

# BURLINGTON RESOURCES

SAN JUAN DIVISION

February 13, 1997

SENT FEDERAL EXPRESS

Mr. William LeMay  
New Mexico Oil Conservation Division  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

RECEIVED  
FEB 19 1997  
OIL CON. DIV.  
DIST. 3

Re: San Juan 29-7 Unit #92A  
860'FNL, 1815'FWL Section 16, T-29-N, R-7-W, Rio Arriba County, NM  
API #30-039-25613

Dear Mr. LeMay:

This is a request for administrative approval for downhole commingling the Blanco Mesa Verde and Basin Dakota pools in the subject well. This well is a new Mesa Verde/Dakota well that is being drilled and completed in 1997.

To comply with the New Mexico Oil Conservation Division rules, Burlington Resources Oil & Gas Company is submitting the following for your approval of this commingling:

1. Form C107A - Application for Downhole Commingling;
2. C-102 plat for each zone showing its spacing unit and acreage dedication;
3. Expected production curves;
4. Notification list of offset operators;
5. Shut in wellhead pressure and calculated down hole pressure;
6. Nine-section plats for the Mesa Verde and Dakota.

Notification of Mesa Verde and Dakota interest owners is covered under Reference Order #R-10697 issued November 7, 1996 attached.

We will consult with the Supervisor of the Aztec District Office of the New Mexico Oil Conservation Division to establish an allocation formula.

Please let me know if you require additional data.

Sincerely,



Peggy Bradfield  
Regulatory/Compliance Administrator

encs.

xc: Bureau of Land Management  
State Land Office

## 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

EXISTING WELLBORE

☐ YES ☒ NO

## APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil &amp; Gas Company

PO Box 4289, Farmington, NM 87499

Operator	Well No.	Unit Ltr. - Sec - Twp - Rge	Address	County
San Juan 29-7 Unit	92A	C 16-29-7	Rio Arriba	
Lease				

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7465 API NO. 30-039-25613 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)	will be supplied upon completion		will be supplied upon completion
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: Estimated Current Measured Current Estimated or Measured Original	a. (Current) 508 psi (see attachment) b. (Original) 1276 psi (see attachment)		a. 823 psi (see attachment) b. 3331 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1198		BTU 1148
7. Producing or Shut-In?	shut in		shut in
Production Marginal? (yes or no)	no		yes
* If Shut-In and oil/gas/water rates of last production <small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data</small>	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
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 attached
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 fast TITLE Production Engineer DATE 2/13/97TYPE OR PRINT NAME James A. Smith TELEPHONE NO. ( 505 ) 326-9700

1980, Hobbs, NM 88241-1980  
Act II  
Drawer DD, Artesia, NM 88211-0719  
District III  
1000 N.W. Hesse Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C  
Revised February 21.  
Instructions on  
Submit to Appropriate District C  
State Lease - 4 C.  
Fee Lease - 3 C.

☐ AMENDED REP

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Well Code	Well Name
30-039-25613	72319/71599	Blanco Mesaverde/Basin Dakota
Property Code	Property Name	Well Number
7465	San Juan 29-7 Unit	92A
OGRID No.	Operator Name	Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY	6265'

