

DATE IN 10/7/97	SUSPENSE 10/27/97	ENGINEER DC	LOGGED MW	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
- Engineering Bureau -

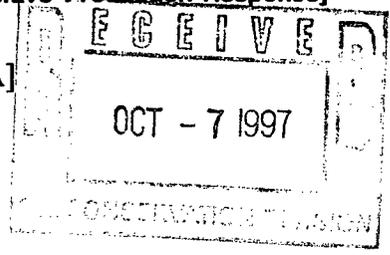
1706

**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  Regulatory/Compliance Administrator 10-3-97  
 Print or Type Name Signature Title Date

# **BURLINGTON RESOURCES**

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SAN JUAN DIVISION

October 3, 1997

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

Re: San Juan 28-6 Unit #180M  
1675'FNL, 1175'FWL Section 2, T-27-N, R-06-W, Rio Arriba County, NM  
API #30-039-25724

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 is a new drill Mesa Verde/Dakota well for the 1998 Program.

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. Anticipated production curve for the Mesa Verde and Dakota for at least year;
4. Notification list of offset operators - Burlington is the operator of the unit;
5. Shut in wellhead pressure and calculated down hole pressure of surrounding wells;
6. Nine-section plats for the Mesa Verde and Dakota.

Notification of Mesa Verde and Dakota interest owners is covered under Order R-10696 dated November 12, 1996.

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

Xc: Bureau of Land Management - Farmington  
NMOCD - Aztec

**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 :  
 Administrative  Hearing

EXISTING WELLBORE  
 YES  NO

**APPLICATION FOR DOWNHOLE COMMINGLING**

**Burlington Resources Oil & Gas Company** PO Box 4289, Farmington, NM 87499

Operator **SAN JUAN 28-6 UNIT** Address **180M D 02-27N-6W** County **Rio Arriba**

Lease Well No. Unit Ltr. - Sec - Twp - Rge Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7462 API NO. 30-039-25724 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	(Current) a. 723 psi (see attachment)	a.	a. 959 psi (see attachment)
	(Original) b. 1273 psi (see attachment)	b.	b. 3210 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1223		BTU 1064
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 of recent test (within 60 days)	Date: n/a Rates:	Date: 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: %	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). 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 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 Sean Woolverton TITLE Production Engineer DATE 10/2/97

TYPE OR PRINT NAME Sean C. Woolverton TELEPHONE NO. (505) 326-9700

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

District III  
1000 Rio Brazos 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-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

*API Number 30-039-		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 7462	*Property Name SAN JUAN 28-6 UNIT		*Well Number 180M
*OGRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		*Elevation 6287'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	2	27N	6W		1675	North	1175	WEST	RIO ARRIBA

