DISTRICT I

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

DISTRICT II

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

DISTRICT III

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:

X Administrative ___Hearing

EXISTING WELLBORE

X_YES __ NO

APPLICATION FOR DOWNHOLE COMMINGLING 1000 Rio Brazos Rd, Aztec, NM 87410-1693

12. Are all produced fluids from all commingled zones compatible with each other?

13. Will the value of production be decreased by commingling? ____Yes _X_ No

San Juan 29-7 Unit	#110-M I-31-29Ñ	N-07W	Rio Arriba
GRID NO. 14538 Propert	Well No. Unit Ltr Sec -		County Specing Unit Lease Types: (check 1 or more) ederalX, State, Fee
The following facts are submitted in support of downhole commingling:	Upper	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Mesa Verde - 72319		Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	4977'-5942'	DEGETTE	7602'-7800'
3. Type of production (Oil or Gas)	Gas	MAR 4 1093	Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing	11. 40個. 图	No Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current	(Current) a. 473 psi (see attachment)	19(EU), 33 ×	a. 663 psi (see attachment)
Gas & Oil - Flowing: Measured Curren All Gas Zones: Estimated or Measured Original	(Original) t b. 1008 psi (see attachment)		b. 1008 psi (see attachment
6. Oil Gravity ([°] API) or Gas BTU Content	BTU 1203		BTU 1127
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no	Yes		No
* 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: N/A Rates:
 If Producing, give data and oil/qas/water water of recent test (within 60 days) 	Date: 2/98 Rates: 96 mcfd 2.1bopd		Date: 2/98 Rates: 157 mcfd 0.0 bopd
8. Fixed Percentage Allocation Formula -% for each zone	Will be supplied upon completion.		Will be supplied upon completion.

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. _X_Yes ___ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). Reference Order # R-10697

