### **DISTRICT I**

DISTRICT II

DISTRICT III

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

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

1000 Rio Brazos Rd, Aztec, NM 87410-1693

TYPE OR PRINT NAME \_Kevin Midkiff for LOS

State of New Mexico
Energy, Minerals and Natural Resources Department

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

### **OIL CONSERVATION DIVISION**

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

**APPROVAL PROCESS:** 

\_\_ X Administrative \_\_Hearing

**EXISTING WELLBORE** 

### APPLICATION FOR DOWNHOLE COMMINGLING

\_X\_ YES \_\_\_ NO

an Juan 28-5 Unit	88M E	15-28-05 F	Rio Arriba		
se:		nit Ltr Sec - Twp - Rge Spacin 0-039-23856FederalX, Sta	County g Unit Lease Types: (check 1 or more) te(and/or) FeeX		
The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone		
Pool Name and     Pool Code	Blanco Mesaverde 72319	and the first transfer of the first transfer	Basin Dakota 71599		
2. Top and Bottom of Pay Section (Perforations)	5389' - 6176'	REGETVED	7860' - 8051'		
3. Type of production (Oil or Gas)	Gas	UN MAR 2 7 1897	Gas		
4. Method of Production (Flowing or Artificial Lift)	Flowing	COLL GOOD DEV	Flowing		
5. Bottomhole Pressure	(Current)		a. (Current)		
Oil Zones - Artificial Lift: Estimated Current	a. 490 psia		615 psia		
Estimated Current  Gas & Oil - Flowing:	·				
Measured Current All Gas Zones: Estimated or Measured Original	(Original) b. 1097 psia	b.	b. 2210 psia		
6. Oil Gravity (°API) or Gas BTU Content	1053		1053		
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: Rates:	Date: Rates:	Date: Rates:		
ote: For new zones with no production history, pplicant shall be required to attach production stimates and supporting data					
If Producing, give data and pil/gas/water water of recent test	Date: 1/31/97	Date:	Date: 1/31/97		
within 60 days)	Rates: 0.00 Bbls/d / 0 MCFD	Rates:	Rates: 0.16 Bbls/d / 176 MCFD		
3. Fixed Percentage Allocation Formula -% for each zone	Oil: Gas:	Oil: Gas: %	Oil: Gas:		
(total of %'s to equal 100%)	will be supplied upon completion		will be supplied upon completion		
. Are all working, overriding, and r If not, have all working, overridin Have all offset operators been g	royalty interests identical in a ig, and royalty interests been iven written notice of the prop	notified by certified mail? cosed downhole commingling?	YesX_No YesX_No _X_YesNo		
	ill the allocation formula be re	eliableX YesNo(If No, a	not be damaged, will any cro attach explanation)		
. Are all produced fluids from all c	- ·	<del></del>			
		Yes _X_ No (If Yes, attach ex	•		
		ls, either the Commissioner of Pul ationX_Yes No			
	e 303(D) Exceptions: ORDEF	R NO(S)Reference Order # R-106	95 attached		
. ATTACHMENTS:  * C-102 for each zone to  * Production curve for e  * For zones with no proc  * Data to support alloca  * Notification list of all o  * Notification list of wor  * Any additional statements	o be commingled showing its seach zone for at least one year duction history, estimated protion method or formula.  Ifset operators. king, overriding, and royalty ients, data, or documents requests.	spacing unit and acreage dedication. (If not available, attach explanated by the explanated attach rates and supporting data interests for uncommon interest callined to support commingling.	on. ion.) · ses.		
nereby certify that the informa	ation above is true and co	omplete to the best of my know	vledge and belief.		

