

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
811 South First St., Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410
DISTRICT IV
2040 S. Pacheco, Santa Fe, NM 87505

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
Revised August 1999

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 28-6 UNIT

138M

O 23-28N-06W

RIO ARRIBA

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7462 API NO. 30-039-XXXXX Federal X, State (and/or) Fee

The following facts are submitted in support of downhole commingling: 1. Pool Name and Pkg. Code	Upper Zone BLANCO MESAVERDE - 72319	Intermediate Zone	Lower Zone 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: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 582 psi (see attachment) b. (Original) 1272 psi (see attachment)		a. (Current) 1185 psi (see attachment) b. (Original) 3273 psi (see attachment)
6. Oil Gravity (I:API) or Gas BTU Content	BTU 1237		BTU 1058
7. Producing or Shut-In?	SHUT-IN		SHUT-IN
Production Marginal? (yes or no) * If Shut-In, give date 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 date and oil/gas/ water rates of recent test (within 60 days)	Date: N/A Rates: Date: N/A Rates:	Date: N/A Rates: Date: N/A Rates:	Date: N/A Rates: Date: N/A Rates:
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: % Gas: % WILL BE SUPPLIED UPON COMPLETION	Oil: % Gas: % WILL BE SUPPLIED UPON COMPLETION	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 X No
If not, have all working, overriding, and royalty interests been notified by certified mail? Yes X No

11. Will cross-flow occur? X 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. X Yes No (If No, attach explanation)

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

13. Will the value of production be decreased by commingling? Yes X 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. X Yes No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10696

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 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

Dan T. Voeks

TITLE

PRODUCTION ENGINEER

DATE:

12/10/99

TYPE OR PRINT NAME

DAN T. VOECKS

TELEPHONE NO. 505-326-9700

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, NM 87504-2088

Form C-102

Revised February 21, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-	² Pool Code 72319/71599	³ Pool Name Blanco Mesaverde/Basin Dakota
⁴ Property Code 7462	⁵ Property Name SAN JUAN 28-6 UNIT	⁶ Well Number 138M
⁷ GRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	⁹ Elevation 6522'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	23	28-N	6-W		790	SOUTH	1845	EAST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres E/320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

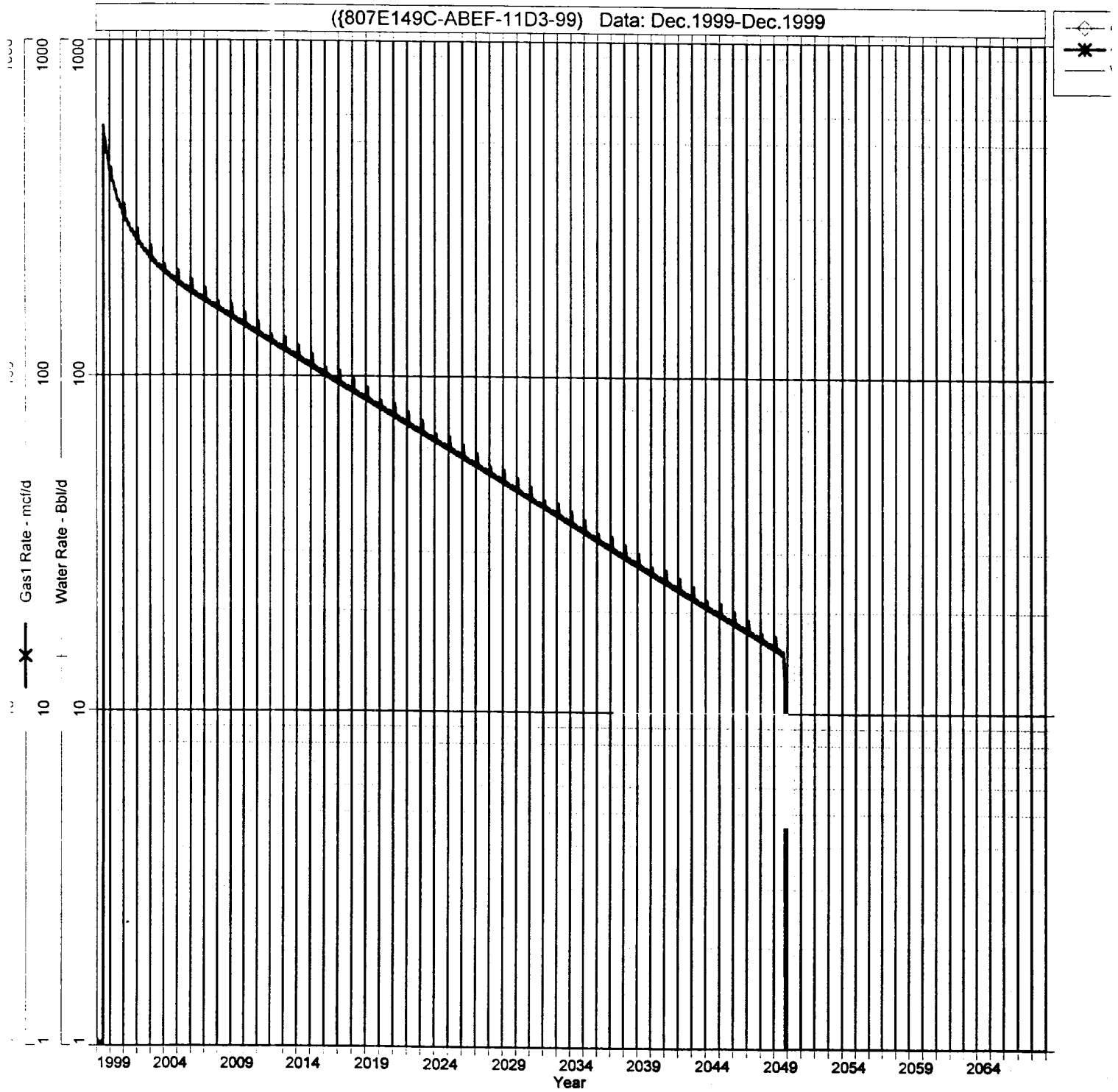
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div>16</div> <div><p>JOE MANGUM</p><p>NMSF-079547</p><p>NMNM-02804</p><p>LAT. = 36° 38.5' N. LONG. = 107° 26.0' W.</p><p>1845'</p><p>790'</p><p>2635.8' (M)</p><p>2641.7' (M)</p><p>1845'</p><p>790'</p><p>2635.8' (M)</p><p>FD. U.S.G.L.O. BC. 1914</p></div>	<div>17 OPERATOR CERTIFICATION</div> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature _____</p> <p>Peggy Cole</p> <p>Printed Name _____</p> <p>Regulatory Administrator</p> <p>Title _____</p> <p>Date _____</p>
	<div>18 SURVEYOR CERTIFICATION</div> <p>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 belief.</p> <p>9-30-94</p> <p>ROY A. RUSH</p> <p>NEW MEXICO</p> <p>REGISTERED PROFESSIONAL LAND SURVEYOR</p> <p>8894</p> <p>8894</p> <p>Certificate Number</p>

