

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 & Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 28-6 Unit

160M

C 30-28N-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- 25742 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 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. 853 psi (see attachment) (Original) b. 1219 psi (see attachment)	a. b.	a. 1096 psi (see attachment) b. 3203 psi (see attachment)
6. Oil Gravity (^o API) or Gas BTU Content	BTU 1196		BTU 1055
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:
* 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 ☐ 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 11-10-97TYPE OR PRINT NAME Sean C. Woolverton TELEPHONE NO. (505) 326-9700

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

District II
PO Drawer 00, 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

Fa

Revised February
Instructions

Submit to Appropriate District

State Lease -
Fee Lease -

☐ AMENDED F

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number		*Pool Code	*Pool Name
30-039-		72319/71599	Blanco Mesaverde/Basin Dakota
*Property Code	*Property Name		*Well No.
7462	San Juan 28-6 Unit		1601
*OGRID No.	*Operator Name		*Elevat:
14538	BURLINGTON RESOURCES OIL & GAS COMPANY		6602

¹⁰ Surface Location

UL or Lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	City
C	30	28N	6W		1175	North	1365	West	Rio

¹¹Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 10n	Feet from the	North/South line	Feet from the	East/West line	Co
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12. Dedicated Access	13. Joint or Infill	14. Consolidation Code	15. Order No.
MV-W 263	12		
DK-W 328	77		

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

15

4805.45'

1

2

5280.00'

19

5280.00'

3

NMSF-0804308

4

4810.08'

1

1379'

1385'

NMSF-0804308

2

5280.00'

30

5280.00'

3

NMSF-080430

4

4811.40'

17 OPERATOR CERTIFIC

I hereby certify that the information herein is true and complete to the knowledge and belief

Signature

Peggy Bradfield
Printed Name

Regulatory Adminis
Title *of*

Date _____

SURVEYOR CERTIFIC

I hereby certify that the well loc-
on this plat was plotted from field
actual surveys made by me or under
supervision, and that the same is
correct to the best of my belief.

