DISTRICT I

DISTRICT III

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

State of New Mexico Energy, Minerals and Natural Resources Department Form C-107-A New 3-12-96

OIL CONSERVATION DIVISION

APPROVAL PROCESS:

DISTRICT II 811 South First St., Artesia, NM 88210-2835

2040 S. Pacheco Santa Fe, New Mexico 87505-6429

X Administrative ___Hearing EXISTING WELLBORE

1000 Rio Brazos Rd, Aztec, NM 87410-1693

APPLICATION FOR DOWNHOLE COMMINGLING

_x_YES___NO

	91E E 1	4-28N-05W	Rio Arriba
ease	Well No. Unit L	tr Sec - Twp - Rge	County
(2010 NO 44700 Beauty	4. O- 4- 7400 APL NO		ng Unit Lease Types: (check 1 or more)
GRID NO14538 Proper	ty Code7460 API NO	3U-U39-23846FedeiraiX_	, State, (and/or) Fee
The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	l.ower Zone
1. Pool Name and Pool Code	Blanco Mesaverde - 72319	A STATE OF THE STA	Basin Dakota - 71599
Top and Bottom of Pay Section (Perforations)	will be supplied upon completion	DECENVED	8230 - 8338
3. Type of production (Oil or Gas)	gas	11 MAY 1 2 1090 U	gas
4. Method of Production (Flowing or Artificial Lift)	flowing	OUL GONG DAY.	flowing
5. Bottomhole Pressure	(Current) a. 607 psi (see attachment)	a. DISTA	a. 1324 psi (see attachment)
Oil Zones - Artificial Lift: Estimated Current			
Gas & Oil - Flowing: Measured Current	(Original) b. 1341 psi (see attachment)	b .	b. 2274 psi (see attachment)
All Gas Zones: Estimated or Measured Original			
6. Oil Gravity (API) or Gas BTU Content	BTU 1173		BTU 1080
7. Producing or Shut-In?	shut in		shut in
Production Marginal? (yes or no)	по		yes
If Shut-In and oil/gas/water rates of last production	Date: n/a Rates:	Date: Rates:	Date: 4/97 Rates: 16 MCFD, 0 BOPD, 0 BWPD
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data			,
* 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	Oil: Gas:	Oil: Gas:	Oil: Gas:
Formula -% for each zone (total of %'s to equal 100%)	% % will be supplied upon completion	% ***	% % will be supplied upon completion
If allocation formula is based u attachments with supporting date Are all working, overriding, and realf not, have all working, overriding have all offset operators been gi	oyalty interests identical in all coming, and royalty interests been notifice of the proposed	mingled zones? ed by certified mail? downhole commingling?	_Yes _xNo _Yes _xNo _YesNo
1. Will cross-flow occur?	Yes No If yes, are fluids co ill the allocation formula be reliable	mpatible, will the formations not	be damaged, will any cross-fl
2. Are all produced fluids from all co	ommingled zones compatible with	each other?x_Yes No	
2. Are all produced fluids from all co 3. Will the value of production be de	ommingled zones compatible with opereased by commingling?Ye	each other?x_Yes No es _X_ No (If Yes, attach explan	nation)
2. Are all produced fluids from all co 3. Will the value of production be de	ommingled zones compatible with opereased by commingling?Ye	each other?x_Yes No es _X_ No (If Yes, attach explan	nation)
2. Are all produced fluids from all co 3. Will the value of production be de 4. If this well is on, or communitize Land Management has been notif	ommingled zones compatible with our creased by commingling? Ye ed with, state or federal lands, eith ied in writing of this application	each other?x_Yes No es _X_ No (If Yes, attach explar er the Commissioner of Public La X_Yes No	o nation) ands or the United States Bure
2. Are all produced fluids from all co 3. Will the value of production be de 4. If this well is on, or communitize Land Management has been notif 5. NMOCD Reference Cases for Rule 6. ATTACHMENTS: * C-102 for each zone to * Production curve for a For zones with no pro * Data to support alloca * Notification list of all of	permingled zones compatible with of creased by commingling?Ye ded with, state or federal lands, eith fied in writing of this application a 303(D) Exceptions: ORDER NO(S) of the commingled showing its space ach zone for at least one year. (If it is a specific to the product the commingle of the commingled product the commingle of the committee of the commingle of the commingle of the commingle of the committee of th	each other?x_YesNosX_YesNosX_No (If Yes, attach explainer the Commissioner of Public Lax_YesNos)Reference Order _R-10695ing unit and acreage dedication.not available, attach explanation.)tion rates and supporting data.	nation) ands or the United States Bure attached
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Oistrict I PO Box 1980. Hobbs. NM 88241-1980