San Juan 28-6 Unit #138M

Expected Production

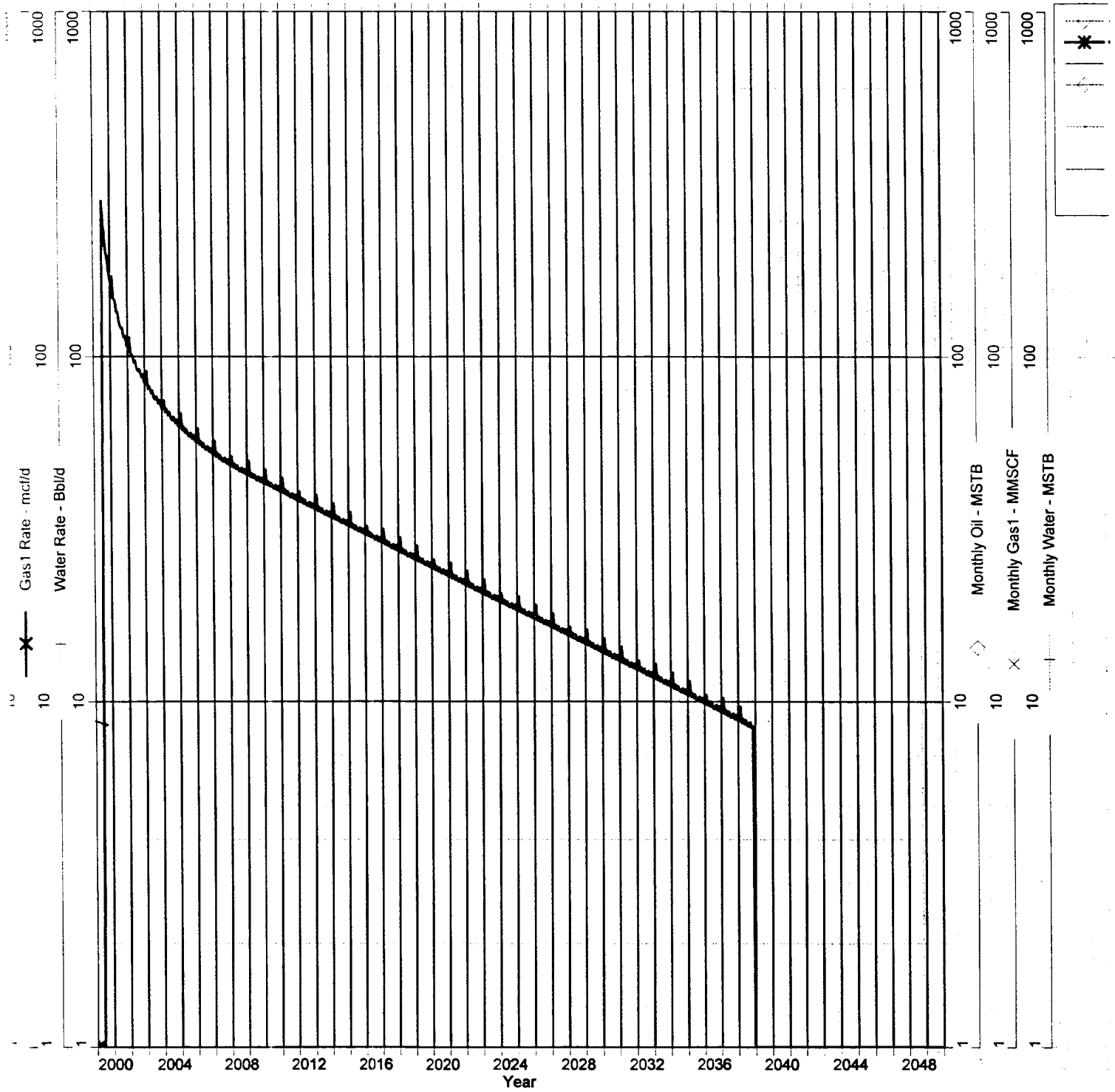
Mesaverde Formation



San Juan 28-6 Unit #138M

Expected Production

Dakota Formation



San Juan 28-6 Unit #138M

Bottom Hole Pressures

Flowing and Static BHP

Cullender and Smith Method

Version 1.0 3/13/94

Mesaverde		Dakota	
<u>MV-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.718	GAS GRAVITY	0.607
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.23	%N2	0.13
%CO2	1.11	%CO2	1.44
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	2.375
DEPTH (FT)	5583	DEPTH (FT)	7585
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	137	BOTTOMHOLE TEMPERATURE (DEG F)	198
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	502	SURFACE PRESSURE (PSIA)	1004
BOTTOMHOLE PRESSURE (PSIA)	582.2	BOTTOMHOLE PRESSURE (PSIA)	1184.6
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.718	GAS GRAVITY	0.607
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.23	%N2	0.13
%CO2	1.11	%CO2	1.44
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	2.375
DEPTH (FT)	5583	DEPTH (FT)	7585
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	137	BOTTOMHOLE TEMPERATURE (DEG F)	198
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1078	SURFACE PRESSURE (PSIA)	2753
BOTTOMHOLE PRESSURE (PSIA)	1271.7	BOTTOMHOLE PRESSURE (PSIA)	3273.4

Print Time: Mon Dec 06 07:16:36 1999

Property Name: SAN JUAN 28-6 UNIT | 58 | 51871A

Table Name: R:\RESERVES\GDPNOS\TEST.DBF

San Juan 28-6 Unit #138M

06/30/56	0	1078.0
07/17/56	0	1077.0
12/30/57	410000	784.0
10/29/58	527000	868.0
06/14/59	699000	794.0
06/14/60	970000	704.0
03/05/61	1135000	723.0
05/29/62	1297000	762.0
05/16/63	1419000	718.0
05/26/64	1542000	730.0
03/08/65	1675000	640.0
04/12/66	1891000	665.0
10/21/66	1999000	659.0
03/22/67	2081000	651.0
04/01/68	2267000	637.0
05/15/69	2485338	604.0
05/25/70	2623315	592.0
05/04/71	2793195	539.0
05/22/72	2979305	530.0
08/21/73	3199580	484.0
07/31/74	3382542	477.0
08/17/76	3719362	478.0
06/05/78	3981167	480.0
10/03/80	4180516	369.0
05/18/82	4249542	462.0
10/20/86	4323313	461.0
11/27/89	4365942	517.0