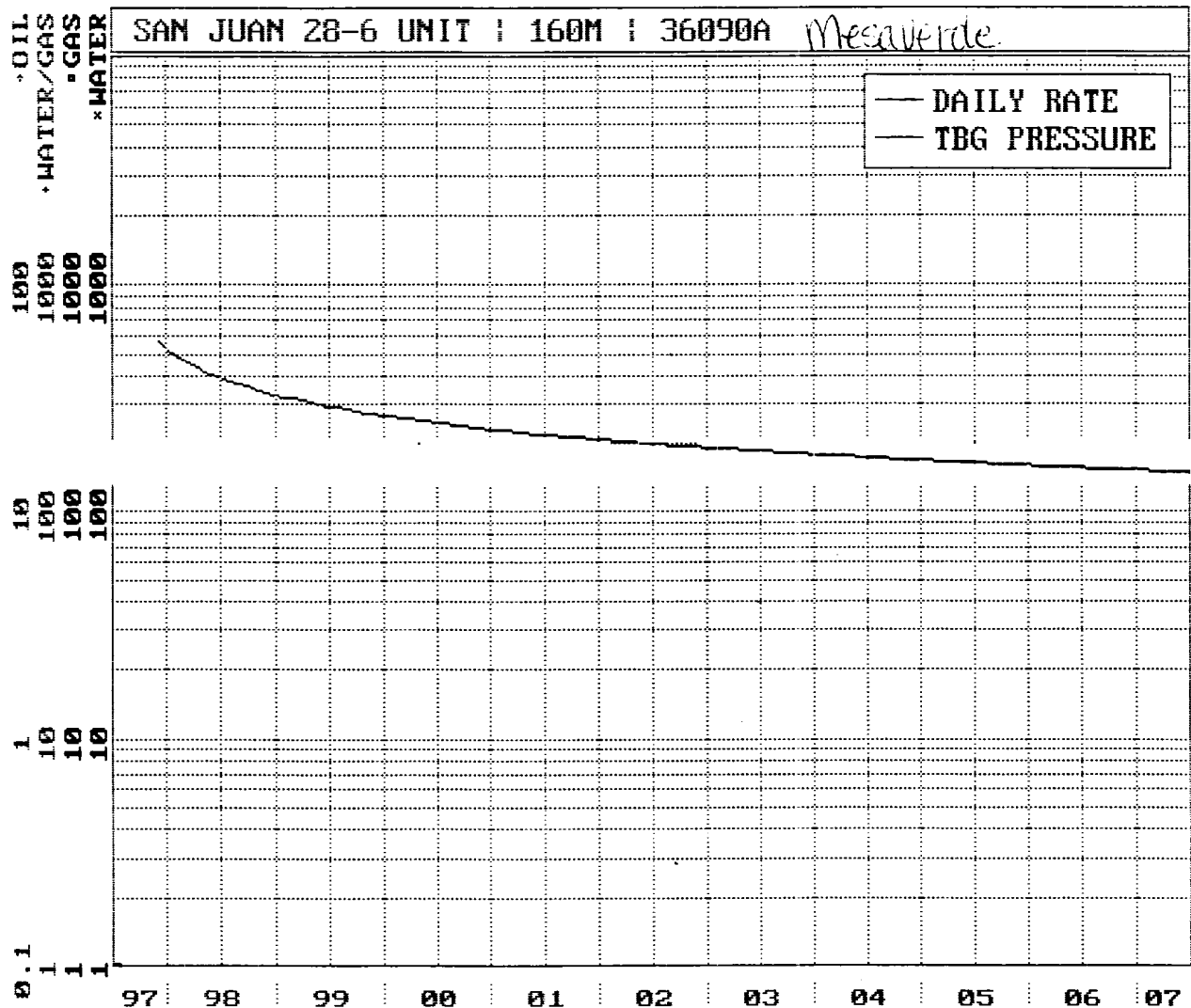
6-3-97
Date of Survey
Signature and Seal of Professional