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres MV-W/320.10 DK-N/320.42	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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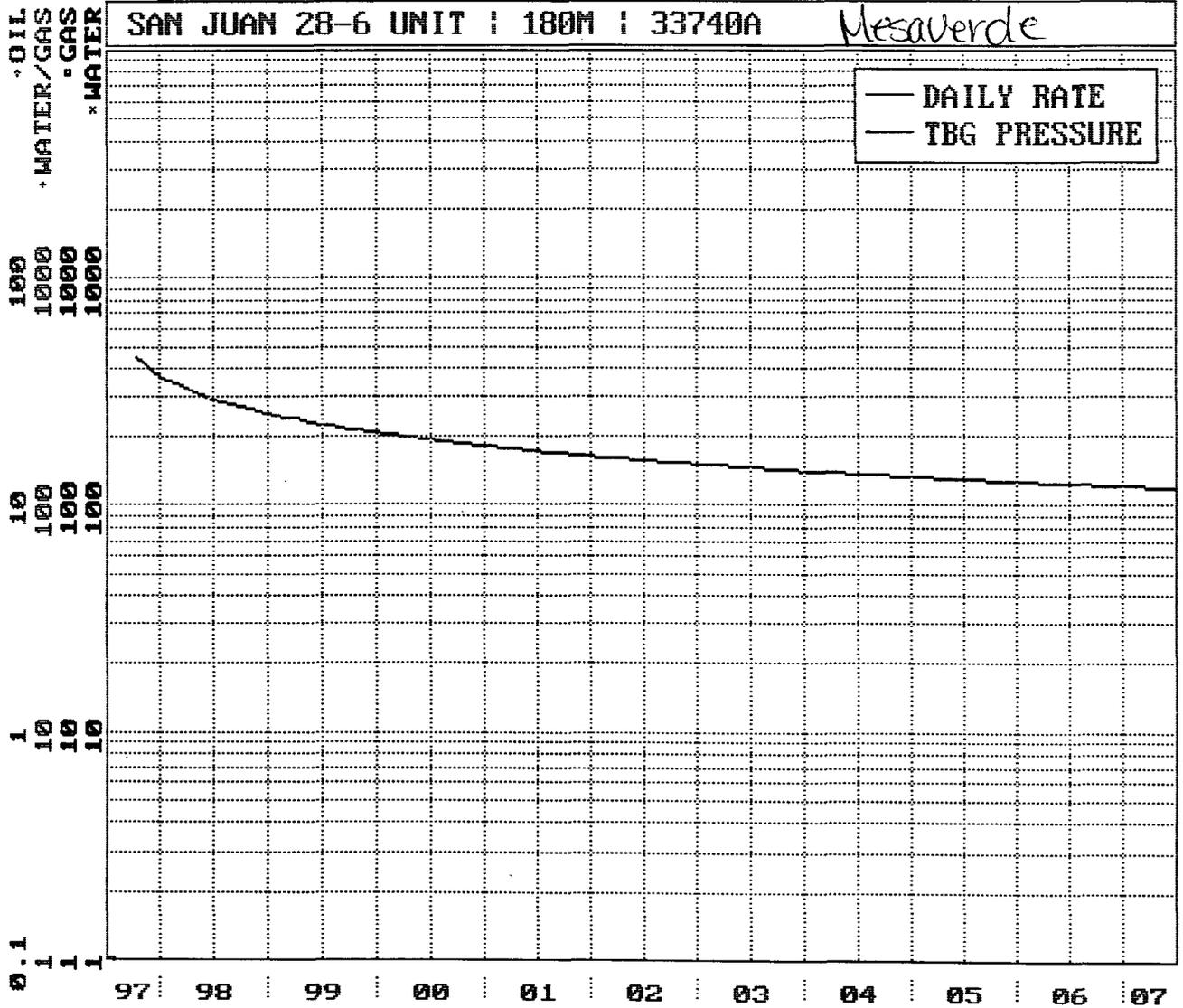
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<sup>16</sup>	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
	Signature <u>Peggy Bradfield</u> Printed Name <u>Regulatory Administrator</u> Title	
	Date	
<sup>18</sup> SURVEYOR CERTIFICATION 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.		Date of Survey <u>AUGUST 7, 1997</u> Signature of Surveyor 
Certificate Number <u>6857</u>		