District II PO Drawer CD. Antesia, NM 88211-0719

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

Oistrict IV PO 80x 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.

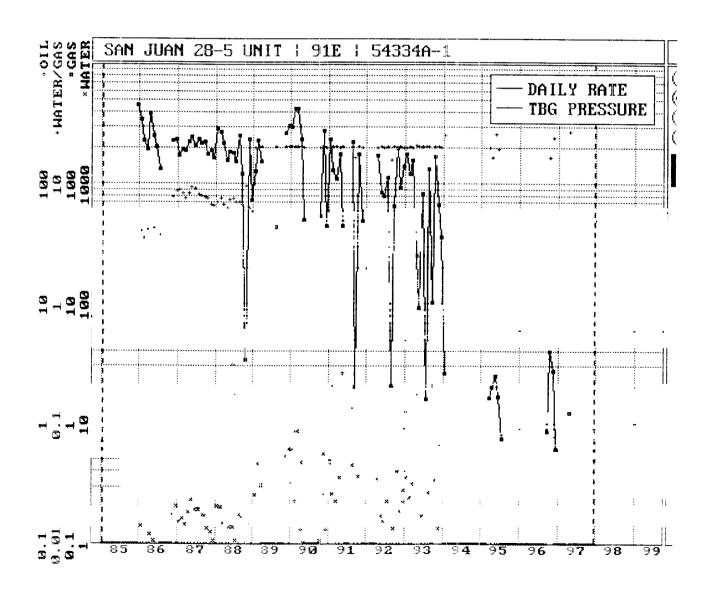
Submit to Appropriate District 0: State Lease - 4 Cc Fee Lease - 3 Cc

AMENDED REPE

HELL LOCATION AND ACDEAGE DEDITOATION DLAT

			WELL.	LOCATI	ON AND AC	REAGE DEDI	CATION PL	ΑT			
	Number		7001	1P001 Cod	-		'Pool Name	-			
30-039-2			/231	9/715		ico Mesaver	de/Basin		Well Number		
*Property Co	SAN JUAN 28-5 UNIT										
7460 'O GRID No.			SAN JUAN 28-5 UNIT 916								
14538			BURLINGTON RESOURCES OIL & GAS COMPANY 698								
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	ection 4 4	Township	Range	Lat Idn	Feet from the	North/South 1104	Feet from the 960	WEST	RIC		
E	14	28N	5W		1500	NORTH			ARRI		
UL or lot no. S	ection	TOWNSTILL	Ottom	Hole L	ocation If	North/South line	From Sunf	ace East/Nest line	County		
MV-N/320		13 Joint or In	ifill 14 Come	plidetion Code	²⁵ Order No.		J				
$\frac{MV - N}{320}$											
NO ALLOWAE	BLE W	ILL BE	ASSIGNE	D TO TH	IS COMPLETIC	ON UNTIL ALL	INTERESTS H	AVE BEEN O	CONSOLIDAT		
		OR A	NON-ST			EN APPROVED ed, prepar		ATOR CER			
960	1500			¥		. Mahnke I	Signatur Peggy Printed Regul Title 4-20- Date 18 SURV	Bradfie Name atory Ad 98	ministr TIFICAT continue store on actual surveys and the same true		
		,		1		1	APF	Survey Survey MEXIC	998		

