

## DISTRICT I

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

## DISTRICT II

511 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

98M

D 03-27N-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. 30-039-25740 Federal ☒ State ☐ (and/or) Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Basin
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 Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 662 psi (see attachment)  (Original) b. 1283 psi (see attachment)		a. 951 psi (see attachment)  b. 3237 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1225		BTU 1117
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  Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: % Gas: % will be supplied upon completion	Oil: % Gas: %	Oil: % Gas: % 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. NMOCD 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 Woolverton TITLE Production Engineer DATE 10/02/97TYPE OR PRINT NAME Sean C. Woolverton TELEPHONE NO. ( 505 ) 326-9700

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesa, NM 88211-0719  
District III  
1000 Rio Brazos 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 C  
Revised February 21, 1991  
Instructions on  
Submit to Appropriate District Office  
State Lease - 4 C  
Fee Lease - 3 C

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-	Pool Code 72319/71599	Pool Name Blanco Mesaverde/Basin Dakota
Property Code 7462	Property Name San Juan 28-6 Unit	Well Number 98M
OGRID No. 14538	Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	Elevation 6693'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Ids	Feet from the	North/South line	Feet from the	East/West line	County
D	3	27-N	6-W		450	North	990	West	R.A.

11 Bottom Hole Location if Different From Surface

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

12 Dedication Acres: MV-W 320.84  
DK-N 321.2  
13 Joint or Infill: 2  
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

6 1327.92' 990' 4		5250.96' 3 NMSF-079051 NMSF-079051B		2 NMSF-079051A		1	
1310.10'		3 NMSF-079049A		5281.32'			
2618.88'						5227.20'	

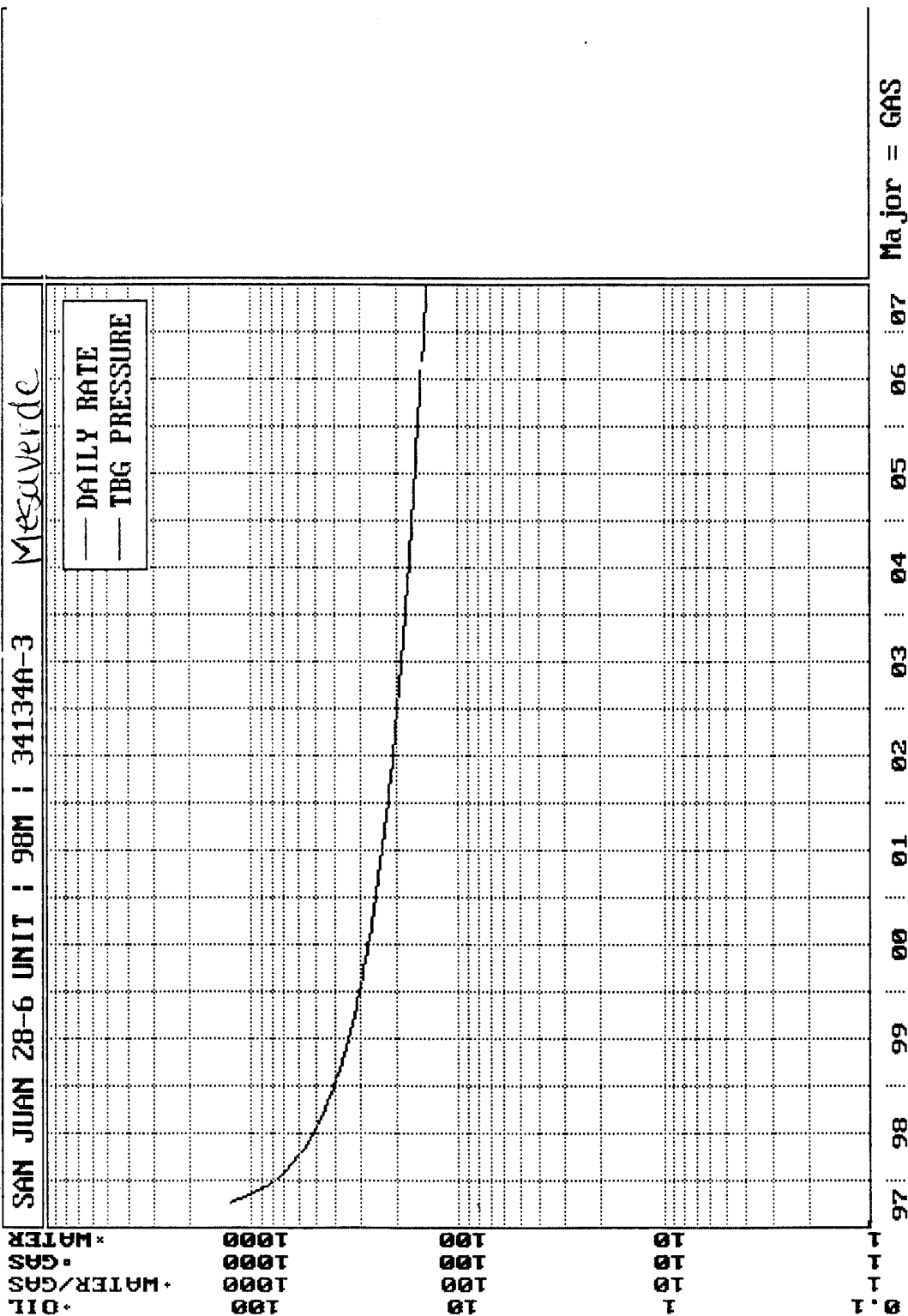
17 OPERATOR CERTIFICATION  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature  
Peggy Bradfield  
Printed Name  
Regulatory Administrator  
Title  
Date  
6/13/97

