

DATE IN 1/27/98	SUSPENSE 2/16/98	ENGINEER DC	LOGGED M	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

1815

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

- [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
- [DD-Directional Drilling] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

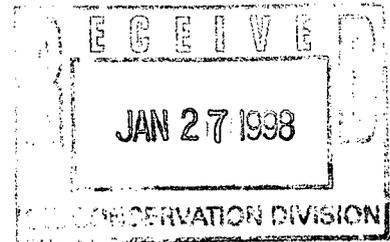
[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Directional Drilling
 NSL NSP DD SD

Check One Only for [B] and [C]

- [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR



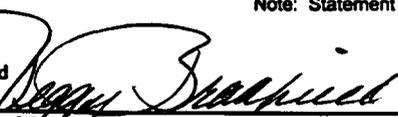
[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

- [A] Working, Royalty or Overriding Royalty Interest Owners
- [B] Offset Operators, Leaseholders or Surface Owner
- [C] Application is One Which Requires Published Legal Notice
- [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Peggy Bradfield
 Print or Type Name _____

 Signature _____

Regulatory/Compliance Administrator
 Title _____

1/26/98
 Date _____

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 :

X Administrative Hearing

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE

X 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 X State (and/or) Fee

Table with 4 columns: The following facts are submitted in support of downhole commingling, Upper Zone, Intermediate Zone, Lower Zone. Rows include Pool Name and Pool Code, Top and Bottom of Pay Section (Perforations), Type of production (Oil or Gas), Method of Production (Flowing or Artificial Lift), Bottomhole Pressure, Oil Gravity (API) or Gas BTU Content, Producing or Shut-In?, Production Marginal? (yes or no), and Fixed Percentage Allocation Formula.

- 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?
11. Will cross-flow occur?
12. Are all produced fluids from all commingled zones compatible with each other?
13. Will the value of production be decreased by commingling?
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.
15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10695
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.
* 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 Jennifer L. Dobson TITLE Production Engineer DATE 01-26-98
TYPE OR PRINT NAME Jennifer L. Dobson TELEPHONE NO. (505) 599-4026

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

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

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

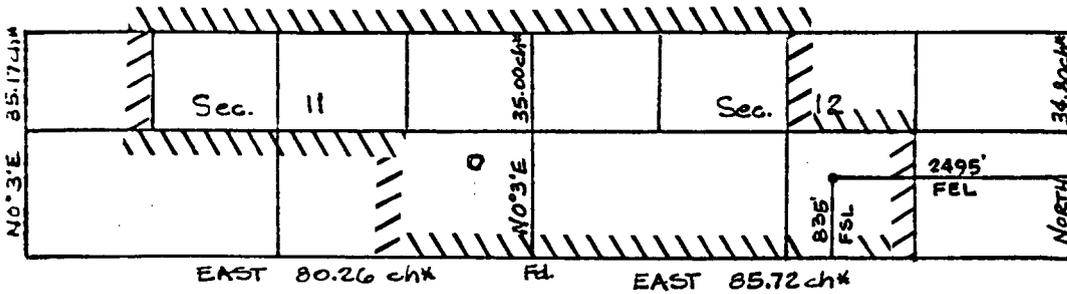
Yes No If answer is "yes," type of consolidation Unitization

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
BIRMINGHAM 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 Cook