San Juan 28-5 Unit #91E Actual Production Basin Dakota



FARMINGTON 1996 MONTHLY PRODUCTION FOR 54334A PHS030M:

SAN JUAN 28-5 UNIT 91E

BASIN DAKOTA (PRORATED GAS) FIELD DAKOTA ZONE

			DAYS	=====	OIL ===	====	=======	=====	GAS	=====	======		
MO	T	S	\circ N	PC	PROD	GRV	PC	PROD	ON	BTU	PRESS	WATER	PROD
1	2	S		02			01				15.025		
2	2	S		02			01				15.025		
3	2	S		02			01				15.025		
4	2	S		02			01				15.025		
5	2	S		02			01				15.025		
6	2	S		02			01				15.025		
7	2	S		02			01				15.025		
8	2	S		02			01				15.025		
9	· 2	S	1	02			01	26	1.	1079	15.025		1
10	2	F	17	02	105		01	121	1.7	1079	15.025		2
1.1	2	F	24	02	24		01	83	2.4	1079	15.025		2
12	2	S	10	02	1		01	19	1.0		15.025		

PF6 - RETURNS TO ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE

PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY INJECTION

00/00/00 00:00:00:0 PRS 02/05/97

FARMINGTON 1997 MONTHLY PRODUCTION FCR 54334A PHS030M1

SAN JUAN 28-5 UNIT 91E

BASIN DAKOTA (PRORATED GAS) FIELD DAKOTA ZONE

			DAYS	======	OIL ==	====	======	=====	GAS	=====				
OM	T	S	\circ N	PC'	PROD	GRV	PC	PROD	ON	:3TU	PRESS	WATER F	ROD	C
1	2	S		02			01				15.025			
2	2	S		02			01				15.025			
3	2	S		02			01				15.025			
4	2	S	2	02			01	37	2	1079	15.025		1	
5	2	S		02			01				15.025			
6	2	S		02			01				15.025			
7	2	S		02			01				15.025			
8	2	S		02			01				15.025			
õ	2	S		02			01				15.025			
10	2	S		02			01				15.025			
11	2	S		02			01				15.025			
12	2	S		02			01				15.025			

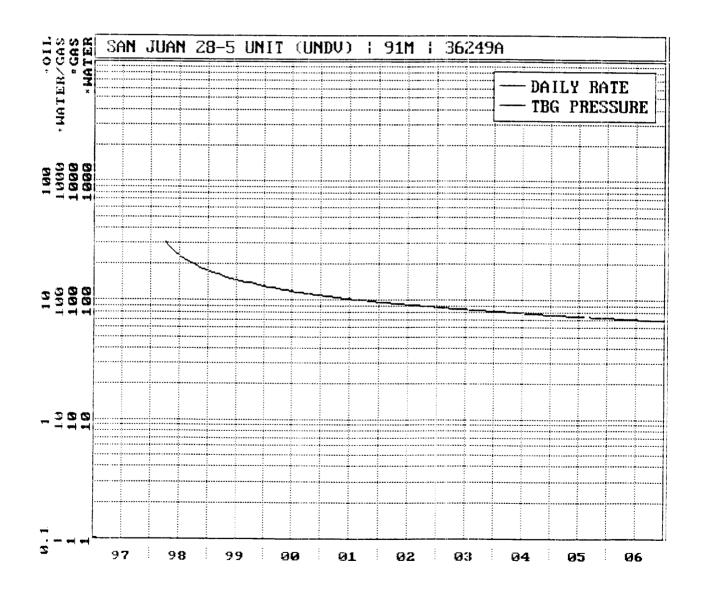
PF6 - RETURNS TO ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE

PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY INJECTION

00/00/00 00:00:00:0 PRS 02/04/98

San Juan 28-5 Unit #91E

Expected Production Curve Blanco Mesaverde



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Page No.: 1
   Print Time: Tue Apr 28 09:34:27 1998
  Property ID: 3293
Froperty Name: SAN JUAN 28-5 UNIT | 91E | 54334A-1
   Table Name: O:\PUBLIC\GENTITY\GDPNOS\TEST.DBF
--DATE-- M SIWHP
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10/25/85 1862.0 - OVICZINAL
02/03/86 1347.0
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07/01/87 1194.0
08/02/88 1132.0
05/08/90 1221.0
11/02/92 1095.0 - current
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Page No.: 1

