DISTRICT I P.O. Box 1980, Hobbe, NM 88241-1980 DISTRICT II State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION

Form C-107-A New 3-12-96 APPROVAL PROCESS:

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

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

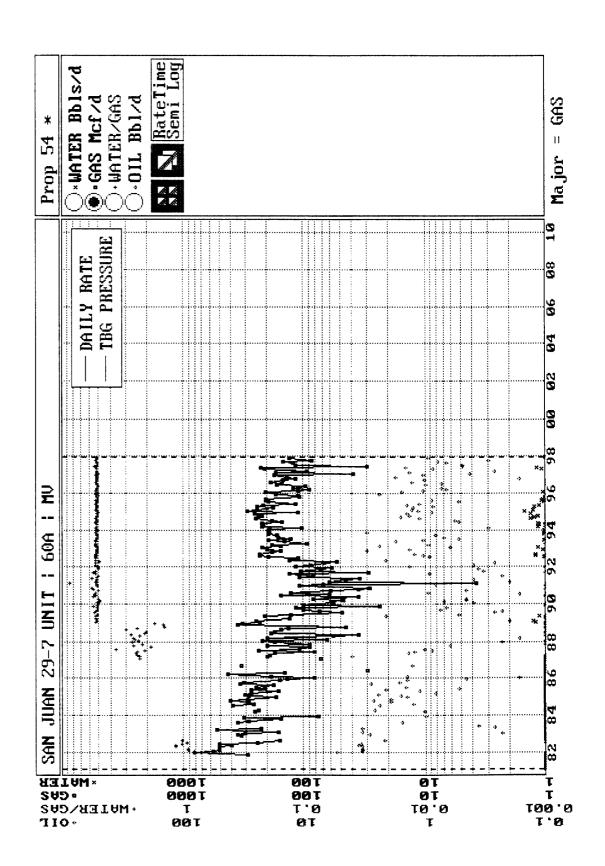
DISTRICT III 1000 Rio Brazos Rd, Aztec, NM 87410-1693

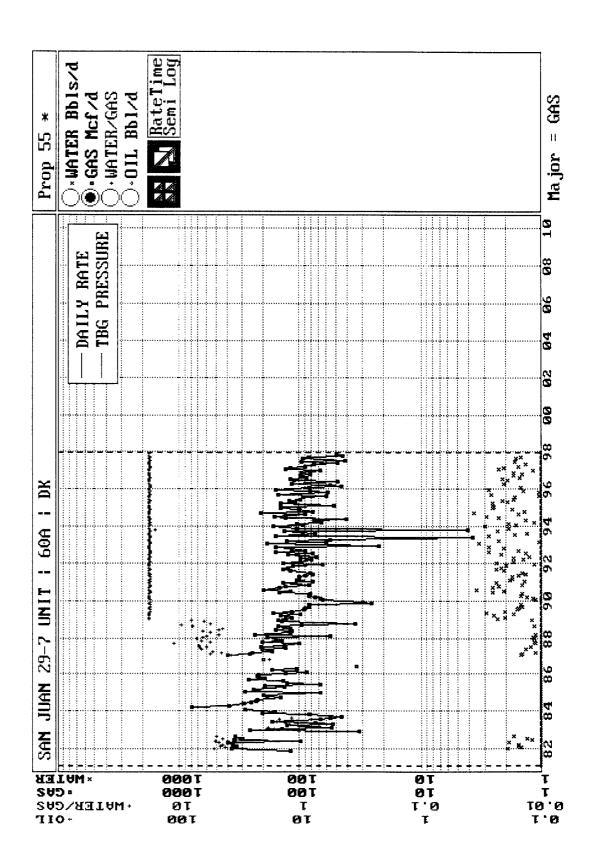
APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE X_YES ___NO

