

## 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

BURLINGTON RESOURCES OIL &amp; GAS COMPANY

Operator

PO Box 4289, Farmington, NM 87499

Address

Grenier A

3M

D, Sec. 34, T30N, R10W

San Juan

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 18531 API NO. 30-045-2583300 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 Mesa Verde-72319                                                    |                                            | Basin Dakota - 71599                            |
| 2. Top and Bottom of Pay Section (Perforations)                                                                                                                                               | 4220'-4902'                                                                |                                            | 6888'-7185'                                     |
| 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>Estimated Current<br>Gas & Oil - Flowing:<br>Measured<br>Current All Gas Zones:<br>Estimated or Measured                            | (Current)<br>a. 363 psia @ 4561'<br><br>(Original)<br>b. 1162 psia @ 4561' | a.<br><br>b.                               | a. 690 psia @ 7037'<br><br>b. 2501 psia @ 7037' |
| 6. Oil Gravity (API) or Gas BTU Content                                                                                                                                                       | 1214 Btu                                                                   |                                            | 1081 Btu                                        |
| 7. Producing or Shut-In?                                                                                                                                                                      | Producing                                                                  |                                            | Shut-In                                         |
| Production Marginal? (yes or no)                                                                                                                                                              | Yes                                                                        |                                            | Yes                                             |
| * If Shut-In and oil/gas/water rates of last production<br><br>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data | Date:<br>Rates:                                                            | Date:<br>Rates:                            | Date: 01/01/97<br>Rates: 15 MCFD, 0 BOD, 0 BWD  |
| * If Producing, give data and oil/gas/water of recent test (within 60 days)                                                                                                                   | Date: 10/31/98<br>Rates: 67 MCFD, 0 BOD, 0 BWD                             | Date:<br>Rates:                            | Date:<br>Rates:                                 |
| 8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)                                                                                                          | Oil: Gas:<br>Will supply after commingling                                 | Oil: Gas:<br>Will supply after commingling | Oil: Gas:<br>Will supply after commingling      |

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? ☐ Yes ☐ No  
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No11. 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 ☐ No13. 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. NMOC Reference Cases for Rule 303(D) Exceptions ORDER NO(S).

## 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 Kevin L. Midkiff TITLE Operations Engineer DATE 12-14-98TYPE OR PRINT NAME Kevin L. Midkiff TELEPHONE NO. ( 505 ) 326-9700

All distances must be from the outer boundaries of the Section.

|                                                                                                                               |                                      |                        |                             |                           |                                        |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------|-----------------------------|---------------------------|----------------------------------------|
| Operator<br><b>SOUTHLAND ROYALTY COMPANY</b>                                                                                  |                                      |                        | Lease<br><b>CRENIER "A"</b> |                           | Well No.<br><b>3M</b>                  |
| Unit Letter:<br><b>D</b>                                                                                                      | Section<br><b>34</b>                 | Township<br><b>30N</b> | Range<br><b>10W</b>         | County<br><b>San Juan</b> |                                        |
| Actual Footage Location of Well:<br><b>1110</b> feet from the <b>North</b> line and <b>930</b> feet from the <b>West</b> line |                                      |                        |                             |                           |                                        |
| Ground Level Elev:<br><b>6049' GL</b>                                                                                         | Producing Formation<br><b>Dakota</b> |                        | Pool<br><b>Basin</b>        |                           | Dedicated Acreage:<br><b>320</b> Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

|                                                                                                                                                                            |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                                                                                                            |  |
| <p>34</p> <p>RECEIVED</p> <p>AUG 31 1983</p> <p>BUREAU OF LAND MANAGEMENT<br/>FARMINGTON RESOURCE AREA</p> <p>RECEIVED<br/>IN DEC 1 1983<br/>OIL CONSERVATION DIVISION</p> |  |

Scale: 1"=1000'

CERTIFICATION

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

*R. E. Fielder*

Name  
**R. E. Fielder**

Position  
**District Engineer**

Company  
**Southland Royalty Company**

Date  
**August 29, 1983**

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 supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **Re-issued**  
**August 24, 1983**

Registered Professional Engineer and Land Surveyor.

