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

DISTRICT III

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

1000 RIO Brazos Rd, Aztec, NM 87410-1893 APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A New 3-12-96

APPROVAL PROCESS :

X Administrative ___Hearing

EXISTING WELLBORE

X__YES ___ NO

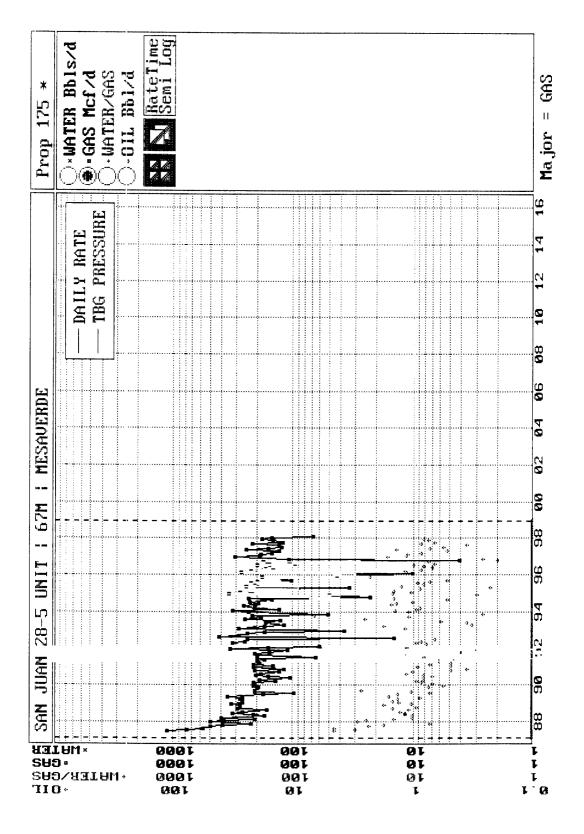
Burlington Resources (Dil and Ga		Box 4289, Farming	ton, NM 87499
San Juan 28-5 Unit	#67M	Addre O 2	" 1-28N-05W	Rio Arriba
•450	Well No.	Unit Ltr Sec - Tr	•	County
OGRID NO. <u>14538</u> Property Cod	e7460_	API NO. 30-039		cing Unit Lease Types: (check 1 or more) K, State, FeeX
The following facts are submitted in support of downhole commingling:		Upper Zone	Intermediate Zone	Lower Zone
Pool Name and Pool Code	Blanco Mes	averde - 72399		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	5357'-6182'			7792'-7981'
3. Type of production (Oil or Gas)	Gas	1	DECENVER	Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		JUL 7 7000	Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current	(Current) a. 539 psi (see attach	ment)	VII. CCCC, DUV.	a. 1042 psi (see attachment)
Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Original) b. 1151 ps (see attach	nment)		b. 2150 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1195			BTU 1181
7. Producing or Shut-In?	Producing		,	Producing
Production Marginal? (yes or no)	Yes			Yes
' If Shut-In and oil/gas/water rates of last production	Date: N/A Rates:			Date: N/A Rates:
lote: For new zones with no production history, applicant shall be required to attach production estimates and supporting data				
t If Producing, give data and pil/gas/water water of recent test (within 60 days)	Date: 6/19/98 Rates: 114 mc/ 0.5 box	fd d		Date: 6/19/98 Rates: 92 mcfd 0.1 bopd
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Will be supplie	d upon completion.		Will be supplied upon completion.
. If allocation formula is based submit attachments with supp	upon someth	ning other than cur nd/or explaining me	rent or past production, c	or is based upon some other metl jections or other required data.
Are all working, overriding, an If not, have all working, overri Have all offset operators been	d royalty inter	rests identical in all	commingled zones?	Yes _X_No
	s No If	ves, are fluids com	natible will the formations	not he damaged will any cross-flor
. Are all produced fluids from all	commingled	zones compatible v	vith each other? _X_Y	es No
. Will the value of production be			•	ach explanation)
				of Public Lands or the United St _ No
. NMOCD Reference Cases for R	ule 303(D) Ex	ceptions: ORDER	NO(S). <u>R-10695</u> attached	d
. ATTACHMENTS: * C-102 for each zone * Production curve for * For zones with no pr * Data to support allo * Notification list of all * Notification list of we * Any additional state	to be comming each zone for oduction histocation method offset operatorking, overriments, data, o	ngled showing its sp or at least one year. ory, estimated prod d or formula. tors. ding, and royalty in or documents requi	acing unit and acreage de (If not available, attach ex uction rates and supportin terests for uncommon inter red to support commingling	dication. (planation.) g data. rest cases. g.
hereby certify that the inform	nation abou	e is true and con	nplete to the best of my	knowledge and belief.
SIGNATURE J. Jom Jon	rel)		Production Engineer	•