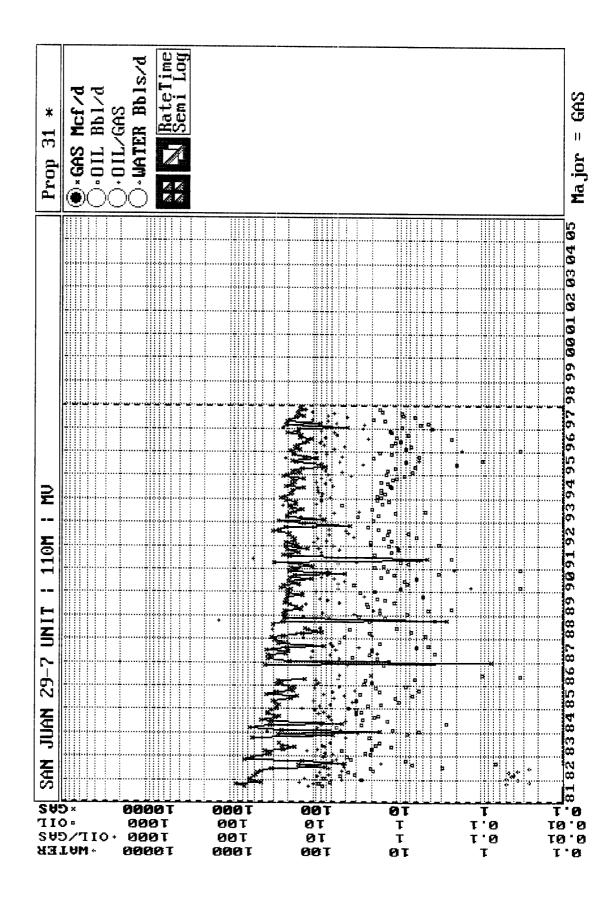
X Yes ___ No

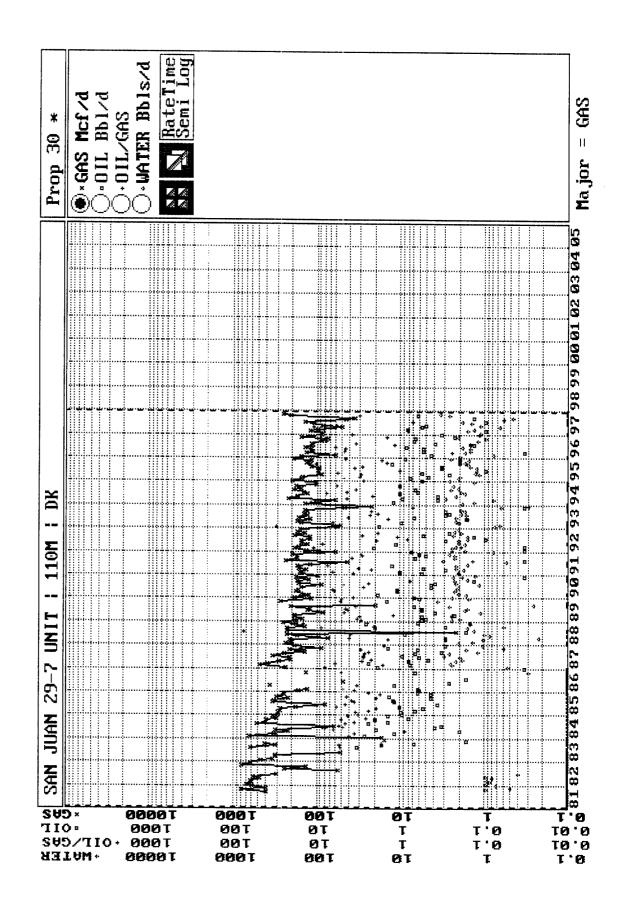
(If Yes, attach explanation)

ENERGY AND MINERALS DEPARTMENT SANTA FE, NEW MEXICO 875.

Form C-102 Revised 10-1-7:

Operator		All distances must	be from the o	cuter houndartes	e of the	Section	n.	•	
1 '	URAL GAS COM	24.185	Lease						Well No.
Unit Letter	Section Section			AN JUAN 29	7-7 U	MIT	(SF-07850	3)	110-M ·
I	31	Township 29N	R	ange	C	County			·——
Actual Footage Loc		2911				Ric	Arriba		
1850	feet from the	South	7	000					
Ground Level Elev.	Producing Fo	line		000		om the	East		line
6648		de-Dakota	Pool	Blanco				Dedico	ited Acreage;
1 Outline th			L	Bast	<u>in Da</u>	akota		320.	00 % 320.00\cres
1. Outline th	e acreage dedica	ated to the subjec	t well by	colored penci	il or h	achur	marks on th	ie plat	below.
2. If more the interest ar	an one lease is id royalty).	dedicated to the	well, outli	ne each and	identi	fy the	ownership t	hereof	(both as to working
3. If more that dated by c	_	γ τοι σο γ	ooming. ctc	•				all ov	vners been consoli-
LAJ TCS	NO II a	nswer is "yes," ty	pe of conso	olidation <u>U</u>	ni±i	zat:	i <u>on </u>		
If answer i									
this form if	necessary.)	owners and tract d	escription	s which have	actua	ally be	en consolida	ated. (1	Jse reverse side of
forced-pool	ing, or otherwise)	or until a non-stan	dard unit	sts have beer	n cons	solida	ted (by comi	munitia	zation, unitization,
sion.	J	and a non-stan	dard unit,	eliminating s	such in	nteres	ts, has been	approv	zation, unitization, ved by the Commis-
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San Juan 29-7 Unit #110M Bottom Hole Pressures Flowing and Static BHP

Cullender and Smith Method

Version 1.0 1/14/98

Mesaverde	Dakota
MV-Current	DK-Current
GAS GRAVITY COND. OR MISC. (C/M) %N2	GAS GRAVITY 0.663 COND. OR MISC. (C/M) C %N2 0.16 %CO2 1.31 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7701 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 190 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 555 BOTTOMHOLE PRESSURE (PSIA) 663.1
MV-Original	DK-Original
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 0.707 C 0.28 0.87 7 5460 5460 550 60 60 60 60 60 80 868	GAS GRAVITY COND. OR MISC. (C/M) C %N2 0.16 %CO2 1.31 %H2S 0 DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) 838 BOTTOMHOLE PRESSURE (PSIA) 1008.2