*Fred B. Kerr Jr.*  
**Fred B. Kerr Jr.**

Certificate No. **3950**

Page No.: 1

Print Time: Tue Dec 01 10:43:35 1998

Property ID: 63

Property Name: GRENIER A | 3M | 25687-1 *Mesa Verde*

Table Name: S:\JSMITH\ARIES\99WORK\TEST.DBF

| <u>--DATE--</u> | <u>---CUM GAS--</u> | <u>M SIWHP</u> |
|-----------------|---------------------|----------------|
|                 | Mcf                 | Psi            |

|          |        |              |                                           |
|----------|--------|--------------|-------------------------------------------|
| 04/30/83 | 0      | 1007.0       | <i>Initial</i>                            |
| 10/03/84 | 39348  | 761.0        |                                           |
| 12/04/85 | 123745 | 589.0        |                                           |
| 03/12/86 | 137271 | 496.0        |                                           |
| 05/10/89 | 236405 | 441.0        |                                           |
| 06/17/91 | 279281 | 400.0        |                                           |
| 07/10/91 | 281651 | 412.0        |                                           |
| 07/30/93 | 334209 | 356.0        |                                           |
| 9/30/98  | 453883 | <b>312.0</b> | <i>Based on Pressure vs Cum Gas Curve</i> |

Page No.: 1

Print Time: Tue Dec 01 11:38:37 1998

Property ID: 615

Property Name: GRENIER A | 3 | 25652-1

DAKOTA offset well

Table Name: K:\ARIES\RR99PDP\TEST.DBF

| --DATE-- | ---CUM GAS--<br>Mcf | M SIWHP<br>Psi |
|----------|---------------------|----------------|
|----------|---------------------|----------------|

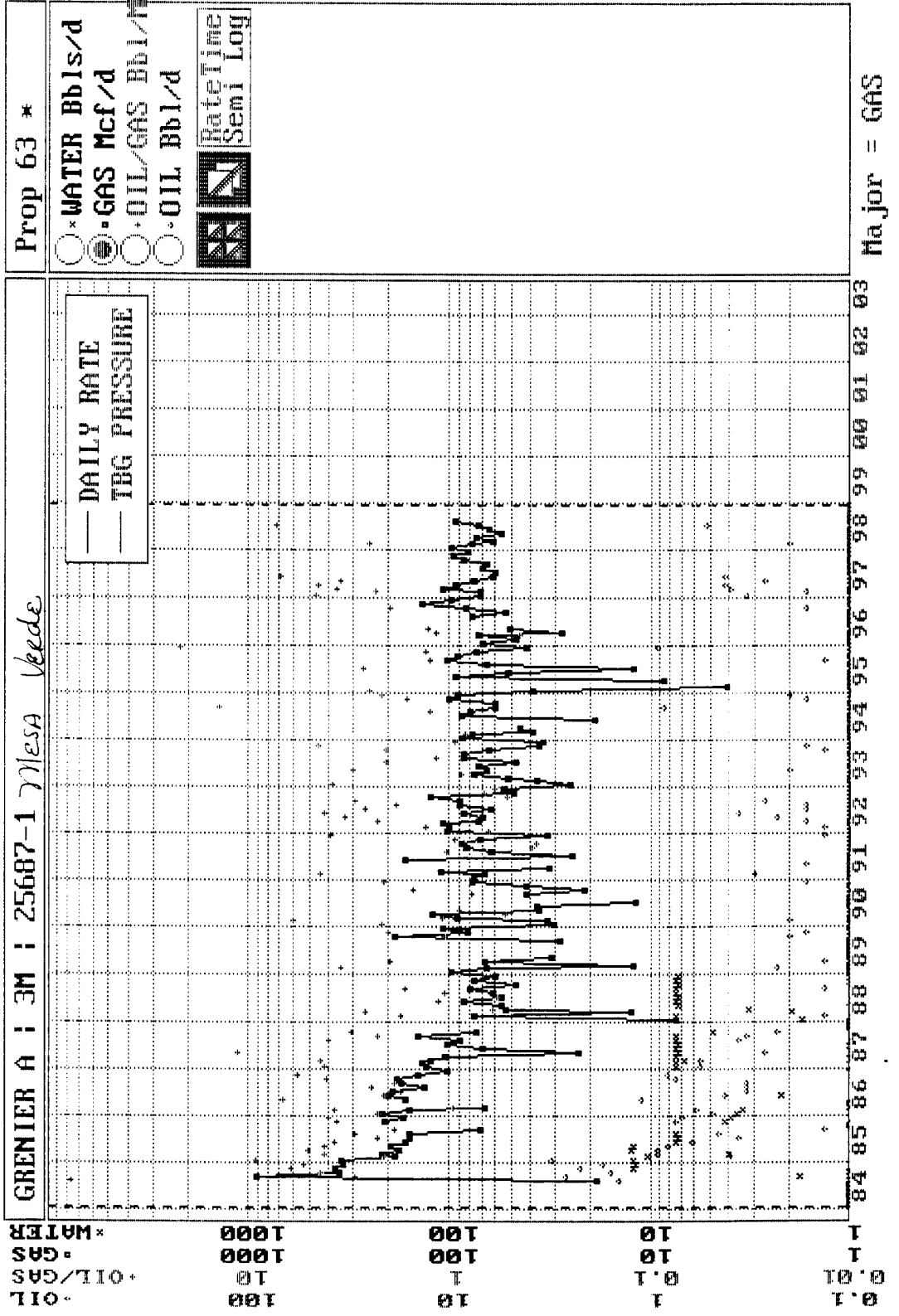
|          |         |        |
|----------|---------|--------|
| 03/31/64 | 0       | 2011.0 |
| 04/17/70 | 415768  | 740.0  |
| 04/18/71 | 468589  | 725.0  |
| 04/18/72 | 524736  | 612.0  |
| 09/26/73 | 591991  | 563.0  |
| 08/02/75 | 686183  | 591.0  |
| 04/17/77 | 747255  | 592.0  |
| 05/16/79 | 809314  | 464.0  |
| 09/01/81 | 890531  | 625.0  |
| 05/02/83 | 927719  | 755.0  |
| 10/03/84 | 970314  | 722.0  |
| 07/25/85 | 991848  | 740.0  |
| 01/13/88 | 1046856 | 747.0  |
| 06/08/90 | 1093708 | 648.0  |
| 04/28/92 | 1119155 | 678.0  |