# EXPECTED PRODUCTION CURVE

SAN JUAN 28-6 UNIT : 180M : 33740A

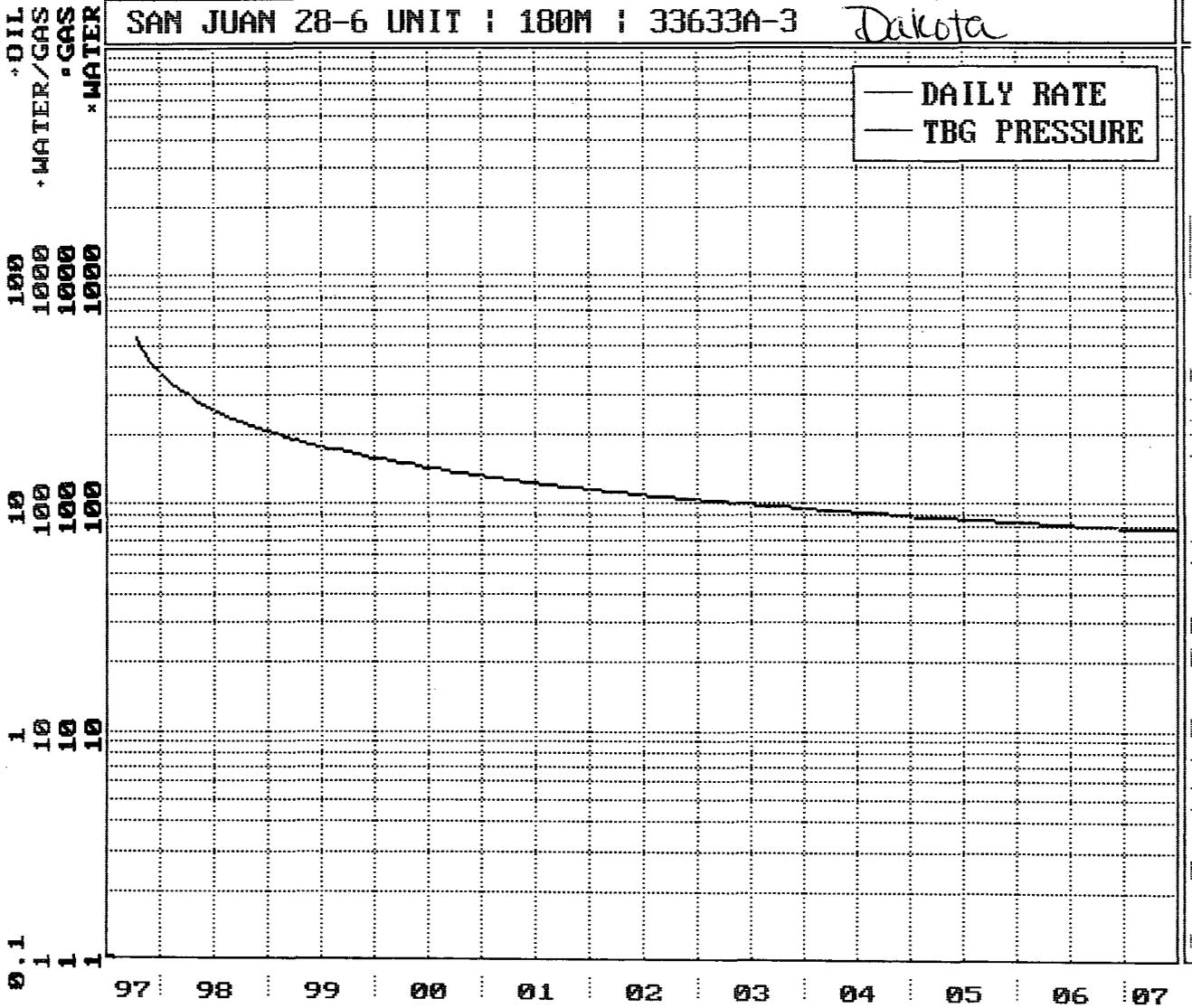
Mesaverde



# EXPECTED PRODUCTION CURVE

SAN JUAN 28-6 UNIT | 180M | 33633A-3

Dakota

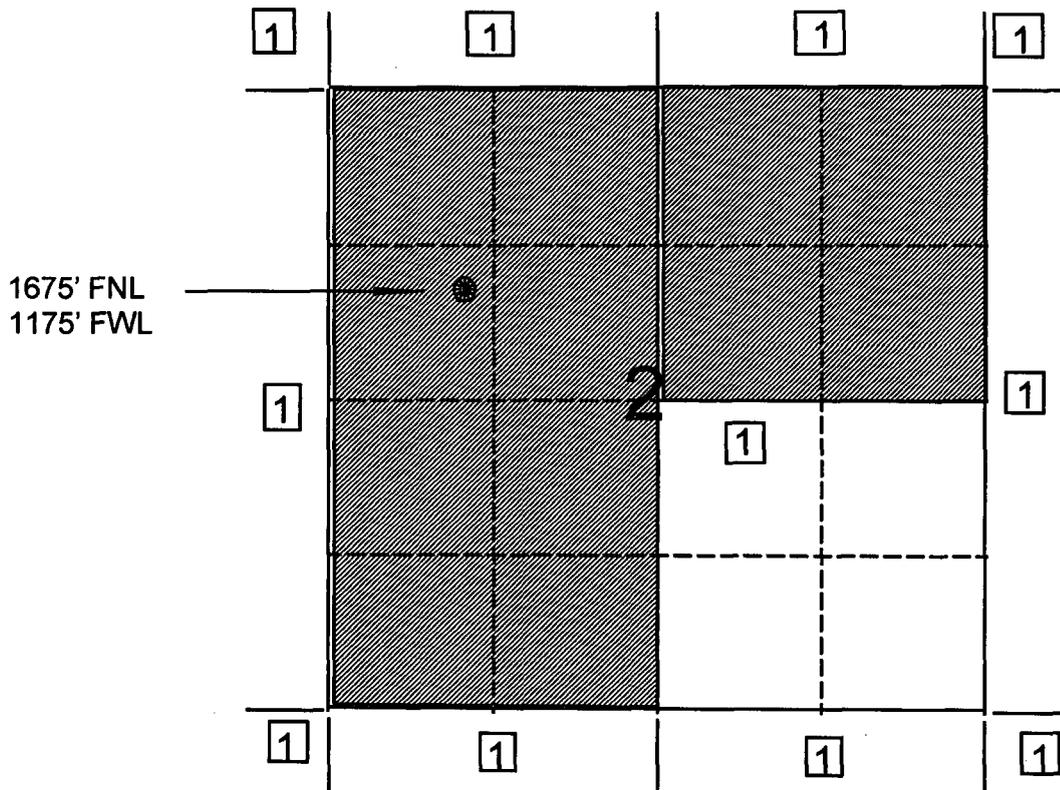


**BURLINGTON RESOURCES OIL AND GAS COMPANY**

**San Juan 28-6 Unit #180M  
OFFSET OPERATOR \ OWNER PLAT**

**Mesaverde (W/2) / Dakota (N/2) Formations Commingle Well**

**Township 27 North, Range 6 West**



**1) Burlington Resources Oil and Gas Company**

**SJ 28-6 Unit #180M**

Bottom Hole Pressures  
 Flowing and Static BHP  
 Cullender and Smith Method  
 Version 1.0 3/13/94

<b>Mesaverde</b>		<b>Dakota</b>	
<u>MV-Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.719	GAS GRAVITY	0.622
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.44	%N2	0.28
%CO2	0.74	%CO2	1.28
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	1.5
DEPTH (FT)	5616	DEPTH (FT)	7653
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)	620	SURFACE PRESSURE (PSIA)	810
BOTTOMHOLE PRESSURE (PSIA)	722.5	BOTTOMHOLE PRESSURE (PSIA)	958.5
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.719	GAS GRAVITY	0.622
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.44	%N2	0.28
