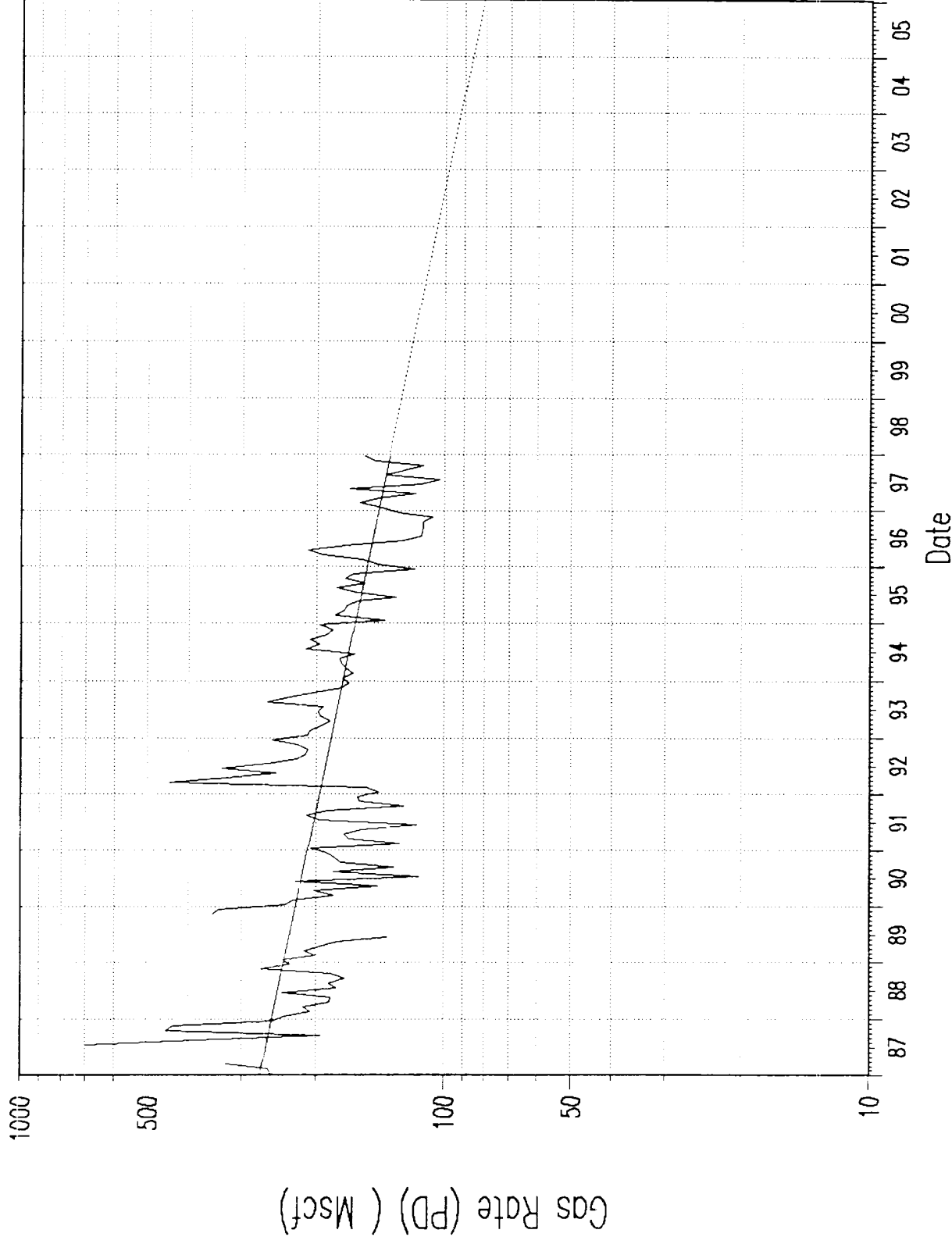
Full Months Prod Oct - Dec 97  
97 annual average  
97 annual average

\* Forecasted volumes to be adjusted for actual days on production

| Month | DK Forecast (Mcf) | DK Forecast (Mcf @ 30.4) | DK Forecast (Bbls-Oil) | DK Forecast (Bbls-Water) |
|-------|-------------------|--------------------------|------------------------|--------------------------|
| 1     | 155.3             | 4720                     | 22.7                   | 19.4                     |
| 2     | 148.5             | 4514                     | 21.7                   | 18.5                     |
| 3     | 134.6             | 4093                     | 19.6                   | 16.8                     |
| 4     | 133.9             | 4071                     | 19.5                   | 16.7                     |
| 5     | 133.2             | 4049                     | 19.4                   | 16.6                     |
| 6     | 132.5             | 4028                     | 19.3                   | 16.5                     |
| 7     | 131.8             | 4006                     | 19.2                   | 16.4                     |
| 8     | 131.1             | 3985                     | 19.1                   | 16.3                     |
| 9     | 130.4             | 3964                     | 19.0                   | 16.3                     |
| 10    | 129.7             | 3942                     | 18.9                   | 16.2                     |
| 11    | 129.0             | 3921                     | 18.8                   | 16.1                     |
| 12    | 128.3             | 3900                     | 18.7                   | 16.0                     |
| 13    | 127.6             | 3880                     | 18.6                   | 15.9                     |
| 14    | 126.9             | 3859                     | 18.5                   | 15.8                     |
| 15    | 126.3             | 3838                     | 18.4                   | 15.7                     |
| 16    | 125.6             | 3818                     | 18.3                   | 15.7                     |
| 17    | 124.9             | 3797                     | 18.2                   | 15.6                     |
| 18    | 124.3             | 3777                     | 18.1                   | 15.5                     |
| 19    | 123.6             | 3757                     | 18.0                   | 15.4                     |
| 20    | 122.9             | 3737                     | 17.9                   | 15.3                     |
| 21    | 122.3             | 3717                     | 17.8                   | 15.2                     |
| 22    | 121.6             | 3697                     | 17.7                   | 15.2                     |
| 23    | 121.0             | 3677                     | 17.7                   | 15.1                     |
| 24    | 120.3             | 3658                     | 17.6                   | 15.0                     |

