

**DISTRICT I**

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

**DISTRICT II**

811 South First St., Artesia, NM 88210-2635

**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 87505-6429Form C-107-A  
New 3-12-96

APPROVAL PROCESS :

 Administrative  
 Hearing**APPLICATION FOR DOWNHOLE COMMINGLING**

EXISTING WELLBORE

 YES  NO**Burlington Resources Oil & Gas Company****PO Box 4289, Farmington, NM 87499**

Operator

Address

**SAN JUAN 28-5 UNIT****102E****O-12-28N-05W****Rio Arriba**

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7460 API NO. 30-39-23855 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)	6118-6602'		8597-8657'
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	flowing		flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or	(Current) a. 625 psi	a.	(Current) a. 841 psi
	(Original) b. 1330 psi	b.	b. 3094 psi
6. Oil Gravity ( <sup>o</sup> API) or Gas BTU Content	BTU 1145		BTU 1104
7. Producing or Shut-In?	not yet 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: Rates:	Date: n/a Rates:
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data			

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCAT ON AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-1  
Effective 1-1-65

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

Operator <b>EL PASO NATURAL GAS COMPANY</b>		Lease <b>SAN JUAN 28-5 UNIT (SF 079519A)</b>		Well No. <b>102E</b>
Unit Letter <b>0</b>	Section <b>12</b>	Township <b>28N</b>	Range <b>5W</b>	County <b>Rio Arriba</b>
Actual Footage Location of Well: <b>835</b> feet from the <b>South</b> line and <b>2495</b> feet from the <b>East</b> line				
Ground Level Elev. <b>7299</b>	Producing Formation <b>Dakota</b>	Pool <b>Basin</b>	Dedicated Acreage: <b>310.19</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

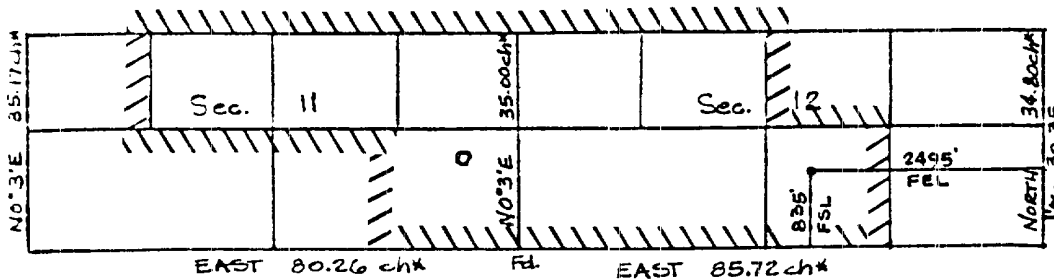
If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

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.

RECEIVED

AUG 01 1985

BUREAU OF LAND MANAGEMENT  
DENVER RESOURCE AREA



\*Record GLO plat 1915

Fd. W.C. for:

7 T28N  
18 R4W  
0.94 ch\* North

1" = 2000'

CERTIFICATION

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

*Regan L. Deal*

Name  
**Drilling Clerk**

Position  
**El Paso Natural Gas**

Company  
**July 31, 1985**

Date

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.

