

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 87505-6429

Form C-107-A  
New 3-12-96

APPROVAL PROCESS :  
\_X\_ Administrative \_\_\_Hearing  
EXISTING WELLBORE  
\_\_\_ YES \_\_\_x\_ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil & Gas Company PO Box 4289, Farmington, NM 87499

Operator Address

San Juan 28-6 Unit 161M I 12-27N-06W Rio Arriba

Lease Well No. Unit Ltr. - Sec - Twp - Rge County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7462 API NO. 30-039-25768 Federal x 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 - 72319   |                   | Basin Dakota - 71599   |
| 2. Top and Bottom of Pay Section (Perforations)   | will be supplied upon completion   |                   | will be supplied upon completion                                 |
| 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 Current<br>All Gas Zones:<br>Estimated or Measured Original                                   | (Current)<br>a. 690 psi (see attachment)<br><br>(Original)<br>b. 1257 psi (see attachment) |                   | a. 1069 psi (see attachment)<br><br>b. 3244 psi (see attachment) |
| 6. Oil Gravity (□API) or Gas BTU Content  | BTU 1215   |                   | BTU 1071   |
| 7. Producing or Shut-In?  | shut in  |                   | shut in  |
| Production Marginal? (yes or no)  | no   |                   | yes  |
| * If Shut-In and oil/gas/water rates of last production<br><br><small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.</small> | Date: n/a<br>Rates:  | Date:<br>Rates:   | Date: n/a<br>Rates:  |
| * If Producing, give data and oil/gas/water water of recent test (within 60 days)   | Date: n/a<br>Rates:  | Date:<br>Rates:   | Date: n/a<br>Rates:  |
| 8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)  | Oil: % Gas: %<br><br>will be supplied upon completion                                      | Oil: % Gas: %     | Oil: % Gas: %<br><br>will be supplied upon completion            |

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 x No  
If not, have all working, overriding, and royalty interests been notified by certified mail? Yes x No  
Have all offset operators been given written notice of the proposed downhole commingling? x Yes No
11. Will cross-flow occur? x 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. x Yes No (If No, attach explanation)
12. Are all produced fluids from all commingled zones compatible with each other? x Yes No
13. Will the value of production be decreased by commingling? Yes x 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. x Yes No
15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). Reference Order R-10696 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 Sean Woolverton TITLE: Production Engineer DATE: 1/26/98

TYPE OR PRINT NAME Sean Woolverton TELEPHONE NO. ( 505 ) 326-9700

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer 00, Artesa, NM 88211-0719  
District III  
1000 Rio Grande Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form 1  
Revised February 21,  
Instructions on  
Submit to Appropriate District  
State Lease - 4 C  
Fee Lease - 3 C

☐ AMENDED RE

WELL LOCATION AND ACREAGE DEDICATION PLAT

|               |  |                               |
|---------------|--|-------------------------------|
| API Number    | Well Code                              | Well Name                     |
| 30-039-       | 72319/71599                            | Blanco Mesaverde/Basin Dakota |
| Property Code | Property Name                          | Well Number                   |
| 7462          | San Juan 28-6 Unit                     | 161M                          |
| OGRID No.     | Operator Name                          | Elevation                     |
| 14538         | BURLINGTON RESOURCES OIL & GAS COMPANY | 6562'                         |

10 Surface Location


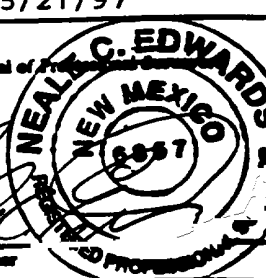
|               |         |          |       |         |               |                  |               |                |       |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|-------|
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | Commy |
| I             | 12      | 27-N     | 6-W   |         | 1505          | South            | 1185          | East           | R.A.  |

11 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 | Commy |
|               |         |          |       |         |               |                  |               |                |       |

|                      |                    |                       |              |
|----------------------|--------------------|-----------------------|--------------|
| 12 Dedication Across | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
| MV-E/320<br>DK-E/320 |                    |                       |              |