+ DK flush volume  
+ DK flush volume

WELL: RINCON UNIT 131:DK  
LOCATION : N027 W007 36 SWNESW  
COUNTY : RIO ARriba STATE : NMEX



WELL: RINCON UNIT 131:DK  
 LOCATION : N027 W007 36 SWNESW  
 COUNTY : RIO ARriba STATE : NMEX

Cum. Gas Production: 2187182.00 Mscf  
 Remaining Recoverable Gas Reserves: 628890.42 Mscf  
 Ultimate Recoverable Gas Reserves: 2816072.42 Mscf

SCHEDULE 1

Qi: 588.83 Mscf  
 Di: 0.005356  
 Hyperbolic B: 0.0000  
 Start Date: 1998/01  
 Monthly Nominal Decline (Dn): 0.005356  
 Monthly Effective Decline (De): 0.005342  
 Yearly Effective Decline (De): 0.062249  
 Initial Forecast Rate: 135.00 Mscf  
 Economic Limit: 20.00 Mscf  
 Cumulative Produced: 2187182.00 Mscf  
 Schedule Forecasted Reserves: 628890.42 Mscf  
 Total Forecasted Reserves: 628890.42 Mscf  
 Total Recovered Reserves: 2816072.42 Mscf

| DATE    | AVERAGE<br>DAILY<br>RATE<br>Mscf | MONTHLY<br>FORECAST<br>PROD.<br>Mscf | CUM.<br>PROD.<br>Mscf | REMAINING<br>RECOV.<br>RESERVES<br>Mscf |
|---------|----------------------------------|--------------------------------------|-----------------------|-----------------------------------------|
| 1998/01 | 134.64                           | 4173.85                              | 2191355.75            | 624716.56                               |
| 1998/02 | 133.92                           | 3749.75                              | 2195105.50            | 620966.81                               |
| 1998/03 | 133.20                           | 4129.34                              | 2199235.00            | 616837.50                               |
| 1998/04 | 132.49                           | 3974.77                              | 2203209.75            | 612862.75                               |
| 1998/05 | 131.79                           | 4085.36                              | 2207295.00            | 608777.38                               |
| 1998/06 | 131.08                           | 3932.46                              | 2211227.50            | 604844.94                               |
| 1998/07 | 130.38                           | 4041.81                              | 2215269.25            | 600803.13                               |
| 1998/08 | 129.68                           | 4020.18                              | 2219289.50            | 596782.94                               |
| 1998/09 | 128.99                           | 3869.81                              | 2223159.25            | 592913.13                               |
| 1998/10 | 128.30                           | 3977.39                              | 2227136.75            | 588935.75                               |
| 1998/11 | 127.62                           | 3828.53                              | 2230965.25            | 585107.19                               |
| 1998/12 | 126.94                           | 3935.00                              | 2234900.25            | 581172.19                               |
| 1999/01 | 126.26                           | 3914.02                              | 2238814.25            | 577258.19                               |
| 1999/02 | 125.58                           | 3516.34                              | 2242330.50            | 573741.88                               |
| 1999/03 | 124.91                           | 3872.29                              | 2246203.00            | 569869.56                               |
| 1999/04 | 124.25                           | 3727.38                              | 2249930.25            | 566142.19                               |
| 1999/05 | 123.58                           | 3831.04                              | 2253761.25            | 562311.13                               |
| 1999/06 | 122.92                           | 3687.68                              | 2257449.00            | 558623.50                               |
| 1999/07 | 122.26                           | 3790.20                              | 2261239.25            | 554833.25                               |
| 1999/08 | 121.61                           | 3769.97                              | 2265009.25            | 551063.31                               |
| 1999/09 | 120.96                           | 3628.87                              | 2268638.00            | 547434.44                               |
| 1999/10 | 120.32                           | 3729.84                              | 2272367.75            | 543704.63                               |
| 1999/11 | 119.67                           | 3590.20                              | 2275958.00            | 540114.38                               |
| 1999/12 | 119.04                           | 3690.09                              | 2279648.00            | 536424.31                               |
| 2000/01 | 118.40                           | 3670.34                              | 2283318.50            | 532754.00                               |
| 2000/02 | 117.77                           | 3415.25                              | 2286733.75            | 529338.75                               |
| 2000/03 | 117.14                           | 3631.22                              | 2290365.00            | 525707.50                               |