7-18-85

Date Surveyed  
**William E. Mahnke, II**

Registered Professional Engineer and Land Surveyor  
**181551**

*William E. Mahnke, II*

Certificate No.  
**2466**

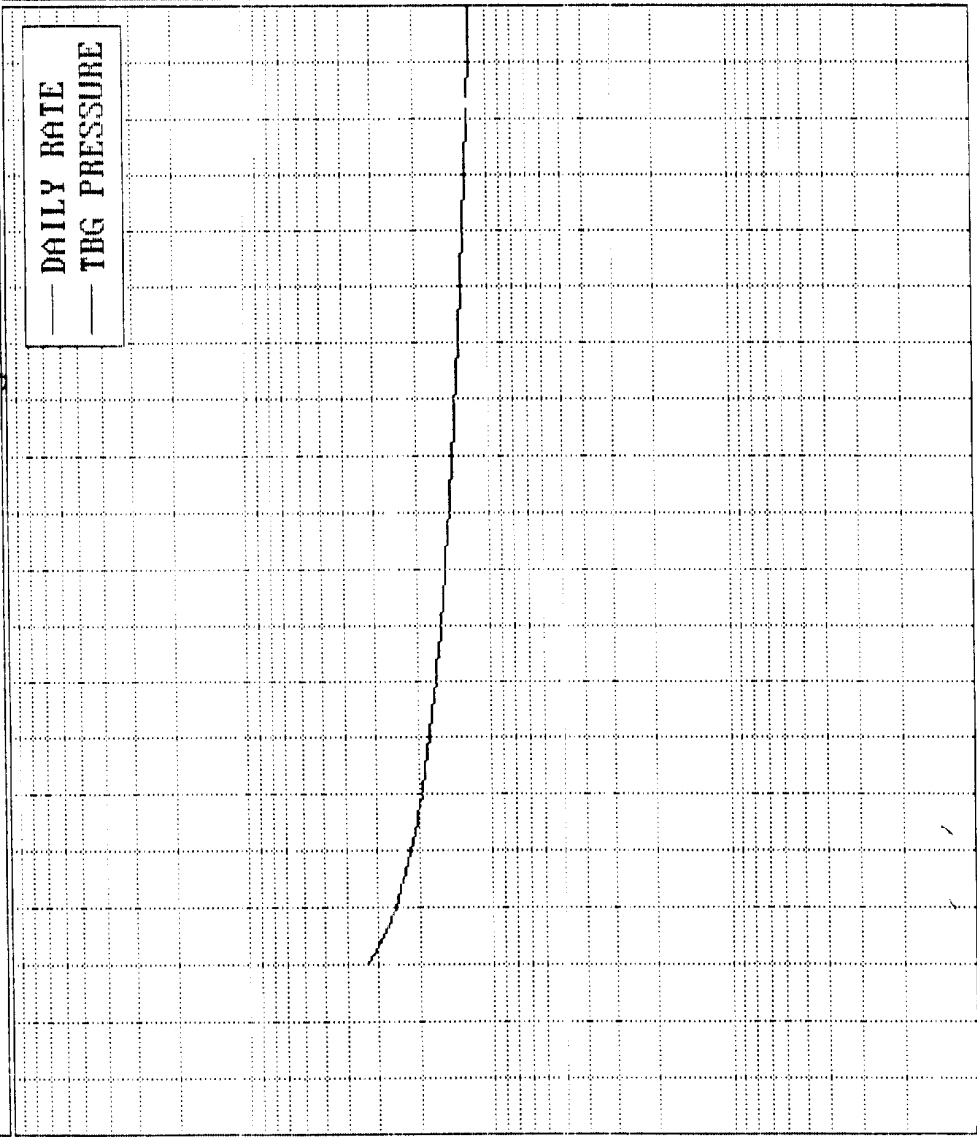
Prop 58

- \*WATER Bbls/d
- \*GAS Mcf/d
- \*WATER/GAS