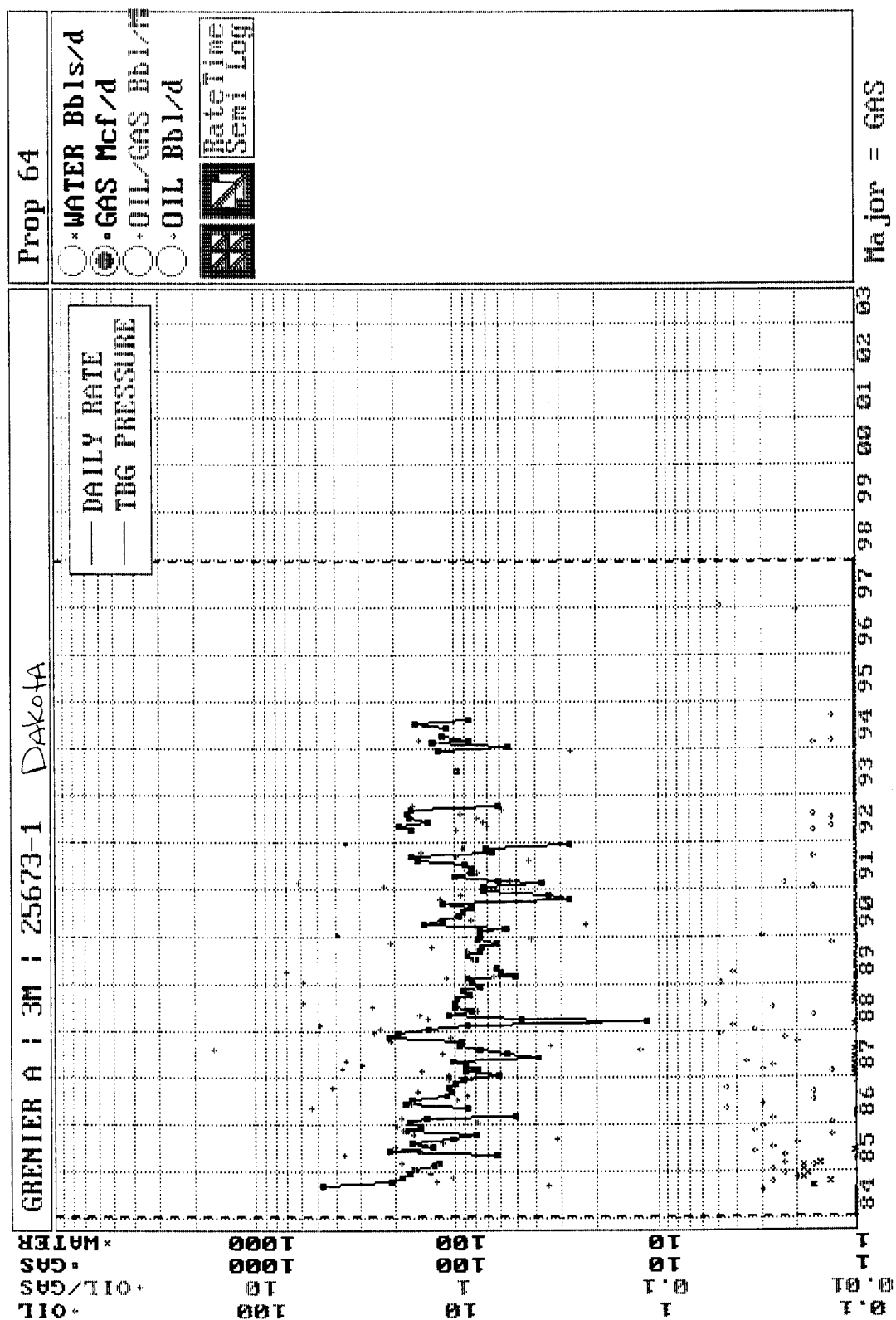
|         |         |       |
|---------|---------|-------|
| 9/30/98 | 1209758 | 565.0 |
|---------|---------|-------|

