



**DISTRICT I**

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

**DISTRICT II**

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

**DISTRICT III**

1000 Rio Brazos Rd, Aztec, NM 87410-1693

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 :

Administrative  Hearing

EXISTING WELLBORE

YES  NO

**APPLICATION FOR DOWNHOLE COMMINGLING**

BURLINGTON RESOURCES OIL & GAS COMPANY

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 29-7 Unit

#32A

F, Sec. 32, T-29-N, R-7-W

Rio Arriba, New Mexico

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7465 API NO. 30-039-22064 Federal  , State  , (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Blanco Mesaverde - 72319		Basin Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	4965' - 5925'		7575' - 7780'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Artificial Lift - Plunger Lift
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Current) a. 459 psia	a.	(Current) a. 415 psia
	(Original) b. 1111 psia	b.	(Original) b. 1229 psia
6. Oil Gravity (°API) or Gas BTU Content	BTU 1197 - 59.5° API		BTU 1110
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	No		Yes
* 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  * If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: N/A Rates:	Date: Rates:	Date: N/A Rates:
	Date: 1/98 Rates: 213.4 MCFD - 0.9 BOPD	Date: Rates:	Date: 1/98 Rates: 37.9 MCFD - 0.0 BOPD
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: Gas: will be supplied upon completion	Oil: % Gas: %	Oil: Gas: will be supplied upon completion

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones?  Yes  No  
If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes  No  
Have all offset operators been given written notice of the proposed downhole commingling?  Yes  No

11. Will cross-flow occur?  Yes  No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable.  Yes  No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other?  Yes  No

13. Will the value of production be decreased by commingling?  Yes  No (If Yes, attach explanation)

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.  Yes  No

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

**16. ATTACHMENTS:**

- \* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- \* Production curve for each zone for at least one year. (If not available, attach explanation.)
- \* For zones with no production history, estimated production rates and supporting data.
- \* Data to support allocation method or formula.
- \* Notification list of all offset operators.
- \* Notification list of working, overriding, and royalty interests for uncommon interest cases.
- \* Any additional statements, data, or documents required to support commingling.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE L. Tom Loveland TITLE Engineer I DATE 03-02-98