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

Date of Survey  
Signature and Seal of Professional Surveyor  
NEALE C. EDWARDS  
NEW MEXICO  
6857  
6857  
Certification Number

# Expected Production Curve



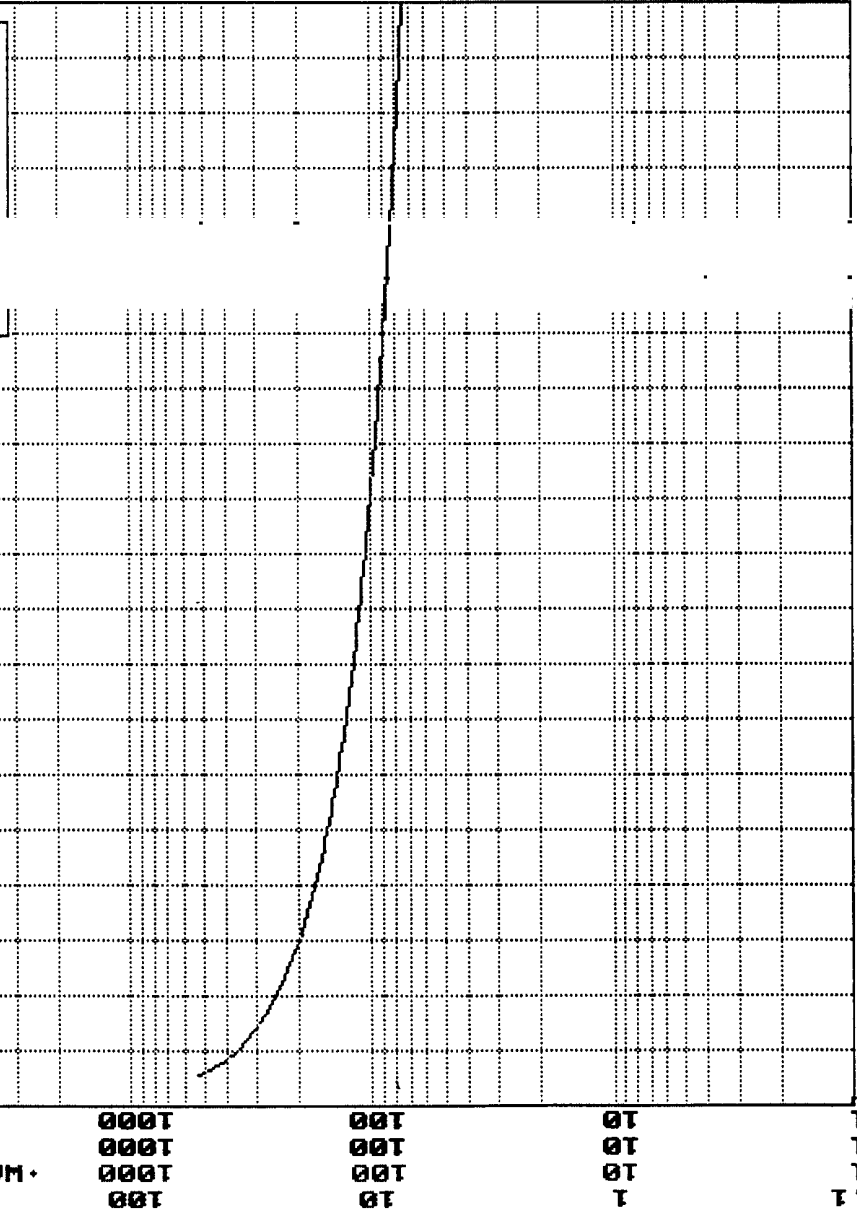
# EXPECTED PRODUCTION CURVE

SAN JUAN 28-6 UNIT : 98M : 34134A-3

Dakota

• OIL  
• WATER/GAS  
• GAS  
• WATER

— DAILY RATE  
— TBG PRESSURE



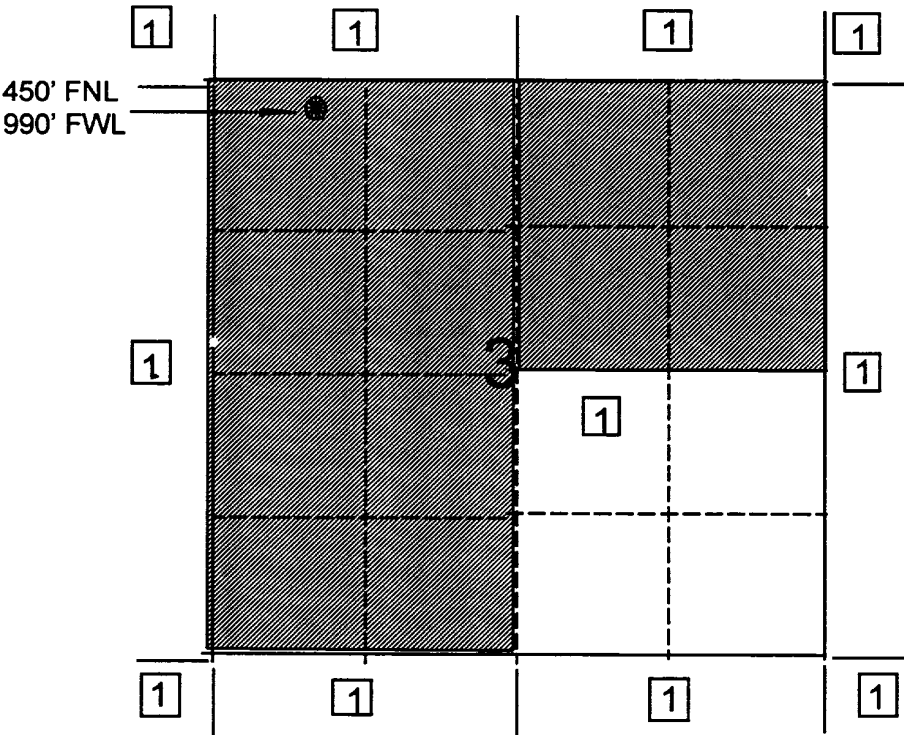
Major = GAS

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

**San Juan 28-6 Unit #98M  
OFFSET OPERATOR \ OWNER PLAT**

**Mesaverde (W/2) / Dakota (N/2) Formations Commingle Well**

**Township 27 North, Range 6 West**



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

**SJ 28-6 Unit #98M**

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	0.72	GAS GRAVITY	0.654
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.33	%N2	0.17
%CO2	0.74	%CO2	1.18
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5716	DEPTH (FT)	7878
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)	567	SURFACE PRESSURE (PSIA)	791
BOTTOMHOLE PRESSURE (PSIA)	661.6	BOTTOMHOLE PRESSURE (PSIA)	950.5
<u><b>MV-Original</b></u>		<u><b>DK-Original</b></u>	
GAS GRAVITY	0.72	GAS GRAVITY	0.654
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.33	%N2	0.17