Initial  
Based on Pressure vs Cum Gas Curve  
from Offset Well

**Grenier A 3M**  
**Bottom Hole Pressures**  
**Flowing and Static BHP**  
**Cullender and Smith Method**  
Version 1.0 3/13/94

| <b>Mesaverde</b>               |        | <b>Dakota</b>                  |        |
|--------------------------------|--------|--------------------------------|--------|
| <b><u>MV-Current</u></b>       |        | <b><u>DK-Current</u></b>       |        |
| GAS GRAVITY                    | 0.7    | GAS GRAVITY                    | 0.7    |
| COND. OR MISC. (C/M)           | M      | COND. OR MISC. (C/M)           | M      |
| %N2                            | 0.34   | %N2                            | 0.34   |
| %CO2                           | 0.86   | %CO2                           | 0.86   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 4.408  | DIAMETER (IN)                  | 4.408  |
| DEPTH (FT)                     | 4561   | DEPTH (FT)                     | 7037   |
| SURFACE TEMPERATURE (DEG F)    | 60     | SURFACE TEMPERATURE (DEG F)    | 60     |
| BOTTOMHOLE TEMPERATURE (DEG F) | 131    | BOTTOMHOLE TEMPERATURE (DEG F) | 169    |
| FLOWRATE (MCFPD)               | 0      | FLOWRATE (MCFPD)               | 0      |
| SURFACE PRESSURE (PSIA)        | 324    | SURFACE PRESSURE (PSIA)        | 577    |
| BOTTOMHOLE PRESSURE (PSIA)     | 363.4  | BOTTOMHOLE PRESSURE (PSIA)     | 689.8  |
| <b><u>MV-Original</u></b>      |        | <b><u>DK-Original</u></b>      |        |
| GAS GRAVITY                    | 0.7    | GAS GRAVITY                    | 0.7    |
| COND. OR MISC. (C/M)           | M      | COND. OR MISC. (C/M)           | M      |
| %N2                            | 0.34   | %N2                            | 0.34   |
| %CO2                           | 0.86   | %CO2                           | 0.86   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 4.408  | DIAMETER (IN)                  | 4.408  |
| DEPTH (FT)                     | 4561   | DEPTH (FT)                     | 7037   |
| SURFACE TEMPERATURE (DEG F)    | 60     | SURFACE TEMPERATURE (DEG F)    | 60     |
| BOTTOMHOLE TEMPERATURE (DEG F) | 131    | BOTTOMHOLE TEMPERATURE (DEG F) | 169    |
| FLOWRATE (MCFPD)               | 0      | FLOWRATE (MCFPD)               | 0      |
| SURFACE PRESSURE (PSIA)        | 1019   | SURFACE PRESSURE (PSIA)        | 2023   |
| BOTTOMHOLE PRESSURE (PSIA)     | 1162.0 | BOTTOMHOLE PRESSURE (PSIA)     | 2500.8 |





