## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

	APPLICATION FOR PE	RIMH-TO DRILL;	DEEPEN,	OR PEUG BACK	
la.	Type of Work			5. Lease Number	·
	DRILL	DEME	HW.	SF-079519A	
		即昌切臣	il V ls	The reporting Num	Dei
b.	Type of Well	OUA UU	3 1996	6./If Indian, All. or Trib	e
	GAS	,,,,,	•		
	Operator	OIL CO	N. DI	ர் Unit Agreement Na	ne
	RESOURCES Oil & Gas	E > 17 (2)		San Juan 2	
· ·	Address & Phone No. of Operator PO Box 4289, Farmington, N	JM 97499		8. Farm or Lease Name San Juan 2	
	(505) 326-9700	Wi Diazz		9. Well Number 98M	0 3 01110
	Landing of Mall			10 Field Book Wildon	
1.	Location of Well 1720'FSL, 1115'FEL		17.	10. Field, Pool, Wildca 23/9 Blanco MV/	Basin Dk 🥙
	Latitude 36 <sup>O</sup> 39.5, Longitude	ř	11. Sec., Twn, Rge, Mer. (NMPM)  Sec 13, T-28-N, R-5-W		
	Lacitude 36° 39.5, Longitude	: 10/" 18.1		ستهيد	592x
14.	Distance in Miles from Nearest Town 6 miles to Gobernador			12. County RA	13. State NM
15.	Distance from Proposed Location to Net	arest Property or L	ease Line		
16.	Acres in Lease			17. Acres Assigned to 343.45 MV;	Well 327.36 Dk
18.	Distance from Proposed Location to Ne	•	ompl, or A	pplied for on this Lease	
19.	Proposed Depth rocedural review pursue 8877' and appeal pursuant to 4	ant to 43 CFR 3165	.3	20. Rotary or Cable To Rotary	ools
21.	Elevations (DF, FT, GR, Etc.)			22. Approx. Date Wo	rk will Start
	7282'GR 7438		DRILLIN	G OPERATIONS AUTHO	DRIZED ASIE
23.	Proposed Casing and Cementing Progra See Operations Plan attach		BITISTEC	TO COMPLIANCE WI	TH ATTACHED
24.	Authorized by:	Mhild		5-9-98	
L <del></del>	Regulatory/Comp.	liance Admini	_ strator	Date	
PERM	IT NO	APPRO	OVAL DAT	E	
APPR	OVED BY 197 Duane W. Spencer	TITLE		DATEU	<del>. 3   19</del> 98
Threa	eological Report to be submitted tened and Endangered Species Report to b			ACCEPTED F	:OH JECOHO
Title 1	This format is issued in lieu of U.S. BLM Form 8 U.S.C. Section 1001, makes it a crime for an States any false, fictitious or fraudulent statem	y person knowingly a	and willfully s as to any	ito make to any departmer matter within its juri <b>ងជុំ</b> tio	ar algain of the
. •	1-0 2000			FARMINGIO	N DISTRICT OFFICE

District I PO 80x 1980, Hoops, NM 88241-1980

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

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

Oistrict IV PO Box 2088, Santa Fe, NM 87504-2088 State of New Mexico Energy, Minerals & Hatural Resources Department

OIL CONSERVATION CIVISION PO Eox 2088 Santa Fe. NM 87504-2088 Form ( Revised February 21. Instructions on mit to Appropriate District C

Submit to Appropriate District C State Lease - 4 C Fee Lease - 3 C

1. 1: 53 AMENDED REP

gertificate

## WELL LOCATION AND ACREAGE DEDICATION PLAT

	٦		'Pool Code	3		,bool Nami	е			
30-039-	. as	79.38	723	72319/71599 Blanco Mesaverde/Basin Dako					a	
	Property Code Property Name Well N						Well Number			
7460 SAN JUAN 28-5 UNIT						98M				
'OGAID			*Operator Name					*Elevation		
14538 BUPLINGTON RESOURCES OIL & G						OIL & GAS	COMPANY		7438	
<u></u>				1	<sup>o</sup> Surface (	_ocation				
UL or lot no.	Section	Township	Range	Lat i <b>a</b> n	Feet from the	North/South line	Feet from the	East/West line	RIC	
I	13	28N	5W		1720	SOUTH	1115	EAST	ARRI	
<u> </u>		<sup>11</sup> Bo	ottom	Hole L	ocation If	Different	From Surf	ace		
UL on lot no.	Section	Cownenia	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
12 Dedicated Acres	<u> </u>	1			13 Jount on Inful	11 14 Consolisation Cod	e <sup>15</sup> Order No.			
MV-S/34	43.45,	DK-327	7.36							
							TUTEDCOTO I	AVE DEEN C	CONCOL TO A	