Signature and Seal of Professional

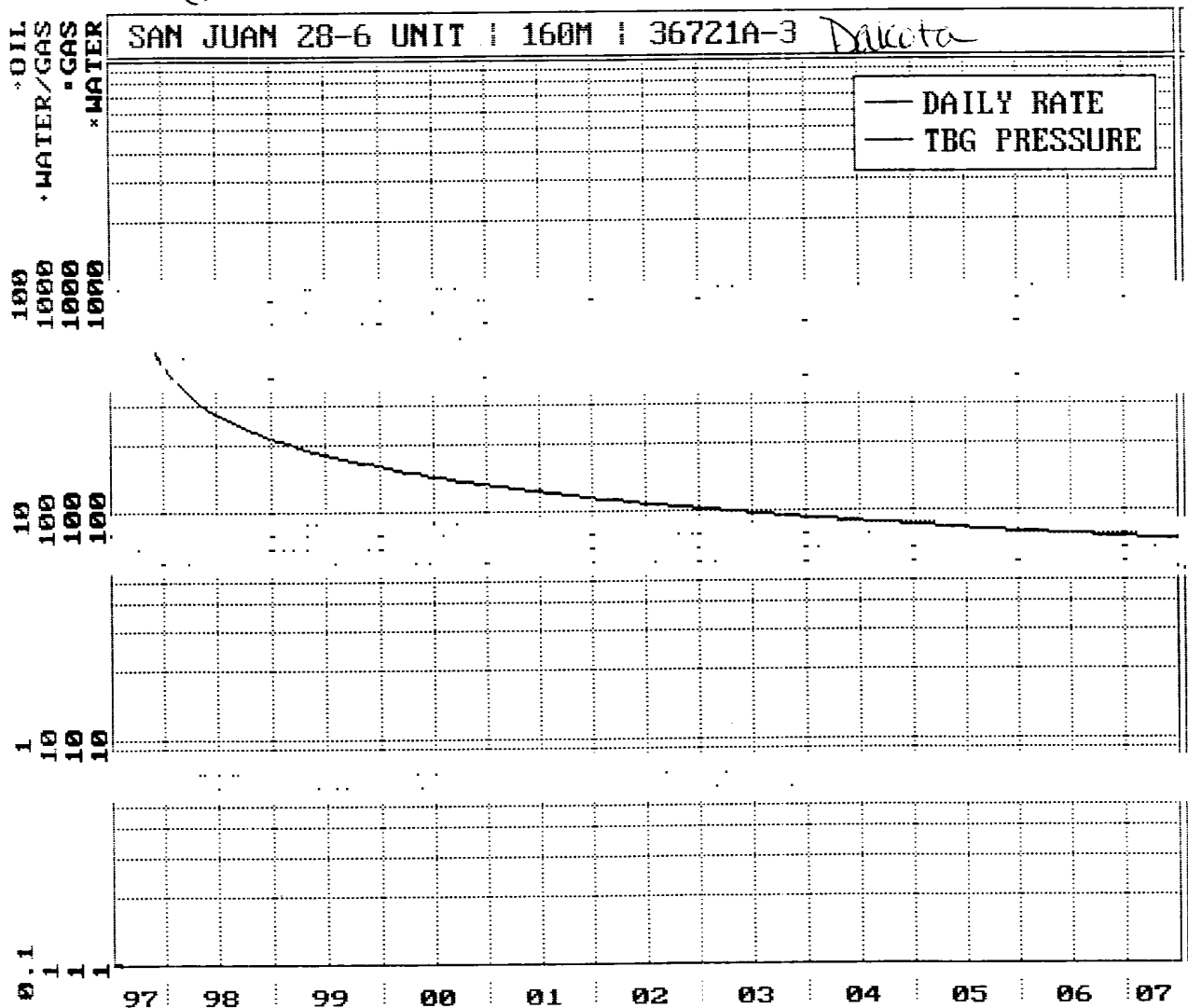
F. C. EDWARDS

685
Certificate

EXPECTED PRODUCTION CURVE



EXPECTED PRODUCTION CURVE



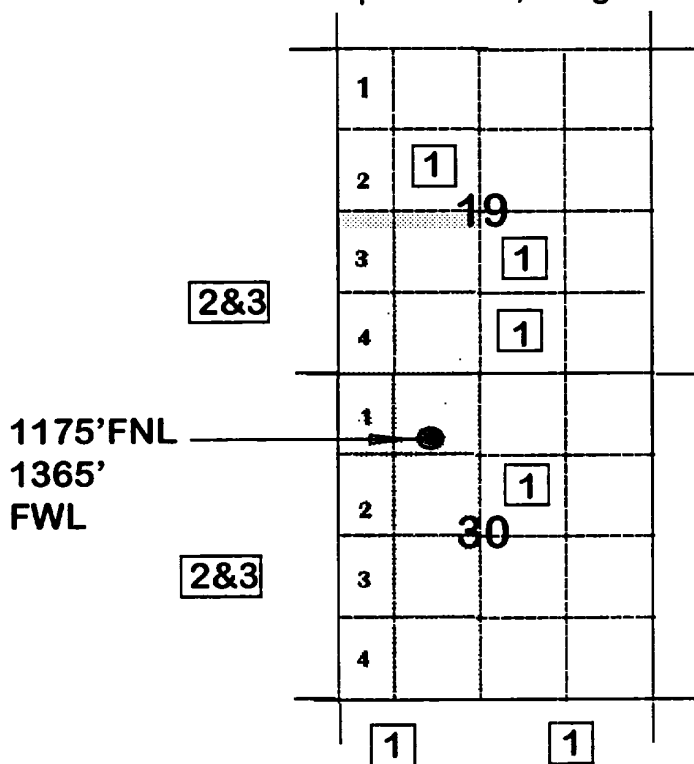
SAN JUAN 28-6 UNIT #160M

OFFSET OPERATOR \ OWNER PLAT NONSTANDARD LOCATION

Mesaverde / Dakota Formations Commingle Well

**Mesaverde (W/2 Sec. 30) / Dakota (Nonstandard dedication covering
SW/4 Sec. 19, NW/4. N/2SW/4 Sec. 30)**

Township 28 North, Range 6 West



1) Burlington Resources Oil and Gas Company.

2) Amoco Production Company

Bruce Zimney

1670 Broadway

P. O. Box 800

Denver, Colorado 80201

3) Conoco

10 Desta Drive, Suite 100W

Midland, Texas 79705-4500

San Juan 28-6 Unit #160M

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

Mesaverde		Dakota	
<u>MV-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.7	GAS GRAVITY	0.615
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.28	%N2	0.14
%CO2	0.79	%CO2	1.24
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5692	DEPTH (FT)	7841
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)	732	SURFACE PRESSURE (PSIA)	922
BOTTOMHOLE PRESSURE (PSIA)	853.3	BOTTOMHOLE PRESSURE (PSIA)	1095.5
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.7	GAS GRAVITY	0.615
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.28	%N2	0.14
%CO2	0.79	%CO2	1.24
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5625	DEPTH (FT)	7841
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)	1039	SURFACE PRESSURE (PSIA)	2668
BOTTOMHOLE PRESSURE (PSIA)	1219.2	BOTTOMHOLE PRESSURE (PSIA)	3203.3

Page No.: 4

Print Time: Thu Oct 09 11:30:01 1997

Property ID: 1871

Property Name: SAN JUAN 28-6 UNIT | 160 | 52424A-1

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

