

BURLINGTON RESOURCES

SAN JUAN DIVISION

March 31, 1997

SENT FEDERAL EXPRESS

Mr. William LeMay
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: San Juan 28-6 Unit #103M
790'FNL, 1090'FWL Section 7, T-27-N, R-6-W, Rio Arriba County, NM
API #30-039-25638

Dear Mr. LeMay:

This is a request for administrative approval for downhole commingling the Blanco Mesa Verde and Basin Dakota pools in the subject well. This well is a new Mesa Verde/Dakota well that is being drilled and completed in 1997.

To comply with the New Mexico Oil Conservation Division rules, Burlington Resources Oil & Gas Company is submitting the following for your approval of this commingling:

1. Form C107A - Application for Downhole Commingling;
2. C-102 plat for each zone showing its spacing unit and acreage dedication;
3. Expected production curve for the Mesa Verde and Dakota for at least year;
4. Notification list of offset operators;
5. Shut-in wellhead pressure and calculated down hole pressure;
6. Nine-section plats for the Mesa Verde and Dakota.

Notification of Mesa Verde and Dakota interest owners is covered under Reference Order #R-10696 issued November 12, 1996 attached.

We will consult with the Supervisor of the Aztec District Office of the New Mexico Oil Conservation Division to establish an allocation formula.

Please let me know if you require additional data.

Sincerely,



Peggy Bradfield
Regulatory/Compliance Administrator

encs.

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 :

Administrative Hearing

EXISTING WELLBORE

YES NO

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil & Gas Company

PO Box 4289, Farmington, NM 87499

Operator	Address		
San Juan 28-6 Unit	103M	D 07-27 -6	Rio Arriba
Lease	Well No.	Unit Ltr. - Sec - Twp - Rge	County
Spacing Unit Lease Types: (check 1 or more)			
OGRID NO. <u>14538</u>	Property Code <u>7462</u>	API NO. <u>30-039-25638</u>	Federal <input checked="" type="checkbox"/> , State <input type="checkbox"/> (and/or) Fee <input type="checkbox"/>

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 Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 465 psi (see attachment)	a.	a. 807 psi (see attachment)
	(Original) b. 1250 psi (see attachment)	b.	b. 3252 psi (see attachment)
6. Oil Gravity (^o API) or Gas BTU Content	BTU 1178		BTU 1155
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 <small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.</small>	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
* If Producing, give data and oil/gas/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 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). 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 3/27/97

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

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, 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-102
Revised February 21, 1992
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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 103M
OGRID No. 14538	Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		Elevation 6208'

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	7	27-N	6-W		790	North	1090	West	R.A.