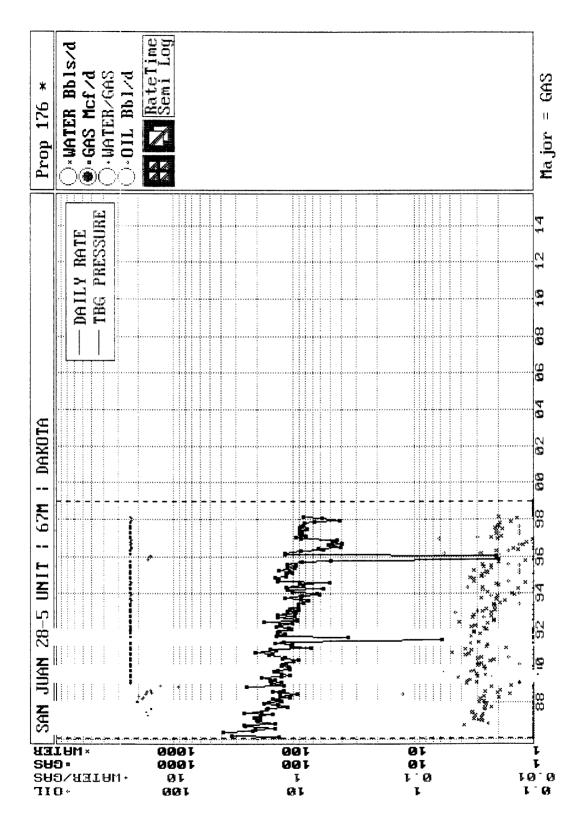
TYPE OR PRINT NAME L. Tom Loveland TELEPHONE NO. (505) 326-9700

TW MEXICO OIL CONSERVATION COMP TION

WELL LOCATION AND ACREAGE DEDICATION PLAT All distances must be from the outer boundaries of the Section. Cperator Well No. Lagge EL PASO NATURAL GAS COMPANY SAN JUAN 28-5 UNIT (Fee) Section County 0 21 28 N 5 W Rio Arriba Actual Footage Location of Well: 970 South 1450 East feet from the feet from the Ground Level Elev: Producing Formation Dedicated Acreage: 6713 Blanco/Basin Mesa Verde & Dakota (Dual) *∑*320 *€5*320 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 worki interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been conso dated by communitization, unitization, force-pooling. etc? If answer is "yes," type of consolidation <u>Unitization</u> If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side 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 Commi sion. CERTIFICATION Fd I hereby certify that the information co tained herein is true and complete to t knowledge and belief. Drilling Clerk Paso Natural Gas JUL 2 6 1985 OIL CON. DI Sec. DIST. 3 I hereby certify that the well locatishown on this plat was plotted from fie notes of actual surveys made by me under my supervision, and that the ser Is true and correct to the best of r knowledge and belief. 1450' Date Surveyed William E. Mahnke Registered Professional Engineer 🚄