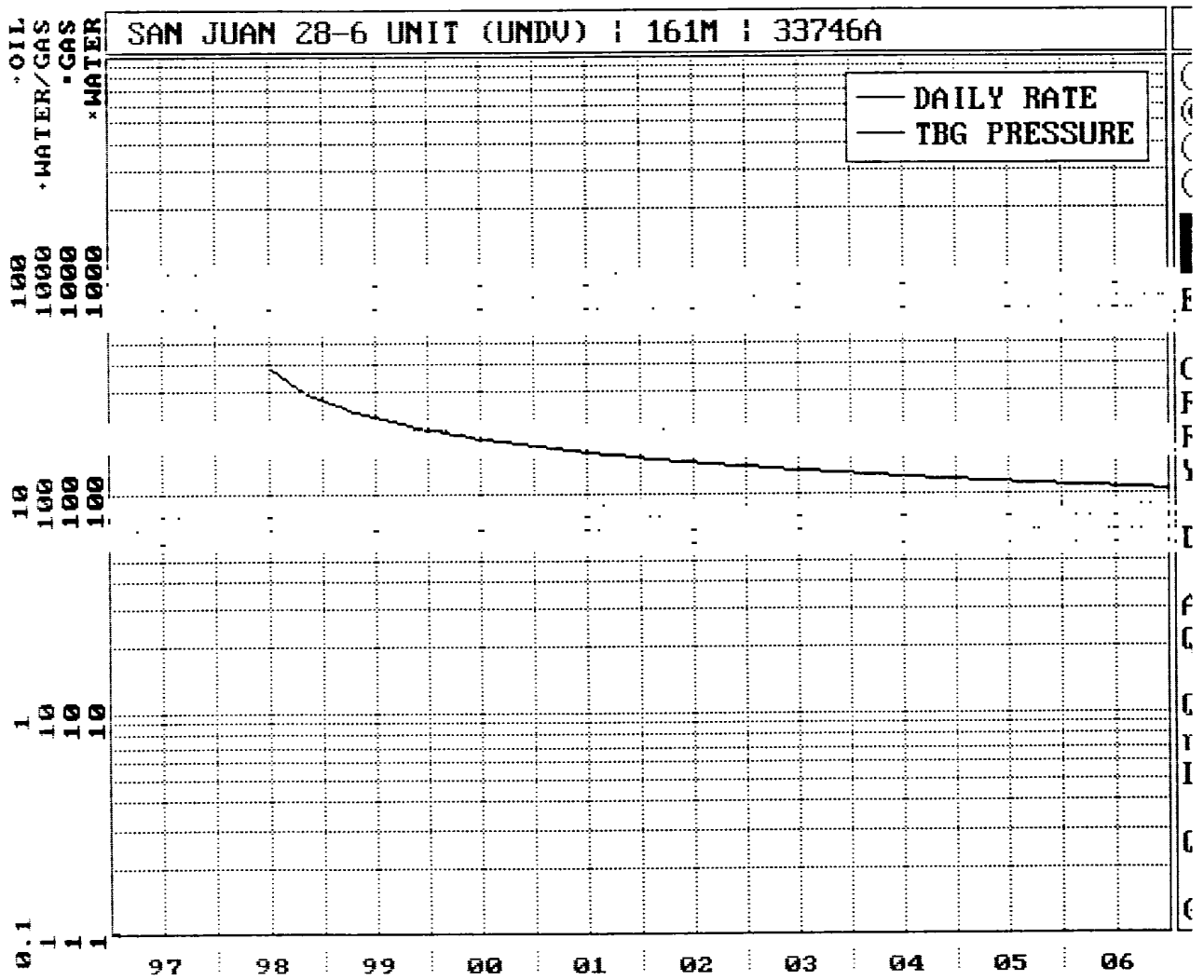
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|          |             |  |
|----------|-------------|--|
| 16       | 5211.36'    | 17 OPERATOR CERTIFICATE  |
| 5223.90' | 12          | I hereby certify that the information contained here<br>true and complete to the best of my knowledge and  |
|          |             | <br>Signature<br>Peggy Bradfield  |
|          |             | Printed Name<br>Regulatory Administrator   |
|          |             | Title<br>7-11-97   |
|          | NMSF-079363 | Date   |
|          | 5263.50'    | 18 SURVEYOR CERTIFICATE  |
|          |             | I hereby certify that the well location shown on this<br>was placed from field notes of actual measurements<br>or under my supervision, and that the same is true<br>correct to the best of my belief. |
|          | 1185'       | 5/21/97  |
|          | 1505'       | Date of Survey   |
|          | 5274.06'    | Signature and Seal of Professional Surveyor  |
|          |             |   |
|          |             | Certificate Number   |