urlington Reso	urces C	anu Gas	Addres				
San Juan 29-7 U	Init	#60-A	J-34-29N-0			o Arriba	
150		Well No.	Unit Ltr Sec - Tw	p - Rge		ounty it Lease Types: (check 1 or more)	
GRID NO. <u>14538</u>	_ Property	Code7465_	API NO	30-039-21920_	Federal _	X , State, Fee _	
he following facts are a support of downhole ommingling:	eubmitted :	ų, Z	pper one	Intermedia Zone		ower 2000	
. Pool Name and Pool Code		Mesa Verde –				Dakota - 71599	
. Top and Bottom of Pay Section (Perfo	orations)	5065'-6021'				7709'-7866'	
l. Type of production (Oil or Gas)		Gas	£ :			Gas	
I. Method of Productio (Flowing or Artifici	n al Lift)	Flowing	<u>.</u>			Flowing	
5. Bottomhole Pressuro	8	(Current) a. 425 psi (see attachme	ent)			a. 942 psi (see attachmo	ent)
Estimated C Gas & Oil - Flowing: Measur All Gas Zones:	urrent ed Current	(Original) b. 951 psi (see attachme	ent)		• • • • • • • • • • • • • • • • • •	b. 2576 psi (see attachn	nent)
Estimated or Measured B. Oil Gravity (°API) or Gas BTU Content		BTU 1202				BTU 1116	_
7. Producing or Shut-li	n?	Producing	· · · · · · · · · · · · · · · · · · ·			Producing	
Production Marginal?	(yes or no)	Yes				Yes	
' If Shut-In and oil/gas rates of last producti	water on	Date: N/A Rates:				Date: N/A Rates:	
Note: For new zones with no proc applicant shall be required to atta estimates and supporting data	duction history, ach production						
* If Producing, give da oil/gas/water water of r (within 60 days)	ta and recent test	Date: 2/98 Rates: 90 mcfd 0.3 bopd				Date: 2/98 Rates: 40 mcfd 0.0 bopd	
8. Fixed Percentage A Formula -% for eac (total of %'s to equ	llocation ch zone lai 100%)	Will be supplied	upon completion.		_ **	Will be supplied upon comple	tion.
O. Are all working, over if not, have all work Have all offset ope 1. Will cross-flow occ production be rec	erriding, ai king, overr rators bee ur? _X_\ overed, an	nd royalty intere iding, and royal n given written fes No If y d will the alloca	ests identical in al ty interests been notice of the prop es, are fluids com tion formula be re	l commingled zones notified by certified osed downhole com patible, will the forn liableXYes	? mail? mingling?	based upon some othe lions or other required d Yes _X_No _YesNo _X_YesNo be damaged, will any cro , attach explanation)	
2. Are all produced fl					_X_Yes _		
3. Will the value of pro 4. If this well is on, o Bureau of Land Mai	oduction be or commun nagement l	e decreased by litized with, stat has been notifie	commingling? te or federal land d in writing of this			explanation) Public Lands or the Uni o	ted \$
5. NMOCD Reference	Cases for	Rule 303(D) Exc	ceptions: ORDER	NO(S)Refer	ence Order	# R-10697	
6. ATTACHMENTS: * C-102 fo * Product * For zone * Data to: * Notifica: * Notifica: * Any add	er each zon ion curve f es with no p support all ition list of itional stat	ne to be comminor each zone for or each zone for production histo ocation method all offset operat working, overric tements, data, o	gled showing its s r at least one year rry, estimated pro or formula. ors. ding, and royalty in r documents requ	pacing unit and acr (If not available, a duction rates and so nterests for uncomn ired to support com	eage dedica attach explai upporting da non interest imingling.	ation. nation.) ita. cases.	_
			e is true and co	mplete to the be	st of my kn	owledge and belief.	
SIGNATURE	- Jom	Jove L	TITLE	Enginee	er I	DATE 03-02-98	
	/				(505)	326-9700	

All distances must be from the outer boundaries of the Section EL PASO NATURAL GAS COMPANY SAN JUAN 29-7 UNIT (SF-078425) 60A Et trager 29N 7W RIO ARRIBA Astual Fortage Location of Well: 1340 feet from the South East Grand Lyvel Flev. his audina Fornation Basin Dakota Demonstra Ami&: 320.00 6672 Mesa Verde-Dakota Blanco Mesa Verde 320.00 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? Unitization No if answer is "yes," type of consolidation ... If answer is "no." list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. NOTE: THIS PLAT REISSUED TO SHOW CORRECTED FOOTAGE AND ELEVATION 8/24/79 CERTIFICATION THIS PLAT IS REISSUED TO REFLECT DUAL COMPLETION. I hereby certify that the information contained herein is true and complete to the 9-5-79 best of my knowledge and belief. #60 Maco 0 Drilling Presiden Paso Natural Gas Co. Company October 18, 1979 Sec 34 SF-078425 I hereby cortify that the well location shown on this plat was platted 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 knowledge and belief. OCT 2 6 1979 Date Surveyed U. S. GEOLOGICAL SURVEY DURANGO, COLO. HEATER TO PROPERTY LINES AND THE PARTY TO 1320 1660 1941 2310