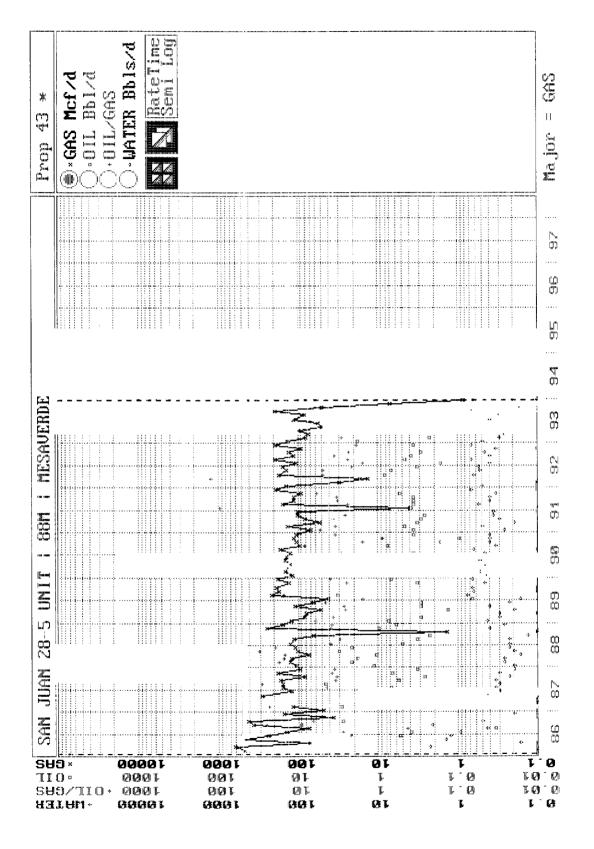
TELEPHONE NO. (505\_\_) 326-9700\_

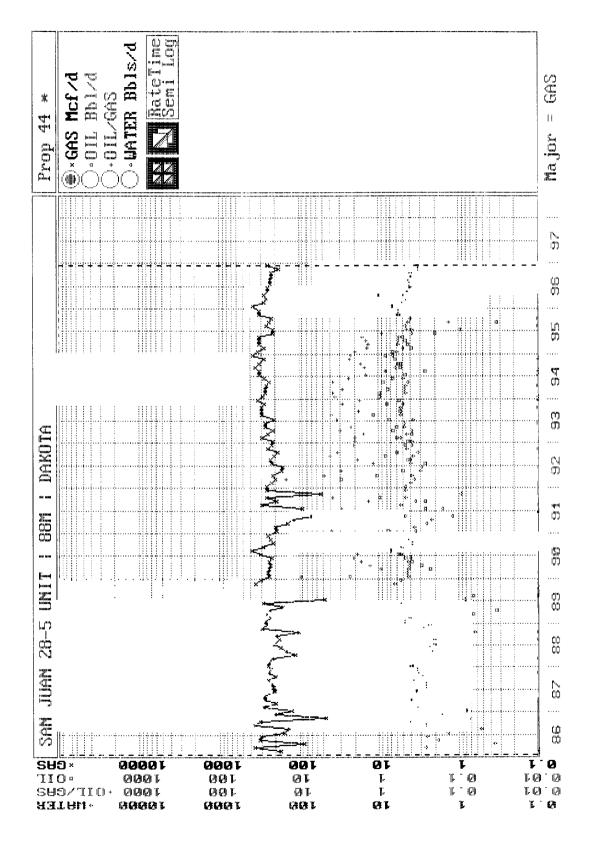
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Form C+102 Superse les C+128 Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator			Lease			Well No.	
EL PASO N	ATURAL GAS CO	MPANY	SAN JUAN	28-5 UNIT	(SF 0792	50) 항 <b>M</b>	
Unit Letter	Section	Townsnip	Range -	County			
Е	15	28 N	5 W	<u>}</u>	lio Arriba		
Actual Footage Loc	·	anth	815		West		
1840 Ground Level Elev:	feet from the N	orth line and	12001	feet from the		line Dedicated Acreage:	
6667		de & Dakota (Du	4 \	o/Basin		320 & 3 <u>20</u>	Acres
	1 - 1:		*				
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interest a	nd royalty).	dedicated to the w					
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X Yes	No If a	nswer is "yes;" type	of consolidation _	Unitiza	t Don		
Carponia S							
		owners and tract de	scriptions which ha	ave actually b	en consolida	ited. (Use reverse	side of
	f necessary.)			1.1	1 /1		
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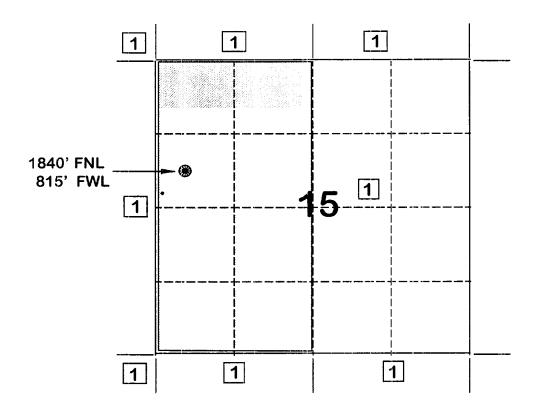


### BURLINGTON RESOURCES OIL AND GAS COMPANY

## San Juan 28-5 Unit #88M OFFSET OPERATOR \ OWNER PLAT

### Mesaverde/Dakota Formations Commingle Well

Township 28 North, Range 5 West



1) Burlington Resources Oil and Gas Company

Page No.: 2

Print Time: Sat Mar 08 19:48:06 1997

Property ID: 43

Property Name: SAN JUAN 28-5 UNIT | 88M | MESAVERDE

Table Name: S:\ARIES\1ROS\TEST.DBF

DATE	CUM_GAS			
	Mcf	PSI		
01/16/86	0	954.0	ORIGINAL	
04/02/86	35539	631.0		
11/25/87	132974	592.0		-
08/02/88	162408	592.0		
11/07/89	214976	550.0		
02/21/91	273054	550.0		
06/18/91	283382	562.0		
03/29/93	357481	482.0		
3/25/97	3 <b>773</b> 09	<b>430</b> .0	Estimated From	P/Z data