# San Juan 28-6 Unit #161M

## Expected Production Curve

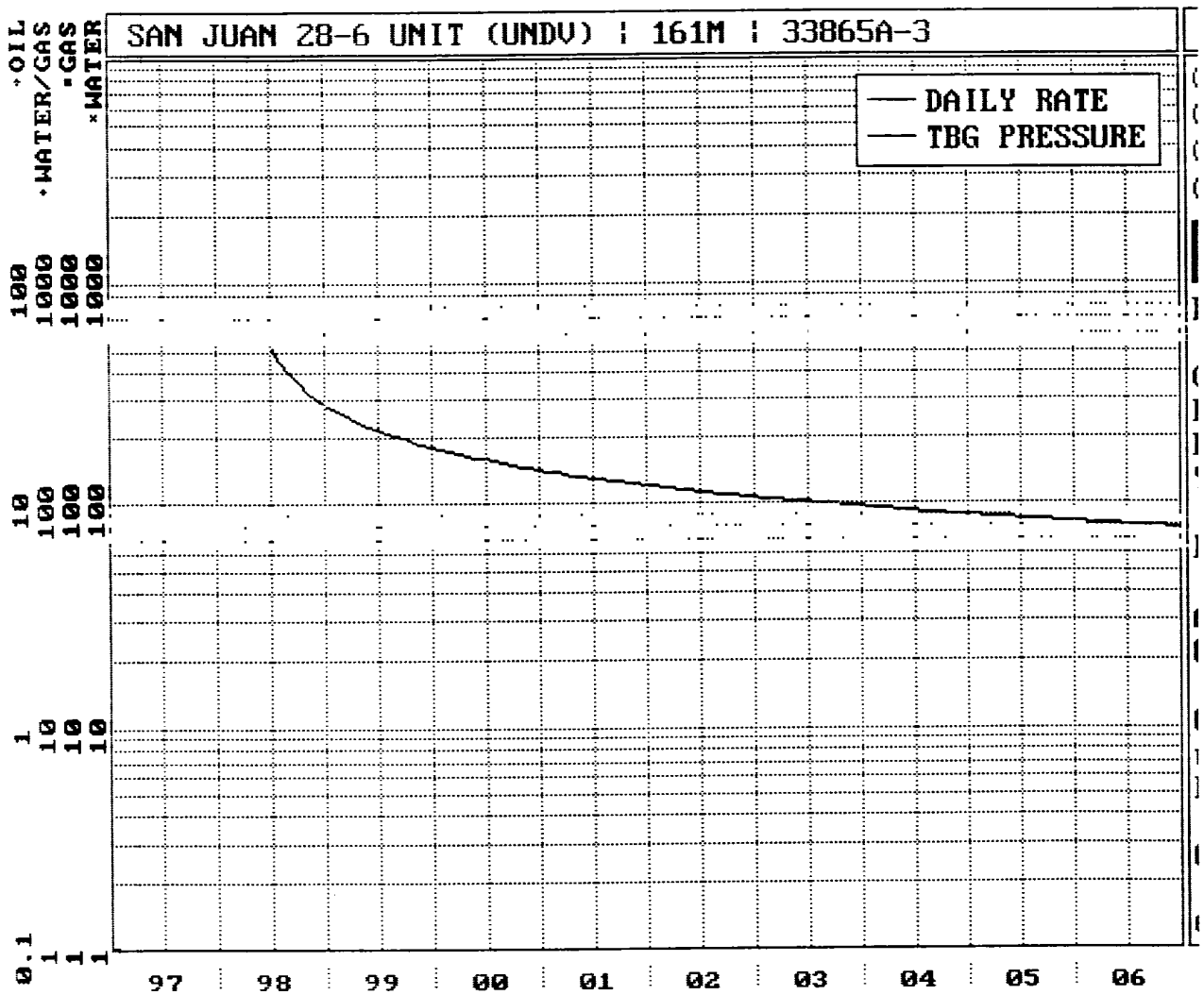
Blanco Mesaverde



San Juan 28-6 Unit #161M

Expected Production Curve

Basin Dakota



**SJ 28-6 Unit #161M**

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

| <b>Mesaverde</b>               |        | <b>Dakota</b>                  |        |
|--------------------------------|--------|--------------------------------|--------|
| <u><b>MV-Current</b></u>       |        | <u><b>DK-Current</b></u>       |        |
| GAS GRAVITY                    | 0.712  | GAS GRAVITY                    | 0.627  |
| COND. OR MISC. (C/M)           | C      | COND. OR MISC. (C/M)           | C      |
| %N2                            | 0.31   | %N2                            | 0.2    |
| %CO2                           | 0.73   | %CO2                           | 1.32   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 2      | DIAMETER (IN)                  | 1.5    |
| DEPTH (FT)                     | 5190   | DEPTH (FT)                     | 7617   |
| SURFACE TEMPERATURE (DEG F)    | 60     | SURFACE TEMPERATURE (DEG F)    | 60     |
| BOTTOMHOLE TEMPERATURE (DEG F) | 137    | BOTTOMHOLE TEMPERATURE (DEG F) | 198    |
| FLOWRATE (MCFPD)               | 0      | FLOWRATE (MCFPD)               | 0      |
| SURFACE PRESSURE (PSIA)        | 600    | SURFACE PRESSURE (PSIA)        | 901    |
| BOTTOMHOLE PRESSURE (PSIA)     | 689.5  | BOTTOMHOLE PRESSURE (PSIA)     | 1068.9 |
| <u><b>MV-Original</b></u>      |        | <u><b>DK-Original</b></u>      |        |
| GAS GRAVITY                    | 0.712  | GAS GRAVITY                    | 0.627  |
