

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 87505-6429Form C-107-A
New 3-12-96**APPROVAL PROCESS :**☒ Administrative
☐ Hearing**APPLICATION FOR DOWNHOLE COMMINGLING****EXISTING WELLBORE**☒ YES ☐ NO**Burlington Resources Oil and Gas****PO Box 4289, Farmington, NM 87499**

Operator

San Juan 28-5 Unit #29-A

Address

D-18-28N-05W**Rio Arriba**

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7460API NO. 30-039-22229Federal ☐ X ☐ State ☐ Fee ☐

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	Wildcat Pictured Cliffs		Blanco Mesaverde - 72319
2. Top and Bottom of Pay Section (Perforations)	3639'-3722'		5332'-6188'
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: Gas & Oil - Flowing: All Gas Zones: Measured Current Estimated or Measured Original	(Current) a. 514 psi (see attachment) (Original) b. 1192 psi (see attachment)	DECEIVED JUN 22 1998 OIL CON. DIV.	a. 451 psi (see attachment) b. 865 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1126		BTU 1174
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		No
* 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	Date: N/A Rates:		Date: N/A Rates:
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: 6/4/98 Rates: 15 mcf/d n h head		Date: 6/4/98

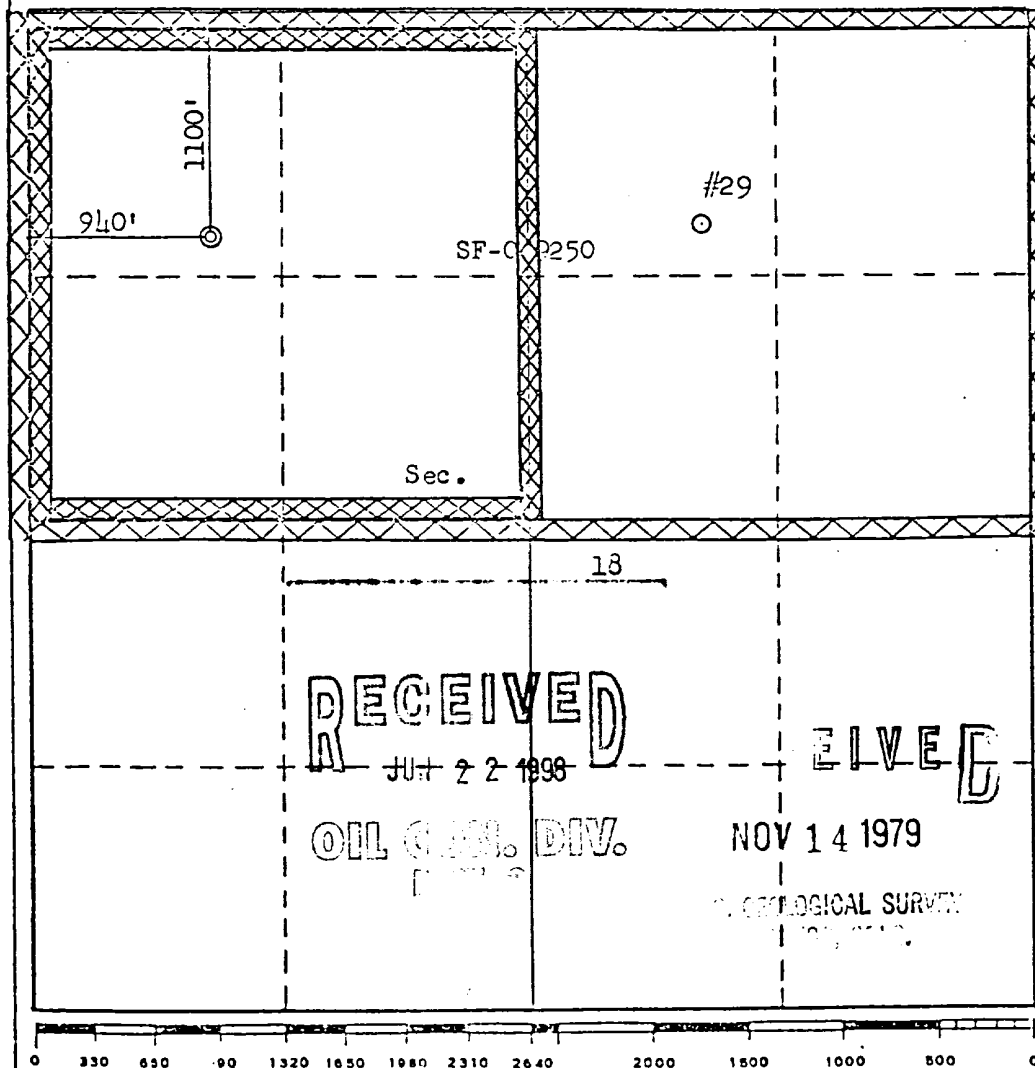
Operator EL PASO NATURAL GAS COMPANY			Lease SAN JUAN 28-5 UNIT (SF-079250)		Well No. 29A
Unit Letter D	Section 18	Township 28N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 1100 feet from the North line and 940 feet from the West line					
Ground Level Elev. 6634	Producing Formation Mesa Verde -	Pictured Cliffs	Pool Undesignated Pictured Cliffs Blanco Mesa Verde		Dedicated Acreage: 160.00 & 320.00 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. NOTE: THIS PLAT IS REISSUED TO SHOW DUAL COMPLETION. 1-2-79