Print Time: Tue Apr 28 10:30:14 1998

Property ID: 1593

Property Name: SAN JUAN 28-5 UNIT | 27 | 50029A-1

Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

DATE	M SIWHP	
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91E

ST 2-8-5 Unit

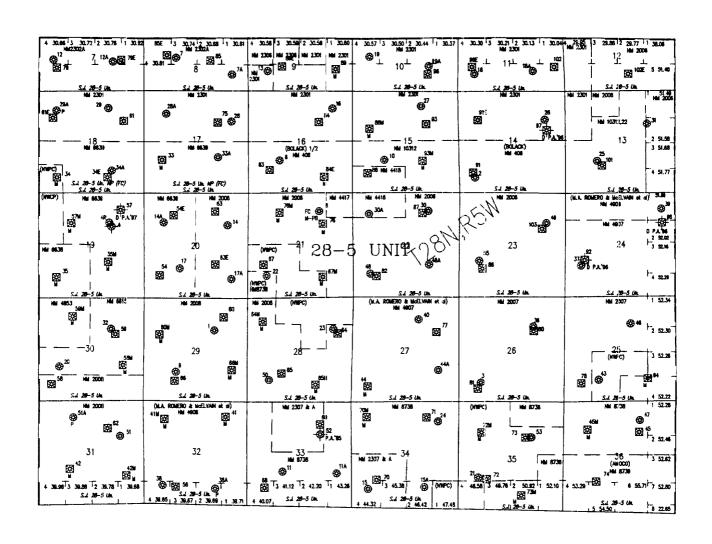
mesaverde Cffjet

SJ 28-5 Unit #91E

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

Dakota				
<u>DK-Current</u>				
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %CO2 0.83 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 1095				
DK-Original				
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %CO2 0.83 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 2274.1				

San Juan 28-5 Unit #91E Recompletion to add Mesaverde 28N-05W-14D



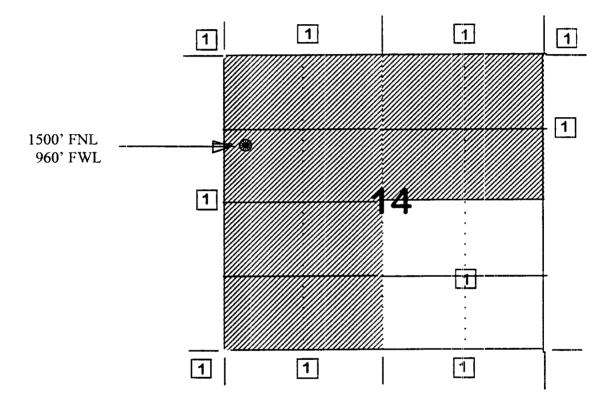
BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 28-5 Unit #91E

OFFSET OPERATOR \ OWNER PLAT

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

Township 28 North, Range 5 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. 11627 ORDER NO. R-10695

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 28-5 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 28-5 Unit, San Juan County, New Mexico.

(3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

"If sufficient data exists on a lease, pool, formation, geographic area, etc., so as to render it unnecessary to repeatedly provide such data on Form C-107-A, an operator may except any of the various criteria required under Paragraph 303.D, of this rule by establishing a "reference case". The Division, upon its own motion, or by application from an operator, may establish "reference cases" either administratively or by hearing. Upon Division approval of such "reference cases" for specific criteria, subsequent applications to downhole commingle (Form C-107-A) will be required only to cite the Division order number which established such exceptions and shall not be required to submit data for those criteria."