| COND. OR MISC. (C/M)           | C      | COND. OR MISC. (C/M)           | C      |
| %N2                            | 0.31   | %N2                            | 0.2    |
| %CO2                           | 0.73   | %CO2                           | 1.32   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 2      | DIAMETER (IN)                  | 1.5    |
| DEPTH (FT)                     | 5190   | DEPTH (FT)                     | 7617   |
| SURFACE TEMPERATURE (DEG F)    | 60     | SURFACE TEMPERATURE (DEG F)    | 60     |
| BOTTOMHOLE TEMPERATURE (DEG F) | 137    | BOTTOMHOLE TEMPERATURE (DEG F) | 198    |
| FLOWRATE (MCFPD)               | 0      | FLOWRATE (MCFPD)               | 0      |
| SURFACE PRESSURE (PSIA)        | 1080   | SURFACE PRESSURE (PSIA)        | 2705   |
| BOTTOMHOLE PRESSURE (PSIA)     | 1257.3 | BOTTOMHOLE PRESSURE (PSIA)     | 3244.4 |

Page No.: 2

Print Time: Mon Jan 12 09:18:01 1998

Property ID: 4081

Property Name: SAN JUAN 28-6 UNIT | 81 | 53441A-1

Table Name: K:\ARIES\RR98PDP\TEST.DBF

--DATE-- M SIWHP  
Psi

|          |        |           |
|----------|--------|-----------|
| 04/28/58 | 1080.0 | -original |
| 12/06/58 | 707.0  |           |
| 03/13/59 | 850.0  |           |
| 09/22/60 | 775.0  |           |
| 06/13/61 | 732.0  |           |
| 06/04/62 | 722.0  |           |
| 05/06/63 | 641.0  |           |
| 04/22/64 | 696.0  |           |
| 05/03/65 | 630.0  |           |
| 06/07/66 | 670.0  |           |
| 05/25/67 | 650.0  |           |
| 08/15/68 | 656.0  |           |
| 07/28/70 | 621.0  |           |
| 06/22/71 | 571.0  |           |
| 06/07/72 | 595.0  |           |
| 09/28/83 | 577.0  |           |
| 08/01/91 | 612.0  |           |
| 10/21/91 | 600.0  | -current  |

