

## 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

## APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE

☐ YES ☒ NO

Burlington Resources Oil &amp; Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 28-6 Unit

208M

O 11-27N-6W

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. 30-039-25704 Federal ☒ State ☐ (and/or) Fee ☐

|   |  |                 |  |
|---|--|-----------------|--|
| The following facts are in support of downhole commingling:   |  |                 |  |
| 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. 585 psi (see attachment)<br><br>(Original)<br>b. 1195 psi (see attachment) | a.<br><br>b.    | a. 1009 psi (see attachment)<br><br>b. 3154 psi (see attachment) |
| 6. Oil Gravity (°API) or Gas BTU Content  | BTU 1203   |                 | BTU 1079   |
| 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>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data | Date: n/a<br>Rates:  | Date:<br>Rates: | Date: n/a<br>Rates:  |
| * If Producing, give data and oil/gas/water rates 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>will be supplied upon completion  | Oil: % Gas: %   | Oil: % Gas: %<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 ☒ 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). R-10696

## 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 C. Woolverton TITLE Production Engineer DATE 10/21/97TYPE OR PRINT NAME Sean C. Woolverton TELEPHONE NO. ( 505 ) 326-9700

District I  
PO Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C  
Revised February 21, 1997

District II  
PO Drawer 00, Artesia, NM 88211-0719

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

Instructions on  
Submit to Appropriate District Of  
State Lease - 4 Co  
Fee Lease - 3 Co

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

|                            |   |                          |  |
|----------------------------|---|--------------------------|--|
| API Number<br>30-039-25704 |   | Pool Code<br>72319/71599 | Pool Name<br>Blanco Mesaverde/Basin Dakota |
| Property Code<br>7462      | Property Name<br>SAN JUAN 28-6 UNIT                     |                          | Well Number<br>208M                        |
| GRID No.<br>14538          | Operator Name<br>BURLINGTON RESOURCES OIL & GAS COMPANY |                          | Elevation<br>6281'                         |

#### 10 Surface Location

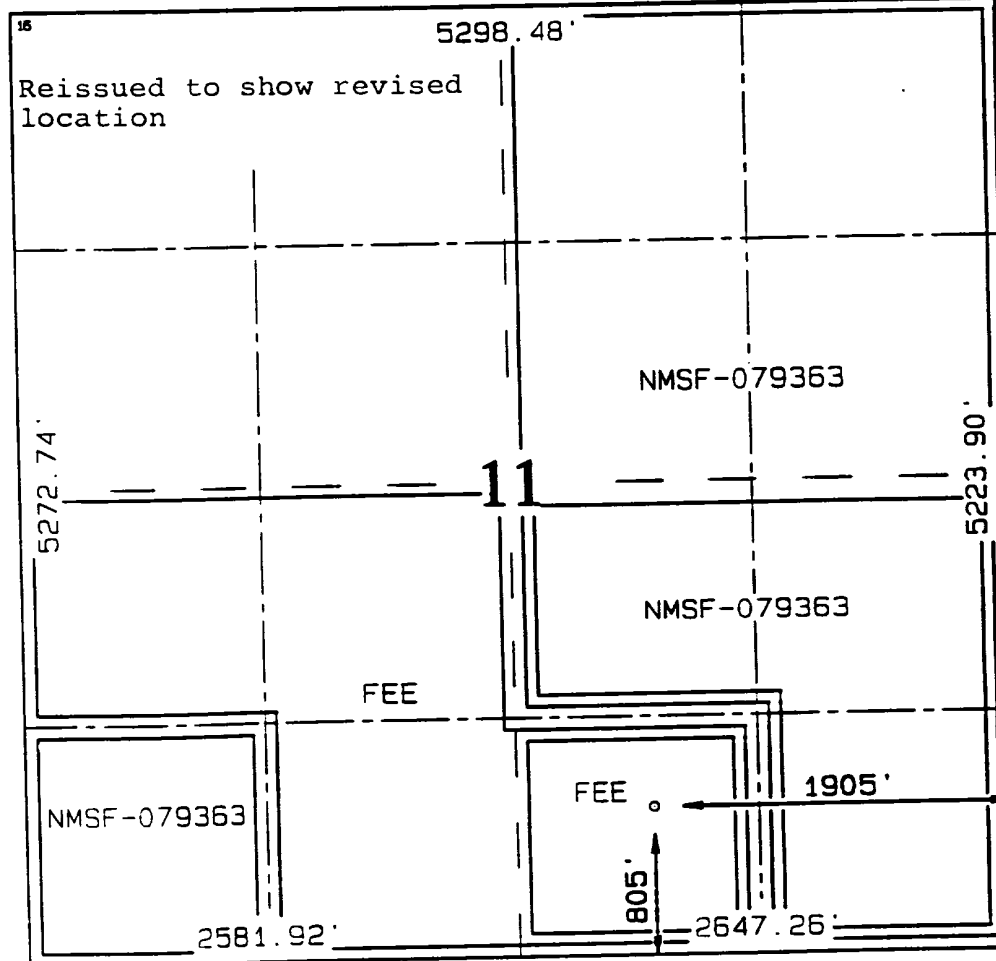
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| 0             | 11      | 27N      | 6W    |         | 805           | South            | 1905          | East           | RIO ARRI |