FARMINGTON

ANNUAL PRODUCTION FOR 25673 *Dakota*

PHS020M1

GRENIER A 3M

BASIN DAKOTA (PRORATED GAS) FIELD

DAKOTA ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLs

PC DATE

MCF

DATE

BBLs

```

=====
YEAR      OIL      OIL CUM      GAS      GAS CUM      WATER      WATER CUM
1994      13      471      22618     332594      1209
1995      13      471      22618     332594      1209
1996       6      477      22618     332594      1209
1997      15      492      22618     332594      1209
1998      15      492      22618     332594      1209
=====

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POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

FARMINGTON  
GRENIER A 3M  
BASIN DAKOTA (PRORATED GAS) FIELD

1998 MONTHLY PRODUCTION FOR 25673 *Dakota*

PHS030M1

DAKOTA ZONE

| DAYS ===== |   |   | OIL ===== |    |      | ===== |    |      | GAS ===== |     |        |       |      |   |
|------------|---|---|-----------|----|------|-------|----|------|-----------|-----|--------|-------|------|---|
| MO         | T | S | ON        | PC | PROD | GRV   | PC | PROD | ON        | BTU | PRESS  | WATER | PROD | C |
| 1          | 2 | S |           | 02 |      |       | 01 |      |           |     | 15.025 |       |      |   |
| 2          | 2 | S |           | 02 |      |       | 01 |      |           |     | 15.025 |       |      |   |
| 3          | 2 | F | 1         | 02 |      |       | 01 |      | 1         |     | 15.025 |       |      |   |
| 4          | 2 | F | 30        | 02 |      |       | 01 |      | 30        |     | 15.025 |       |      |   |
| 5          | 2 | F | 31        | 02 |      |       | 01 |      | 31        |     | 15.025 |       |      |   |
| 6          | 2 | S | 12        | 02 |      |       | 01 |      | 12        |     | 15.025 |       |      |   |
| 7          | 2 | S |           | 02 |      |       | 01 |      |           |     | 15.025 |       |      |   |
| 8          | 2 | S |           | 02 |      |       | 01 |      |           |     | 15.025 |       |      |   |
| 9          | 2 | S |           | 02 |      |       | 01 |      |           |     | 15.025 |       |      |   |
| 10         |   |   |           |    |      |       |    |      |           |     |        |       |      |   |
| 11         |   |   |           |    |      |       |    |      |           |     |        |       |      |   |
| 12         |   |   |           |    |      |       |    |      |           |     |        |       |      |   |

PF6 - RETURNS TO ANNUAL DISPLAY  
PF10 - HELP INFORMATION

PF3 - TRANSFER TO UPDATE  
PF9 - DISPLAY MONTHLY INJECTION  
PRS 11/04/98

00/00/00 00:00:00:0

FARMINGTON

ANNUAL PRODUCTION FOR

25687yr *Mesa Verde*

PHS020M1

GRENIER A 3M

BLANCO MESAVERDE (PRORATED GAS FIELD

MESAVERDE ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLs

PC DATE

MCF

DATE

BBLs

```

=====
YEAR      OIL      OIL CUM      GAS      GAS CUM      WATER      WATER CUM
1991      24        891      24822     290306                8059
1992      51        942      30768     321074                8059
1993      27        969      20835     341909                8059
1994      42       1011      22834     364743                8059
1995      39       1050      17997     382740                8059
1996      9       1059      21887     404627                8059
1997      61       1120      28756     433383                8059
1998      22       1142      20500     453883                8059

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POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

FARMINGTON 1998 MONTHLY PRODUCTION FOR 25687; *Mesa Verde* PHS030M1  
 GRENIER A 3M  
 BLANCO MESAVERDE (PRORATED GAS FIELD MESAVERDE ZONE