10 Surface Location

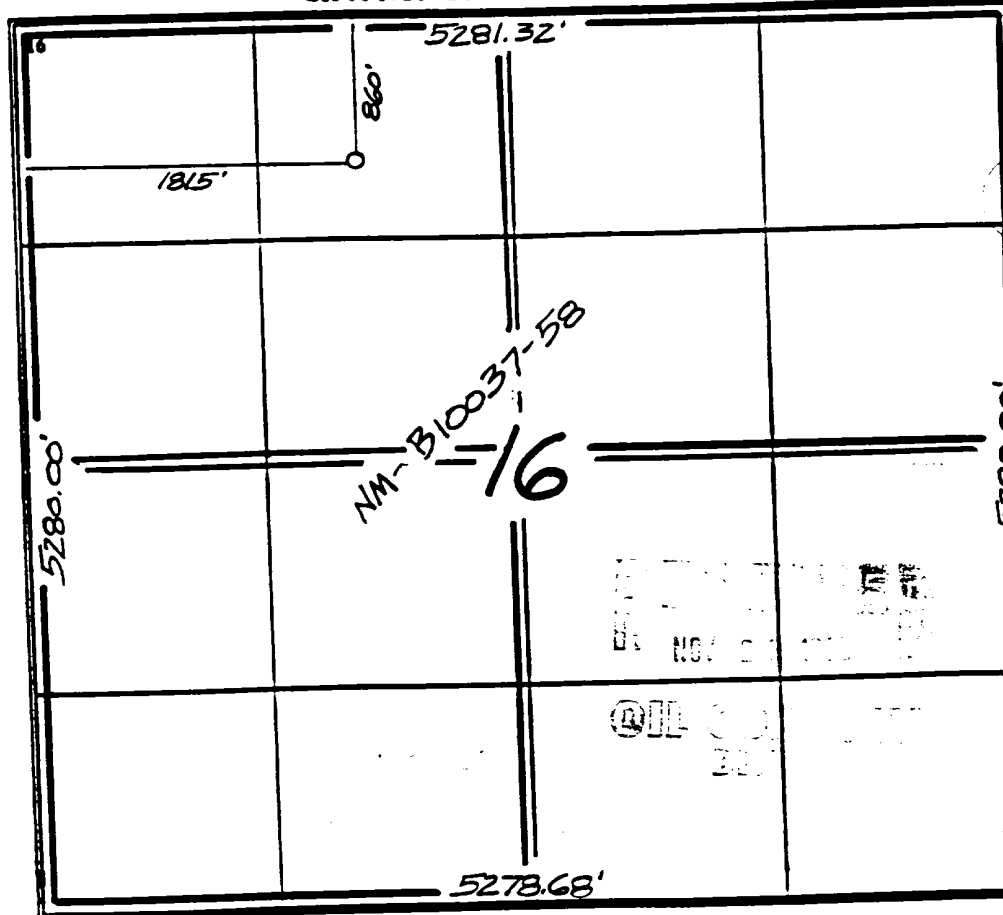
UL or lot no.	Section	Township	Range	Lot Ids	Feet from the	North/South line	Feet from the	East/West line	County
C	16	29-N	7-W		860	North	1815	West	R.A.

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ids	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres 13 Joint or Infill 14 Commencement Code 15 Order No.  
MV-W/320  
DK-N/320

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATE

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

*Peggy Bradfield*  
Signature  
Peggy Bradfield  
Printed Name  
Regulatory Administra  
Title  
11-25-96  
Date

18 SURVEYOR CERTIFICATE

I hereby certify that the well location shown on it was plotted from field notes of actual surveys made or under my supervision, and that the same are correct to the best of my belief.

10/16/96

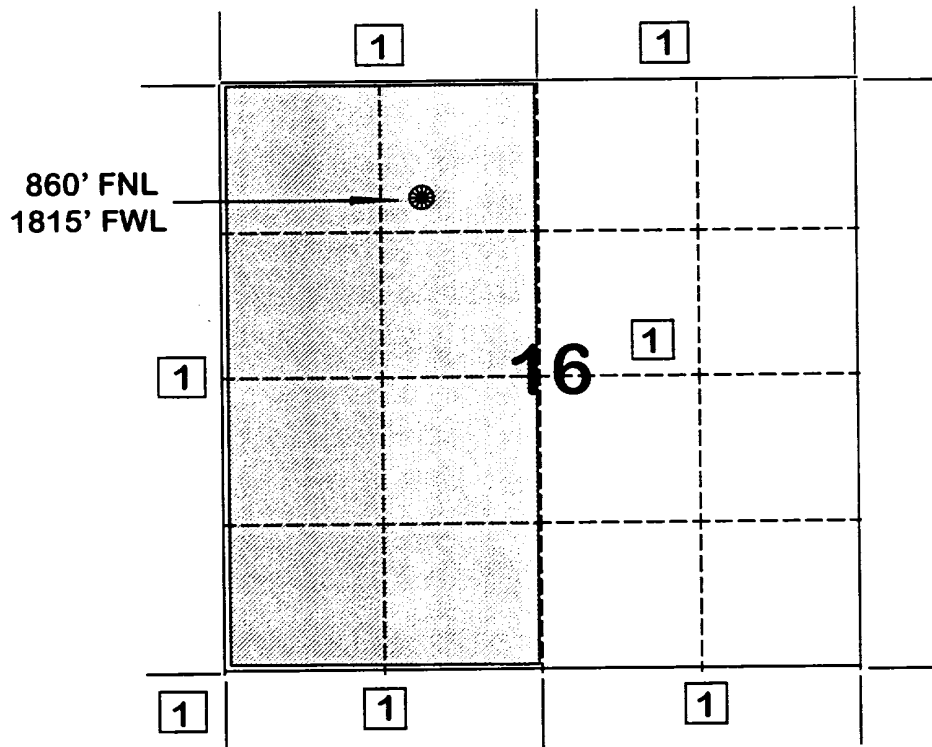
Date of Survey  
Signature and Seal of Professional Surveyor  
8857  
6857  
Certificate Number