- (4) The applicant is the current operator of the San Juan 28-5 Unit which encompasses some 17,399 acres in Township 28 North, Range 5 West, NMPM, San Juan County, New Mexico.
- (5) Within the San Juan 28-5 Unit, the applicant currently operates sixty-seven (67) Basin-Dakota Gas Pool wells, seventy-one (71) Blanco-Mesaverde Gas Pool wells, sixteen (16) Gobernador-Pictured Cliffs, Oso-Pictured Cliffs and Tapacito-Pictured Cliffs Gas Pool wells, and nineteen (19) Basin-Fruitland Coal Gas Pool wells.
 - (6) According to its evidence and testimony, Burlington seeks to:
 - establish a "reference case" for marginal economic criteria in the Dakota and Pictured Cliffs formations, whereby these formations and/or pools may be identified as "marginal" on Form C-107-A's subsequently filed for wells within the San Juan 28-5 Unit. The applicant further proposes that the data provided in the immediate case serve as supplemental data or confirmation that these formations and/or pools should be classified as "marginal";
 - b) establish a "reference case" for pressure criteria in the Dakota and Pictured Cliffs formations whereby the Division may utilize data provided in the immediate case to verify the pressure data provided on Form C-107-A's subsequently filed for wells within the San Juan 28-5 Unit:

- 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 28-5 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 28-5 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 28-5 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 1,258 MMCFG and 77 MMCFG, respectively;
 - the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 276 MCFGD and 136 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 28-5 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 28-5 Unit, the applicant presented engineering evidence and testimony which indicates that:

- a) the average shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations at the time of initial development were approximately 3,149 psi and 1,143 psi, respectively; and,
- b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations are approximately 1.059 psi and 714 psi, respectively.
- (10) There is sufficient pressure data available within the San Juan 28-5 Unit so as to except pressure criteria as proposed by the applicant.
- (11) The applicant testified that various allocation methods will be utilized for downhole commingled wells within the San Juan 28-5 Unit depending on the circumstances. Some of the methods and circumstances are described as follows:
 - a) the subtraction method will likely be utilized in those instances involving the Basin-Fruitland Coal Gas Pool and in those instances where a zone with a well established decline rate is commingled with a newly completed zone;
 - b) a fixed allocation formula will be utilized in those instances where production history for both zones is available, or in those instances where newly completed zones are tested and stabilized flow rates obtained.
 - (12) The allocation methods proposed by the applicant are routinely utilized by industry and approved by the Division and therefore, the proposal to except allocation formulas should be approved.
 - (13) In support of its request to establish a "reference case" or administrative procedure for providing notice within the San Juan 28-5 Unit the applicant presented evidence and testimony which indicates that:
 - a) the interest ownership between two zones within a given wellbore in the San Juan 28-5 Unit is generally not common;
 - b) pursuant to Division Rule No. 303.D., applicant is currently required to notify all interest owners within the San Juan 28-5 Unit every time a Form C-107-A is submitted to the Division. There are a considerable number of such interest owners within the unit;

- c) providing notice to each interest owner within the San Juan 28-5 Unit of subsequent downhole commingtings is unnecessary and is an excessive burden on the applicant;
- d) the downhole commingling of wells within the San Juan 28-5 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-5 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 28-5 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 comminging approvals within the San Juan 28-5 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 28-5 Unit, San Juan County, New Mexico, is hereby approved.

- downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify the Pictured Cliffs and Dakota pressure information provided, and support or justification for utilizing a given method or formula for allocation of production, provided however, in the event any of the data described above appearing on Form C-107-A appears to be beyond the data range provided in this case, the Division may require the submittal of additional supporting data.
 - (3) In order to obtain Division authorization to downhole commingle wells within the San Juan 28-5 Unit, the applicant shall file a Form C-107-A with the Santa Fe and Aztec Offices of the Division. Such application shall contain all the information required under Rule No. 303.C. of the Division Rules and Regulations, provided however that the applicant shall not be required to provide notice to all interest owners within the San Juan 28-5 Unit of such proposed commingling.
 - (4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

WILLIAM J. LeMAY

Director

S E A L