San Juan 28-6 #161M  
Mesaverde Offset

Page No.: 7  
Print Time: Mon Jan 12 09:18:03 1998  
Property ID: 1884  
Property Name: SAN JUAN 28-6 UNIT | 182 | 44083A-1  
Table Name: K:\ARIES\RR98PDP\TEST.DBF

--DATE-- M SIWHP  
:Psi:

|          |        |            |
|----------|--------|------------|
| 08/28/73 | 2705.0 | - original |
| 11/09/73 | 1878.0 |            |
| 05/02/74 | 1124.0 |            |
| 05/05/75 | 912.0  |            |
| 07/05/77 | 767.0  |            |
| 08/21/79 | 737.0  |            |
| 08/12/81 | 665.0  |            |
| 09/28/83 | 796.0  |            |
| 09/05/85 | 709.0  |            |
| 10/05/88 | 729.0  |            |
| 05/08/90 | 864.0  |            |
| 04/29/92 | 901.0  | - current  |

San Juan 28-6 # 161M

Dakota offset

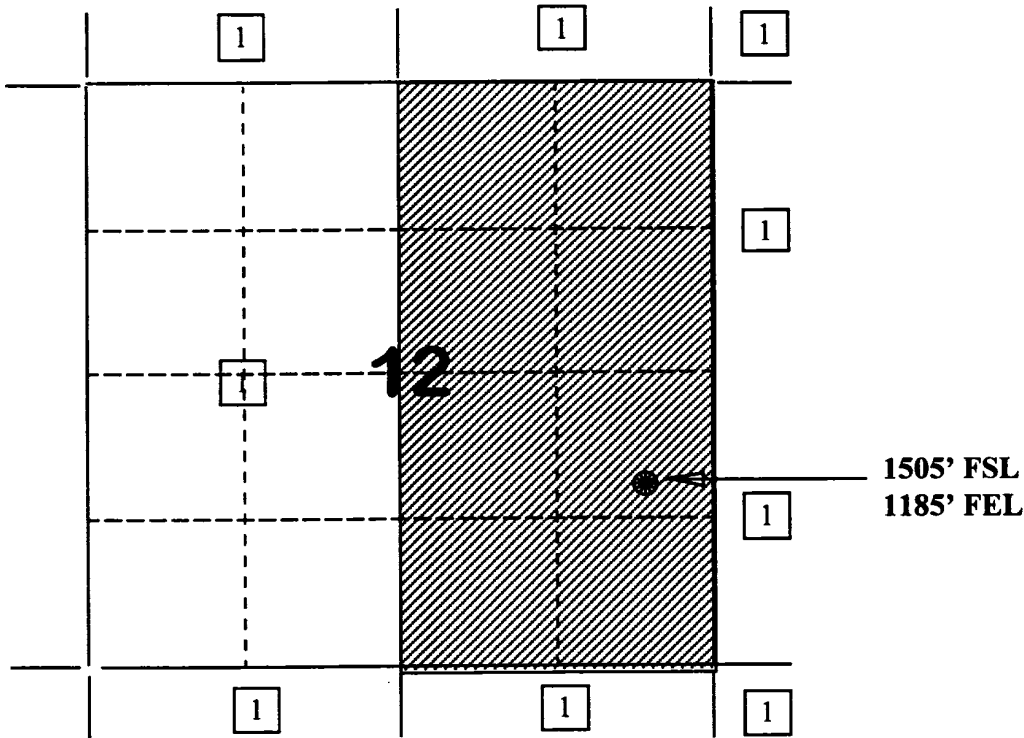
**BURLINGTON RESOURCES OIL AND GAS COMPANY**