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

"OPERATOR CERTIFICAT I hereby centify that the information contained her true and complete to the best of my knowledge and 13 NMSF-079519A NMSF-0805168 3 1115 65 00 NMSF-080515B 2640. 2641 Peggy Bradfield Printed Name 20 NMSF-080516B Regulatory Administra Title 5-9-98 2640.00 1320.00 1697.52 Date "SURVEYOR CERTIFICAT: 5587:38 I hereby certify that the well location shown on to was plotted from field notes of actual surveys made on under my supervision, and that the same is true connect to the best of my belief. NMSF-079519 1 APRIL 10. 1998 2640.00 C: ED WARD Date of Survey 2636. L COM. DIV. NMSF-079520 AMETO 2 9 24

### OPERATIONS PLAN

Well Name: San Juan 28-5 Unit #98M

Location: 1720'FSL, 1115'FEL Sec 13, T-28-N, R-5-W

Rio Arriba County, NM

Latitude 36° 39.5, Longitude 107° 18.1

Formation: Blanco Mesa Verde/Basin Dakota

Elevation: 7438'GL

Formation Tops:	Top	Bottom	<u>Contents</u>
Surface	San Jose	3782'	
Ojo Alamo	3782'	3914'	aquifer
Kirtland	3914'	3980'	
Fruitland	3980'	4389'	gas
Pictured Cliffs	4389'	4510'	gas
Lewis	4510'	5091'	gas
Intermediate TD	4610'		
Huerfanito Bentonite	5091'	5397′	gas
Chacra	5397′	6200′	
Massive Cliff House	6200'	6259'	gas
Menefee	6259'	65 <b>7</b> 3′	gas
Massive Point Lookout	6573'	7113'	gas
Mancos Shale	7113′	7795′	
Gallup	7795′	8557′	gas
Greenhorn	8557'	8707'	gas
Dakota	8707′		gas
TD (4 1/2"liner)	8877'		

#### Logging Program:

Cased hole - CBL - TD to 200' above TOC, GR/CNL across MV/Dk

## Mud Program:

Interval	<u>Type</u>	Weight	<u>Vis.</u>	Fluid Loss
0- 200	Spud	8.4-9.0	40-50	no control
200-4610	LSND	8.4-9.0	30-60	no control
4610-8877	Gas/Air	n/a	n/a	r/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

## Casing Program (as listed, the equivalent, or better):

<u> Hole Size</u>	Depth Interval	<u>Csq.Size</u>	<u>Wt.</u> .	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	3:2.3#	WC-50
8 3/4"	0' - 4610'	7"	20.0#	J-55
6 1/4"	4510' - 8877'	4 1/2"	10.5#	K-55

#### Tubing Program:

0' - 8877' 2 3/8" 4.70 # EUE

# BURLINGTON RESOURCES OIL & GAS COMPANY SAN JUAN 28-5 UNIT #98M 1720' FSL & 1115' FEL, SECTION 13, T28N, R5W, N.M.P.M. RIO ARRIBA COUNTY, NEW MEXICO Amarante Spring eTank oGas Well Carde 34 10,

State of New Mexico Energy, Minerals and Natural Resources Department

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

## P.O. Bcx 1980, Hobbs, NM 88241-1980 OIL CONSERVATION DIVISION

DISTRICT II

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

DISTRICT III

1000 Rio Brazos Rd, Aztec, NM 87410-1693

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

APPROVAL PROCESS:

