

DATE IN 10/10/97	SUSPENSE 10/30/97	ENGINEER DC	LOGGED NW	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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

Print or Type Name

Signature

Title

Date

10-9-97

BURLINGTON RESOURCES

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 27-5 Unit #97M
1000'FNL, 1000'FWL Section 31, T-27-N, R-05-W, Rio Arriba County, NM
API #30-039-23728

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;
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-10694 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
Offset operators listed

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

BURLINGTON RESOURCES OIL & GAS COMPANY PO Box 4289, Farmington, NM 87499
Operator Address
SAN JUAN 27-5 UNIT 97M D, Sec. 31, T27N, R05W Rio Arriba
Lease Well No. Unit Ltr. - Sec - Twp - Rge County
Spacing Unit Lease Types: (check 1 or more)
OGRID NO. 14538 Property Code 7455 API NO. 30-039-2372800 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	Mesa Verde - 72319		Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	4895' - 5835'		7458' - 7666'
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. 586 Psia @ 5365'	a.	a. 485 Psia @ 7562'
	(Original) b. 1225 Psia	b.	b. 2467 Psia
6. Oil Gravity (°API) or Gas BTU Content	1165		1079
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
* 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 * If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: Rates:	Date: Rates:	Date: Rates:
	Date: 9/8/97 Rates: 88 MCFD	Date: Rates:	Date: 9/7/97 Rates: 142 MCFD
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: Gas:	Oil: Gas:	Oil: Gas:

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. NMOC Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10694
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 *Kevin L. Midkiff* sr. operations TITLE Engineer DATE 10/02/97

TYPE OR PRINT NAME Kevin L. Midkiff TELEPHONE NO. (505) 326-9700

OIL CONSERVATION DIVIS. N

P. O. BOX 2088

Form C-107
Revised 10-1-7

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

All distances must be from the outer boundaries of the Section.

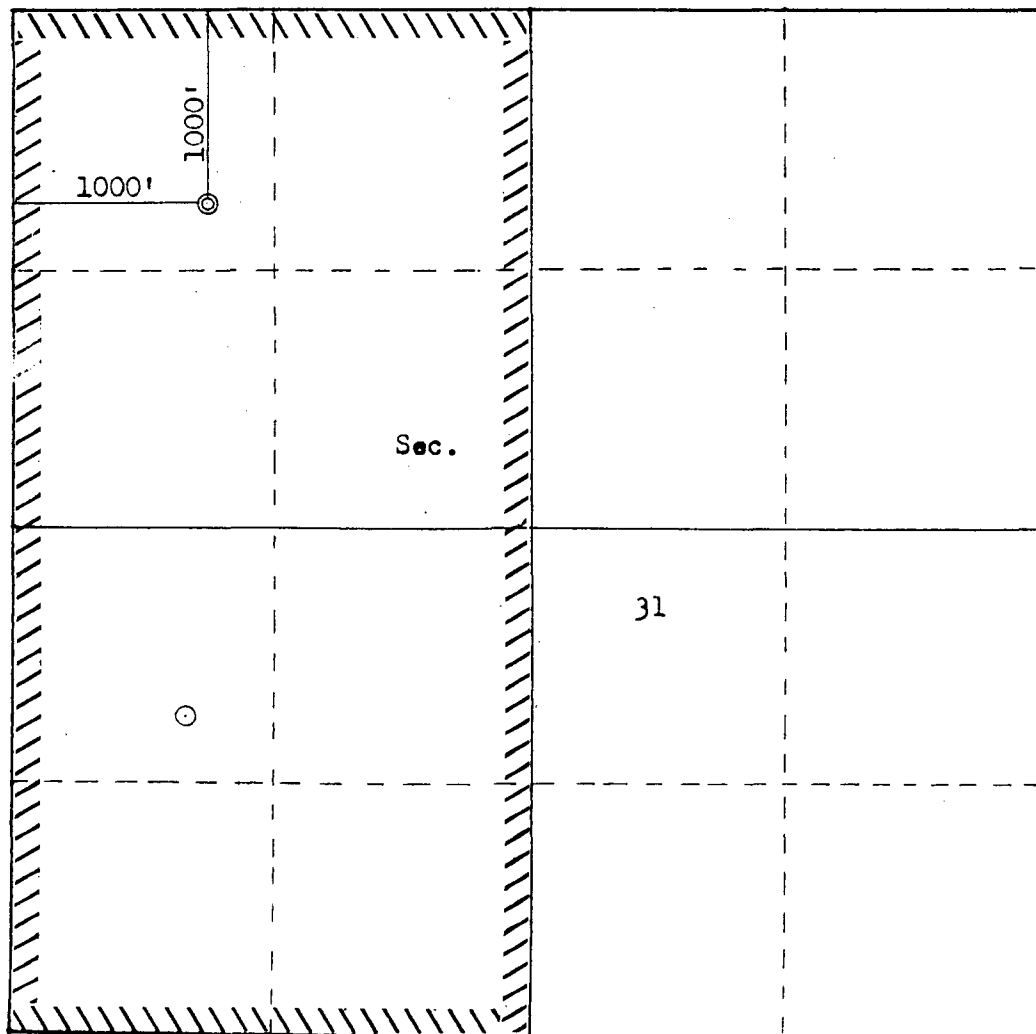
Operator EL PASO NATURAL GAS COMPANY			Lease SAN JUAN 27-5 UNIT (SF 079367)		Well No. 97M
Unit Letter D	Section 31	Township 27N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 1000 feet from the North line and 1000 feet from the West line					
Ground Level Elev. 6596	Producing Formation Mesa Verde /Dakota		Pool Blanco /Basin	Dedicated Acreage: 319.08 & 319.08 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: Plat reissued this location was San Juan 27-5 Unit #54A.