- \*OIL Bbl/d

RateTime  
 Semi Log

SAN JUAN 28-5 UNIT : 102E : 421238 Projected MV Production

— DAILY RATE  
 — TBG PRESSURE



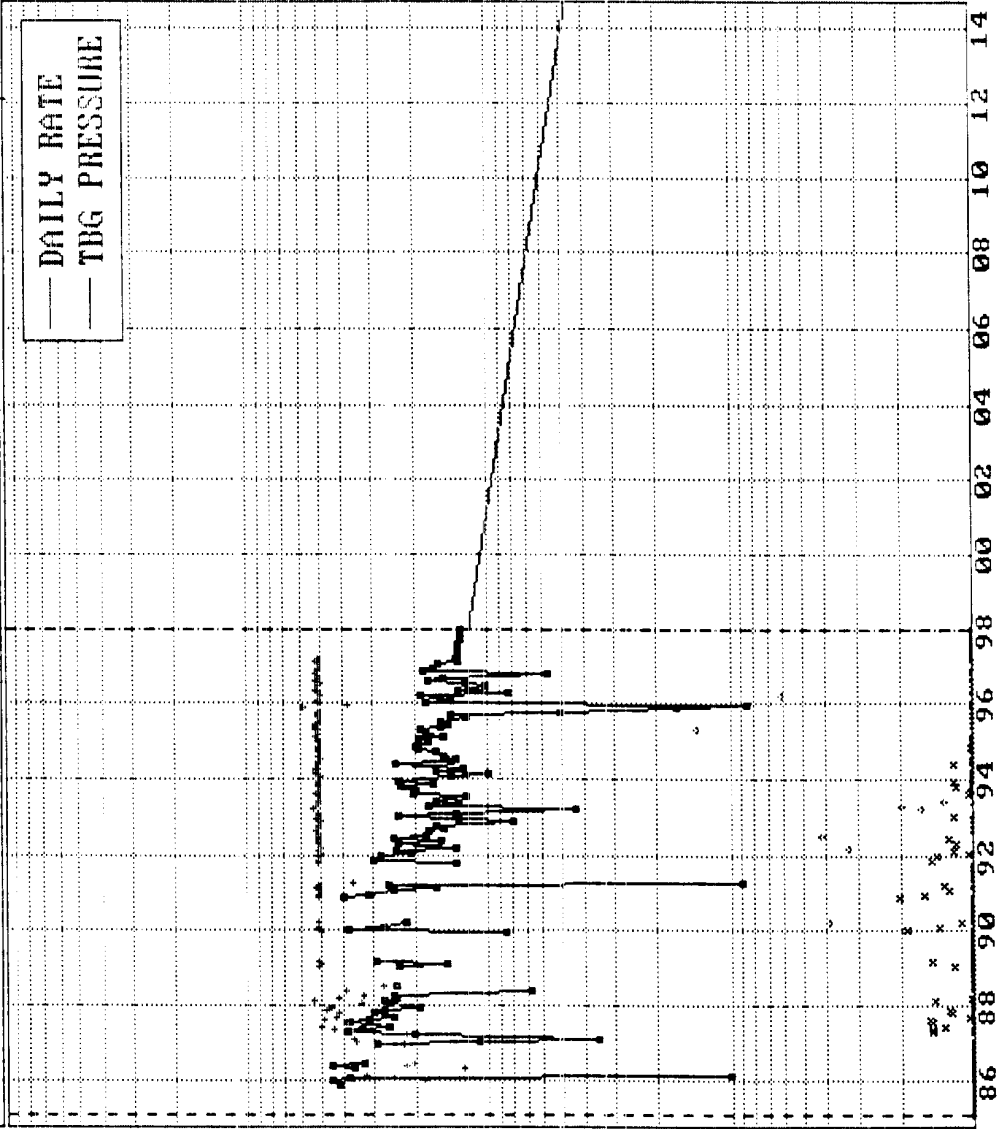
\* OIL 10  
 \* WATER/GAS 100  
 \* GAS 100  
 \* WATER 1000  
 0.1  
 1  
 10  
 100  
 1000