%CO2	0.74	%CO2	1.28
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	1.5
DEPTH (FT)	5616	DEPTH (FT)	7653
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)	1077	SURFACE PRESSURE (PSIA)	2677
BOTTOMHOLE PRESSURE (PSIA)	1272.5	BOTTOMHOLE PRESSURE (PSIA)	3207.9

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Print Time: Mon Aug 25 11:00:47 1997

Property ID: 4086

Property Name: SAN JUAN 28-6 UNIT | 88 | 50188A-1

San Juan 28-6 Unit

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

#180M

Mesaverde Offset

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

07/30/58	0	1077.0	-original
10/13/58	0	1080.0	
06/14/59	39000	977.0	
06/14/60	145000	735.0	
06/13/61	186000	748.0	
05/29/62	254000	735.0	
05/09/63	335000	709.0	
05/20/64	414000	645.0	
09/08/65	490000	620.0	
04/12/66	518000	669.0	
03/22/67	557000	656.0	
10/10/68	625000	655.0	
12/22/69	688638	591.0	
05/25/70	716362	564.0	
05/04/71	785483	516.0	
05/22/72	847033	501.0	
08/21/73	934555	368.0	
07/31/74	990464	432.0	
07/12/76	1106479	408.0	
05/15/78	1169837	492.0	
04/18/80	1241758	517.0	
04/07/86	1382054	595.0	
09/18/89	1461979	612.0	
09/04/91	1481817	632.0	
10/21/91	1485207	620.0	-current