Name
Drilling Clerk
Position
El Paso Natural Gas
Company
Date July 31, 1985

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

William E. Mahnke II
Certificate No.
2466

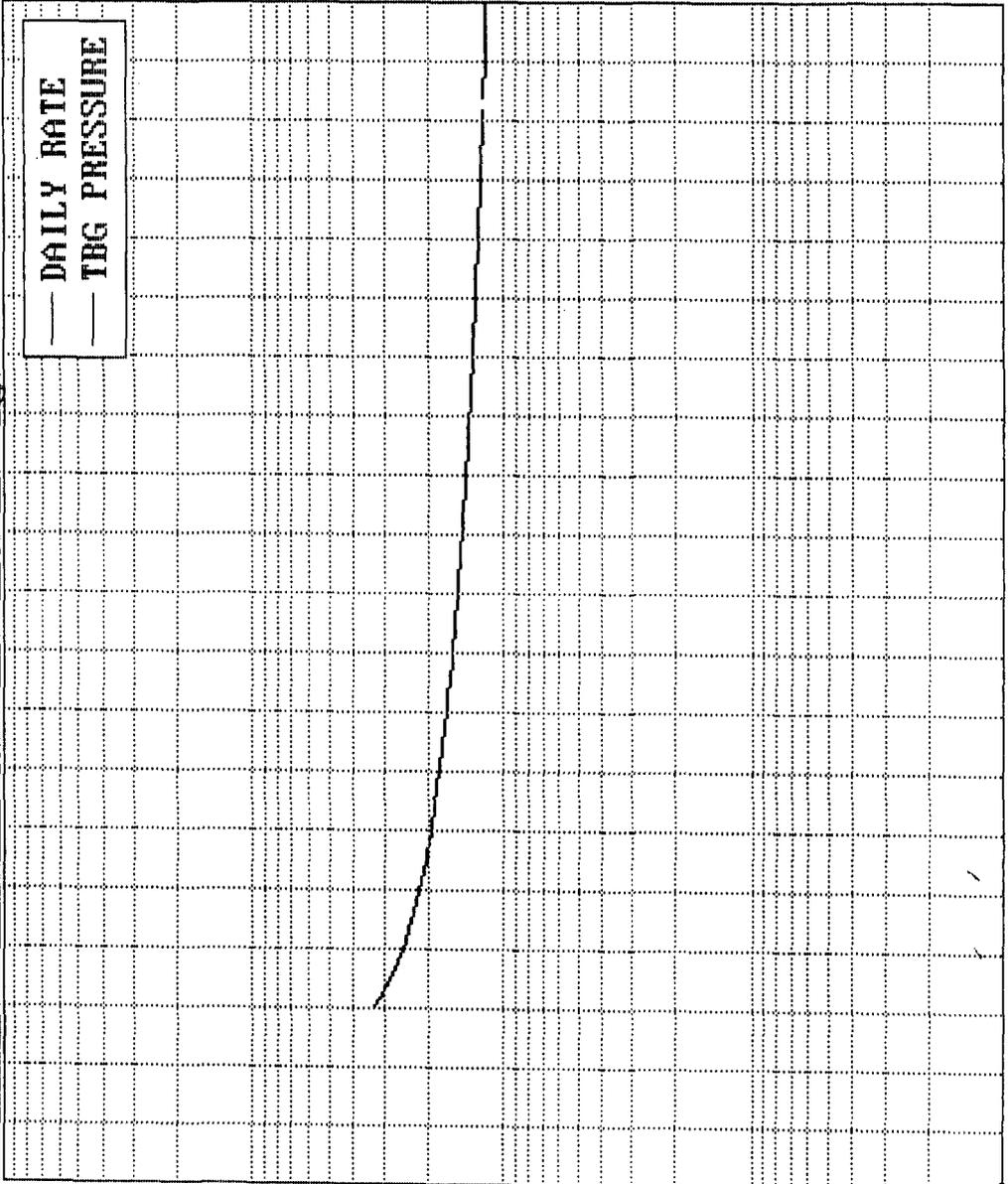
Prop 58

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

- * WATER Bbls/d
 - * GAS Mcf/d
 - * WATER/GAS
 - * OIL Bbl/d
- RateTime
 Semi Log