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

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

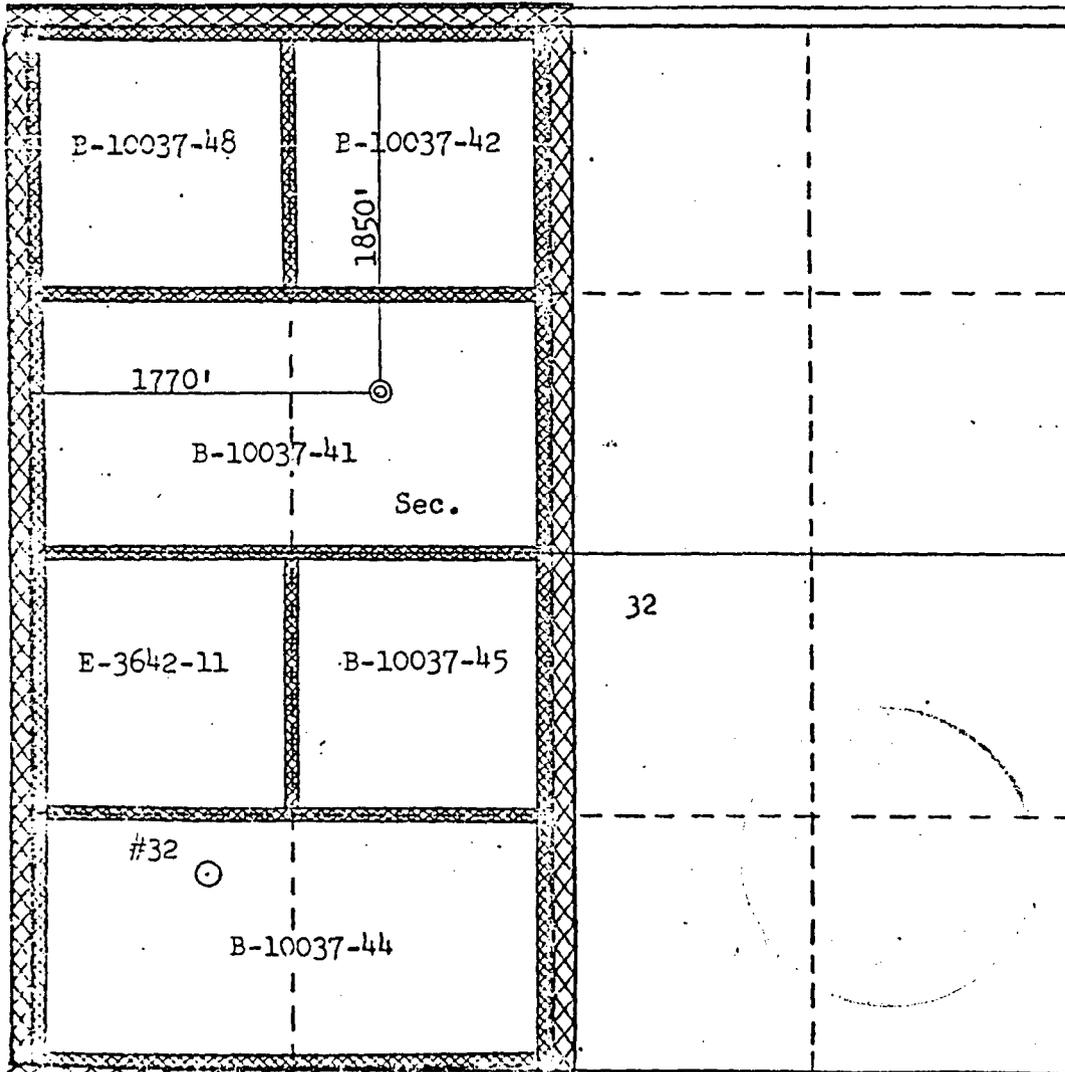
Operator <b>EL PASO NATURAL GAS COMPANY</b>			Lease <b>SAN JUAN 29-7 UNIT (B-10037-41)</b>		Well No. <b>32A</b>
Unit Letter <b>F</b>	Section <b>32</b>	Township <b>29N</b>	Range <b>7W</b>	County <b>Rio Arriba</b>	
Actual Footage Location of Well: <b>1850</b> feet from the <b>North</b> line and <b>1770</b> feet from the <b>West</b> line					
Ground Level Elev. <b>6625</b>	Producing Formation <b>Mesa Verde-Dakota</b>		Pool <b>Blanco Mesa Verde-Basin Dakota</b>	Dedicated Acreage: <b>320.00 &amp; 320.00</b> Acres	

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?

Yes  No If answer is "yes," type of consolidation Unitization

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.



CERTIFICATION

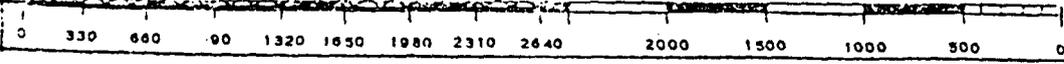
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*D. J. Gueco*

Name \_\_\_\_\_  
 Position **Drilling Clerk**  
 Company **El Paso Natural Gas**  
 Date **5-10-79**

I hereby certify 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 knowledge and belief.

Date Surveyed **April 1979**  
 Registered Professional Engineer and/or Land Surveyor  
*Fred B. Kern, Jr.*  
 Certificate No. **3950**







FARMINGTON

1997 MONTHLY PRODUCTION FOR 69331

PHS030M1

SAN JUAN 29-7 UNIT

32A

BASIN DAKOTA (PRORATED GAS) FIELD

DAKOTA ZONE

DAYS =====			OIL =====			GAS =====								
MO	T	S	ON	PC	PROD	GRV	PC	PROD	ON	BTU	PRESS	WATER	PROD	C
1				02			01	225		1108	15.025			
2				02			01	212		1108	15.025			
3				02	5		01	186		1108	15.025			
4				02			01	243		1108	15.025			
5				02			01	218			15.025			
6	2	F	22	02			01	155	22		15.025			
7	2	F	31	02			01	1776	31	1108	15.025			
8	2	F	31	02			01	544	31	1108	15.025			
9	2	F	30	02			01	211	30		15.025			
10	2	F	29	02			01	532	29	1108	15.025			
11	2	F	30	02			01	734	30	1108	15.025			
12	2	F	31	02			01	1174	31	1108	15.025			