\_X\_ Administrative \_\_\_Hearing

**EXISTING WELLBORE** 

## APPLICATION FOR DOWNHOLE COMMINGLING

\_\_ YES \_\_x\_ NO

Burlington Resources Oil & Gas	Company	PO Box 4289, Farm	nington, NM 87499
perator San Juan 28-5 Unit	98M	Address I 13-28N-05W	Rio Arriba
ease	Well No.	Unit Ltr Sec - Twp - Rge	County
GRID NO14538 Property Code	7460 API NO. 30-	039-not assigned Federalx,	Spacing Unit Lease Types: (check 1 or more)  State, (and/or) Fee
The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
Pool Name and     Pool Code	Blanco Mesaverde - 72	2319	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	n Ecely	gas
Method of Production     (Flowing or Artificial Lift)	flowing	1 1233	flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift:	(Current) a. 713 psi (see attach	ment) a. (100 No. 2)	a. 943 psi (see attachment)
Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones:	(Original) b. 1243 psi (see attac	hment) b. DOG S	b. 2599 psi (see attachment)
Estimated or Measured Original  6. Oil Gravity (API) or Gas BTU Content	BTU 1151		BTU 1025
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	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
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 Formula -% for each zone (total of %'s to equal 100%)	Oil: % Gas: % will be supplied upon com	Oil: Gas: %	Oil: Gas: % will be supplied upon completion
attachments with supporting da  10. Are all working, overriding, and i     If not, have all working, overridi     Have all offset operators been g  11. Will cross-flow occur? _x_     production be recovered, and w  12. Are all produced fluids from all o	royalty interests identicing, and royalty interests identicing, and royalty interest iven written notice of the Yes No If yes, a will the allocation formusemmingled zones com	al in all commingled zones? s been notified by certified mail? ne proposed downhole commingling are fluids compatible, will the formation be reliablexYesNo patible with each other?x_Y	Yes x_No Yes x_No  Yes x_No  XYes No  ations not be damaged, will any cross-flowers  Yes No, attach explanation)
14 If this well is on or communitiz	ed with state or federa	ing?Yes _X_No (If Yes, att al lands, either the Commissioner o	ach explanation) f Public Lands or the United States Bureau
Land Management has been noti	ried in writing of this ap	oplicationXYes No ORDER NO(S)Reference Order _	
16. ATTACHMENTS:  * C-102 for each zone ( * Production curve for * For zones with no pr * Data to support alloc * Notification list of all * Notification list of we	to be commingled show each zone for at least o oduction history, estim ation method or formul offset operators.	ving its spacing unit and acreage decorate year. (If not available, attach expated production rates and supporting a.  Troyalty interests for uncommon interests required to support commingling	dication. planation.) g data. est cases.
\/ //	7 .	and complete to the best of my	
SIGNATURE	L for SCW TI	TLE: Reservoir Engineer	_ <b>DATE</b> : <u>06-26-98</u>
TYPE OR PRINT NAME <u>Sea</u> n	Woolverton TI	ELEPHONE NO. ( 505 ) 326-970	0

District I PO Box 1980, Hobbs, NM 88241-1980

District II PO Drawer DD. Artesia NM 88211-()719

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

District IV PD Box 2088. Santa Fe. NM 87504-2088

State of New Mexico Emergy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe. NM 87504-2088

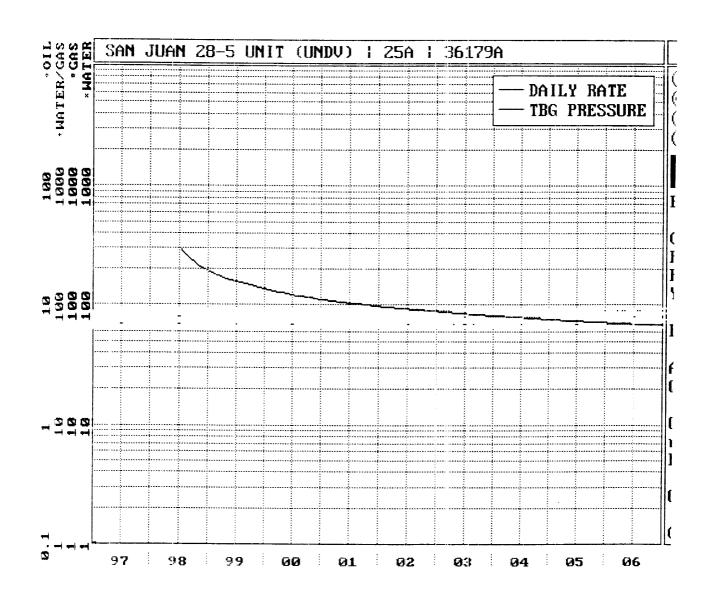
Form C-107 Revised February 21, 1994 Instructions on back Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