09/04/91	4378167	517.0
10/21/91	4380999	505.0
05/03/93	4399045	502.0

Page No.: 1

Print Time: Mon Dec 06 07:16:31 1999

Property ID: 1732

Property Name: SAN JUAN 28-6 UNIT | 138 | 52199A

Table Name: R:\RESERVES\GDPNOS\TEST.DBF

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--DATE--  ---CUM GAS--  M SIWHP
#####  #####Mcf#####Psi
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08/03/67	0	2753.0
11/17/67	52000	1651.0
04/01/68	96000	1437.0
08/19/69	237000	990.0
05/25/70	291621	958.0
05/04/71	371786	844.0
09/12/72	460129	852.0
08/21/73	513540	949.0
06/24/75	594488	1177.0
06/01/77	680966	1212.0
06/07/79	778923	1020.0
04/21/81	856611	970.0
09/22/83	920201	1214.0
06/07/85	975490	1028.0
10/15/88	1049306	1322.0
06/08/90	1103328	1252.0
07/01/92	1174464	1004.0

San Juan 28-6 Unit #138M

Dakota Offset

28N - 6W - 23

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. 11628
ORDER NO. R-10696

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 28-6 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 28-6 Unit, San Juan County, New Mexico.
- (3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

- 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 28-6 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 28-6 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 28-6 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 449 MMCFG and 186 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 254 MCFGD and 216 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 28-6 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 28-6 Unit, the applicant presented engineering evidence and testimony which indicates that:

- c) providing notice to each interest owner within the San Juan 28-6 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 28-6 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-6 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 28-6 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 28-6 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 28-6 Unit, San Juan County, New Mexico, is hereby approved.