PF6 - RETURNS TO ANNUAL DISPLAY  
PF10 - HELP INFORMATION

PF3 - TRANSFER TO UPDATE  
PF9 - DISPLAY MONTHLY INJECTION  
PRS 02/04/98

00/00/00 00:00:00:0

0 BOPD

$\frac{1174 \text{ MCF}}{31 \text{ DAYS}} = 37.9 \text{ MCF/D}$

FARMINGTON

1997 MONTHLY PRODUCTION FOR 69324

PHS030M1

SAN JUAN 29-7 UNIT

32A

BLANCO MESAVERDE (PRORATED GAS FIELD)

MESAVERDE ZONE

MO	T	S	DAYS =====		OIL =====		===== GAS =====			WATER PROD	C		
			ON	PC	PROD	GRV	PC	PROD	ON			BTU	PRESS
1				02				01	5919		1209	15.025	
2				02		42		01	5535		1209	15.025	
3				02		26		01	5450		1209	15.025	
4				02		43	61.3	01	6064		1209	15.025	
5				02		46		01	5294		1209	15.025	
6	2	F	24	02		28		01	6295	24	1209	15.025	
7	2	F	31	02		35		01	7166	31	1209	15.025	
8	2	F	31	02		21		01	6130	31	1209	15.025	
9	2	F	30	02		49	59.5	01	6403	30	1209	15.025	
10	2	F	29	02		26		01	4936	29	1209	15.025	
11	2	F	30	02		27		01	8276	30	1197	15.025	
12	2	F	31	02		29		01	6617	31	1197	15.025	

PF6 - RETURNS TO ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF10 - HELP INFORMATION

PF9 - DISPLAY MONTHLY INJECTION

00/00/00 00:00:00:0

PRS 02/04/98

$$\frac{6617 \text{ MCF}}{31 \text{ DAYS}} = \boxed{213.4 \text{ MCF/D}}$$

$$\frac{29 \text{ BO}}{31 \text{ DAYS}} = \boxed{0.94 \text{ BOPD}}$$

**San Juan 29-7 Unit #32A  
Bottom Hole Pressures  
Flowing and Static BHP  
Cullender and Smith Method**

Version 1.0 3/13/94

<b>Mesaverde</b>		<b>Dakota</b>	
<b><u>MV-Current</u></b>		<b><u>DK-Current</u></b>	
GAS GRAVITY	<u>0.702</u>	GAS GRAVITY	<u>0.654</u>
COND. OR MISC. (C/M)	<u>C</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.28</u>	%N2	<u>0.15</u>
%CO2	<u>0.82</u>	%CO2	<u>1.5</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>7</u>	DIAMETER (IN)	<u>2.375</u>
DEPTH (FT)	<u>5445</u>	DEPTH (FT)	<u>7678</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>148</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>183</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>400</u>	SURFACE PRESSURE (PSIA)	<u>350</u>
BOTTOMHOLE PRESSURE (PSIA)	<input type="text" value="458.5"/>	BOTTOMHOLE PRESSURE (PSIA)	<input type="text" value="415.2"/>
<b><u>MV-Original</u></b>		<b><u>DK-Original</u></b>	
GAS GRAVITY	<u>0.702</u>	GAS GRAVITY	<u>0.654</u>
COND. OR MISC. (C/M)	<u>C</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.28</u>	%N2	<u>0.15</u>
%CO2	<u>0.82</u>	%CO2	<u>1.5</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>7</u>	DIAMETER (IN)	<u>2.375</u>
DEPTH (FT)	<u>5445</u>	DEPTH (FT)	<u>7678</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>148</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>183</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>956</u>	SURFACE PRESSURE (PSIA)	<u>1019</u>
BOTTOMHOLE PRESSURE (PSIA)	<input type="text" value="1111.4"/>	BOTTOMHOLE PRESSURE (PSIA)	<input type="text" value="1228.5"/>

Page No.: 2

Print Time: Thu Jan 08 11:05:27 1998

Property ID: 68

Property Name: SAN JUAN 29-7 UNIT | 32A | MESAVERDE

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

<u>--DATE--</u>	<u>--CUM_OIL-</u>	<u>---CUM_GAS--</u>	<u>M SIWHP</u>
	Bbl	Mcf	Psi

07/17/80		0	956.0
10/03/80		70284	767.0
07/20/81		261510	522.0
12/09/81		334944	507.0
05/25/82		393053	529.0
02/01/85		668084	506.0
12/01/86		793719	585.0
10/23/89		1051434	585.0
06/20/91		1145131	584.0
07/24/91		1154679	572.0
07/05/93		1310173	493.0
11/30/97		1589420	400.0