Page No.: 1
Print Time: Tue Feb 03 09:40:34 1998

Property ID: 31
Property Name: SAN JUAN 29-7 UNIT | 110M | MV
Table Name: S:\ARIES\1MXJ\TEST.DBF

<u>DATE</u>	CUM_OIL- Bbl	CUM_GAS Mcf	M_SIWHP Psi				
08/03/81		0	868.0	Criginal			
12/03/81		77171	642.0	J			
06/02/82		162411	527.0				
11/01/83		289041	552.0				
12/01/86		532449	574.0				
10/07/89		746765	520.0				
03/18/91		832813	578.0				
07/05/93		1002107	492.0				
12/01/97		1233776	412.0	Current	Estimated	from P/z	data

Page No.: 1
Print Time: Tue Feb 03 09:40:18 1998
Property ID: 30

Property Name: SAN JUAN 29-7 UNIT | 110M | DK Table Name: S:\ARIES\1MXJ\TEST.DBF

<u>DATE</u>	CUM_OIL-	CUM_GAS	M_SIWHP					
	Bbl	Mcf	Psi					
				a . ·				
07/27/81		0	838.0	Original				
08/03/81		0	839.0	.,,				
12/03/81		67644	1735.0					
06/02/82		167549	1105.0					
11/01/83		310886	735.0					
09/25/85		491727	812.0					
01/17/86		522035	743.0					
03/03/88		655243	723.0					
04/22/90		771985	830.0					
04/29/92		880729	723.0					
12/01/97		1136733	555,0	Current	Estimated	f. on	P/2 di	a la
								,

Package Preparation Volume Data

DENOT 70004 BESAN JUAN 2917 UNIT **Supt:** 60 KEN RAYBON FF: 335 LARY BYARS MS: 318 J.R TRUJILLO Pipeline: EPNG Plunger: No Dual: Yes Compressor: No Ownership (No Trust) Prior Year **Current Year** Oil Gas **Days Days** GWI: 62.5191% 62.5191% <u>On</u> MCF/M **BOPM** <u>On</u> MCF/M **BOPM** GNI: 52.8043% 52.8043% Jan 5,775 1.0 31 1,027 27.0 27 4,288 Feb 24.0 29 6,553 16.0 28 **Volumes** Mar 4,999 21.0 31 2,356 13.0 31 (Days On) **MCFD BOPD** 4,695 36.0 Apr 30 6,337 42.0 30 7 Day Avg 21.4 May 3,847 32.0 26 5,522 58.0 31 30 Day Avg 96 2.1 Jun 3,512 28.0 22.9 4,798 19.0 22 60 Day Avg 198 1.7 Jul 3,069 7.0 31 3,870 26.0 31 3 Mo Avg 197 1.0 4,264 31.0 Aug 31 4,678 27.0 31 6 Mo Avg 169 1.0 Sept 4,188 22.0 30 4,433 46.0 30 12 MoAvg 163 1.0 Oct 6,304 36.0 31 3,912 49.0 28.4 Nov 4,544 37.0 30 4,362 0.0 30 **Volumes** Dec 4,558 12.0 31 9,322 38.0 31 (Days in Month) **MCFD BOPD Total** 54,043 287.0 57,170 361.0 30 Day Avg 96 2.1 60 Day Avg 198 1.7 Frint Form 3 Mo Avg 191 0.9 6 Mo Avg 168 1.0