CERTIFICATION

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

D. G. Duess
Name

Drilling Clerk

Position
El Paso Natural Gas Co.

Company
November 9, 1979

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.

Date Surveyed
August 26, 1979

Registered Professional Engineer and/or Land Surveyor

Fred B. Kern Jr.
Fred B. Kern Jr.

Certification No. 3950

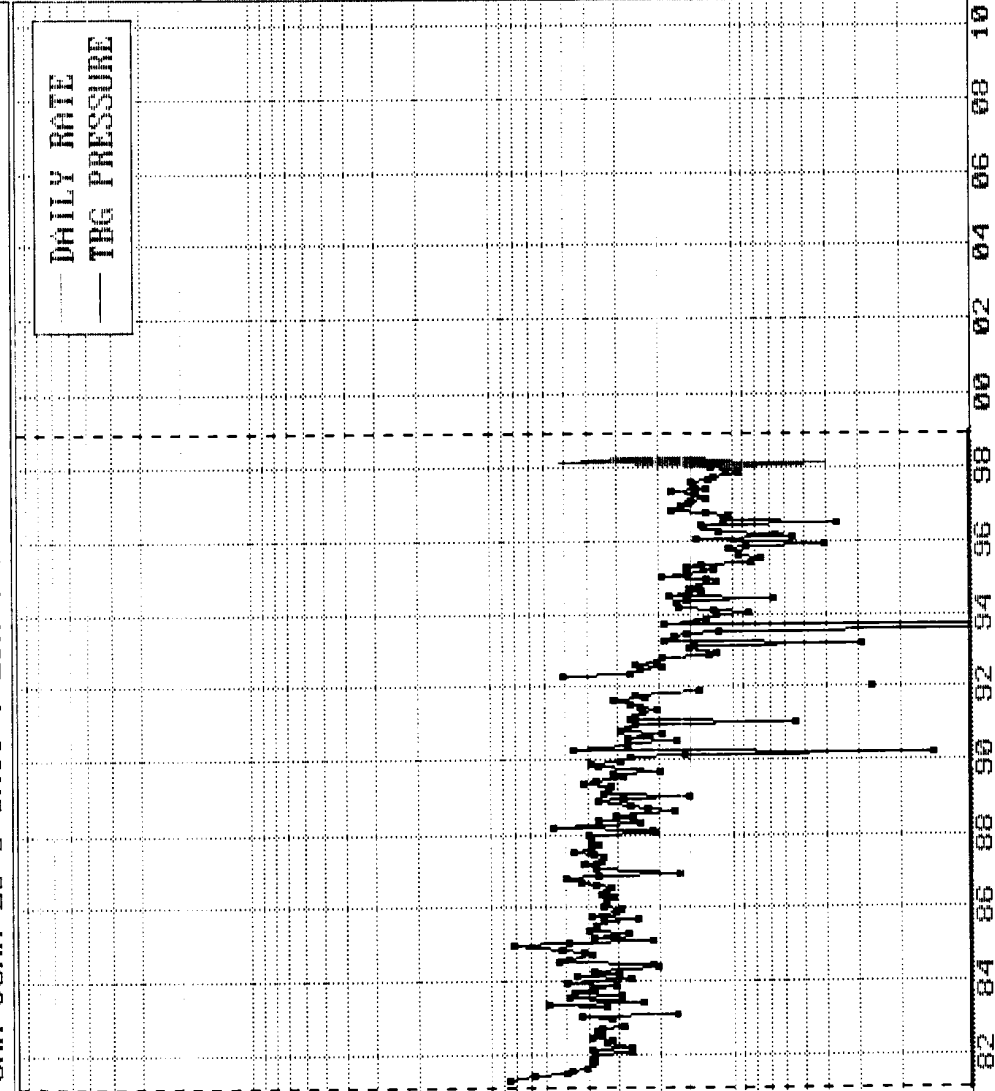
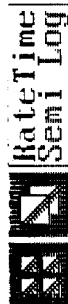
SAN JUAN 28-5 UNIT : 29A : PICTURED CLIFFS