ORIGINAL

CURRENT - CALCULATED FROM P/Z DATA

Page No.: 1

Print Time: Thu Jan 08 11:05:27 1998

Property ID: 67

Property Name: SAN JUAN 29-7 UNIT | 32A | DAKOTA

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

<u>--DATE--</u>	<u>--CUM_OIL--</u>	<u>---CUM_GAS---</u>	<u>M SIWHP</u>
	Bbl	Mcf	Psi

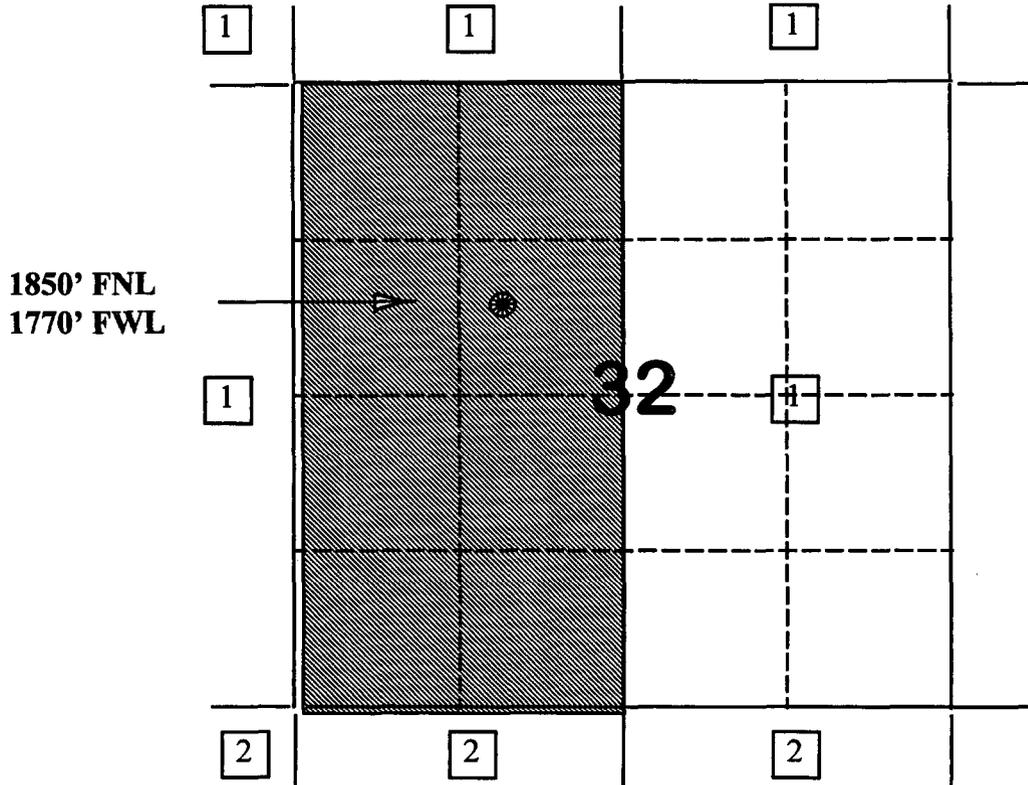
07/17/80		0	1019.0	ORIGINAL
10/03/80		22958	1412.0	
05/21/81		82805	974.0	
05/25/82		154554	743.0	
11/01/83		206775	609.0	
09/25/85		269218	407.0	
08/31/88		343306	450.0	
07/01/90		390990	537.0	
04/29/92		411426	506.0	
03/19/93		427940	410.0	
11/30/97		479491	350.0	CURRENT- CALCULATED FROM P/Z DATA