¹¹ Bottom Hole Location If Different From Surface

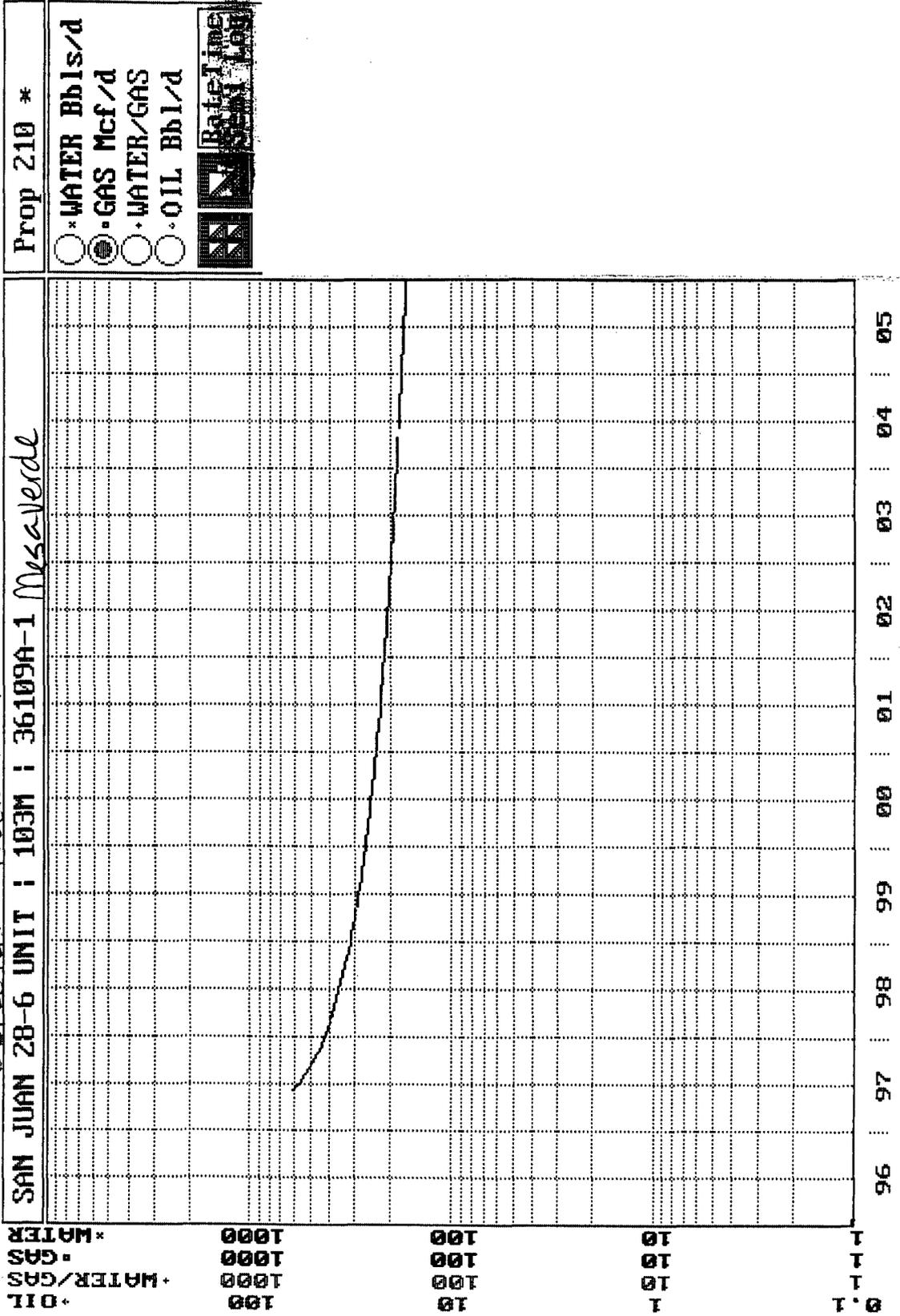
UL or lot no.	Section	Township	Range	Lot Ids	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acreage 14-W/315.68	¹³ Spill or Infill 68	¹⁴ Consolidation Code	¹⁵ Order No.
DK-W/315.68	68		

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

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Peggy Bradfield</i> Signature Peggy Bradfield Printed Name Regulatory Administrator Title 1-14-97 Date</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>10/31/96 Date of Survey</p> <p>Signature and Seal of Professional Surveyor NEALE C. EDWARDS NEW MEXICO 6857 REGISTERED PROFESSIONAL SURVEYOR</p> <p>6857 Certification Number</p>

Expected Production

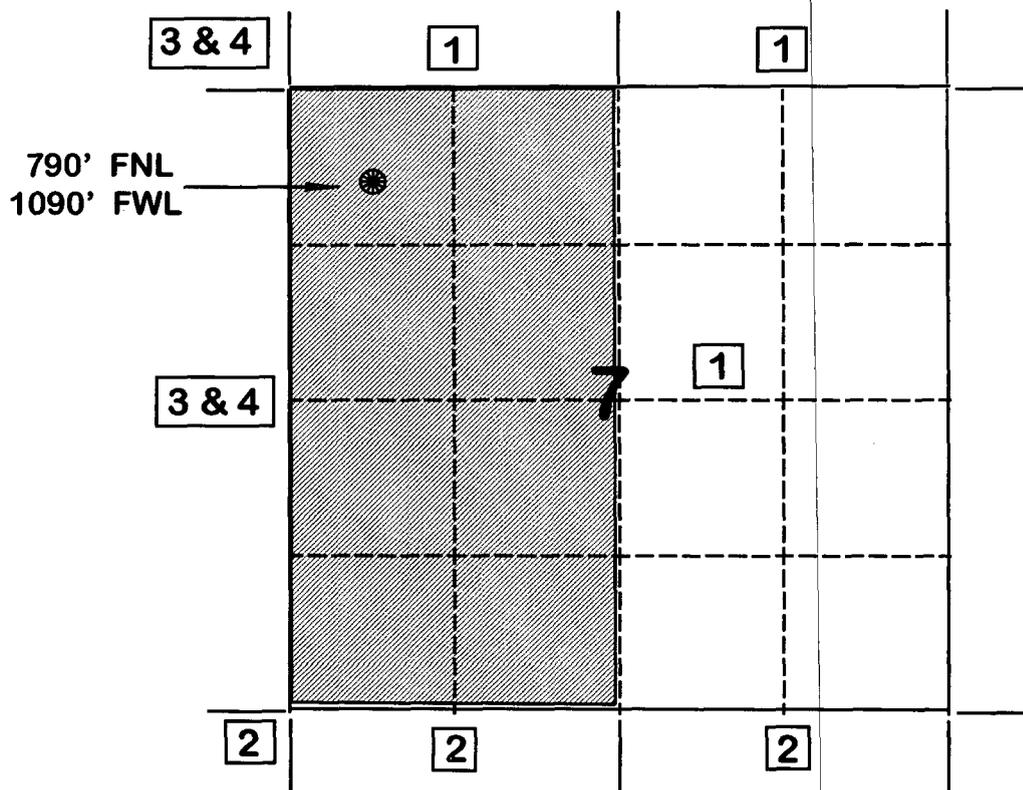


BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 28-6 Unit #103M
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde/Dakota Formations Commingle Well