Scale: 1"=1000'

CERTIFICATION

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

Name

Drilling Clerk

Position

El Paso Natural Gas Co.

Company

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

October 31, 1984

Registered Professional Engineer
and Land Surveyor.

Fred B. Kerr Jr.

Certificate No. 3950

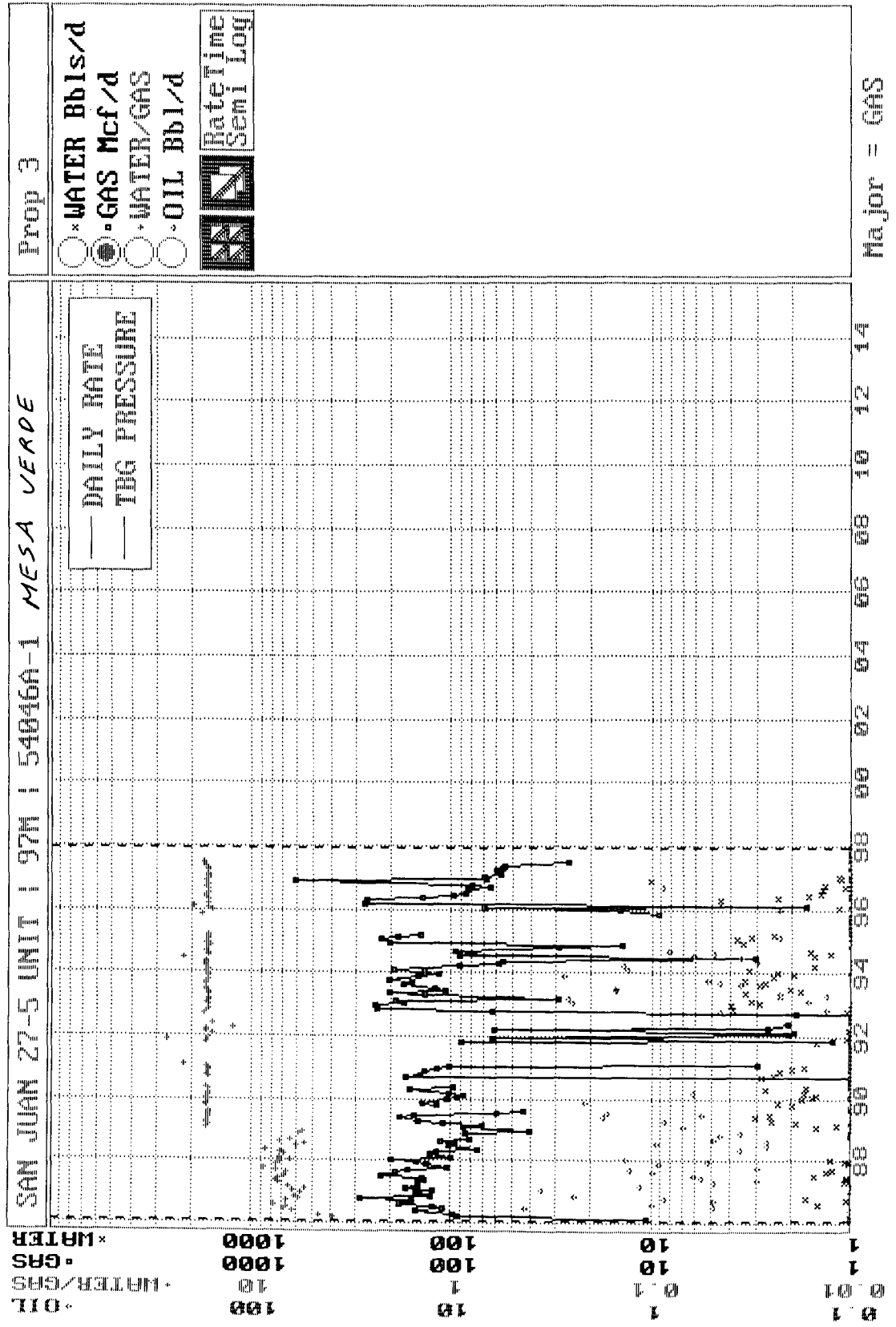
3950

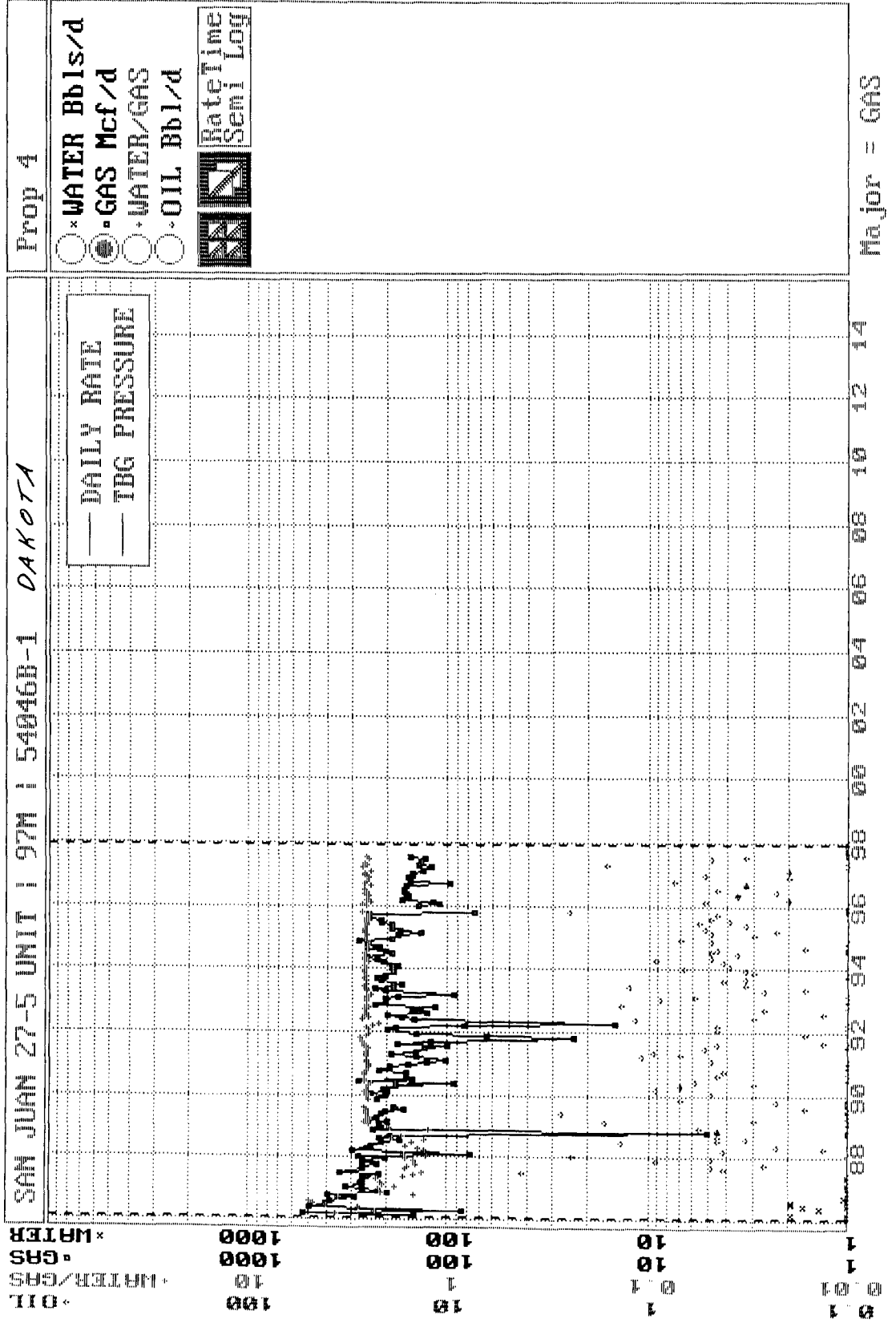
<p>0199 SAN JUAN 28-6 UN</p> <p>0133 SAN JUAN 27-5 UN</p> <p>0138E SAN JUAN 27-5 UN</p> <p>0138 SJU 27-5</p>		