Page No.: 1

Print Time: Sat Mar 08 19:48:06 1997

Property ID: 44

Property Name: SAN JUAN 28-5 UNIT | 88M | DAKOTA

Table Name: S:\ARIES\1ROS\TEST.DBF

	CUM GAS Mcf	Psi •	
01/09/86	0	1832.0	Uriginal
04/02/86	19085	1448.0	
07/01/87	123783	1316.0	
08/02/88	205298	1302.0	
04/10/90	325616	1266.0	
11/02/92	525229	1070.0	
3/25/97	929 330	510.0	Estimated From P/2 curre

# San Juan 28-5 Unit #88M 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  COND. OR MISC. (C/M)  %N2  %CO2  1.54  %H2S  0  DIAMETER (IN)  DEPTH (FT)  SURFACE TEMPERATURE (DEG F)  BOTTOMHOLE TEMPERATURE (DEG F)  FLOWRATE (MCFPD)  SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  489.6	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 1.55 %H2S 0 DIAMETER (IN) DEPTH (FT) SURFACE TEM PERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  614.8					
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)  1.5  60  1.6  60  60  60  60  60  60  60  60  60	GAS GRAVITY 0.619 COND. OR MISC. (C/M) C %N2 0.17 %CO2 1.55 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7956 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 201 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 1832 BOTTOMHOLE PRESSURE (PSIA) 2209.6					

	SAI	JUZ	AN 28	-5 UNIT	M88 7			PRODUCTIO					PHS030	M1
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FARMINGTON 1997 MONTHLY PRODUCTION FOR 54345B SAN JUAN 28-5 UNIT 88M PHS030M1 DAKCTA ZONE BASIN DAKOTA (PRORATED GAS) FIELD

DAYS ===== OIL ====== PROD РC PROD  $\circ$ N BTUPRESS WATER PROD MO T S ON PC GRV 02 5 01 5451 31 1077 15.025 98 1 2 F 31

2 5-31:0.16 5451 + 31 = 175.8 McFd

3 5 6 7 8 9 10 11 12

PF3 - TRANSFER TO UPDATE PF6 - RETURNS TO ANNUAL DISPLAY PF9 - DISPLAY MONTHLY INJECTION PF10 - HELP INFORMATION

00/00/00 00:00:00:0 PRS 03/05/97

B MY JOB MUN LU #2

BASIN DAKOTA (PRORATED GAS) FIELD DAKOTA ZCNE

PC DATE MCF PC DATE BBLS DATE BRLS

\_\_\_\_\_\_\_\_\_\_ YEAR OIL OIL CUM GAS GAS CUM WATER WATER CUM 57173 228504 447851 1.032 T95 1.227 1.567 

POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

B MY JOB LU #21

FARMINGTON ANNUAL PRODUCTION FOR 54345A PHS020M1 SAN JUAN 28-5 UNIT 88M BLANCO MESAVERDE (PRORATED GAS FIELD MESAVERDE ZONE MCF BBLS PC DATE DATE \_\_\_\_\_\_\_\_\_ OIL CUM GAS GAS CUM OTL WATER YEAR WATER CUM 42790 36849 128 252303658 113 478 2190 

POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

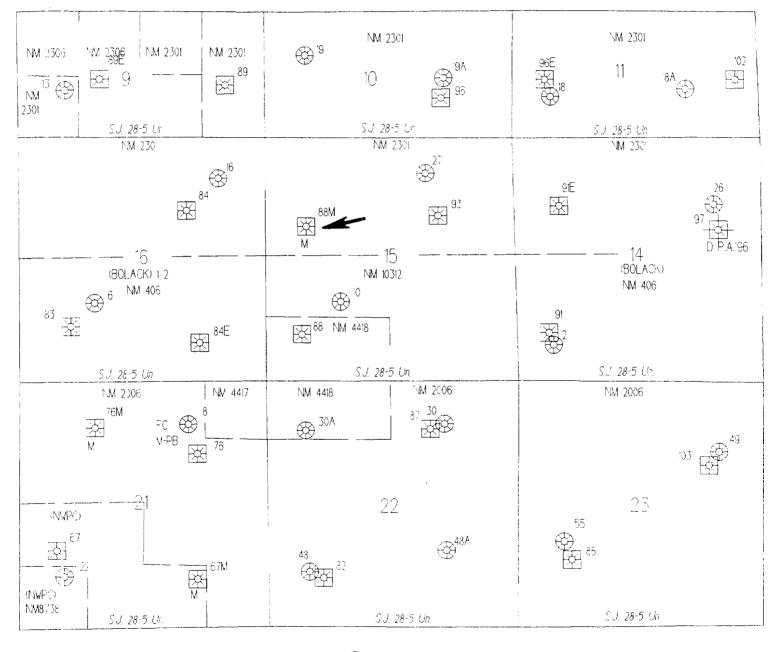
ENTER - CONTINUES ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

LU #21 B MY JOB

## San Juan 28-5 Unit #88M Mesaverde/Dakota Sec. 15, T-28-5 R-5-W Rio Arriba So., NM



MESAVERDE WELL

DAKOTA WELL

## 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 23-5 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 acministrative 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