Page No.: 5

Print Time: Mon Aug 25 11:00:48 1997

Property ID: 1878

Property Name: SAN JUAN 28-6 UNIT | 169 | 44069A-1

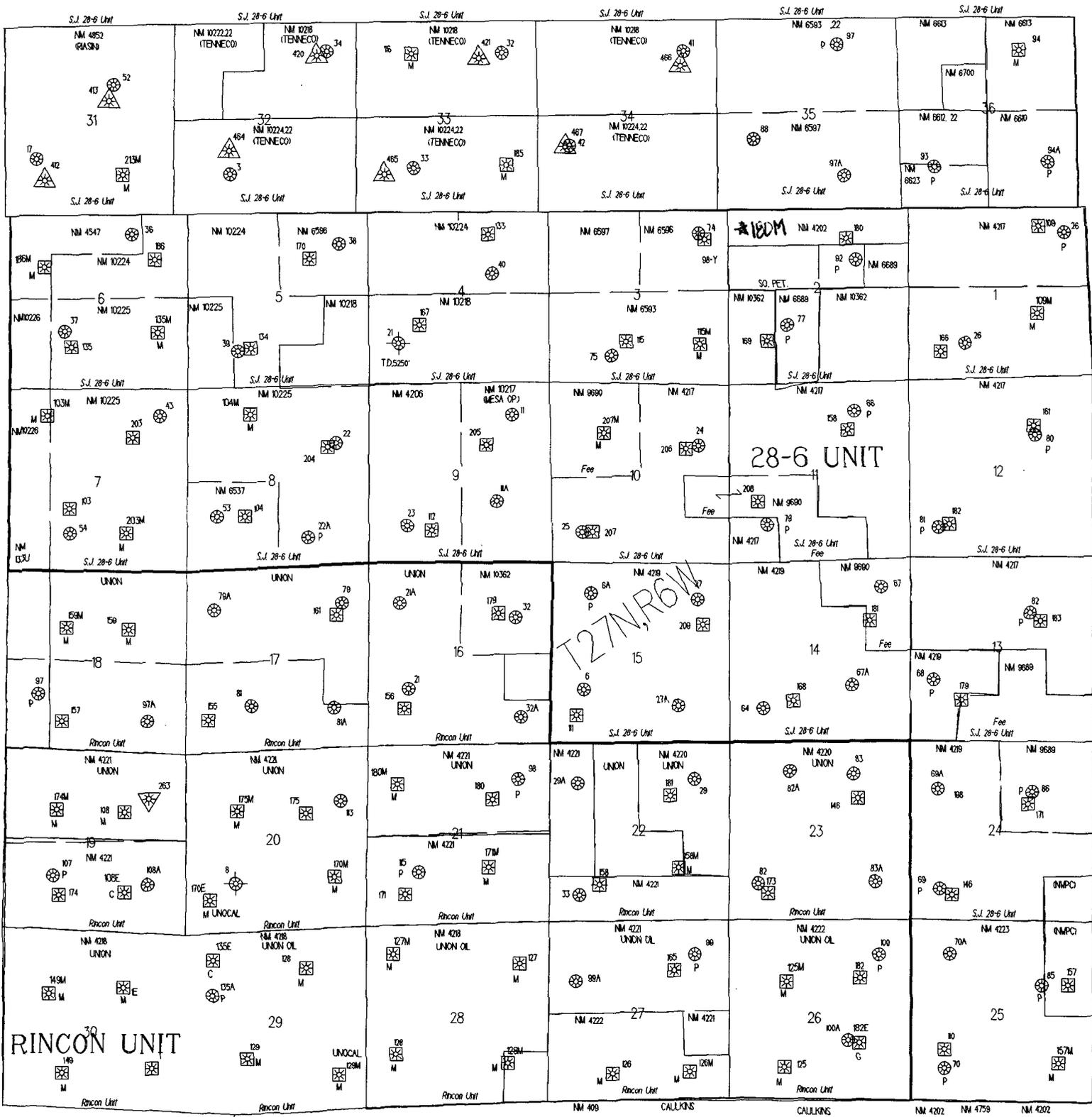
San Juan 28-6 Unit

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

#180M

Dakota Offset

--DATE--	---CUM GAS--	M SIWHP	
.....	.....Mcf.....	.....Psi.....	
08/01/72	1061	2677.0	-original
09/19/72	22585	1852.0	
08/29/73	88975	1037.0	
07/15/74	130382	957.0	
09/04/75	176793	775.0	
06/08/77	233154	619.0	
06/06/79	284961	662.0	
11/18/85	409617	629.0	
09/29/92	518234	810.0	-current



San Juan 28-6 Unit #180M

Mesverde / Dakota

27N-06W-02E

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.