— DAILY RATE
 — TBG PRESSURE

* OIL 100
 * WATER/GAS 1000
 * GAS 1000
 * WATER 1000



97 98 99 00 01 02 03 04 05 06

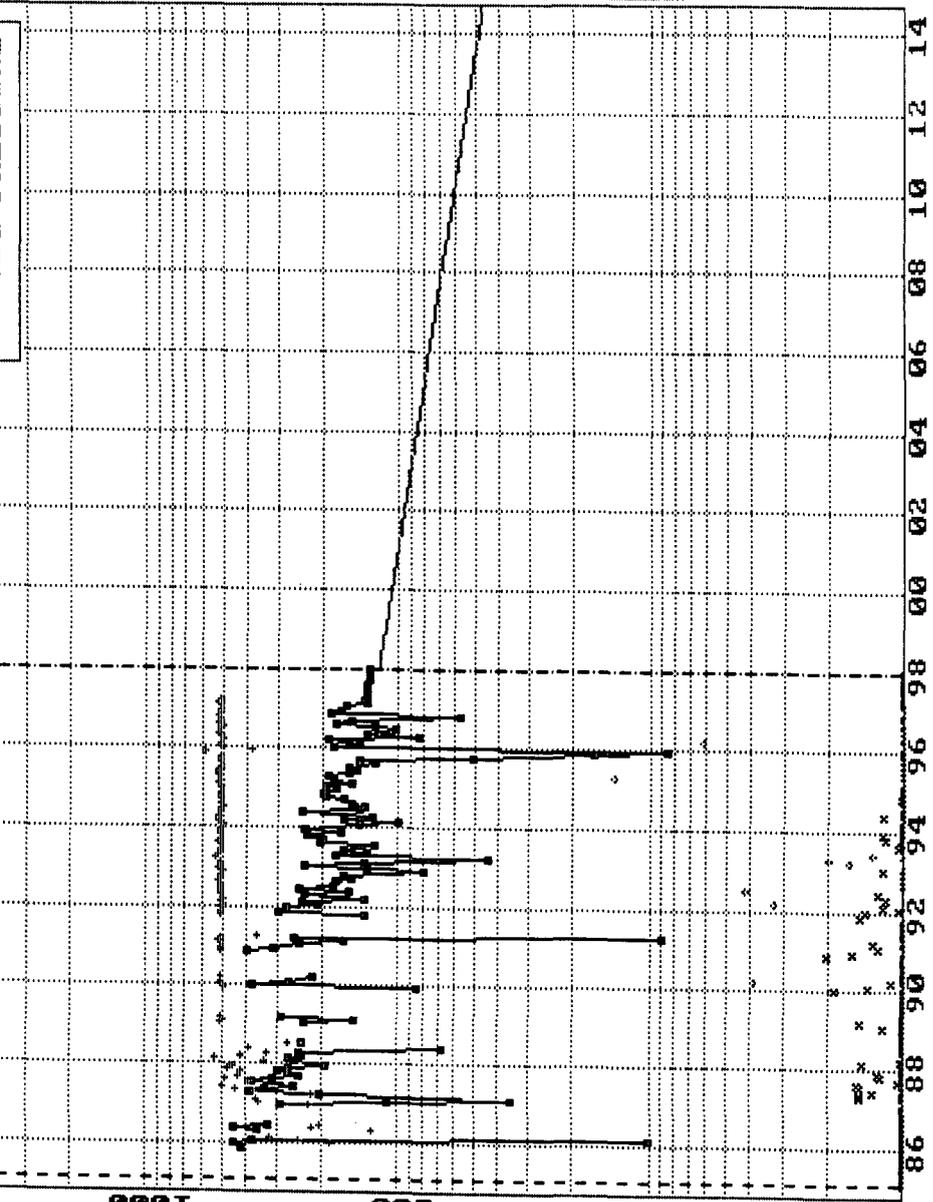
Prop 61 #

- WATER Bbls/d
 - GAS Mcf/d
 - WATER/GAS
 - OIL Bbl/d
- RateTime
Semi Log

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

- DAILY RATE
- TBG PRESSURE

100 10 10.1 1
 1000 100 100 0.1
 1000 100 100 0.1
 WATER/GAS
 WATER
 OIL
 GAS
 0.1 10 100 1000
 0.1 10 100 1000



86 88 90 92 94 96 98 00 02 04 06 08 10 12 14

FARMINGTON

1997 MONTHLY PRODUCTION FOR 54336A

PHS030M1

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	C
1	2	F	31	02	3		01	4918	31	1028	15.025		25	
2	2	F	28	02			01	4054	28	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 INJECTION

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

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

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.