97 98 99 00 01 02 03 04 05 06

• OIL  
• WATER/GAS  
• GAS  
• WATER

SAN JUAN 28-5 UNIT : 102E : 54336A-1 Dakota Production

Prop 61 \*



— DAILY RATE  
— TBG PRESSURE

○ • WATER Bbls/d  
○ • GAS Mcf/d  
○ • WATER/GAS  
○ • OIL Bbl/d

RateTime  
Semi Log

FARMINGTON

1997 MONTHLY PRODUCTION FOR 54336A

PHS030M

SAN JUAN 28-5 UNIT 102E

Basin DAKOTA (PRORATED GAS) FIELD

DAKOTA ZONE

DAYS =====				OIL =====			===== GAS =====						
MO	T	S	ON	PC	PROD	GRV	PC	PROD	ON	BTU	PRESS	WATER	PROD
1	2	F	31	02	3		01	4918	31	1028	15.025		25
2	2	F	28	02			01	4054	23	1028	15.025		21
3	2	F	31	02			01	4062	31	1028	15.025		21
4	2	F	30	02			01	2182	30	1028	15.025		11
5	2	F	31	02			01	1584	31	1028	15.025		8
6	2	F	26	02			01	1823	26	1037	15.025		9
7	2	F	31	02			01	4688	31	1037	15.025		24
8	2	F	31	02			01	2981	31	1037	15.025		15
9	2	F	30	02			01	1426	30	1037	15.025		7

10

11

12

PF6 - RETURNS TO ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF10 - HELP INFORMATION

PF9 - DISPLAY MONTHLY INJECTIC

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

PRS 11/05/97

**San Juan 28-5 #102E**  
**Bottom Hole Pressures**  
**Flowing and Static BHP**  
**Cullender and Smith Method**

Version 1.0 3/13/94

<b>Mesa Verde</b>		<b>Dakota</b>	
<u>MV - Current</u>		<u>DK-Current</u>	
GAS GRAVITY	<u>0.666</u>	GAS GRAVITY	<u>0.604</u>
COND. OR MISC. (C/M)	<u>0</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.11</u>	%N2	<u>0.12</u>
%CO2	<u>1.24</u>	%CO2	<u>1.65</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>1.995</u>	DIAMETER (IN)	<u>1.995</u>
DEPTH (FT)	<u>6453</u>	DEPTH (FT)	<u>8627</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>535</u>	SURFACE PRESSURE (PSIA)	<u>702</u>
BOTTOMHOLE PRESSURE (PSIA)	<span style="border: 1px solid black; padding: 2px;">625.2</span>	BOTTOMHOLE PRESSURE (PSIA)	<span style="border: 1px solid black; padding: 2px;">841.1</span>
The Mesa Verde Pressures are from the San Juan 28-5 #31 which is an offset MV producer.			
<u>MV - Original</u>		<u>DK-Original</u>	
GAS GRAVITY	<u>0.666</u>	GAS GRAVITY	<u>0.604</u>
COND. OR MISC. (C/M)	<u>C</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.11</u>	%N2	<u>0.12</u>
%CO2	<u>1.24</u>	%CO2	<u>1.65</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>1.995</u>	DIAMETER (IN)	<u>1.995</u>
DEPTH (FT)	<u>6453</u>	DEPTH (FT)	<u>8627</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>150</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>200</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1122</u>	SURFACE PRESSURE (PSIA)	<u>2542</u>
BOTTOMHOLE PRESSURE (PSIA)	<span style="border: 1px solid black; padding: 2px;">1330.4</span>	BOTTOMHOLE PRESSURE (PSIA)	<span style="border: 1px solid black; padding: 2px;">3094.1</span>
The Mesa Verde Pressures are from the San Juan 28-5 #31 which is an offset MV producer.			

Page No.: 1

Print Time: Wed Nov 12 08:08:27 1997

Property ID: 61

Property Name: SAN JUAN 28-5 UNIT | 102E | 54336A-1

Table Name: Q:\ARIES\FD98AR38\TEST.DBF

--DATE--	---CUM GAS--	M SIWHP	
.....	.....Mcf.....	.....Psi.....	
10/21/85	0	2542.0	initial
02/03/86	38570	1662.0	
06/26/86	73377	1598.0	
07/01/87	134912	1614.0	
08/02/88	216161	1614.0	
04/10/90	266094	1633.0	
09/29/92	383925	1198.0	
06/18/96	590623	702.0	current.