10.10301





San Juan 28-5 Unit #67M 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 0.686 COND. OR MISC. (C/M) C %N2 0.17 %CO2 0.98 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5770 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 147 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 467 BOTTOMHOLE PRESSURE (PSIA) 538.7	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 1042.2
MV-Original	DK-Original
GAS GRAVITY 0.686 COND. OR MISC. (C/M) C %N2 0.17 %CO2 0.98 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5770 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 147 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 985 BOTTOMHOLE PRESSURE (PSIA) 1151.1	GAS GRAVITY 0.687 COND. OR MISC. (C/M) C %N2 0.40 %CO2 0.93 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7887 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 179 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 1722 BOTTOMHOLE PRESSURE (PSIA) 2149.7

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Page No.: 15
   Print Time: Fri May 08 08:28:40 1998
  Property ID: 175
Property Name: SAN JUAN 28-5 UNIT | 67M | MESAVERDE
  Table Name: S:\ARIES\78LTL\TEST.DBF
--DATE-- --CUM OIL- ---CUM GAS-- M SIWHP
                                              : Na. \
```

	Bbl	Mcf	Psi	
01/27/86		0	985.0	Orlg: Hel
7/02/87		57964	739.0	5
10/04/88		206419	532.0	
10/17/89		295860	530.0	
1/24/91		376453	540.0	
06/18/91		406426	5 52. 0	^
3/31/93		527236	467.0	Current

03/31/93

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Page No.: 16
   Print Time: Fri May 08 08:28:40 1998
  Property ID: 176
Property Name: SAN JUAN 28-5 UNIT | 67M | DAKOTA
   Table Name: S:\ARIES\78LTL\TEST.DBF
--DATE-- --CUM OIL- ---CUM GAS-- M SIWHP
                                 Psi
             Bbl
                         Mcf
                                  1722.0 Original
01/20/86
04/03/86
                           14201
                                  1239.0
12/18/87
                                   877.0
                          135681
10/04/88
                          171683
                                   892.0
05/08/90
                          250062
                                   880.0
09/01/92
                                   852.0 C
                          350067
```

Package Preparation **Volume Data**

DPNO: 54343A SEESAN JUAN 28-5 JNIT 87M

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 354 MIKE MCKINNEY

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

Ownership (No Trust)			<u>Prior Year</u>			Current Year			
G	ias	<u>Oil</u>				<u>Days</u>			<u>Days</u>
GWI: 73.1	659% 7	3.1659%		MCF/M	BOPM	<u>On</u>	MCF/M	BOPM	<u>On</u>
GNI: 62.3	562 % 6.	2.3562%	Jan	5,829	35.0	30.2	4,592	0.0	31
			Feb	5,792	34.0	23	2,007	0.0	28
Volumes			Mar	4,598	26.0	31	5,653	1.0	31
(Days On)	MCFD	<u>BOPD</u>	Apr	3,948	16.0	30	4,731	34.0	30
7 Day Avg	101	4.6	May	7, 7 17	42.0	31	0	0.0	31
30 Day Avg	114	0.5	Jun	4,956	22.0	22.9	0	0.0	0
60 Day Avg	136	0.8	Jul	3, 796	17.0	31	0	0.0	0
3 Mo Avg	139	0.4	Aug	3,999	11.0	31	0	0.0	0
6 Mo Avg	150	0.5	Sept	6,829	26.0	30	0	0.0	0
12 MoAvg	162	0.6	Oct	3,704	20.0	31	0	0.0	0
			Nov	4,490	23.0	30	0	0.0	0
Volumes			Dec	5, 65 7	25.0	31	0	0.0	0
(Days in Month)	MCFD	BOPD	Total	61,315	297.0		16,983	35.0	
30 Day Avg	114	0.5		01,010			10,303	55.0	
60 Day Avg	136	0.8					34		
3 Mo Avg	139	0.4					- EEP	t Form	
6 Mo Avg	149	0.5							A CHARLES
12 Mo Avg	159	0.6					EXILVO	iumes D	ata.