San Juan 29-7 Unit #60A 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 0.706 COND. OR MISC. (C/M) C %N2 0.22 %CO2 0.92 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5543 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 149 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 370 BOTTOMHOLE PRESSURE (PSIA) 425.2	GAS GRAVITY COND. OR MISC. (C/M) %N2 0.14 %CO2 1.25 %H2S 0 DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 941.5				
MV-Original	DK-Original				
GAS GRAVITY 0.706 COND. OR MISC. (C/M) C %N2 0.22 %CO2 0.92 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5543 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 149 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 818 BOTTOMHOLE PRESSURE (PSIA) 950.9	GAS GRAVITY 0.655 COND. OR MISC. (C/M) C %N2 0.14 %CO2 1.25 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7788 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 185 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 2100 BOTTOMHOLE PRESSURE (PSIA) 2576.2				

Page No.: 1
Print Time: Tue Feb 03 08:14:32 1998

Property ID: 54
Property Name: SAN JUAN 29-7 UNIT | 60A | MV
Table Name: S:\ARIES\1MXJ\TEST.DBF

DATECUM_OI	LCUM_GAS Mcf	M_SIW <u>HP</u> Psi	
09/22/81 01/13/82 05/13/82 11/21/83 08/21/84 10/04/86 04/11/89 03/18/91 09/17/91 05/03/93	0 33888 109404 229914 266889 426417 553702 608638 621827 706972 980093	818.0 618.0 577.0 518.0 539.0 484.0 507.0 532.0 544.0 494.0	,
12/01/11	180013	210.0	Carrent Estimated train 1/2 Dage

Page No.: 1
Print Time: Tue Feb 03 08:08:56 1998

Property ID: 55
Property Name: SAN JUAN 29-7 UNIT | 60A | DK
Table Name: S:\ARIES\1MXJ\TEST.DBF

<u>DATE</u>	CUM_OILCUM_GAS Bbl Mcf	M_SIWHP Psi	
09/15/81	0	747.0	
01/13/82	25907	2100.0	
05/13/82	62471	1553.0	
11/21/83	134933	1741.0	
06/05/85	268385	813.0	
10/11/88	436901	782.0	
04/22/90	490489	720.0	
04/29/92	571222	822.0	Current Estimated from P/z data
05/17/93	612578	819.0	
12/61/97	7 <i>6</i> 79§2	783.0	

Package Preparation **Volume Data**

DPNo: 19811 SAN JUAN 29-7 UNIT SOOA STORM: MV

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 371 MARK MCKNIGHT

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

Ownership (No Trust)				Prior Year			Current Year		
9	<u>Gas</u>	<u>Oil</u>				Days			Days
GWI: 62.	5191%	62.5191%		MCF/M	BOPM	<u>On</u>	MCF/M	BOPM	On
GNI: 52.	8043%	52.8043%	Jan	6,239	47.0	31	1,115	13.0	21.9
			Feb	3,325	32.0	29	5,229	41.0	25.9
Volumes			Mar	2,662	20.0	31	2,807	8.0	31
(Days On)	MCFD	BOPD	Apr	3,658	22.0	30	6,416	26.0	30
7 Day Avg	173	5.5	May	2,876	3.0	31	6,897	44.0	31
30 Day Avg	90	0.6	Jun	5,081	30.0	24.9	862	15.0	20
60 Day Avg	114	0.8	Jul	4,612	22.0	23	3,467	15.0	31
3 Mo Avg	118	0.8	Aug	5,708	39.0	31	3,662	20.0	31
6 Mo Avg	122	0.7	Sept	4,429	31.0	30	4,459	24.0	30
12 MoAvg	133	0.8	Oct	3,468	5.0	31	2,558	9.0	31
			Nov	4,182	53.0	30	3,989	29.0	30
<u>Volumes</u>			Dec	5,330	32.0	31	4,298	31.0	31
(Days in Month)	MCFD	BOPD	Total	51,570	336.0		45.750		
30 Day Avg	90	0.6	iotai	51,570	330.0		45,759	275.0	
60 Day Avg	114	0.8							
3 Mo Avg	118	0.8					E Prin	t Form	
6 Mo Avg	123	0.7							
12 Mo Avg	125	0.8					EXILVO	umes a	ala.