***BURLINGTON RESOURCES OIL AND GAS COMPANY***

**San Juan 29-7 Unit #92A  
OFFSET OPERATOR \ OWNER PLAT**

**Mesaverde / Dakota Formations Commingle Well**

**Township 29 North, Range 7 West**



**1) Burlington Resources Oil and Gas Company Successor to Meridian Oil Inc.**

Page No.: 1  
Print Time: Fri Jan 24 15:46:40 1997  
Property ID: 2097  
Property Name: SAN JUAN 29-7 UNIT | 129 | 1467-1 SS 29-7 #927 Dik offer  
Table Name: K:\ARIES\RR97PDP\TEST.DBF

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

09/20/85	0	2743.0	← original
12/11/85	51031	1566.0	
09/03/86	97694	1250.0	
06/02/87	123427	1321.0	
08/03/88	230968	796.0	
04/04/90	335273	784.0	
04/22/90	335273	765.0	
04/29/92	429397	702.0	
05/28/92	435433	690.0	← current

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.663
COND. OR MISC. (C/M)	C
%N2	0.39
%CO2	0.33
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7555
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	690
BOTTOMHOLE PRESSURE (PSIA)	823.1

SAN JUAN 29-7 UNIT #129 DAKOTA - CURRENT

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.663
COND. OR MISC. (C/M)	C
%N2	0.39
%CO2	0.33
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7555
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	2743
BOTTOMHOLE PRESSURE (PSIA)	3331.0

SAN JUAN 29-7 UNIT #129 DAKOTA - ORIGINAL

Page No.: 1

Print Time: Fri Jan 24 15:51:10 1997

Property ID: 4493

Property Name: SAN JUAN 29-7 UNIT | 91 | 69355-1 SJ 29-7 #92A mv offset

Table Name: K:\ARIES\RR97PDP\TEST.DBF

--DATE-- ---CUM\_GAS-- M SIWHP  
Mcf Psi

10/09/52	0	1095.0	← original
10/06/53	36000	946.0	
06/16/54	77000	744.0	
08/24/55	154000	915.0	
10/15/56	225000	938.0	
10/16/57	289000	677.0	
03/30/58	320000	877.0	
03/29/59	385000	894.0	
09/06/60	467000	804.0	
03/28/61	501000	938.0	
03/13/62	550000	717.0	
02/12/63	585000	768.0	
07/16/64	654000	900.0	
02/25/65	686000	878.0	
02/28/66	743000	830.0	
03/03/67	803000	885.0	
03/05/68	872000	844.0	
05/27/69	953771	822.0	
08/18/70	1121786	783.0	
03/30/71	1169585	771.0	
06/12/72	1276918	653.0	
07/09/73	1364557	772.0	
08/21/74	1460887	749.0	
04/20/76	1609048	683.0	
05/16/78	1798246	592.0	
07/18/80	1962922	744.0	
05/19/82	2073183	518.0	
09/19/84	2151008	494.0	
10/23/89	2270862	692.0	
02/20/91	2452441	540.0	
07/10/91	2468703	552.0	
06/01/93	2694365	443.0	← current



**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**  
VERSION 1 0 3/13/94

GAS GRAVITY	0.703
COND. OR MISC. (C/M)	C
%N2	0.24
%CO2	0.9
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5403
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	443
BOTTOMHOLE PRESSURE (PSIA)	507.8