# Burlington Resources Oil and Gas Company

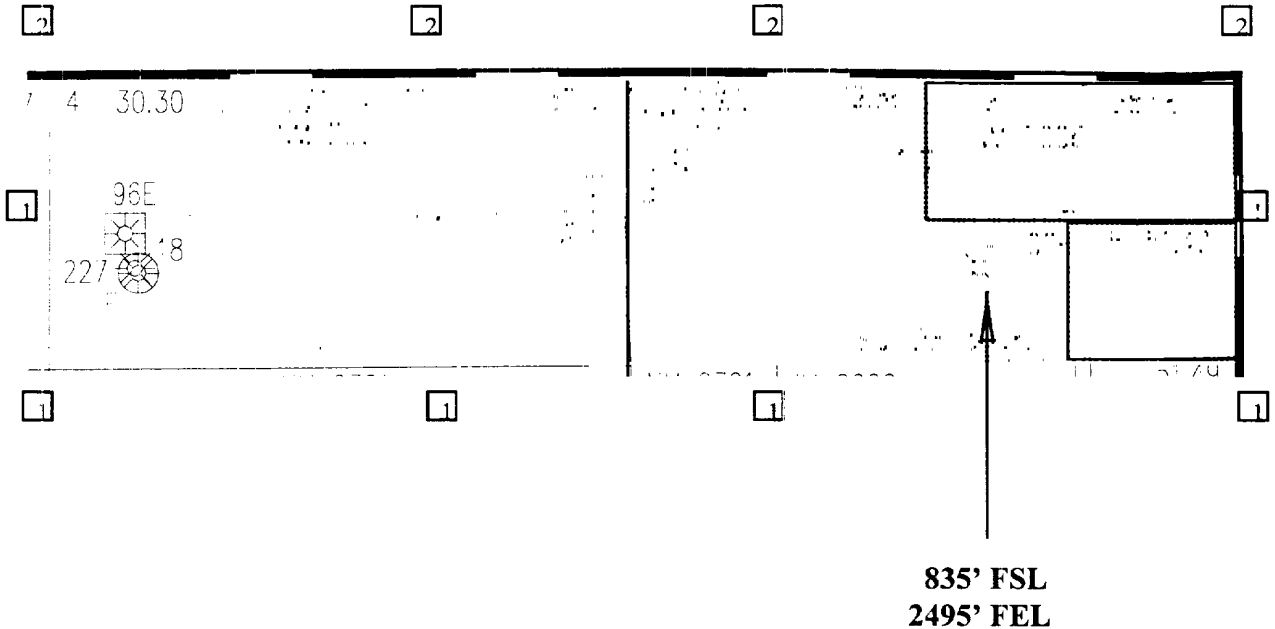
## San Juan 28-5 Unit #102E OFFSET OPERATOR\OWNER PLAT