Prop 182 *

- OIL
- WATER/GAS
- GAS
- WATER

DAILY RATE
TBG PRESSURE

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



Major = GAS

-OIL
-GAS
-WATER/GAS
-GAS
-WATER

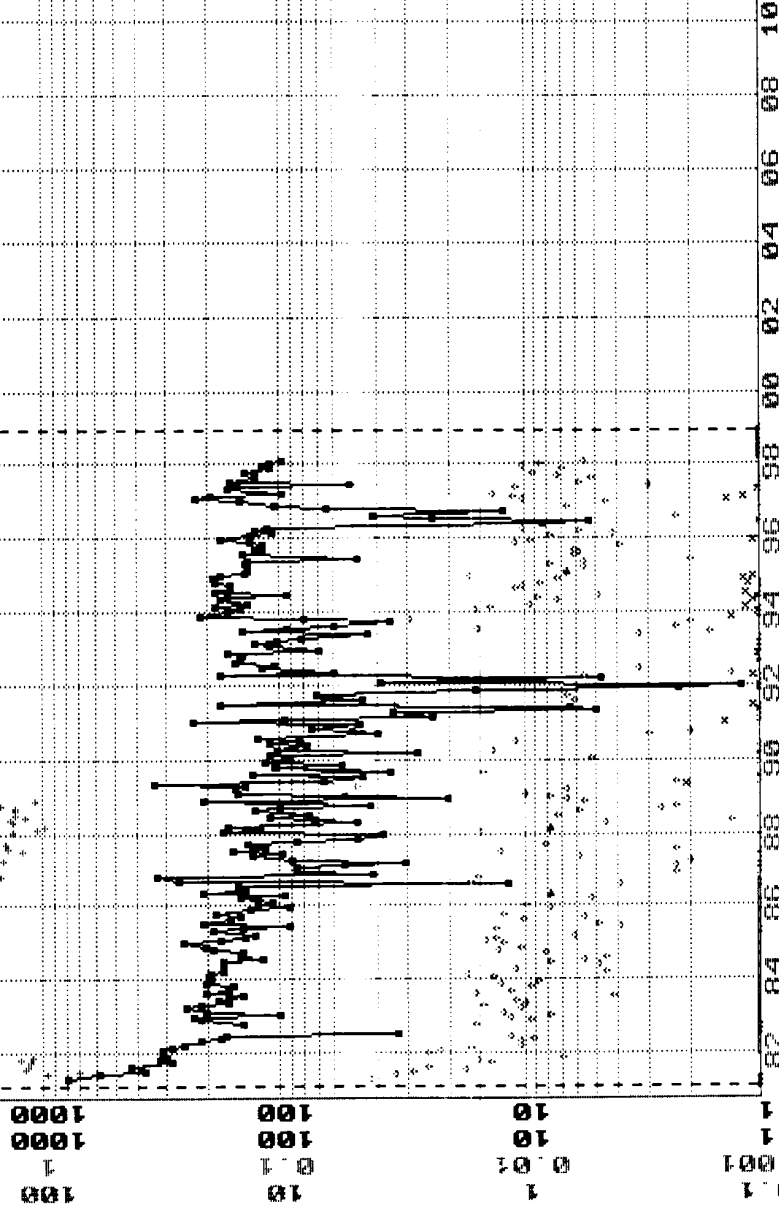
SAN JUAN 28-5 UNIT : 29A : MESAVERDE

Prop 159 *

- x WATER Bbls/d
- - GAS Mcf/d
- - WATER/GAS
- - OIL Bbl/d

RateTime
Semi Log

— DAILY RATE
— TBG PRESSURE



Major = GAS

San Juan 28-5 Unit #29A
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 1/14/98

Pictured Cliffs		Mesa Verde	
<u>PC-Current</u>		<u>MV-Current</u>	
GAS GRAVITY	<u>0.665</u>	GAS GRAVITY	<u>0.729</u>
COND. OR MISC. (C/M)	<u>C</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.32</u>	%N2	<u>0.35</u>
%CO2	<u>1.09</u>	%CO2	<u>0.75</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>7</u>	DIAMETER (IN)	<u>2.375</u>
DEPTH (FT)	<u>3681</u>	DEPTH (FT)	<u>5760</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>115</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>146</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>469</u>	SURFACE PRESSURE (PSIA)	<u>388</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>513.7</u>	BOTTOMHOLE PRESSURE (PSIA)	<u>451.1</u>
<u>PC-Original</u>		<u>MV-Original</u>	
GAS GRAVITY	<u>0.665</u>	GAS GRAVITY	<u>0.729</u>
COND. OR MISC. (C/M)	<u>C</u>	COND. OR MISC. (C/M)	<u>C</u>
%N2	<u>0.32</u>	%N2	<u>0.35</u>
%CO2	<u>1.09</u>	%CO2	<u>0.75</u>
%H2S	<u>0</u>	%H2S	<u>0</u>