#### 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 | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|               |         |          |       |         |               |                  |               |                |        |

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

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



#### 17 OPERATOR CERTIFICATE

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

Signature  
Peggy Bradfield  
Printed Name  
Regulatory Administrator  
Title  
10-10-97  
Date

#### 18 SURVEYOR CERTIFICATE

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made or under my supervision, and that the same is true and correct to the best of my belief.

SEPTEMBER 30, 1997  
Date of Survey

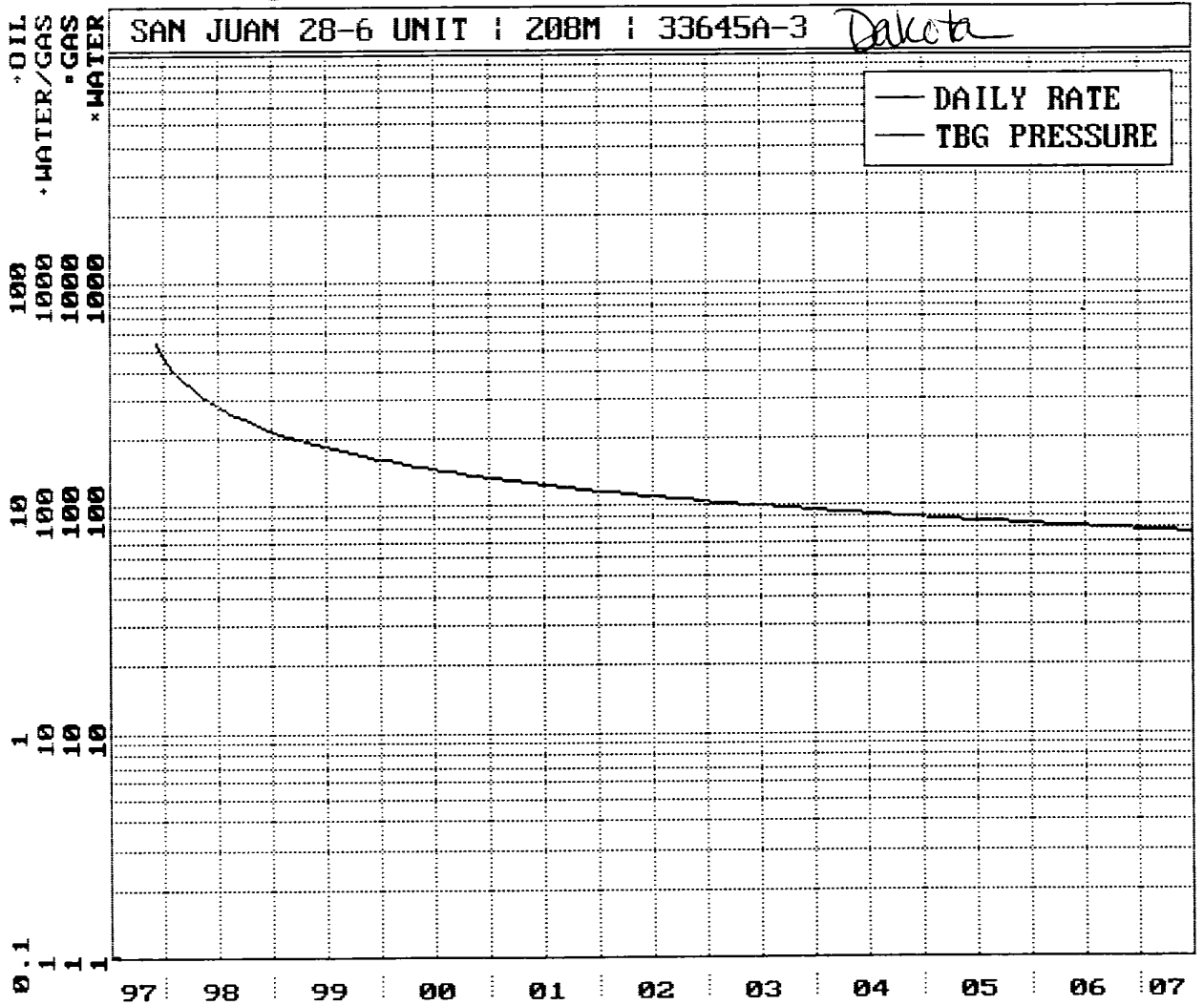
Signature and Seal of Surveyor

NEALE C. EDWARDS  
NEW MEXICO  
6857  
Certificate Number

# EXPECTED PRODUCTION CURVE



# EXPECTED PRODUCTION CURVE

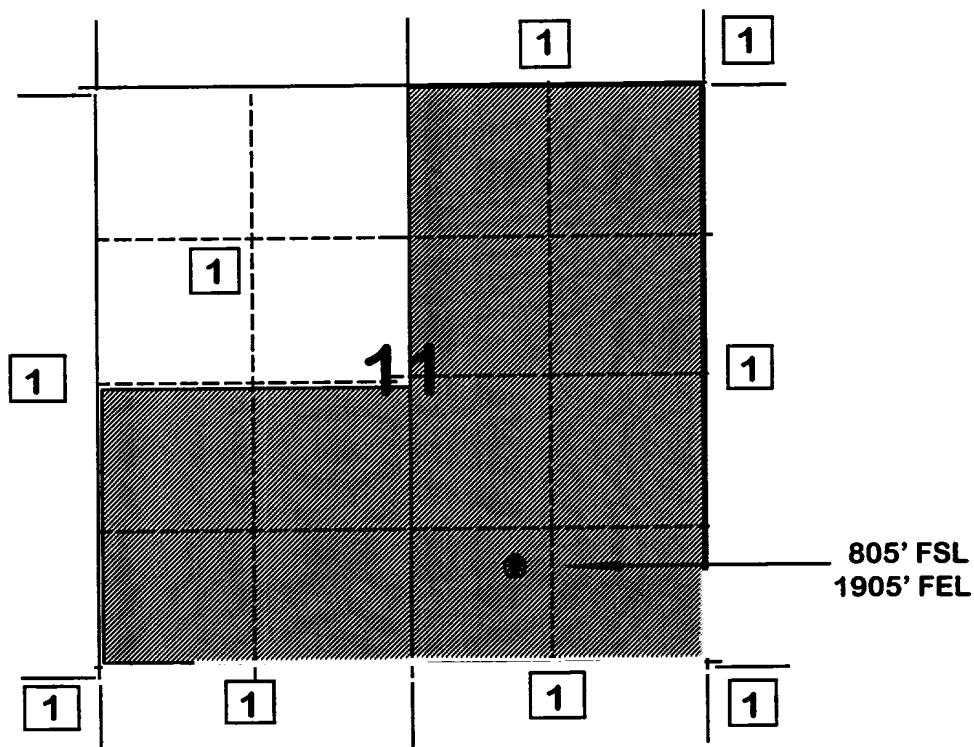


***BURLINGTON RESOURCES OIL AND GAS COMPANY***

**San Juan 28-6 Unit #208M  
OFFSET OPERATOR \ OWNER PLAT**

**Mesaverde (E/2) / Dakota (S/2) Formations Commingle Well**

**Township 27 North, Range 6 West**



**1) Burlington Resources Oil and Gas Company**

**San Juan 28-6 Unit #208M**

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                    | 0.705  | GAS GRAVITY                    | 0.63   |
| COND. OR MISC. (C/M)           | C      | COND. OR MISC. (C/M)           | C      |
| %N2                            | 0.32   | %N2                            | 0.16   |
| %CO2                           | 0.79   | %CO2                           | 1.21   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 2      | DIAMETER (IN)                  | 1.5    |