%CO2	0.74	%CO2	1.18
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5716	DEPTH (FT)	7878
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)	1082	SURFACE PRESSURE (PSIA)	2652
BOTTOMHOLE PRESSURE (PSIA)	1283.0	BOTTOMHOLE PRESSURE (PSIA)	3237.4

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 Print Time: Tue Aug 19 08:44:08 1997  
 Property ID: 4018  
 Property Name: SAN JUAN 28-6 UNIT | 42 | 49413A-1  
 Table Name: K:\ARIES\RR98PDP\TEST.DBF

San Juan 28-6 Unit  
 #98M  
 Mesaverde Offset

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

12/10/55	0	1082.0	-original
12/20/55	0	1081.0	
08/24/56	59000	827.0	
10/30/57	126000	769.0	
11/06/58	159000	775.0	
06/14/59	176000	770.0	
06/14/60	203000	744.0	
12/22/61	269000	688.0	
05/29/62	284000	655.0	
05/16/63	328000	647.0	
05/26/64	371000	615.0	
09/08/65	421000	610.0	
04/12/66	445000	612.0	
10/16/67	500000	565.0	
10/10/68	539000	564.0	
07/28/70	594634	453.0	
05/04/71	622632	517.0	
05/22/72	660213	513.0	
07/31/74	737497	517.0	
01/01/76	787321	520.0	
11/01/76	804664	520.0	
05/15/78	857191	505.0	
04/18/80	907973	485.0	
05/28/82	964612	520.0	
06/06/84	1011330	535.0	
04/07/86	1051292	541.0	
09/18/89	1121777	566.0	
01/24/91	1151177	554.0	
08/20/91	1165013	566.0	
05/03/93	1212494	567.0	-current

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Print Time: Tue Aug 19 08:44:10 1997

Property ID: 1873

Property Name: SAN JUAN 28-6 UNIT | 164 | 44098A-1

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

San Juan 28-6 Unit

#98M

Dakota Offset

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

08/02/72	0	2652.0	-original
09/27/72	29711	1850.0	
08/21/73	162814	1132.0	
07/31/74	250935	910.0	
09/04/75	329888	988.0	
08/08/77	457692	781.0	
04/17/79	536175	844.0	
09/29/81	642500	834.0	
09/22/83	705160	863.0	
06/07/85	749410	1010.0	
07/08/88	855807	871.0	
06/08/90	945419	802.0	
08/06/92	1033841	791.0	-current



The map displays the 28-6 UNIT, which is a large area of land divided into several sections. The sections are numbered 1 through 25. Each section contains various land parcels, some of which are labeled with names like 'RINCON UNIT', 'CALLEJON', 'UNOCL', and 'UNION'. The map also shows a network of roads and boundaries, with some areas marked as 'Fee' or 'Uncl'. A large '28-6 UNIT' label is prominently displayed in the center. The map includes numerous small symbols representing buildings, trees, and other features. The map is oriented with North at the top.

**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.