|    |     | DAYS ===== |    | OIL ===== |      | ===== |      | GAS ===== |      |        |       |      |   |
|----|-----|------------|----|-----------|------|-------|------|-----------|------|--------|-------|------|---|
| MO | T S | ON         | PC | PROD      | GRV  | PC    | PROD | ON        | BTU  | PRESS  | WATER | PROD | C |
| 1  | 2 F | 31         | 02 |           |      | 01    | 2973 | 31        | 1195 | 15.025 |       |      |   |
| 2  | 2 F | 28         | 02 | 6         |      | 01    | 2398 | 28        | 1195 | 15.025 |       |      |   |
| 3  | 2 F | 31         | 02 |           |      | 01    | 1876 | 31        | 1195 | 15.025 |       |      |   |
| 4  | 2 F | 27         | 02 |           |      | 01    | 2266 | 27        | 1192 | 15.025 |       |      |   |
| 5  | 2 F | 31         | 02 |           |      | 01    | 1705 | 31        | 1192 | 15.025 |       |      |   |
| 6  | 2 F | 30         | 02 |           | 42.5 | 01    | 1982 | 30        | 1192 | 15.025 |       |      |   |
| 7  | 2 F | 31         | 02 | 16        |      | 01    | 2194 | 31        | 1192 | 15.025 |       |      |   |
| 8  | 2 F | 31         | 02 |           |      | 01    | 2894 | 31        | 1192 | 15.025 |       |      |   |
| 9  | 2 F | 30         | 02 |           |      | 01    | 2212 | 30        | 1192 | 15.025 |       |      |   |
| 10 |     |            |    |           |      |       |      |           |      |        |       |      |   |
| 11 |     |            |    |           |      |       |      |           |      |        |       |      |   |
| 12 |     |            |    |           |      |       |      |           |      |        |       |      |   |

PF6 - RETURNS TO ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE  
 PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY INJECTION  
 00/00/00 00:00:00:0 PRS 11/04/98

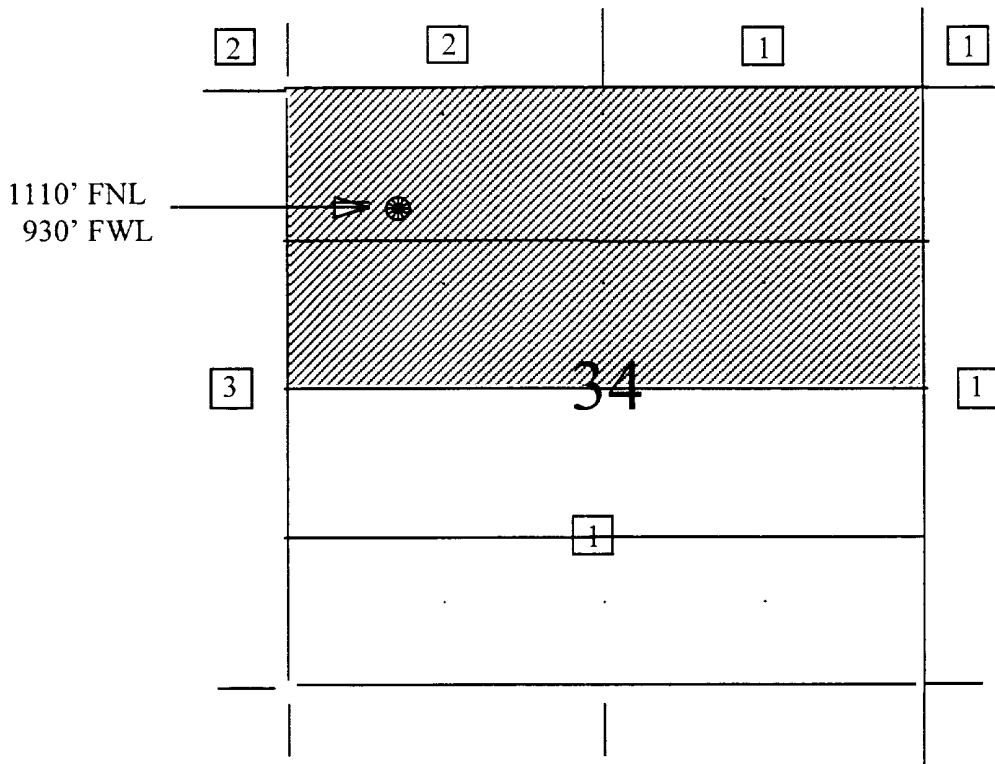


***BURLINGTON RESOURCES OIL AND GAS COMPANY***

**Grenier A #3M  
OFFSET OPERATOR \ OWNER PLAT  
Downhole Commingle**

**Mesaverde / Dakota Formations Well**

**Township 30 North, Range 10 West**



- 1) Burlington Resources
- 2) Amoco Production Company - Land Dept.  
Attn: Steve Trefz  
P.O. Box 800  
1670 Broadway  
Denver, CO 80201
- 3) Conoco Inc.  
Attn: Lori Thorpe  
10 Desta Drive, Suite 100W  
Midland, TX 79705