DIAMETER (IN)	<u>7</u>	DIAMETER (IN)	<u>2.375</u>
DEPTH (FT)	<u>3681</u>	DEPTH (FT)	<u>5760</u>
SURFACE TEMPERATURE (DEG F)	<u>60</u>	SURFACE TEMPERATURE (DEG F)	<u>60</u>
BOTTOMHOLE TEMPERATURE (DEG F)	<u>115</u>	BOTTOMHOLE TEMPERATURE (DEG F)	<u>146</u>
FLOWRATE (MCFPD)	<u>0</u>	FLOWRATE (MCFPD)	<u>0</u>
SURFACE PRESSURE (PSIA)	<u>1078</u>	SURFACE PRESSURE (PSIA)	<u>736</u>
BOTTOMHOLE PRESSURE (PSIA)	<u>1192.4</u>	BOTTOMHOLE PRESSURE (PSIA)	<u>864.8</u>

PC

Page No.: 22

Print Time: Fri May 08 08:28:41 1998

Property ID: 182

Property Name: SAN JUAN 28-5 UNIT | 29A | PICTURED CLIFFS

Table Name: S:\ARIES\78LTL\TEST.DBF

<u>--DATE--</u>	<u>--CUM OIL--</u>	<u>---CUM GAS---</u>	<u>M SIWHP</u>
	Bbl	Mcf	Psi

02/03/81		0	1077.0
02/18/81		0	1078.0
06/04/81		6182	668.0
05/20/82		18479	561.0
09/28/83		34003	533.0
09/20/85		62287	590.0
05/26/93		140478	547.0
04/01/98		161618	469.0

Original

Current estimated from P/z data

MV

Page No.: 1

Print Time: Fri May 08 08:28:37 1998

Property ID: 159

Property Name: SAN JUAN 28-5 UNIT | 29A | MESAVERDE

Table Name: S:\ARIES\78LTL\TEST.DBF

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

01/24/81		0	725.0
02/18/81		0	736.0
06/04/81		41554	539.0
05/20/82		153072	397.0
09/28/83		226986	486.0
07/20/84		281035	424.0
09/19/86		403318	351.0
09/18/89		522806	432.0
02/18/91		569968	600.0
06/07/91		572107	612.0
05/03/93		633606	473.0
04/01/98		854929	388.0

