

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 87410-1893

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 170M 05-27N-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. 30-039-25772 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. 632 psi (see attachment) (Original) b. 1252 psi (see attachment)		a. 1058 psi (see attachment) b. 2500 psi (see attachment)
6. Oil Gravity (<input type="checkbox"/> API) or Gas BTU Content	BTU 1169		BTU 1101
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 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: 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 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-10

Revised February 21, 199

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		Pool Code		Pool Name	
Property Code		Property Name			Well Number
		San Juan 28-6 Unit			170M
OGRID No.		Operator Name			Elevation
		BURLINGTON RESOURCES OIL & GAS COMPANY			6473'

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
I	5	27-N	6-W		1915	South	1150	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	County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.

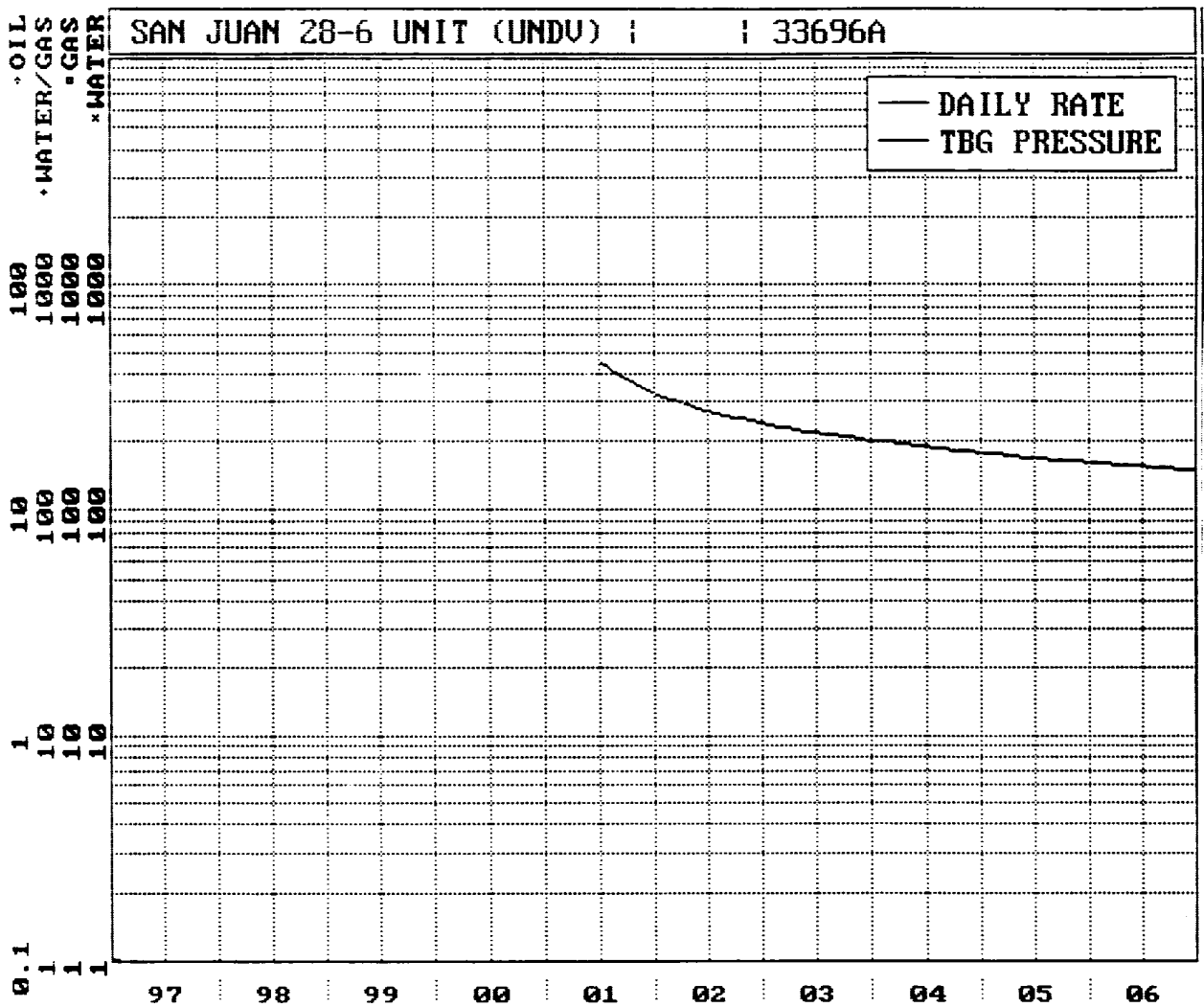
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16		5192.88		17 OPERATOR CERTIFICATION	
4	3	2	1	I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief	
		NMSF-079051A		Signature	
				Printed Name	
				Title	
				Date	
5325.54	5	NMSF-079051		18 SURVEYOR CERTIFICATION	
		1150'		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.	
		1915'		6/04/97	
		NMSF-079049B		Date of Survey	
		5214.00		Signature and Seal of Professional Surveyor	
				NEAL C. EDWARDS NEW MEXICO 6857 6857 CERTIFIED PROFESSIONAL SURVEYOR	