Page No.: 1

Print Time: Wed Nov 12 07:24:04 1997

Property ID: 3942

Property Name: SAN JUAN 28-5 UNIT | 31 | 50165A-1

Table Name: K:\ARIES\RR98PDP\TEST.DBF

--DATE-- ---CUM GAS-- M SIWHP
Mcf Psi

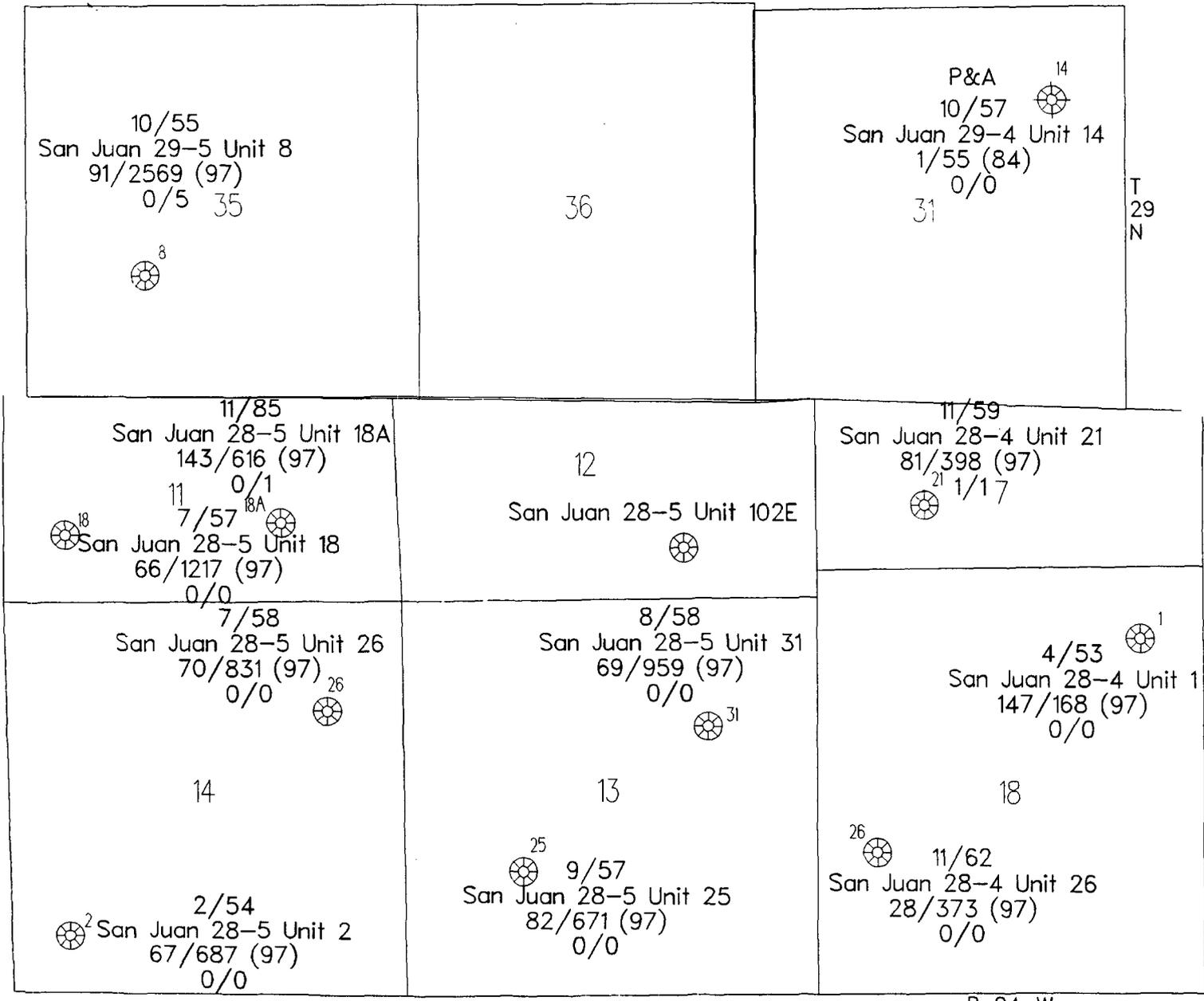
08/10/58	0	1122.0	<i>initial</i>
09/17/58	0	1121.0	
06/14/59	39000	877.0	
06/14/60	94000	729.0	
11/14/60	119000	669.0	
06/13/61	143000	660.0	
03/28/62	173000	666.0	
04/15/63	213000	630.0	
01/20/64	234000	631.0	
01/07/65	253000	645.0	
09/23/66	284000	696.0	
06/30/67	300000	642.0	
06/24/68	324000	639.0	
06/22/70	385634	609.0	
04/30/71	409161	485.0	
05/02/72	439882	477.0	
06/07/76	539261	503.0	
08/06/89	800971	480.0	
07/30/91	838429	523.0	
09/03/91	842467	535.0	<i>current</i>