### Mesaverde/Dakota Formations Commingle Well

#### Non Standard Section

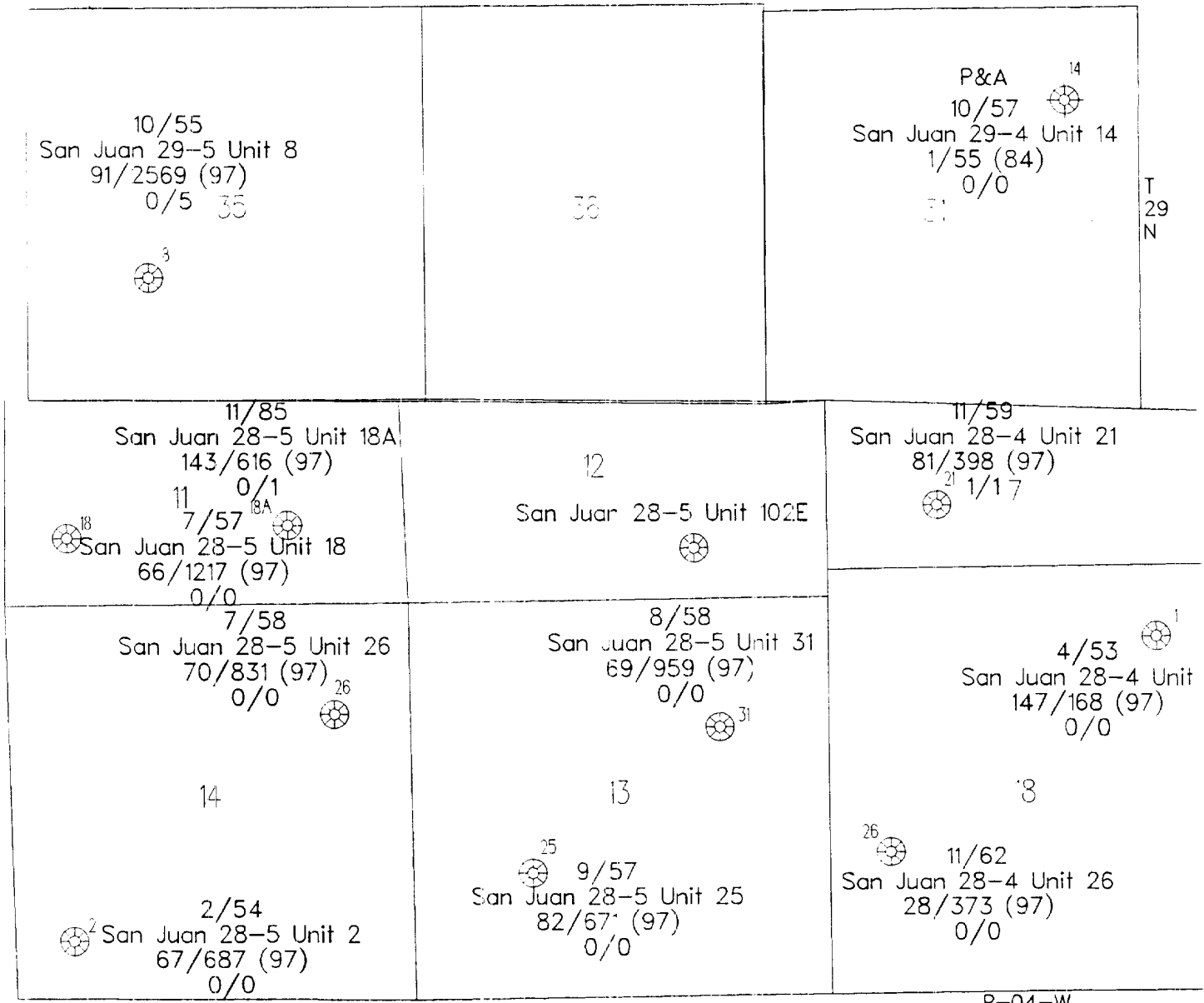
Mesaverde (All of Section 12) / Dakota (Non Standard Dedication  
Covering Section 11, Lots 1,2 & 3, SE/4 SE/4  
Section 12, Lots 3 & 4, SW/4 SW/4, SE/4 SW/4, SW/4 SE/4)

Township 28 North, Range 5 West  
835' FSL, 2495' FEL Section 12



- 1) Burlington Resources
- 2) Phillips Petroleum Company  
Attn: Pat Noah  
5525 Hwy. 64, NBU 3004  
Farmington, NM 87401