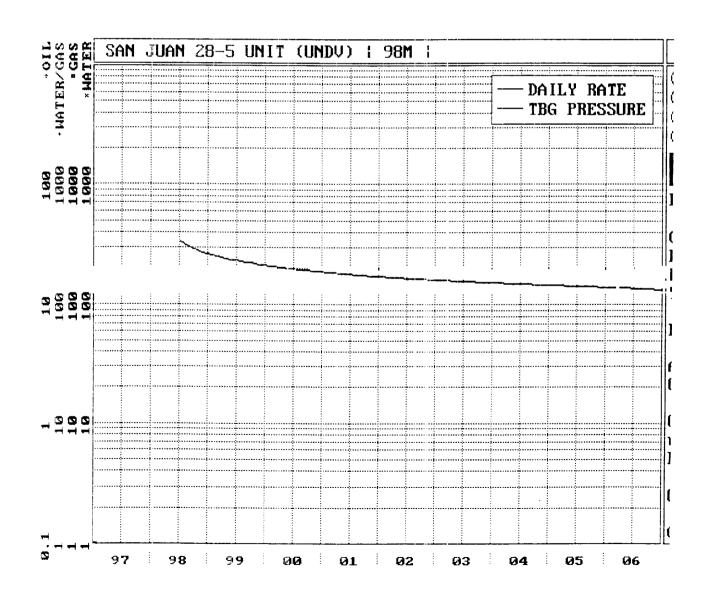
AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT 'Pool Code 'API Number 30-039-72319/71599 Blanco Mesaverde/Basin Dakota Well Number Property Code SAN JUAN 28-5 UNIT 98M 7460 'OGRID No. \*Operator Name Elevation 74381 BURLINGTON RESOURCES OIL & GAS COMPANY 14538 <sup>10</sup> Sunface Location Feet from the UL or lot no. Section Township County Range i ot Ido North/South line Feet from the East/West line RIO Ι 13 28N 5W 1720 SOUTH 1115 EAST ARRIBA <sup>11</sup>Bottom Hole Location If From Surface Different Section UL or lot no. North/South line Feet from the Feet from the Fast/West line County 12 Dedicated Acres 13 Jaint or Infill <sup>14</sup> Consplidation Code <sup>15</sup> Order No. DK-327.36 NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION 17 OPERATOR CERTIFICATION I hemeby centify that the information contained herein is true and complete to the best of my knowledge and belief 13 NMSF-079519A GOM, DIV. 3 NMSF-080516B istalla <u>11</u>15' 00 65 NMSF-0805168 \*\*\*\* Signature 2640. 2641 Peggy Bradfield Printed Name NMSF-080516B Regulatory Administrator 4 Title 2640.001 1320.00 Date 1697.521 5687.88 18 SURVEYOR CERTIFICATION I hereby centify 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. NMSF-079519 1 APRIL 10, 1998 Date of Survey 2640. 36 C: EBWA NMSF-079520 2

## San Juan 28-5 Unit #98M Expected Production Curve Blanco Mesaverde



## San Juan 28-5 Unit #98M Expected Production Curve Basin Dakota



## SJ 28-5 Unit #98M

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

Mesaverde	Dakota
MV-Current	DK-Current
GAS GRAVITY 0.67  COND. OR MISC. (C/M) C  %N2 0.44  %CO2 0.61  %H2S 0  DIAMETER (IN) 2  DEPTH (FT) 5760  SURFACE TEMPERATURE (DEG F) 60  BOTTOMHOLE TEMPERATURE (DEG F) 137  FLOWRATE (MCFPD) 0  SURFACE PRESSURE (PSIA) 602  BOTTOMHOLE PRESSURE (PSIA) 712.8	GAS GRAVITY COND. OR MISC. (C/M) COND. OR MISC. (C/
MV-Original	DK-Original
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 0.61 %H2S 0 DIAMETER (IN) 2 DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  1037  BOTTOMHOLE PRESSURE (PSIA)	GAS GRAVITY 0.601 COND. OR MISC. (C/M) C %N2 0.17 %CO2 1.6 %H2S 0 DIAMETIER (IN) 1.5 DEPTH (FT) 8871 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 198 FLOWRATE: (MCFPD) 0 SURFACE PRESSURE (PSIA) 2122 BOTTOMHOLE PRESSURE (PSIA) 2598.9