2/12/98

Package Preparation **Volume Data**

DPNo: 69612 SAN-JUAN 29-7 UNIT 55 60A SAN-JUAN 29-7 UNIT DK

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 371 MARK MCKNIGHT

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

Ownership (No Trust)			<u>Pr</u>	ior Year		Current Year			
	<u>Gas</u>	<u>Oil</u>				<u>Days</u>			Days
GWI: 6	60.2270%	60.2270%		MCF/M	BOPM	<u>On</u>	MCF/M	BOPM	On
GNI: 4	49.8477%	49.8477%	Jan	2,494	0.0	31	3,942	0.0	21.9
			Feb	1,276	0.0	29	3,571	0.0	25.9
Volumes			Mar	1,620	0.0	31	2,669	0.0	31
(Days On)	MCF	D BOPD	Apr	3,511	0.0	30	2,250	0.0	30
7 Day Avg	0	0.0	May	1,375	0.0	31	1,378	0.0	31
30 Day Avg	59	0.0	Jun	3,321	0.0	24.9	2,869	0.0	21.8
60 Day Avg	83	0.0	Jul	3,631	0.0	28	1,171	0.0	31
3 Mo Avg	62	0.0	Aug	2,608	0.0	31	2,765	0.0	31
6 Mo Avg	66	0.0	Sept	2,955	0.0	30	2,496	0.0	30
12 MoAvg	83	0.0	Oct	2,415	0.0	31	1,234	0.0	31
			Nov	2,868	0.0	30	1,414	0.0	30
<u>Volumes</u>			Dec	1,955	0.0	30	3,088	0.0	31
(Days in Mon	th) MCF	D BOPD							
30 Day Avg	40	0.0	Total	30,029	0.0		28,847	0.0	
60 Day Avg	70	0.0							
3 Mo Avg	62	0.0					#DEPH	f Form:	
6 Mo Avg	67	0.0							
12 Mo Avg	79	0.0					= Entito	umes o	TE .

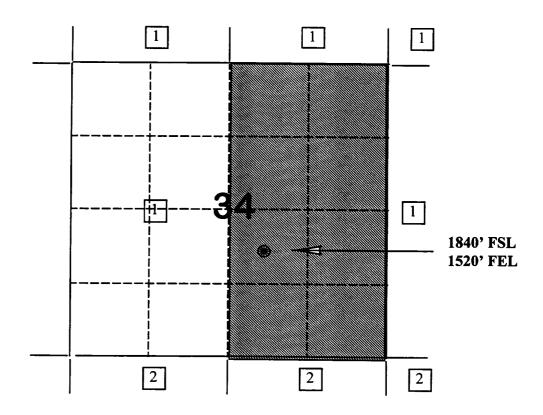
2/12/98

BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 29-7 Unit #60A

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

124 ^V	40E		53 ©			
124 28 41	40A 88	59 128	27 _{53A} ⊕	58 \$	26 12	3M 3
114M BB 11433 97 B	77E 25	61A SAN (61 ©	60 ● 314AN 29	7	0A 88 60 <i>A</i> 35 70 30	
21 241 ② ○ ※	E ^{21A} 2	61 35 😂 🔀 1 🛭	61A ⊕	74 ©	74 1 1 47	
	195E 483 ©	255 選		233M 23 3	24 233E 器	⇔
16 ×231E	2	75 15 552 255E	234	g136	14 _{24A} SE 89 1	36 56×

PLH 12/10/97

SAN JUAN 29-7 #60A SEC. 34 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;
 - 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 weils 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/

S E A L