<p>0122 RINCON UN</p> <p>0182 RINCON UN</p> <p>0120 SAN JUAN 28-6 UN</p> <p>0157 SAN JUAN 28-6 UN</p> <p>0157 SAN JUAN 27-5 UN</p> <p>25</p>	<p>0188 SAN JUAN 27-5 UN</p> <p>0154 SAN JUAN 27-5 UN</p> <p>013 SAN JUAN 27-5 UN</p> <p>0137 SAN JUAN 27-5 UN</p> <p>30</p>	<p>0138E SAN JUAN 27-5 UN</p> <p>0138 SJU 27-5</p> <p>29</p>
<p>0110 SAN JUAN 28-6 UN</p> <p>0141 SAN JUAN 27-5 UN</p> <p>0173 SAN JUAN 28-6 UN</p> <p>0157M SAN JUAN 28-6 UN</p> <p>0173 SAN JUAN 27-5 UN</p> <p>0173 SAN JUAN 27-5 UN</p> <p>San Juan 27-5 #97M</p>		
<p>0110 JOHNSTON-STATE</p> <p>013 JOHNSTON A</p> <p>0160 SAN JUAN 27-5 UN</p> <p>0136 SAN JUAN 27-5 UN</p> <p>011 JOHNSTON-STATE</p> <p>012 JOHNSTON-STATE</p> <p>36</p>	<p>0136 SAN JUAN 27-5 UN</p> <p>0160 SAN JUAN 27-5 UN</p> <p>0136 SAN JUAN 27-5 UN</p> <p>011 JOHNSTON-STATE</p> <p>012 JOHNSTON-STATE</p> <p>31</p>	<p>0136 SAN JUAN 27-5 UN</p> <p>0160 SAN JUAN 27-5 UN</p> <p>0136 SAN JUAN 27-5 UN</p> <p>011 JOHNSTON-STATE</p> <p>012 JOHNSTON-STATE</p> <p>32</p>
<p>0118-E BREECH-E</p> <p>1</p>	<p>0156 WEST</p> <p>0156 WEST</p> <p>0156 WEST</p> <p>6</p>	<p>0156 WEST</p> <p>0156 WEST</p> <p>0156 WEST</p> <p>5</p>