**San Juan 28-6 Unit #161M**

**OFFSET OPERATOR/OWNER PLAT**

**Mesaverde / Dakota Formations Commingle Well**

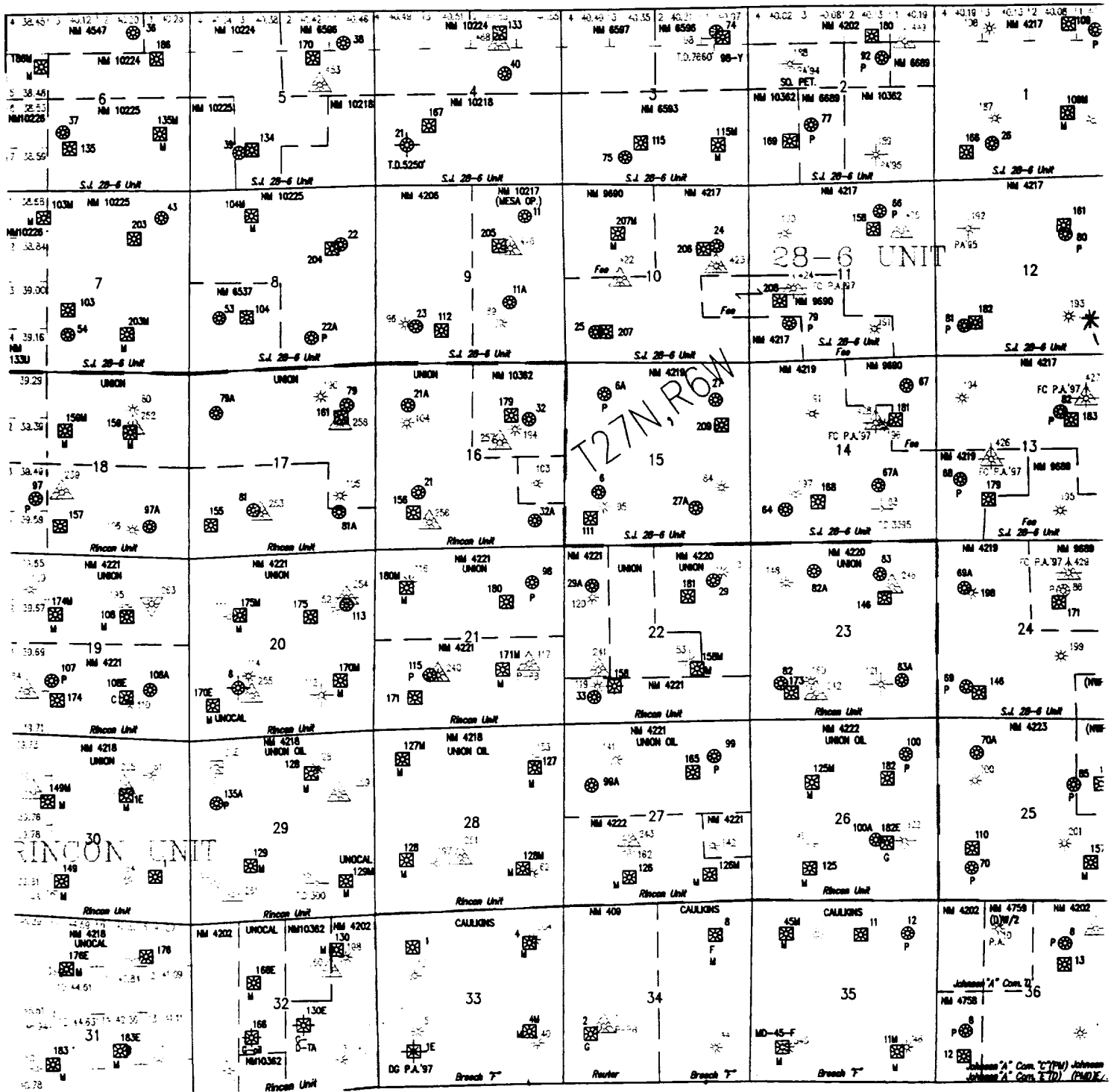
**Township 27 North, Range 6 West**



**1) Burlington Resources**



27N-06W-12



**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:**

**CASE NO. 11628  
ORDER NO. R-10696**

**APPLICATION OF BURLINGTON RESOURCES  
OIL & GAS COMPANY FOR THE ESTABLISHMENT  
OF A DOWNHOLE COMMINGLING "REFERENCE  
CASE" FOR ITS SAN JUAN 28-6 UNIT PURSUANT  
TO DIVISION RULE 303.E. AND THE ADOPTION  
OF SPECIAL ADMINISTRATIVE RULES THEREFOR.  
SAN JUAN COUNTY, NEW MEXICO..**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on October 17 and November 7, 1996, at Santa Fe, New Mexico, before Examiners David R. Catanach and Michael E. Stogner, respectively.

NOW, on this 12th day of November, 1996, the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises.

**FINDS THAT:**

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Burlington Resources Oil & Gas Company (Burlington), pursuant to the provisions of Division Rule 303.E., seeks to establish a downhole commingling "reference case" to provide exceptions for (a) marginal economic criteria, (b) pressure criteria, (c) allocation formulas and (d) modification of notification rules on a unit-wide basis for downhole commingling of Dakota, Mesaverde, Fruitland Coal and Pictured Cliffs gas production within existing or future drilled wells within the San Juan 28-6 Unit, San Juan County, New Mexico.

(3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

- c) establish a "reference case" whereby the Division utilizes the data presented in the immediate case to endorse or approve certain methods of allocating production whereby the applicant need not submit additional data or justification when proposing a certain method of allocating production on Form C-107-A's subsequently filed for wells within the San Juan 28-6 Unit; and.
- d) establish a "reference case" or an administrative procedure for authorizing the downhole commingling of existing or future drilled wells within the San Juan 28-6 Unit without additional notice to each affected interest owner as required by Division Rule No. 303.D.

(7) In support of its request to except marginal economic criteria, the applicant presented geologic and engineering evidence and testimony which indicates that within the San Juan 28-6 Unit:

- a) the structure and thickness of the Dakota and Pictured Cliffs formations are very consistent;