| DATE    | AVERAGE<br>DAILY<br>RATE<br>Mscf | MONTHLY<br>FORECAST<br>PROD.<br>Mscf | CUM.<br>PROD.<br>Mscf | REMAINING<br>RECOV.<br>RESERVES<br>Mscf |
|---------|----------------------------------|--------------------------------------|-----------------------|-----------------------------------------|
| 2000/05 | 115.89                           | 3592.54                              | 2297452.75            | 518619.59                               |
| 2000/06 | 115.27                           | 3458.11                              | 2300911.00            | 515161.50                               |
| 2000/07 | 114.65                           | 3554.29                              | 2304465.25            | 511607.19                               |
| 2000/08 | 114.04                           | 3535.31                              | 2308000.50            | 508071.88                               |
| 2000/09 | 113.43                           | 3402.98                              | 2311403.50            | 504668.91                               |
| 2000/10 | 112.83                           | 3497.63                              | 2314901.25            | 501171.28                               |
| 2000/11 | 112.22                           | 3366.73                              | 2318268.00            | 497804.56                               |
| 2000/12 | 111.62                           | 3460.38                              | 2321728.25            | 494344.19                               |
| 2001/01 | 111.03                           | 3441.86                              | 2325170.00            | 490902.31                               |
| 2001/02 | 110.44                           | 3092.20                              | 2328262.25            | 487810.13                               |
| 2001/03 | 109.85                           | 3405.20                              | 2331667.50            | 484404.91                               |
| 2001/04 | 109.26                           | 3277.77                              | 2334945.25            | 481127.13                               |
| 2001/05 | 108.68                           | 3368.95                              | 2338314.25            | 477758.19                               |
| 2001/06 | 108.09                           | 3242.81                              | 2341557.00            | 474515.38                               |
| 2001/07 | 107.52                           | 3333.06                              | 2344890.00            | 471182.31                               |
| 2001/08 | 106.94                           | 3315.22                              | 2348205.25            | 467867.09                               |
| 2001/09 | 106.37                           | 3191.17                              | 2351396.50            | 464675.94                               |
| 2001/10 | 105.80                           | 3279.89                              | 2354676.50            | 461396.03                               |
| 2001/11 | 105.24                           | 3157.17                              | 2357833.50            | 458238.88                               |
| 2001/12 | 104.68                           | 3244.95                              | 2361078.50            | 454993.91                               |
| 2002/01 | 104.12                           | 3227.61                              | 2364306.25            | 451766.31                               |
| 2002/02 | 103.56                           | 2899.73                              | 2367206.00            | 448866.56                               |
| 2002/03 | 103.01                           | 3193.25                              | 2370399.00            | 445673.31                               |
| 2002/04 | 102.46                           | 3073.70                              | 2373472.75            | 442599.63                               |
| 2002/05 | 101.91                           | 3159.20                              | 2376632.00            | 439440.41                               |
| 2002/06 | 101.37                           | 3041.02                              | 2379673.00            | 436399.38                               |
| 2002/07 | 100.82                           | 3125.55                              | 2382798.50            | 433273.84                               |
| 2002/08 | 100.29                           | 3108.86                              | 2385907.50            | 430165.00                               |
| 2002/09 | 99.75                            | 2992.52                              | 2388900.00            | 427172.47                               |
| 2002/10 | 99.22                            | 3075.73                              | 2391975.75            | 424096.75                               |
| 2002/11 | 98.69                            | 2960.63                              | 2394936.25            | 421136.13                               |
| 2002/12 | 98.16                            | 3042.98                              | 2397979.25            | 418093.13                               |
| 2003/01 | 97.64                            | 3026.72                              | 2401006.00            | 415066.41                               |
| 2003/02 | 97.11                            | 2719.19                              | 2403725.25            | 412347.22                               |
| 2003/03 | 96.60                            | 2994.48                              | 2406719.75            | 409352.75                               |
| 2003/04 | 96.08                            | 2882.38                              | 2409602.00            | 406470.38                               |
| 2003/05 | 95.57                            | 2962.56                              | 2412564.75            | 403507.81                               |
| 2003/06 | 95.06                            | 2851.69                              | 2415416.25            | 400656.13                               |
| 2003/07 | 94.55                            | 2931.00                              | 2418347.25            | 397725.13                               |
| 2003/08 | 94.04                            | 2915.34                              | 2421262.75            | 394809.75                               |
| 2003/09 | 93.54                            | 2806.23                              | 2424069.00            | 392003.53                               |
| 2003/10 | 93.04                            | 2884.27                              | 2426953.25            | 389119.25                               |
| 2003/11 | 92.55                            | 2776.34                              | 2429729.50            | 386342.94                               |
| 2003/12 | 92.05                            | 2853.55                              | 2432583.00            | 383489.38                               |