San Juan 27-5 #97M

D, Sec 31 T27N, R5W

MV / DK





San Juan 27-5 Unit No. 97M

Pressure Data for BHP Calculations

Dakota Formation

1/23/86	2020 psig	Original shut in surface pressure
6/24/97	399 psig	Current shut in surface pressure

Mesa Verde Formation

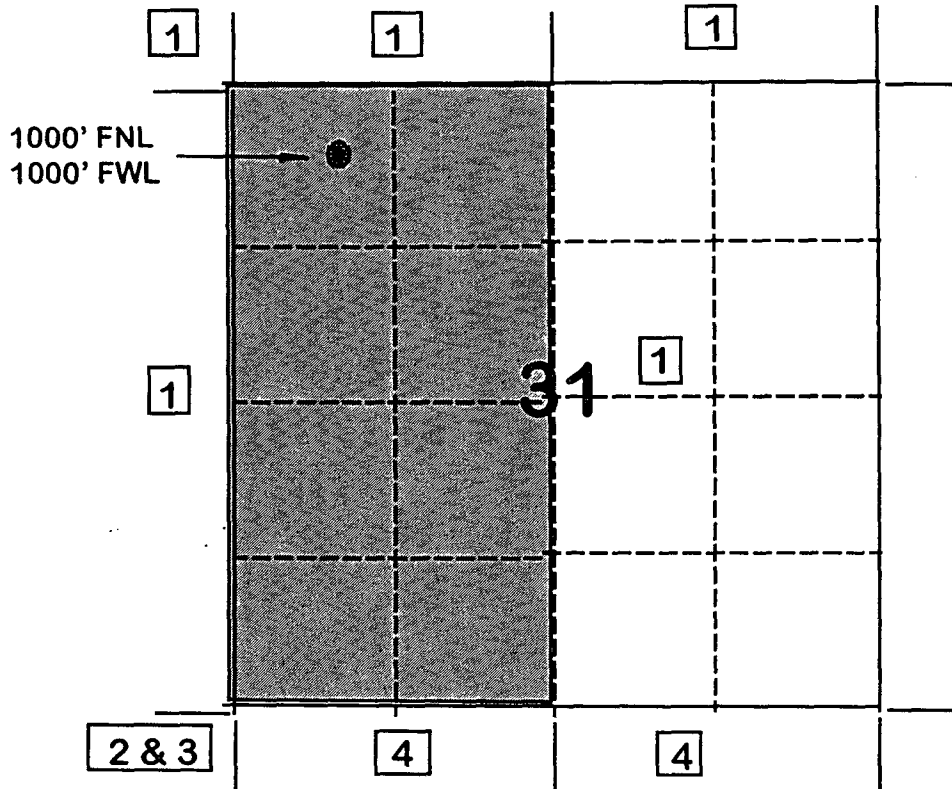
11/2/61	1043 psig	Original MV shut-in pressure from parent well in same section (San Juan 27-5 Unit No. 67)
6/24/97	500 psig	Current shut-in surface pressure

BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 27-5 Unit #97M
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde / Dakota Formations Commingle Well

Township 27 North, Range 5 West



- 1) Burlington Resources Oil and Gas Company
- 2) Caulkins Oil Company
1600 Broadway, Suite 2100
Denver, CO 80202
- 3) Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500
- 4) Taurus Exploration USA, Inc.
2101 6th Avenue North
Birmingham, Alabama 35203-2784

San Juan 27-5 Unit No. 97M
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method
Version 1.0 3/13/94