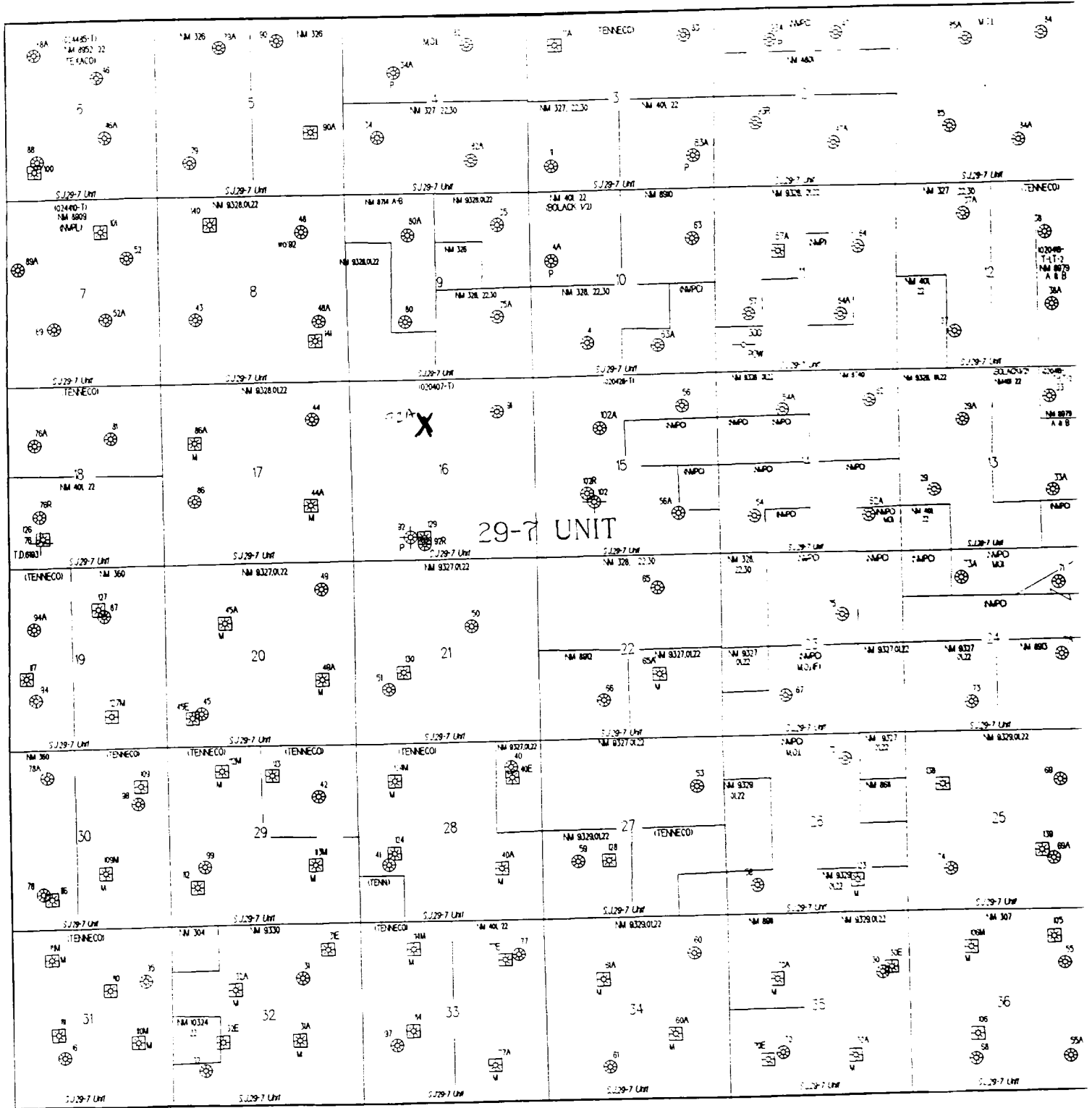
SAN JUAN 29-7 UNIT #91 MESAVERDE - CURRENT