**BURLINGTON RESOURCES OIL AND GAS COMPANY**

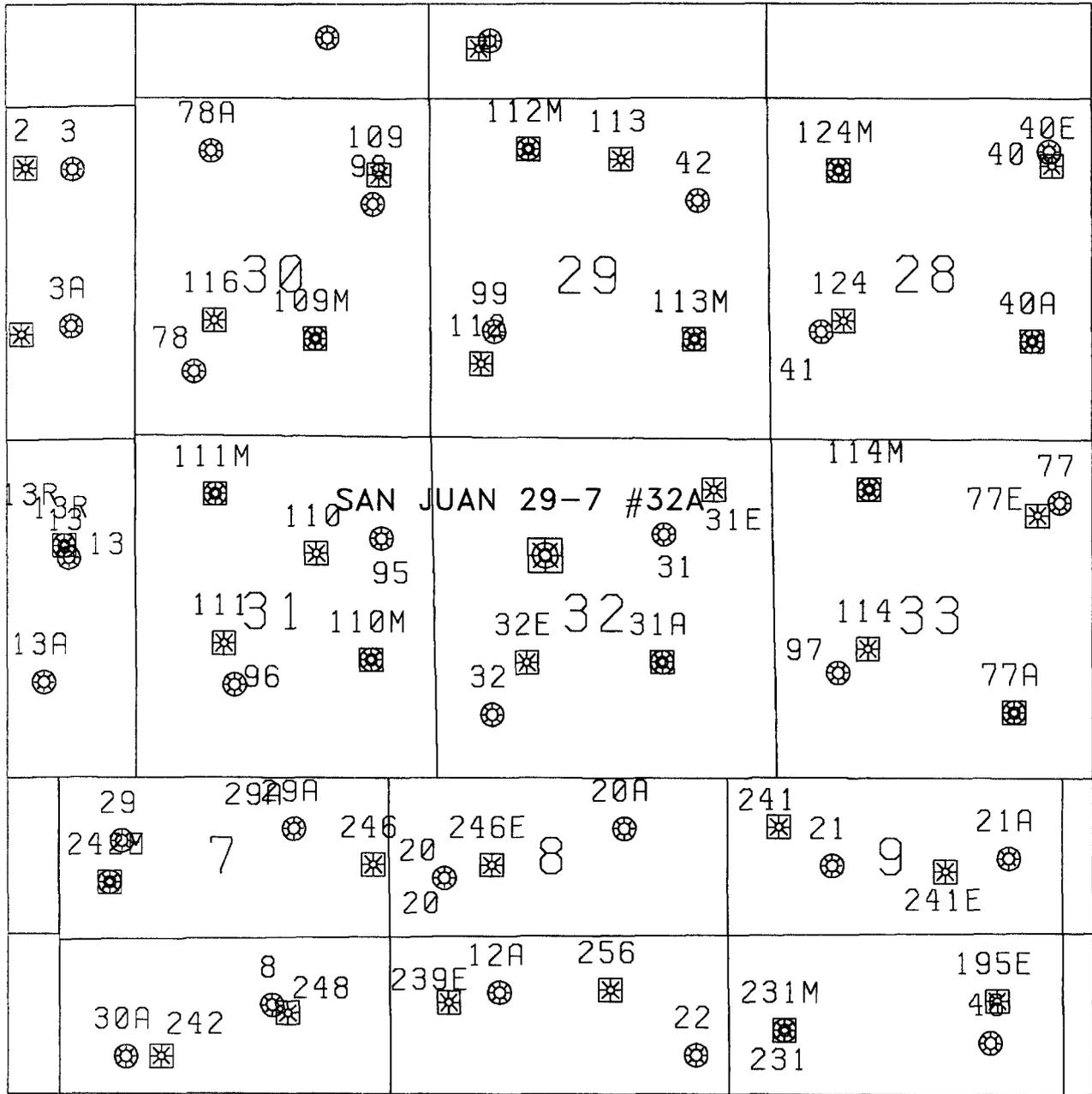
**San Juan 29-7 Unit #32A**

**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



PLH 12/10/97

*SAN JUAN 29-7 #32A*  
*SEC. 32, 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.

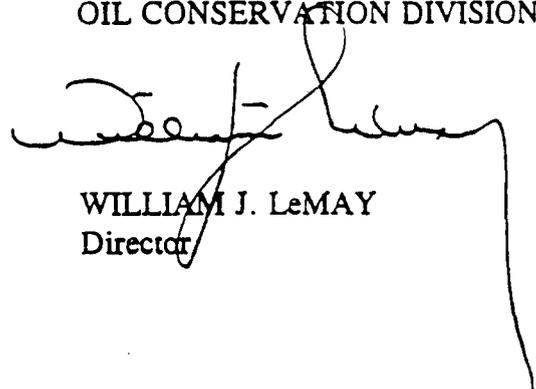
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 29-7 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify 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

S E A L