Exit Volumes Data

2/12/98

12 Mo Avg

157

1.0

Package Preparation Volume Data

DPNO: 70003 - SAN UVAN 297 UNIT - BANTOM - FORTH DR

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 318 J.R TRUJILLO

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

				_	uui. 103		Compre	3301.	NO
Own	nership (No	Trust)		<u>Pr</u>		Current Year			
	Gas	<u>Oil</u>				Days			Days
GWI: 6	60.2270%	60.2270%		MCF/M	BOPM	On	MCF/M	BOPM	On
GNI: 4	49.8477%	49.8477%	Jan	4,657	0.0	31	2,527	0.0	31
***			Feb	1,745	13.0	29	3,609	3.0	28
<u>Volumes</u>			Mar	4,032	1.0	31	2,968	25.0	31
(Days On)	MCF	D BOPD	Apr	3,423	16.0	30	1,471	17.0	25
7 Day Avg	15	3 0.0	May	3,475	16.0	28	2,522	15.0	31
30 Day Avg	15	7 0.0	Jun	4,286	26.0	22.9	3,263	0.0	24
60 Day Avg	15	3 0.0	Jul	3,426	4.0	31	4,253	3.0	31
3 Mo Avg	208	8 0.2	Aug	3,469	12.0	31	1,286	0.0	31
6 Mo Avg	139	9 0.1	Sept	2,648	21.0	30	955	4.0	30
12 MoAvg	118	B 0.2	Oct	2,203	20.0	31	6,201	19.0	28.4
		tratalitika attatatada ara ara ara ara ara ara ara	Nov	4,738	7.0	30	7,843	0.0	30
<u>Volumes</u>			Dec	2,576	10.0	31	4,595	1.0	31
(Days in Mon	ith) MCF	D BOPD	Total	40.679	1400		44.400		
30 Day Avg	157	7 0.0	lotal	40,678	146.0		41,493	87.0	
60 Day Avg	153	3 0.0							
3 Mo Avg	203	3 0.2					Pri i	it Form	
6 Mo Avg	138	B 0.1							
12 Mo Avg	114	4 0.2					JEXIL Vo	lumes D	ata

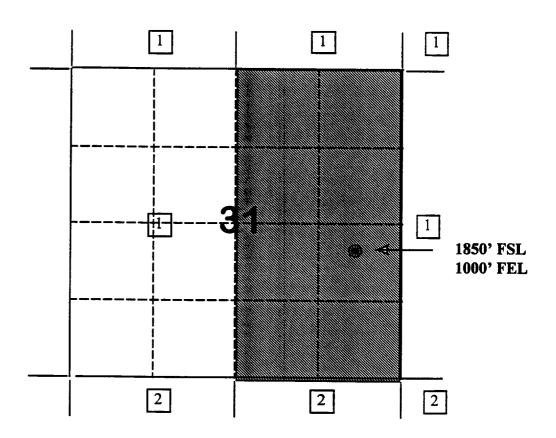
2/12/98

BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 29-7 Unit #110M

OFFSET OPERATOR/OWNER PLAT Mesaverde / Dakota Formations Commingle Well

Township 29 North, Range 7 West



- 1) Burlington Resources
- 2) Conoco, Inc. 10 Desta Drive, Suite 100W Midland, TX 79705-4500

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PLH 12/11/97

SAN JUAN 29-7 #110M SEC. 31 T29N, R7W MESAVERDE/DAKOTA

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. 11629 ORDER NO. R-10697

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 29-7 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 8th 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 29-7 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 29-7 Unit which encompasses some 22,500 acres in Township 29 North, Range 7 West, NMPM, San Juan County, New Mexico.
- (5) Within the San Juan 29-7 Unit, the applicant currently operates fifty-five (55) Basin-Dakota Gas Pool wells, one hundred thirty-one (131) Blanco-Mesaverde Gas Pool wells, thirteen (13) Blanco-Pictured Cliffs and South Blanco-Pictured Cliffs Gas Pool wells, and forty-nine (49) Basin-Fruitland Coal Gas Pool wells.
 - (6) According to its evidence and testimony, Burlington seeks to:
 - a) 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 29-7 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 29-7 Unit;
 - 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 29-7 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 29-7 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 29-7 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 245 MMCFG and 76 MMCFG, respectively;
 - c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 218 MCFGD and 238 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 29-7 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 29-7 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 was approximately 3,209 psi and 1,148 psi, respectively; and,
 - b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations is approximately 952 psi and 655 psi, respectively.

- (10) There is sufficient pressure data available within the San Juan 29-7 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 29-7 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 29-7 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 29-7 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 29-7 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 29-7
 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 29-7 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 29-7 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 29-7 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 29-7 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 29-7 Unit, San Juan County, New Mexico, is hereby approved.
- (2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 29-7 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 29-7 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 29-7 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

SEAL