Original

Current estimated from P/z data

Package Preparation Volume Data

DPNo: 53413A SAN JUAN 28-5 UNIT 29A Form: PC

Supt: 60 KEN RAYBON FF: 335 LARY BYARS MS: 319 STEVE BAIRD
Pipeline: EPNG Plunger: No Dual: Yes Compressor: No

<u>Ownership (No Trust)</u>			<u>Prior Year</u>			<u>Current Year</u>		
<u>Gas</u>	<u>Oil</u>		<u>MCF/M</u>	<u>BOPM</u>	<u>Days On</u>	<u>MCF/M</u>	<u>BOPM</u>	<u>Days On</u>
GWI: 100.0000%	100.0000%							
GNI: 82.5000%	82.5000%	Jan	467	0.0	31	379	0.0	31
		Feb	463	0.0	28	311	0.0	28
		Mar	396	0.0	31	493	0.0	31
<u>Volumes</u>		Apr	442	0.0	30	0	0.0	30
<u>(Days On)</u>	<u>MCFD</u>	<u>BOPD</u>	May	557	0.0	31	0	0.0
7 Day Avg	11	0.0	Jun	394	0.0	23.9	0	0.0
30 Day Avg	15	0.0	Jul	452	0.0	31	0	0.0
60 Day Avg	16	0.0	Aug	455	0.0	31	0	0.0
3 Mo Avg	13	0.0	Sept	387	0.0	30	0	0.0
6 Mo Avg	12	0.0	Oct	372	0.0	31	0	0.0
12 MoAvg	14	0.0	Nov	289	0.0	30	0	0.0
		Dec	328	0.0	31	0	0.0	0
<u>Volumes</u>			Total	5,002	0.0	1,183	0.0	
<u>(Days in Month)</u>	<u>MCFD</u>	<u>BOPD</u>						
30 Day Avg	15	0.0						
60 Day Avg	16	0.0						
3 Mo Avg	13	0.0						
6 Mo Avg	12	0.0						
12 Mo Avg	13	0.0						

Print Form

Exit Volumes Data

Package Preparation Volume Data

DPNo: 53413B

SAN JUAN 28-5 UNIT

29A

Form: MV

Supt: 60 KEN RAYBON

FF: 335 LARY BYARS

MS: 319 STEVE BAIRD

Pipeline: EPNG

Plunger: No

Dual: Yes

Compressor: No

<u>Ownership (No Trust)</u>			<u>Prior Year</u>			<u>Current Year</u>			
<u>Gas</u>	<u>Oil</u>				<u>Days</u>			<u>Days</u>	
				<u>MCF/M</u>	<u>BOPM</u>	<u>On</u>	<u>MCF/M</u>	<u>BOPM</u>	<u>On</u>
GWI: 73.1659%	73.1659%		Jan	6,930	31.0	31	3,325	26.0	31
GNI: 62.3562%	62.3562%		Feb	5,969	34.0	28	2,963	17.0	28
			Mar	2,938	41.0	31	3,601	28.0	31
<u>Volumes</u>			Apr	4,992	0.0	30	0	0.0	30
<u>(Days On)</u>	<u>MCFD</u>	<u>BOPD</u>	May	4,542	33.0	31	0	0.0	0
7 Day Avg	6	4.3	Jun	1,534	9.0	23.9	0	0.0	0
30 Day Avg	151	0.6	Jul	4,942	18.0	31	0	0.0	0
60 Day Avg	133	0.8	Aug	3,896	16.0	31	0	0.0	0
3 Mo Avg	110	0.8	Sept	3,850	22.0	30	0	0.0	0
6 Mo Avg	116	0.8	Oct	4,284	28.0	31	0	0.0	0
12 MoAvg	125	0.7	Nov	3,334	21.0	30	0	0.0	0
			Dec	3,578	31.0	31	0	0.0	0
<u>Volumes</u>			Total	50,789	284.0		9,889	71.0	
<u>(Days in Month)</u>	<u>MCFD</u>	<u>BOPD</u>							
30 Day Avg	151	0.6							
60 Day Avg	133	0.8							
3 Mo Avg	110	0.8							
6 Mo Avg	116	0.8							
12 Mo Avg	123	0.7							