- b) the average recoverable Dakota and Pictured Cliffs gas reserves underlying an undeveloped drill block are approximately 449 MMCFG and 186 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 254 MCFGD and 216 MCFGD, respectively; and.
- d) the estimated ultimate gas recoveries and initial producing rates from the Dakota and Pictured Cliffs formations are insufficient to justify drilling stand alone wells and/or dually completed wells to recover such gas reserves.

(8) The evidence and testimony presented by the applicant indicates that the Dakota and Pictured Cliffs formations within the San Juan 28-6 Unit should be properly classified as "marginal".

(9) In support of its request to except pressure criteria within the Dakota and Pictured Cliffs formations within the San Juan 28-6 Unit, the applicant presented engineering evidence and testimony which indicates that:

- c) providing notice to each interest owner within the San Juan 28-6 Unit of subsequent downhole comminglings is unnecessary and is an excessive burden on the applicant;
- d) the downhole commingling of wells within the San Juan 28-6 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-6 Unit should not violate the correlative rights of any interest owner;
- e) no interest owner appeared at the hearing in opposition to the establishment of a "reference case" or administrative procedure for notice.

(14) An administrative procedure should be established within the San Juan 28-6 Unit for obtaining approval for subsequent downhole commingled wells without notice to Unit interest owners, provided however that, all other provisions contained within Division Rule No. 303.C. are complied with.

(15) Approval of the proposed "reference cases" for marginal economic criteria, pressure criteria, allocation formulas and notice will lessen the burden on the applicant insofar as providing the data required pursuant to Division Rule No. 303.D. and Form C-107-A. will provide the applicant a streamlined method for obtaining downhole commingling approvals within the San Juan 28-6 Unit, and will not violate correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Burlington Resources Oil & Gas Company to establish a "reference case" for (a) marginal economic criteria, (b) pressure criteria, (c) allocation formulas and (d) modification of notification rules on a unit-wide basis for downhole commingling of Dakota, Mesaverde, Fruitland Coal and Pictured Cliffs gas production within existing or future drilled wells within the San Juan 28-6 Unit, San Juan County, New Mexico, is hereby approved.