San Juan 28-6 Unit #170M

Blanco Mesaverde

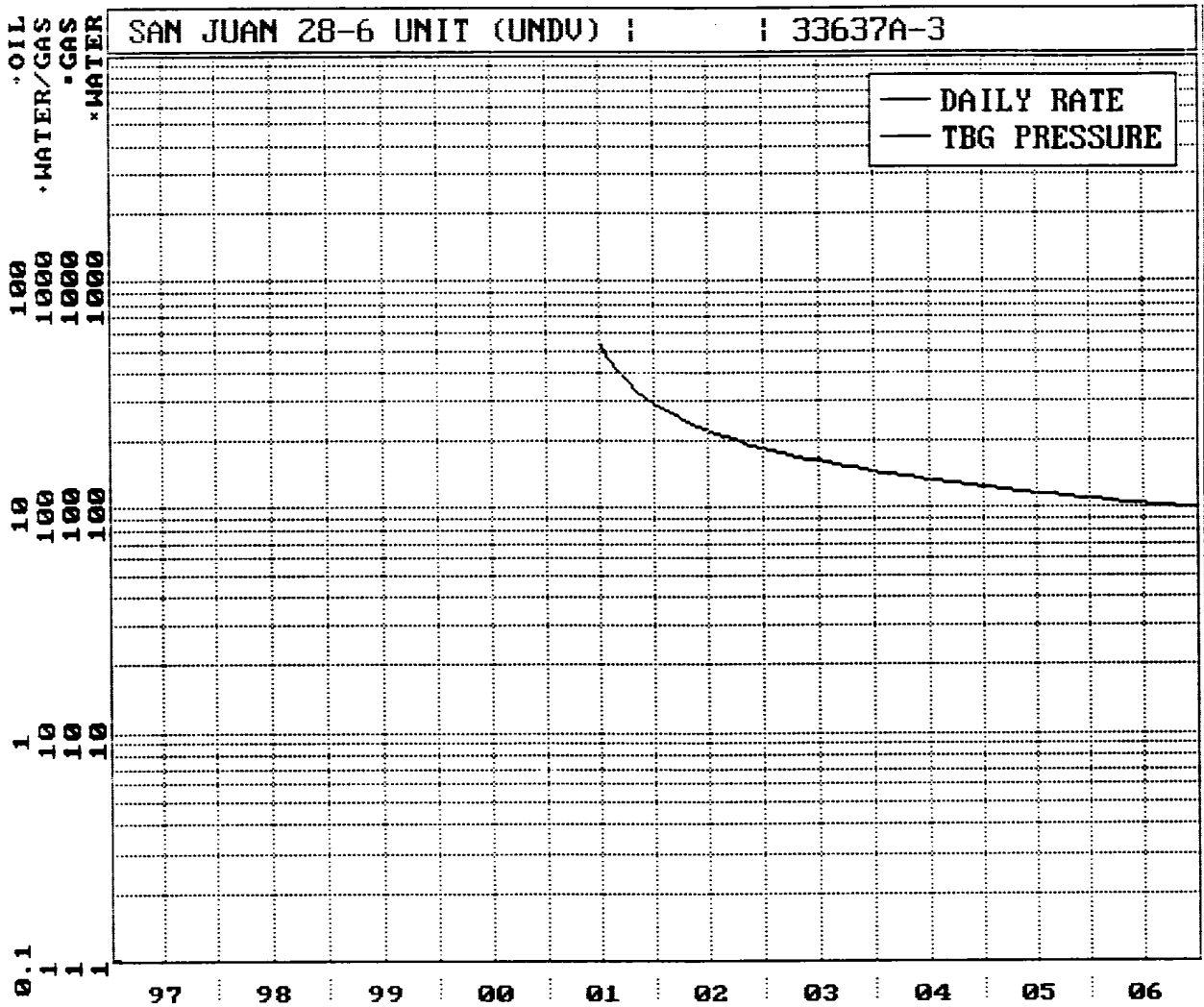
Expected Production Curve



San Juan 28-6 Unit #170M

Basin Dakota

Expected Production Curve



SJ 28-6 Unit #170M

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	0.688	GAS GRAVITY	0.645
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.3	%N2	0.34
%CO2	1.11	%CO2	1.16
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5431	DEPTH (FT)	7613
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)	550	SURFACE PRESSURE (PSIA)	887
BOTTOMHOLE PRESSURE (PSIA)	631.6	BOTTOMHOLE PRESSURE (PSIA)	1058.3
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.688	GAS GRAVITY	0.645
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.3	%N2	0.34
%CO2	1.11	%CO2	1.16
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5431	DEPTH (FT)	7613
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)	1076	SURFACE PRESSURE (PSIA)	2064
BOTTOMHOLE PRESSURE (PSIA)	1251.8	BOTTOMHOLE PRESSURE (PSIA)	2499.9