SAN JUAN 28-5 UNIT 102E

MESAVERDE

T28N, R5W, SEC. 12

SAN JUAN CTY., NM

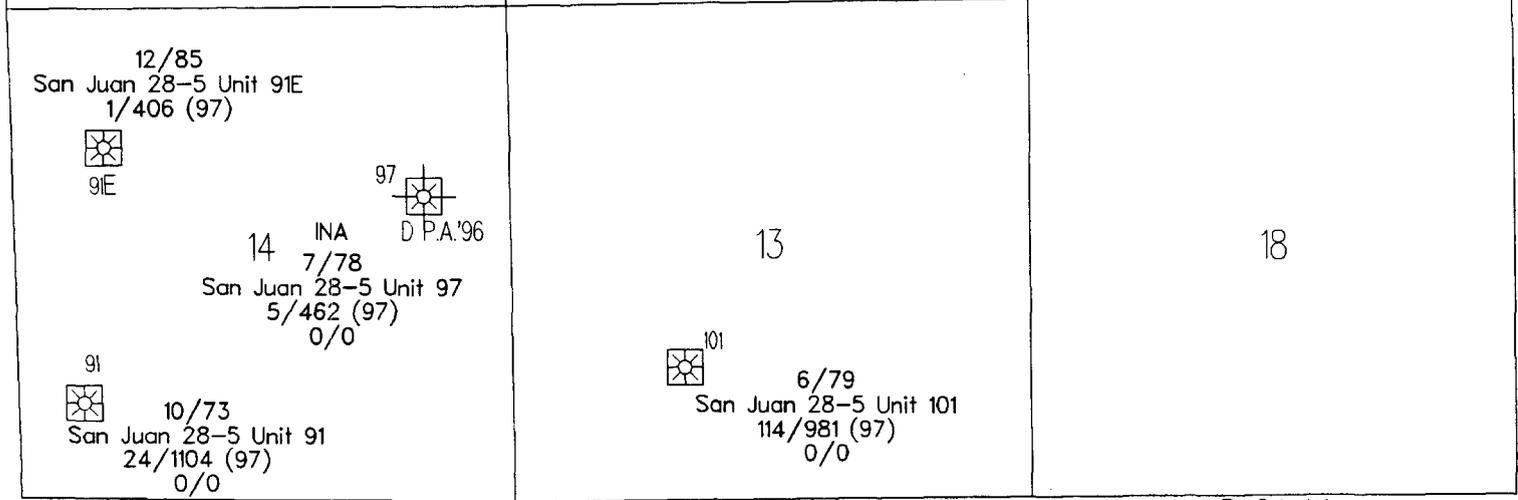
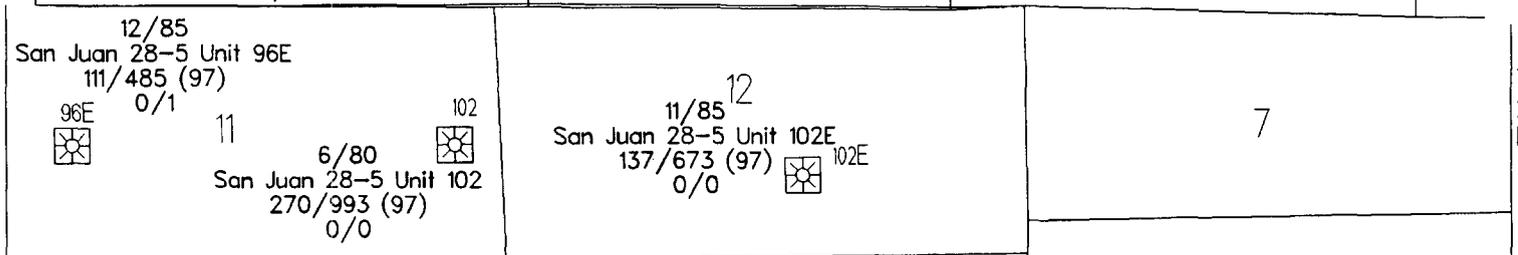
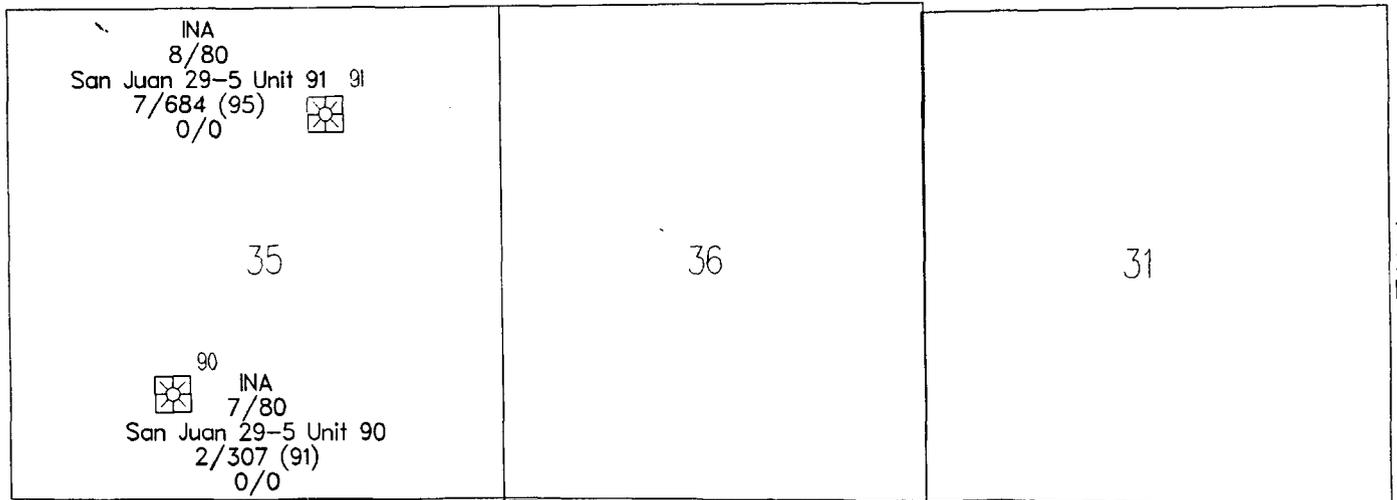


R-05-W

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

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.

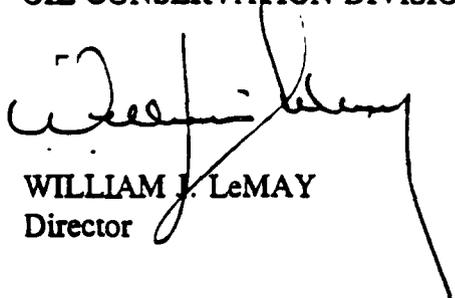
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify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