SAN JUAN 28-5 UNIT 102E  
 MESAVERDE  
 T28N, R5W, SEC. 12  
 SAN JUAN CTY., NM



R-05-W

R-04-W

LEGEND

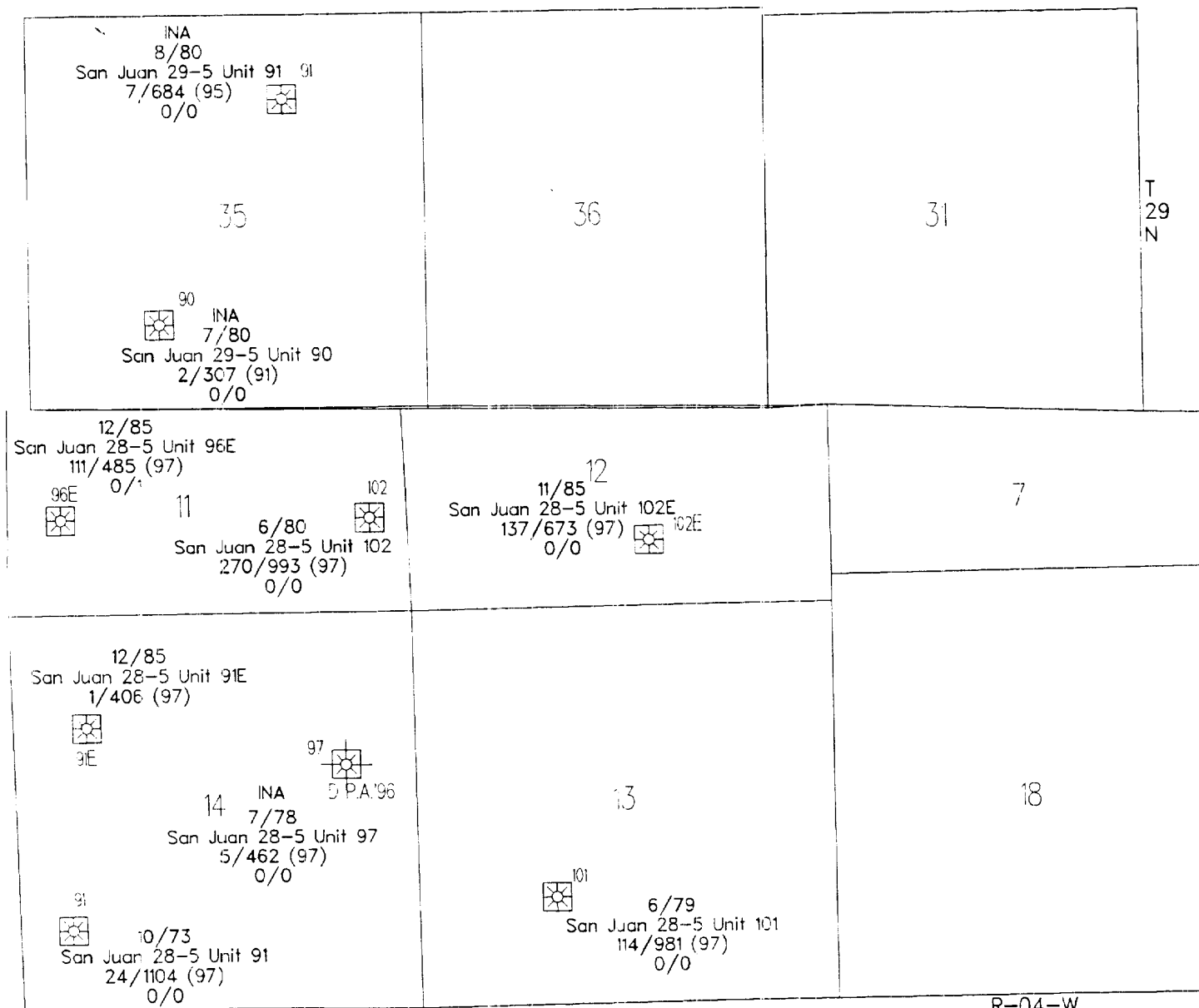
WELL STATUS  
 COMPLETION DATE  
 WELL NAME  
 MCF/D-CUM(MMF)  
 BOP/D-CUM(MBO)

# SAN JUAN 28-5 UNIT 102E

## DAKOTA

### T28N, R5W, SEC. 12

### SAN JUAN CTY., NM



R-05-W

R-04-W

#### LEGEND

WELL STATUS  
 COMPLETION DAT  
 WELL NAME  
 MCF/D-CUM(MMF)  
 BOP/D-CUM(MBC)

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:

- 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.



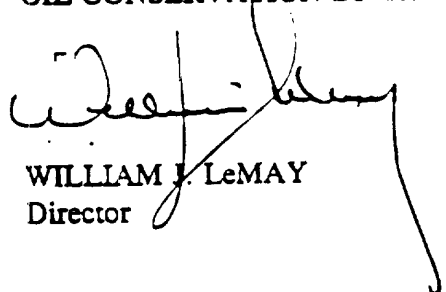
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify 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