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Print Time: Mon Jan 12 11:27:47 1998

Property ID: 4014

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

San Juan 28-6 #170m

Mesavende ~~off~~ set

11/17/55	1076.0	-original
08/24/56	821.0	
05/14/58	717.0	
06/14/59	672.0	
06/14/60	738.0	
06/13/61	747.0	
05/29/62	706.0	
05/09/63	723.0	
05/26/64	742.0	
03/08/65	717.0	
10/21/66	699.0	
10/16/67	699.0	
04/01/68	696.0	
05/25/70	635.0	
05/04/71	640.0	
05/22/72	587.0	
07/31/74	534.0	
07/29/76	543.0	
06/05/78	521.0	
04/18/80	535.0	
04/07/86	546.0	
09/18/89	557.0	
09/04/91	562.0	
12/16/91	550.0	-current

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Print Time: Mon Jan 12 11:27:47 1998

Property ID: 1848

Property Name: SAN JUAN 28-6 UNIT | 134 | 44074A-1

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

San Juan 28-6 #170M

Dakota Offset

--DATE-- M SIWHP

..... Psi.....

02/02/73	2064.0	- original
08/21/73	1709.0	
07/31/74	932.0	
06/24/75	632.0	
07/29/76	657.0	
08/01/77	614.0	
05/08/79	514.0	
09/29/81	600.0	
09/22/83	750.0	
11/07/85	787.0	
07/08/88	887.0	
09/29/90	802.0	
04/30/92	887.0	- current

San Juan 28-6 Unit #170M
Blanco Mesaverde / Basin Dakota
27N-06W-05

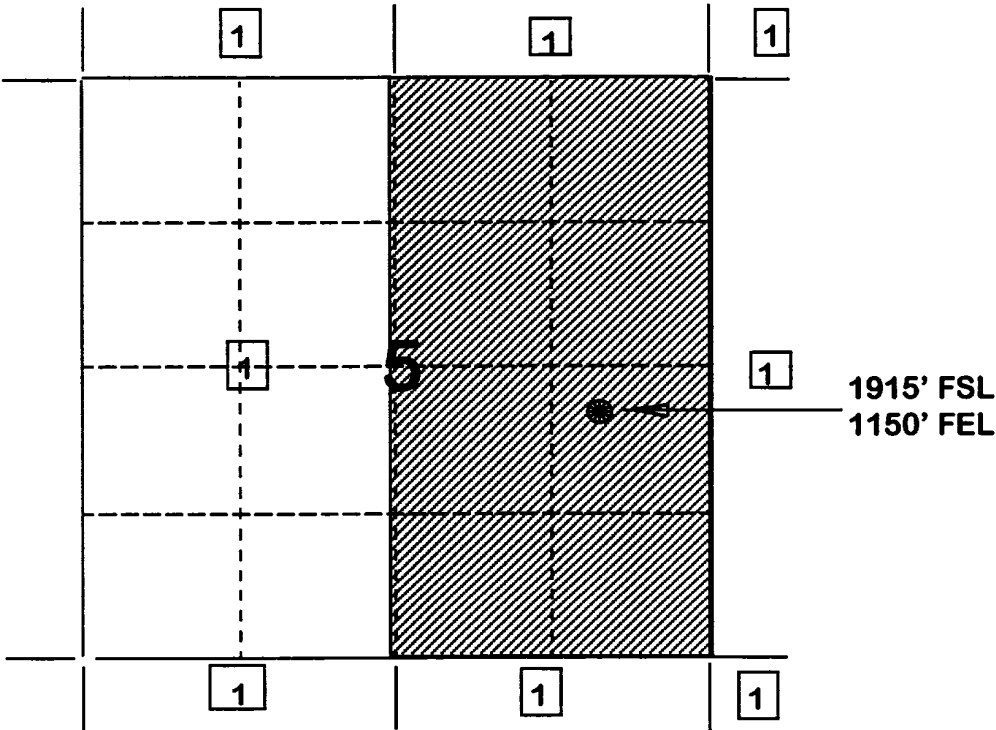
BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 28-6 Unit #170M

OFFSET OPERATOR \ OWNER PLAT

Mesaverde / Dakota Formations Commingle Well

Township 27 North, Range 6 West



1) Burlington Resources

**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.