| DEPTH (FT)                     | 5262   | DEPTH (FT)                     | 7469   |
| 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)        | 510    | SURFACE PRESSURE (PSIA)        | 853    |
| BOTTOMHOLE PRESSURE (PSIA)     | 584.9  | BOTTOMHOLE PRESSURE (PSIA)     | 1008.7 |
| <u><b>MV-Original</b></u>      |        | <u><b>DK-Original</b></u>      |        |
| GAS GRAVITY                    | 0.705  | GAS GRAVITY                    | 0.63   |
| COND. OR MISC. (C/M)           | C      | COND. OR MISC. (C/M)           | C      |
| %N2                            | 0.32   | %N2                            | 0.16   |
| %CO2                           | 0.79   | %CO2                           | 1.21   |
| %H2S                           | 0      | %H2S                           | 0      |
| DIAMETER (IN)                  | 2      | DIAMETER (IN)                  | 1.5    |
| DEPTH (FT)                     | 5262   | DEPTH (FT)                     | 7469   |
| 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)        | 1028   | SURFACE PRESSURE (PSIA)        | 2634   |
| BOTTOMHOLE PRESSURE (PSIA)     | 1195.1 | BOTTOMHOLE PRESSURE (PSIA)     | 3153.8 |

Page No.: 6

Print Time: Mon Oct 20 13:25:27 1997

Property ID: 1894

Property Name: SAN JUAN 28-6 UNIT | 208 | 44082A-1

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

San Juan 28-6 Unit  
# 208M

--DATE-- ---CUM GAS-- M SIWHP  
Mcf Psi

|          |        |        |           |
|----------|--------|--------|-----------|
| 05/23/74 | 0      | 2634.0 | -original |
| 05/31/74 | 0      | 2635.0 |           |
| 08/06/74 | 39887  | 1622.0 |           |
| 05/05/75 | 135982 | 844.0  |           |
| 04/29/76 | 199845 | 777.0  |           |