Print Form

Exit Volumes Data

Print Form

Exit Volumes Data

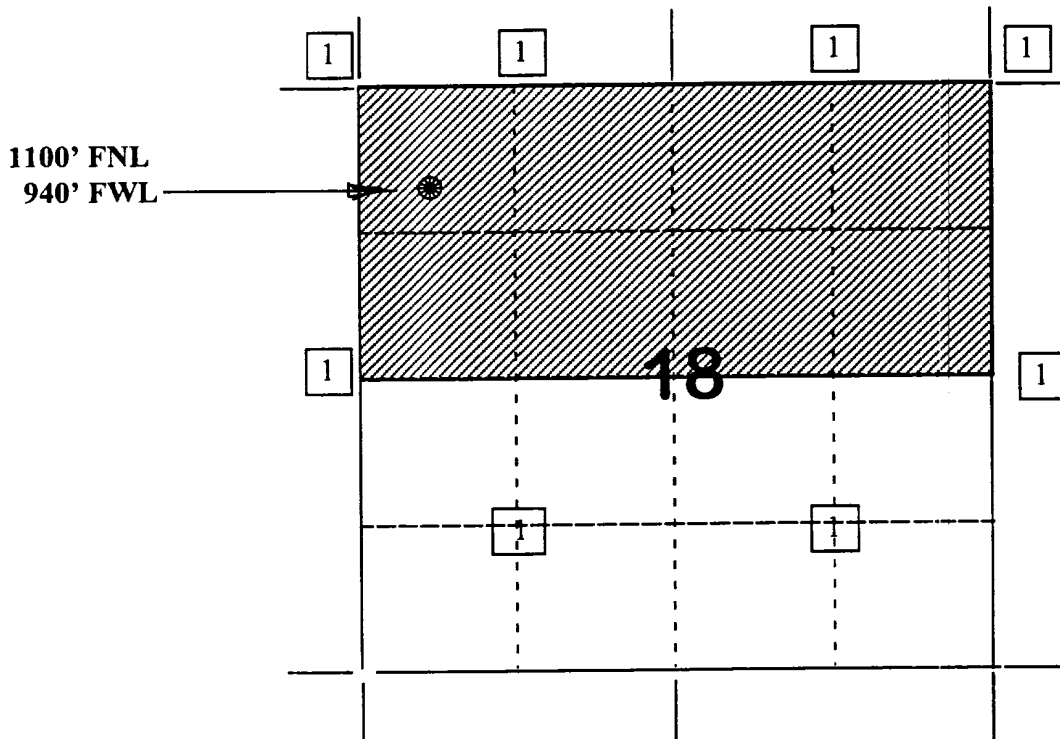
BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 28-5 Unit #29A

OFFSET OPERATOR/OWNER PLAT

Pictured Cliffs (NW/4) / Mesaverde (N/2) Formations Commingle Well

Township 28 North, Range 5 West



1) Burlington Resources

48 ● 48A ●	9A ● 36 9 ●	50 ● 50A ●	37A ● 37 ●	31 41A ●	32 38 ●	
20R ●	20 ● 12 ●	20A ●	12 ● 7	12A ●	7 ● 8 7A ●	
5 ●	57A ● 13 57 ●	71 ● SJ 28-5 Unit 29A 71A ●	29 ● 18 34 ●	29A 34A ●	28A ● 28 ● 33 ●	17 33A ●
99M ●	65 ● 24 18	65A ●	57M ● 19 35	4R ●	14A ● 17 ●	14 ● 20

PLH 5/7/98

SJ 28-5 Unit 29A
Sec. 18, T28N, R5W
Mesaverde/Pictured Cliffs

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.

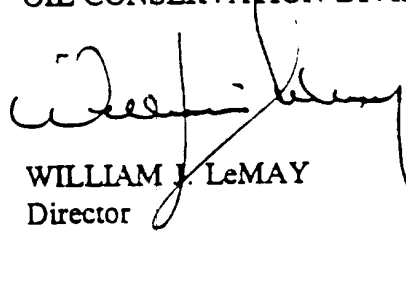
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 28-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify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