Mesa Verde		Dakota	
<u>MV - Current</u>		<u>DK-Current</u>	
GAS GRAVITY	0.687	GAS GRAVITY	0.631
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.41	%N2	0.18
%CO2	1.09	%CO2	1.29
%H2S	0	%H2S	0
DIAMETER (IN)	6.4	DIAMETER (IN)	4
DEPTH (FT)	5365	DEPTH (FT)	7562
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	140	BOTTOMHOLE TEMPERATURE (DEG F)	165
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	512	SURFACE PRESSURE (PSIA)	411
BOTTOMHOLE PRESSURE (PSIA)	586.3	BOTTOMHOLE PRESSURE (PSIA)	485.3
<u>MV - Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.687	GAS GRAVITY	0.631
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.41	%N2	0.18
%CO2	1.09	%CO2	1.29
%H2S	0	%H2S	0
DIAMETER (IN)	6.4	DIAMETER (IN)	4
DEPTH (FT)	5365	DEPTH (FT)	7562
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	140	BOTTOMHOLE TEMPERATURE (DEG F)	165
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1055	SURFACE PRESSURE (PSIA)	2032
BOTTOMHOLE PRESSURE (PSIA)	1224.6	BOTTOMHOLE PRESSURE (PSIA)	2466.8
Note: The pressure used here is from the SJ 27-5 Unit No. 67 which was a parent well in the same section.			

FDG055M4 3725

WELL PRODUCTION 8/8'S VOLUME

09/10/97 15:11:40

START OF DATA

DP NO: 54046A

DATE: 970908 (YYMMDD FORMAT)

SAN JUAN 27-5 UNIT

97M SCROLL FORWARD BY DATE: _

S *MESA VERDE*

E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-	
L	PRODUCED	ON	(BOPD	BOPM)	(MCFD MCFM)	(BWPD BWPM)

-	09/08/97	24.0	0.00	0.00	88 832	0.00 0.00
-	09/07/97	24.0	0.00	0.00	95 744	0.00 0.00
-	09/06/97	24.0	0.00	0.00	90 649	0.00 0.00
-	09/05/97	24.0	0.00	0.00	212 559	0.00 0.00
-	09/04/97	24.0	0.00	0.00	212 347	0.00 0.00
-	09/03/97	15.3	0.00	0.00	135 135	0.00 0.00
-	09/02/97	0.0	0.00	0.00	0 0	0.00 0.00
-	09/01/97	0.0	0.00	0.00	0 0	0.00 0.00
-	08/31/97	0.0	0.00	0.00	0 0	0.00 0.00
-	08/30/97	0.0	0.00	0.00	0 0	0.00 0.00
-	08/29/97	0.0	0.00	0.00	0 0	0.00 0.00

ENTER I UNDER SEL FOR MAINTENANCE

PF12=MAIN MENU	PF6=NRI	PF10=BROWSE MENU	PF11=INQ/UPDATE MENU
	ENTER=BACKWARDS		PF24=HELP

FDG055M4 3725

WELL PRODUCTION 8/8'S VOLUME

09/10/97 15:12:03

START OF DATA

DP NO: 54046B

DATE: 970908 (YYMMDD FORMAT)

SAN JUAN 27-5 UNIT

97M SCROLL FORWARD BY DATE: _

S *DAKOTA*

E	DATE	HOURS	-OIL PRODN-	-GAS PRODN-	-WATER PRODN-
L PRODUCED	ON	(BOPD	BOPM)	(MCFD MCFM)	(BWPD BWPM)
-	09/08/97	24.0	0.00	0.00	142 1146 0.00 0.00
-	09/07/97	24.0	0.00	0.00	169 1004 0.00 0.00
-	09/06/97	24.0	0.00	0.00	132 835 0.00 0.00
-	09/05/97	24.0	0.00	0.00	144 703 0.00 0.00
-	09/04/97	24.0	0.00	0.00	144 559 0.00 0.00
-	09/03/97	24.0	0.00	0.00	144 415 0.00 0.00
-	09/02/97	24.0	0.00	0.00	144 271 0.00 0.00
-	09/01/97	24.0	0.00	0.00	127 127 0.00 0.00
-	08/31/97	24.0	0.00	0.00	150 4247 0.00 0.00
-	08/30/97	24.0	0.00	0.00	150 4097 0.00 0.00
-	08/29/97	24.0	0.00	0.00	150 3947 0.00 0.00