**FLOWING AND STATIC BHP  
CULLENDER AND SMITH METHOD**

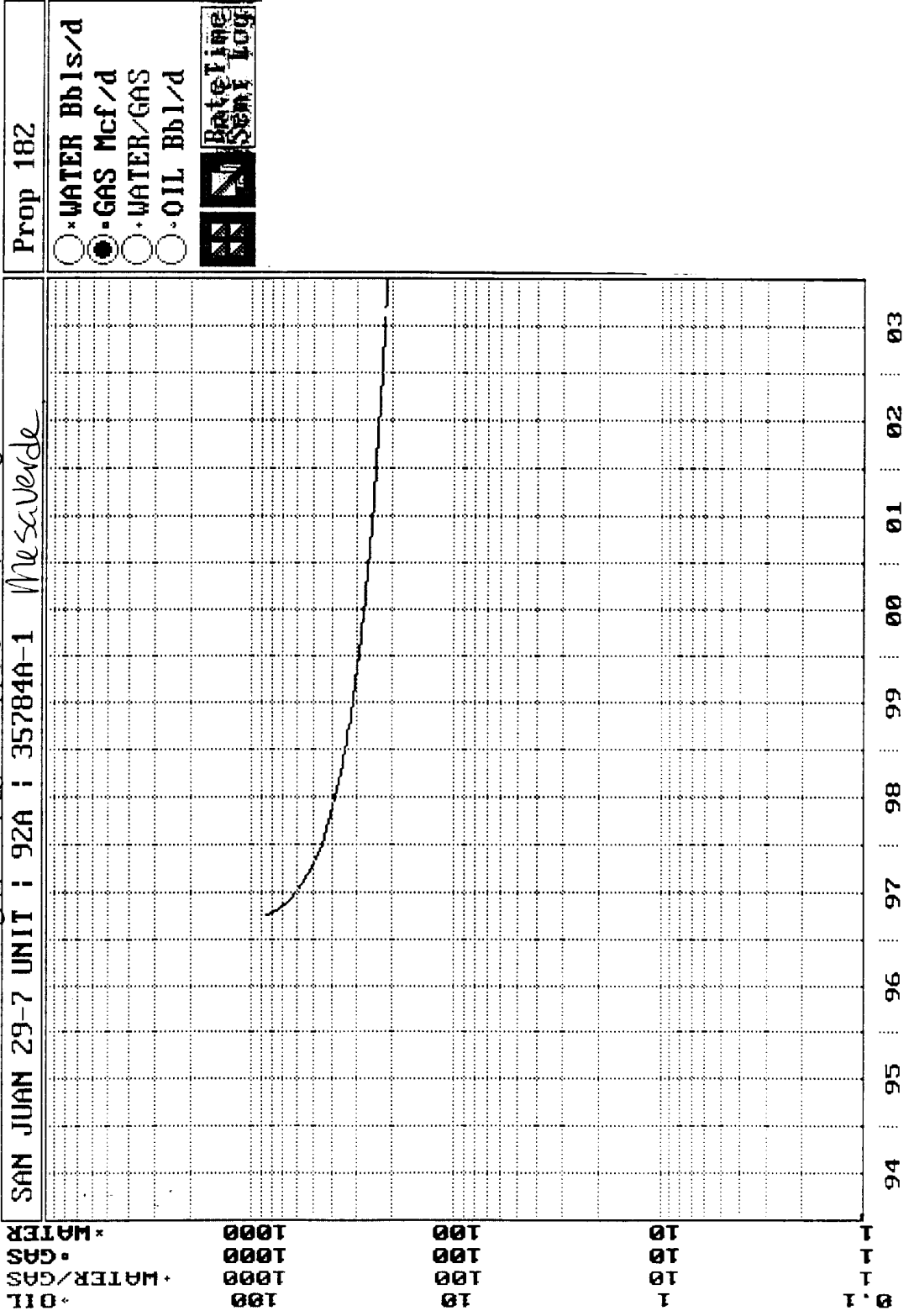
VERSION 1.0 3/13/94

GAS GRAVITY	0.703
COND. OR MISC. (C/M)	C
%N2	0.24
%CO2	0.9
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5403
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1095
BOTTOMHOLE PRESSURE (PSIA)	1276.3

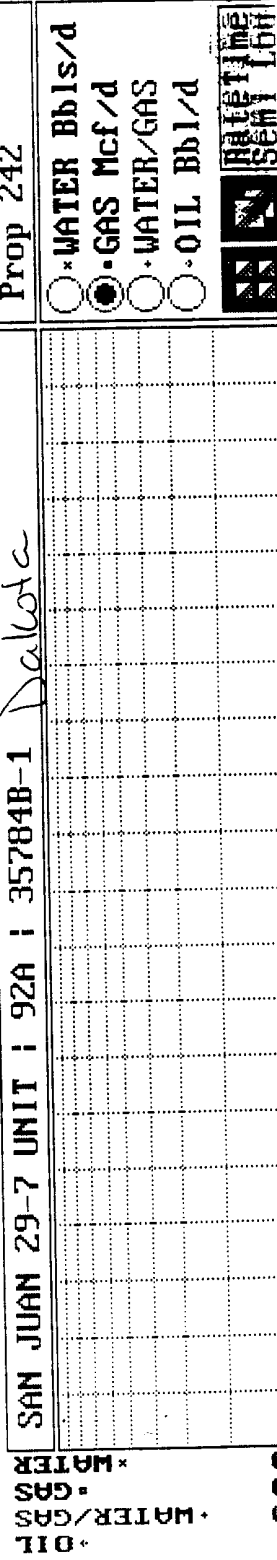
SAN JUAN 29-7 UNIT #91 MESAVERDE - ORIGINAL



# Expected Production Curve



# Expected Production Curve



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:

- 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.

- 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.



**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.