Package Preparation **Volume Data**

DPNo: 54343B..... SAN JUAN 28-5 UNIT

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 354 MIKE MCKINNEY

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

Ownership (No Trust)			<u>Prior Year</u>			Current Year			
GWI: 69	<u>Gas</u>).6124%	<u>Oil</u> 69.6124%		MCF/M	ВОРМ	<u>Days</u> <u>On</u>	MCF/M	ворм	<u>Days</u> <u>On</u>
GNI: 58	3.8960%	58.8960%	Jan	2,940	9.0	31	1,777	1.0	31
			Feb	2,401	2.0	28	2,536	0.0	28
<u>Volumes</u>			Mar	2,721	4.0	31	3,572	1.0	31
(Days On)	MCF	<u>BOPD</u>	Apr	2,609	6.0	30	3,313	3.0	30
7 Day Avg	124	0.7	May	2,723	4.0	31	0	0.0	31
30 Day Avg	92	0.1	Jun	2,390	3.0	15.2	0	0.0	0
60 Day Avg	101	0.1	Jul	2,744	3.0	28.8	0	0.0	0
3 Mo Avg	106	0.0	Aug	2,631	4.0	31	0	0.0	0
6 Mo Avg	80	0.1	Sept	2,548	3.0	30	0	0.0	0
12 MoAvg	86	0.1	Oct	2,500	3.0	31	0	0.0	0
			Nov	2,035	3.0	30	0	0.0	0
Volumes			Dec	1,253	3.0	31	0	0.0	0
(Days in Mont	h) MCF	<u>BOPD</u>	Total	29,495	47.0		11,198	5.0	
30 Day Avg	92	0.1	10001	25,455	47.0		11,130	5.0	
60 Day Avg	101	0.1					Brosses - Par	BOLLOW STATE	
3 Mo Avg	106	0.0						t Form	
6 Mo Avg	79	0.1					5.0 - 1 Parks		
12 Mo Avg	82	0.1					- Exit Vo	umes D	ata:

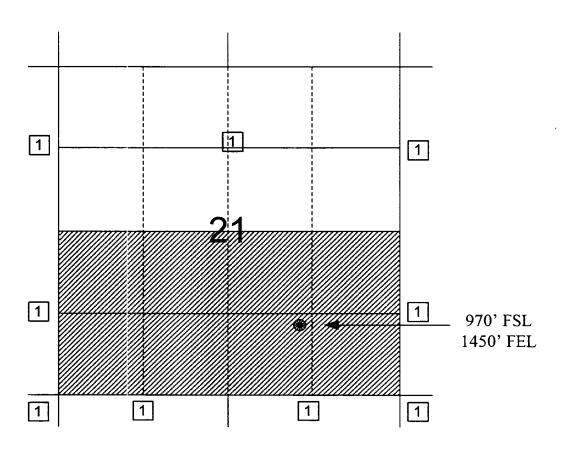
6/19/98

BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 28-5 Unit #67M Offset Operator/Owner Plat

Mesaverde (S/2) / Dakota (S/2) Formations Commingle Well

Township 28 North, Range 5 West



1) Burlington Resources

17	33A ♥	6 16 83 [©]	84E ⊠	10 88 © ×	15	91
	63 ⊠14	76M ⊠	76 図	30A �	87 30	
20 17 ©	63E 器 ₁ 7A ❤	67 21 ⊠22 ⊕ SJ 28-	- <u>5 Uni</u> t	82 ※	22 _{48A}	55 © × 86
	60 1 🔀		64 図		40 ❸ 77 怒	
9 29		28			27	
₩ ₩		50 №65 ©		44 🔀		81 g 3
	41	5	69 52 ₩ ©		71_24 図⊕	

PLH 5/7/98

SJ 28-5 Unit 67M Sec. 21, T28N, R5W 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. 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;
 - c) 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 comminglings 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 commingling 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.

- (2) Upon filing of Division Form No. C-107-A's for wells subsequently 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