ENTER I UNDER SEL FOR MAINTENANCE

PF12=MAIN MENU

PF6=NRI PF10=BROWSE MENU
ENTER=BACKWARDSPF11=INQ/UPDATE MENU
PF24=HELP

FARMINGTON

ANNUAL PRODUCTION FOR 54046A

PHS020M1

SAN JUAN 27-5 UNIT 97M

BLANCO MESAVERDE (PRORATED GAS FIELD MESAVERDE ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLs

PC DATE

MCF

DATE

BBLs

=====

YEAR	OIL	OIL CUM	GAS	GAS CUM	WATER	WATER CUM
1986	291	291	45683	45683	280	280
1987	328	619	56194	101877	396	676
1988	142	761	34838	136715	231	907
1989	235	996	37281	173996	623	1530
1990	20	1016	33992	207988	568	2098
1991		1016	7947	215935	134	2232
1992	18	1034	18701	234636	312	2544
1993	389	1423	53939	288575	902	3446
1994	165	1588	32340	320915	542	3988
1995	14	1602	17748	338663	296	4284

POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

FARMINGTON

ANNUAL PRODUCTION FOR 54046A

PHS020M1

SAN JUAN 27-5 UNIT 97M

BLANCO MESAVERDE (PRORATED GAS FIELD MESAVERDE ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLs

PC DATE

MCF

DATE

BBLs

=====

YEAR	OIL	OIL CUM	GAS	GAS CUM	WATER	WATER CUM
1996	30	1632	56295	394958	941	5225
1997		1632	9826	404784	164	5389

POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

FARMINGTON

ANNUAL PRODUCTION FOR 54046B

PHS020M1

SAN JUAN 27-5 UNIT 97M

BASIN DAKOTA (PRORATED GAS) FIELD

DAKOTA ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLs

PC DATE

MCF

DATE

BBLs

YEAR	OIL	OIL CUM	GAS	GAS CUM	WATER	WATER CUM
1986			110667	110667	357	357
1987	209	209	96803	207470	166	523
1988	223	432	74010	281480	112	635
1989	187	619	64137	345617	163	798
1990	122	741	69002	414619	176	974
1991	141	882	44922	459541	115	1089
1992	129	1011	55808	515349	142	1231
1993	148	1159	69959	585308	180	1411
1994	169	1328	80952	666260	187	1598
1995	191	1519	61546	727806	158	1756

POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

.FARMINGTON

ANNUAL PRODUCTION FOR 54046B

PHS020M1

SAN JUAN 27-5 UNIT 97M

BASIN DAKOTA (PRORATED GAS) FIELD

DAKOTA ZONE

===== OIL CUM =====

===== GAS CUM =====

===== WATER CUM =====

PC DATE

BBLS

PC DATE

MCF

DATE

BBLS

```
=====
YEAR      OIL      OIL CUM      GAS      GAS CUM      WATER  WATER CUM
1996      131      1650      54102     781908       138     1894
1997       82      1732      29620     811528       76     1970
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POSITION CURSOR BY YEAR AND PRESS ENTER TO DISPLAY MONTHLY PRODUCTION

ENTER - CONTINUES ANNUAL DISPLAY

PF3 - TRANSFER TO UPDATE

PF6 - RETURN TO WELL-INFO DISPLAY

PF9 - ANNUAL INJECTION DISPLAY

PF10 - HELP INFORMATION

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. 11626
ORDER NO. R-10694

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 27-5 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 27-5 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 27-5 Unit which encompasses some 23,043 acres in Township 27 North, Range 5 West, NMPM, San Juan County, New Mexico.

(5) Within the San Juan 27-5 Unit, the applicant currently operates one hundred and one (101) Basin-Dakota Gas Pool wells, one hundred and five (105) Blanco-Mesaverde Gas Pool wells, eighty-seven (87) South Blanco-Pictured Cliffs and Tapacito-Pictured Cliffs Gas Pool wells, and four (4) 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 27-5 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 27-5 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 27-5 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 27-5 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 27-5 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 583 MMCFG and 426 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 393 MCFGD and 63 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 27-5 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 27-5 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 3,141 psi and 1,118 psi, respectively; and,
- b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations are approximately 1,032 psi and 441 psi, respectively.

(10) There is sufficient pressure data available within the San Juan 27-5 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 27-5 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 27-5 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 27-5 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 27-5 Unit every time a Form C-107-A is submitted to the Division. There is a considerable number of such interest owners within the unit;

- c) providing notice to each interest owner within the San Juan 27-5 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 27-5 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 27-5 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 27-5 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 27-5 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 27-5 Unit, San Juan County, New Mexico, is hereby approved.

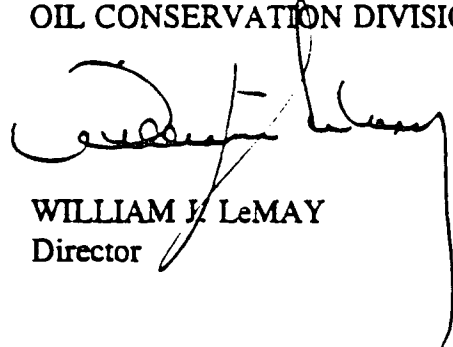
(2) Upon filing of Division Form No. C-107-A's for wells subsequently downhole commingled within the San Juan 27-5 Unit Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictured Cliffs and Dakota formations as "marginal", supporting data to verify 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 27-5 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 27-5 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

**San Juan 27-5 Unit No. 97M
Proposed Allocation Formula**

Production allocation based on production over the four year period 1993 to 1996

	1993	1994	1995	1996	Total
	<u>MCF</u>	<u>MCF</u>	<u>MCF</u>	<u>MCF</u>	<u>MCF</u>
Mesa Verde	53,939	32,340	17,748	56,295	160,322
Dakota	<u>69,959</u>	<u>80,952</u>	<u>61,546</u>	<u>54,102</u>	<u>266,559</u>
	123,898	113,292	79,294	110,397	426,881

	1993	1994	1995	1996	Total
	<u>Bbl. Oil</u>	<u>Bbl. Oil</u>	<u>Bbl. Oil</u>	<u>Bbl. Oil</u>	<u>Bbl. Oil</u>
Mesa Verde	1,423	1,588	1,602	1,632	6,245
Dakota	<u>1,159</u>	<u>1,328</u>	<u>1,519</u>	<u>1,650</u>	<u>5,656</u>
	2,582	2,916	3,121	3,282	11,901

Gas Allocation:

$$\text{Mesa Verde \%} = \frac{(\text{Total Mesa Verde Production})}{(\text{Total Combined Production})} = \frac{(160,322 \text{ MCF})}{(426,881 \text{ MCF})} = 37.60\%$$

$$\text{Dakota \%} = \frac{(\text{Total Dakota Production})}{(\text{Total Combined Production})} = \frac{(266,559 \text{ MCF})}{(426,881 \text{ MCF})} = 62.40\%$$

Oil Allocation:

$$\text{Mesa Verde \%} = \frac{(\text{Total Mesa Verde Production})}{(\text{Total Combined Production})} = \frac{(6,245 \text{ Bbl. Oil})}{(11,901 \text{ Bbl. Oil})} = 52.50\%$$

$$\text{Dakota \%} = \frac{(\text{Total Dakota Production})}{(\text{Total Combined Production})} = \frac{(5,656 \text{ Bbl. Oil})}{(11,901 \text{ Bbl. Oil})} = 47.50\%$$