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

00/17/77	487557	647.0
00/17/77	487557	647.0
00/17/77	487557	647.0
06/09/71	0	2668.0
12/03/71	73762	1284.0
08/08/72	159929	984.0
09/04/73	251212	904.0
05/05/75	379466	764.0
10/17/77	540611	647.0
06/28/79	633049	669.0
07/13/81	739595	654.0
10/12/83	833989	699.0
06/27/85	911446	692.0
10/04/88	1005882	712.0
05/08/90	1070379	727.0
05/28/92	1131501	922.0

- original

- current

SJ 28-6 #160M

DLC offset

Page No.: 1

Print Time: Thu Oct 09 11:29:59 1997

Property ID: 10534

Property Name: SAN JUAN 28-6 UNIT | 16 | 49034A-1

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

--DATE-- ---CUM_GAS-- M SIWHP

-----Mcf-----Psi-----

11/01/54	0	1039.0	-original
07/07/55	44000	885.0	
08/24/56	97000	917.0	
04/24/57	123000	868.0	
10/29/58	180000	853.0	
08/22/59	210000	767.0	
03/29/60	238000	742.0	
03/28/61	262000	704.0	
04/23/62	294000	687.0	
02/22/63	321000	678.0	
02/24/64	341000	703.0	
02/25/65	369000	663.0	
01/04/66	396000	665.0	
07/10/67	448000	622.0	
01/02/68	462000	620.0	
08/19/70	544269	594.0	
05/10/71	566974	576.0	
08/08/72	611437	549.0	
04/16/74	649513	595.0	
08/21/95	904759	732.0	-current

ST 286 #16CM

MV offset

The map displays a 6x6 grid of squares, each containing various symbols and numbers. The central square (21) is labeled "28-6 UNIT". A large diagonal watermark "T28NR6W" is visible across the map. The map includes numerous symbols such as circles with numbers, squares with numbers, and various letters (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z). The map also includes a scale bar at the bottom left indicating 160M. The map is titled "28-6 UNIT" at the top center.

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.