| 07/05/77 | 269780 | 749.0  |           |
| 08/21/79 | 369274 | 698.0  |           |
| 08/12/81 | 458415 | 635.0  |           |
| 09/28/83 | 532583 | 712.0  |           |
| 09/04/85 | 605766 | 718.0  |           |
| 10/05/88 | 684495 | 842.0  |           |
| 05/08/90 | 734456 | 764.0  |           |
| 04/29/92 | 782971 | 853.0  | -current  |

Dakota Offset

Page No.: 2  
 Print Time: Mon Oct 20 13:25:26 1997  
 Property ID: 4078  
 Property Name: SAN JUAN 28-6 UNIT | 79 | 53438B-1  
 Table Name: K:\ARIES\RR98PDP\TEST.DBF

San Juan 28-6 Unit  
 #208M

--DATE-- ---CUM GAS-- M SIWHP  
 :::::Mcf:::::Psi:::::

|          |         |        |           |
|----------|---------|--------|-----------|
| 07/08/58 | 0       | 1028.0 | -original |
| 07/30/58 | 0       | 1027.0 |           |
| 12/14/58 | 35000   | 884.0  |           |
| 03/13/59 | 51000   | 869.0  |           |
| 09/22/60 | 134000  | 792.0  |           |
| 06/13/61 | 167000  | 805.0  |           |
| 06/04/62 | 212000  | 790.0  |           |
| 05/06/63 | 249000  | 786.0  |           |
| 04/22/64 | 282000  | 783.0  |           |
| 10/18/65 | 339000  | 760.0  |           |
| 06/07/66 | 357000  | 784.0  |           |
| 05/25/67 | 393000  | 731.0  |           |
| 05/27/68 | 423000  | 734.0  |           |
| 07/28/70 | 491983  | 685.0  |           |
| 06/22/71 | 528743  | 640.0  |           |
| 06/07/72 | 579237  | 535.0  |           |
| 05/02/74 | 643190  | 601.0  |           |
| 04/29/76 | 704232  | 588.0  |           |
| 05/23/78 | 777286  | 537.0  |           |
| 06/04/80 | 839738  | 547.0  |           |
| 05/20/82 | 889833  | 561.0  |           |
| 06/17/91 | 1025653 | 510.0  | -current  |

Mesaverde Offset





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.