Q:VAREA\IMVPUD\COMGLS\BHP.xls

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Page No.: 1
  Print Time: Mon Feb 23 09:28:47 1998
  Property ID: 1761
Property Name: SAN JUAN 28-5 UNIT | 101 | 45558A-1
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        1391.0
09/26/85
        1275.0
08/02/88
        868.0
04/10/90
         795.0
09/29/92
         782.0-CURLENT
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Print Time: Mon Feb 23 09:28:48 1998

Property ID: 3933

Property Name: SAN JUAN 28-5 UNIT | 25 | 49910A-1

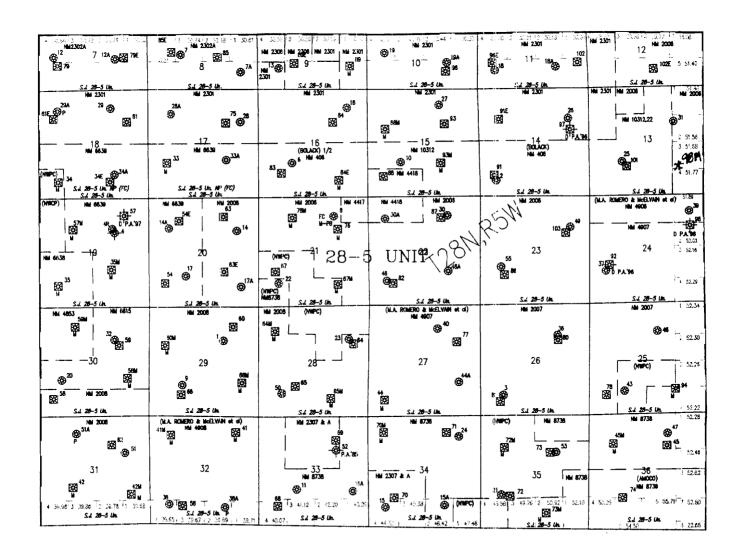
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San Juan 28-5 Unit #98M

Mesaixerde Offset

## San Juan 28-5 Unit #98M Blanco Mesaverde / Basin Dakota 28N-05W-13



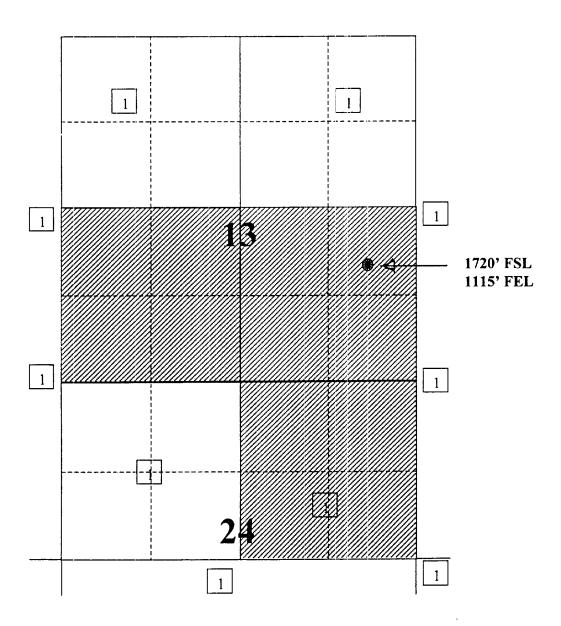
## BURLINGTON RESOURCES OIL AND GAS COMPANY

# San Juan 28-5 Unit #98M OFFSET OPERATOR/OWNER PLAT

## OFFSET OPERATOR/OWNER PLAT

Mesaverde (S/2 of Section 13) / Dakota (Lots 3,4, SW/4 SE/4 of Section 13; Lots 1,2, W/2 NE/4 of Section 24)
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:
  - 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 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;

- 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 28-5 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: