

DATE IN 12/15/99	SUSPENSE 1/4/00	ENGINEER DC	LOGGED KW	TYPE DHC
------------------	-----------------	-------------	-----------	----------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

2566

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
X 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] X 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,

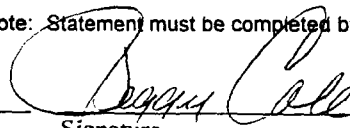
[F] Waivers are Attached

[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 Cole



Regulatory/Compliance Administrator

Print or Type Name

Signature

Title

Date

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

149M

O 27-28N-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 ☒ 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: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 522 psi (see attachment) b. (Original) 1291 psi (see attachment)		a. (Current) 1063 psi (see attachment) b. (Original) 3237 psi (see attachment)
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1213		BTU 1073
7. Producing or Shut-In?	SHUT-IN		SHUT-IN
Production Marginal? (yes or no)	NO		YES
* If Shut-In, give date and oil/gas/water rates of last production	Date: N/A Rates:	Date: N/A Rates:	Date: N/A Rates:
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:	Date: N/A Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)			
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 ☒ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ___ 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). 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 II
P.O. Drawer DD, Artesia, N.M. 88211-0719

OIL CONSERVATION DIVISION

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

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

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

☐ 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 149M
⁷ OGRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	⁹ Elevation 6501'

¹⁰ Surface Location

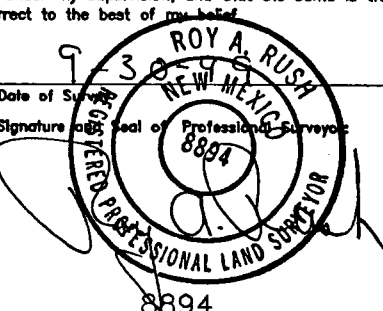
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	27	28-N	6-W		1120	SOUTH	1845	EAST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot ldn	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.
--	-------------------------------	----------------------------------	-------------------------

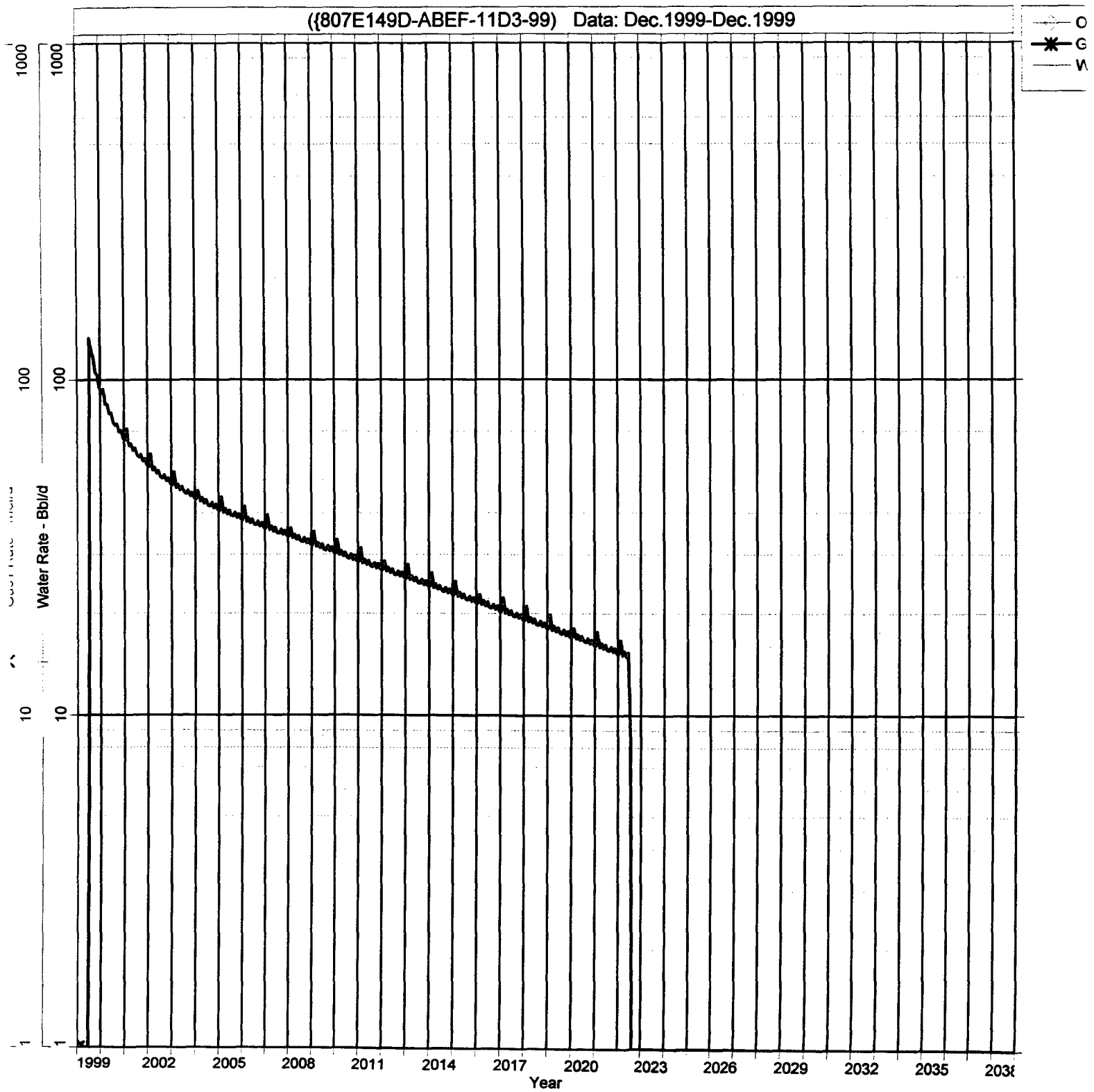
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16			
			<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <hr/> <p>Signature Peggy Cole</p> <hr/> <p>Printed Name Regulatory Administrator</p> <hr/> <p>Title</p> <hr/> <p>Date</p> <hr/>
	27		<p>FD. U.S.G.L.O. BC. 1914</p>
		SF-079050-C	
		<p>LAT. = 36° 38.5' N. LONG. = 107° 26.0' W.</p>	<p>18 SURVEYOR CERTIFICATION</p> <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> <hr/> <p>Date of Survey</p> <hr/> <p>Signature and Seal of Professional Surveyor</p> <div style="text-align: center;">  </div>
FD. U.S.G.L.O. BC. 1914	1120'	1845'	<p>2636.7' (M)</p> <p>N 00-01-59 E</p> <hr/> <p>FD. U.S.G.L.O. BC. 1914</p>
S 89-56-56 W	5284.87' (M)		<p>Certificate Number</p> <hr/>

San Juan 28-6 Unit #149M

Expected Production

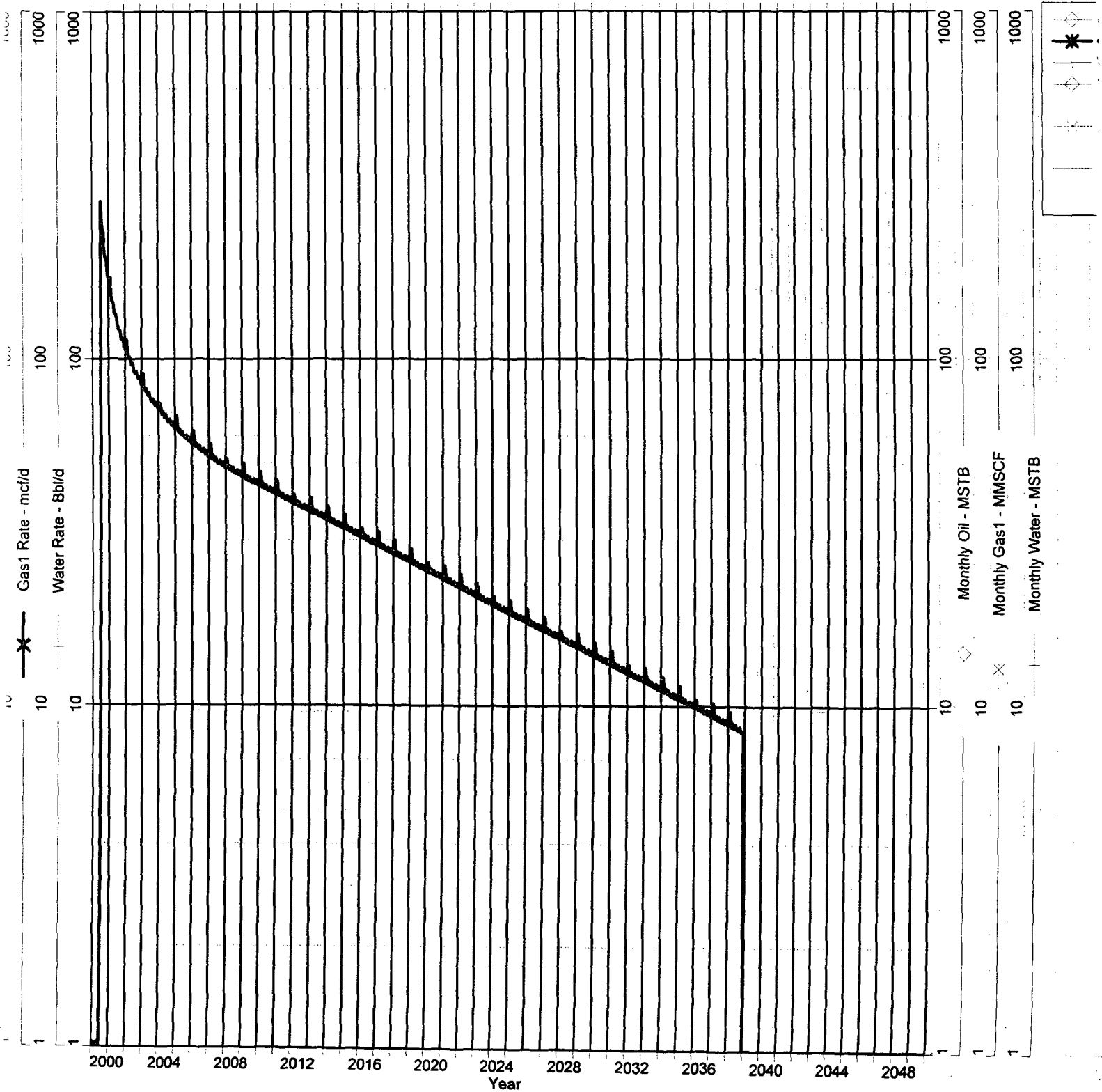
Mesaverde Formation



San Juan 28-6 Unit #149M

Expected Production

Dakota Formation



San Juan 28-6 Unit #149M

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	0.7	GAS GRAVITY	0.614
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.18	%N2	0.14
%CO2	1.01	%CO2	1.23
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5667	DEPTH (FT)	7800
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)	452	SURFACE PRESSURE (PSIA)	896
BOTTOMHOLE PRESSURE (PSIA)	522.4	BOTTOMHOLE PRESSURE (PSIA)	1062.7
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.7	GAS GRAVITY	0.614
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.18	%N2	0.14
%CO2	1.01	%CO2	1.23
%H2S	0	%H2S	0
DIAMETER (IN)	2	DIAMETER (IN)	1.5
DEPTH (FT)	5667	DEPTH (FT)	7800
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)	1097	SURFACE PRESSURE (PSIA)	2700
BOTTOMHOLE PRESSURE (PSIA)	1290.7	BOTTOMHOLE PRESSURE (PSIA)	3236.6

Page No.: 1

Print Time: Mon Dec 06 08:38:29 1999

Property ID: 1828

Property Name: SAN JUAN 28-6 UNIT | 29 | 49351A

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

--DATE-- ---CUM_GAS-- M SIWHP
-----Mcf-----Psi

10/16/55	0	1097.0
10/26/55	0	1096.0
08/24/56	166000	795.0
10/30/57	370000	781.0
11/06/58	514000	760.0
06/14/59	600000	689.0
06/14/60	753000	686.0
10/13/61	876000	689.0
10/28/62	960000	655.0
05/16/63	1006000	663.0
05/26/64	1072000	708.0
03/08/65	1138000	664.0
04/12/66	1244000	647.0
03/22/67	1318000	627.0
04/01/68	1397000	622.0
06/23/69	1497888	577.0
05/25/70	1574347	554.0
05/04/71	1659616	484.0
05/22/72	1742365	512.0
08/21/73	1838889	459.0
07/31/74	1922862	462.0
07/12/76	2025400	488.0
05/15/78	2114701	476.0
04/18/80	2184590	489.0
05/18/82	2266446	492.0
06/06/84	2321342	499.0
04/07/86	2362593	466.0
09/25/89	2444047	527.0
07/11/91	2455444	527.0
07/30/91	2455444	515.0
05/03/93	2548997	452.0