Township 27 North, Range 6 West



- 1) Burlington Resources Oil and Gas Company
- 2) UNOCAL Corp.
1004 North Big Spring, Suite 300
Midland, TX 79702
- 3) Amoco Production Company
Attn: Bruce Zimney
P.O. Box 800
Denver, CO 80201
- 4) Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.686</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>1.64</u>
%CO2	<u>0.97</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2</u>
DEPTH (FT)	<u>5520</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>406</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>464.5</u>

SAN JUAN 28-6 UNIT #54 MESAVERDE - CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.686</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>1.64</u>
%CO2	<u>0.97</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2</u>
DEPTH (FT)	<u>5520</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1076</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>1250.2</u>

SAN JUAN 28-6 UNIT #54 MESAVERDE - ORIGINAL

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.623</u>
COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>1.81</u>
%CO2	<u>0.45</u>
%H2S	<u>0</u>
DIAMETER (IN)	<u>2.375</u>
DEPTH (FT)	<u>7649</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>684</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>807.1</u>

SAN JUAN 28-6 UNIT #103 DAKOTA -CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	<u>0.623</u>	
COND. OR MISC. (C/M)	<u>C</u>	
%N2	<u>1.81</u>	
%CO2	<u>0.45</u>	
%H2S	<u>0</u>	
DIAMETER (IN)	<u>2.375</u>	
DEPTH (FT)	<u>7649</u>	
SURFACE TEMPERATURE (DEG F)	<u>60</u>	
BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>	
FLOWRATE (MCFPD)	<u>0</u>	
SURFACE PRESSURE (PSIA)	<u>2716</u>	
BOTTOMHOLE PRESSURE (PSIA)	<table border="1"><tr><td>3251.8</td></tr></table>	3251.8
3251.8		

SAN JUAN 28-6 UNIT #103 DAKOTA -ORIGINAL

Page No.: 3

Print Time: Thu Mar 27 07:16:41 1997

Property ID: 4037

Property Name: SAN JUAN 28-6 UNIT | 54 | 49604A-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

SJ 28-6 # 103m
Mesaverde Offset

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

05/23/56	0	1076.0	← Original
06/05/56	0	1075.0	
12/07/56	63000	972.0	
11/23/57	336000	852.0	
10/14/58	548000	776.0	
03/14/59	599000	797.0	
08/29/60	890000	702.0	
02/13/62	1066000	705.0	
08/08/62	1117000	656.0	
03/04/63	1130000	692.0	
02/19/64	1209000	662.0	
03/01/65	1310000	631.0	
02/24/66	1390000	612.0	
03/07/67	1448000	596.0	
09/16/68	1516000	571.0	
10/16/70	1624523	528.0	
07/07/71	1672085	502.0	
05/30/72	1732932	467.0	
05/09/73	1806540	437.0	
07/23/74	1880374	444.0	
05/10/78	2011104	390.0	
06/10/80	2135935	371.0	
05/10/82	2191756	391.0	
05/31/93	2274690	406.0	← Current

Page No.: 1

Print Time: Thu Mar 27 07:18:27 1997

Property ID: 1823

Property Name: SAN JUAN 28-6 UNIT | 103 | 50502A-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

SJ 28-6 #103M

Dakota Offset

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

09/06/61	0	2716.0
10/25/61	0	2715.0
02/13/62	43000	1868.0
07/18/63	179000	1498.0
09/14/64	321000	1127.0
09/01/65	427000	942.0
02/24/66	470000	985.0
03/07/67	559000	904.0
05/27/68	649000	887.0
12/28/70	836411	757.0
07/07/71	875610	764.0
05/30/72	928852	704.0
05/09/73	981209	731.0
05/23/75	1081947	765.0
05/12/77	1191982	654.0
06/25/79	1288926	715.0
06/10/81	1396583	634.0
06/02/83	1479342	709.0
11/05/85	1586318	658.0
08/04/88	1667071	771.0
07/28/92	1783558	684.0

← Original

← Current

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.