San Juan 28-6 Unit #149M

Mesaverde Offset

Page No.: 1

Print Time: Mon Dec 06 08:38:33 1999

Property ID: 1742

Property Name: SAN JUAN 28-6 UNIT | 149 | 52359A

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

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

04/17/70	0	2700.0
12/28/70	66430	1445.0
05/04/71	133788	1080.0
05/22/72	229897	831.0
08/21/73	328209	866.0
06/24/75	452279	755.0
08/08/77	575827	781.0
04/24/79	659479	682.0
10/14/81	779076	775.0
09/22/83	844811	829.0
06/07/85	884729	868.0
09/19/88	1020774	832.0
06/03/90	1098863	742.0
04/14/92	1172024	896.0

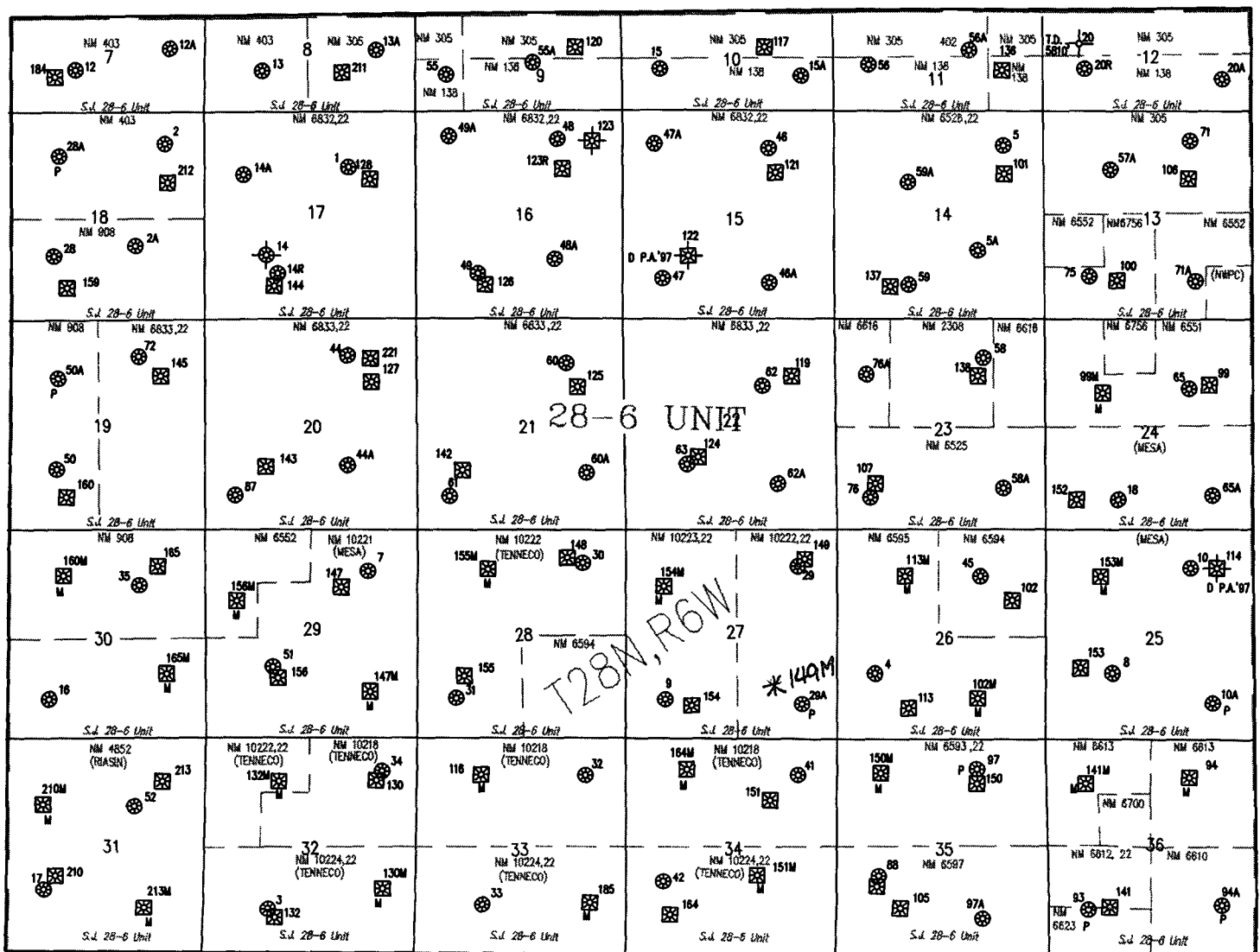
San Juan 28-6 Unit #149M

Dakota Offset

San Juan 28-6 Unit #149M

Mesaverde / Dakota

28N - 6W - 27



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.