

BURLINGTON RESOURCES

SAN JUAN DIVISION

September 10, 1997

SENT FEDERAL EXPRESS

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

Re: San Juan 28-6 Unit #210M
1685'FNL, 900'FWL Section 31, T-28-N, R-6-W, Rio Arriba County, NM
API #30-039-not yet assigned

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. Anticipated production curve for the Mesa Verde and Dakota for at least year;
4. Notification list of offset operators - Burlington is the offset operator;
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-10696 issued November 12, 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

xc: NMOCD - Aztec
Bureau of Land Management - Farmington

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 210M D 31-28N-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-not assigned 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. 761 psi (see attachment)	a.	a. 847 psi (see attachment)
	(Original) b. 1178 psi (see attachment)	b.	b. 3202 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1211		BTU 1098
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: 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 09/10/97

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form
Revised February 1997
Instructions
Submit to Appropriate District
State Lease - 2
Fee Lease - 3

District II
PO Drawer 00, Artesia, NM 88211-0719

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

District III
1000 Rio Brazos Rd., Aztec, NM 87410

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

AMENDED R

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 Num 210M
OGRID No. 14538	Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		Elevation 6579

¹⁰ Surface Location

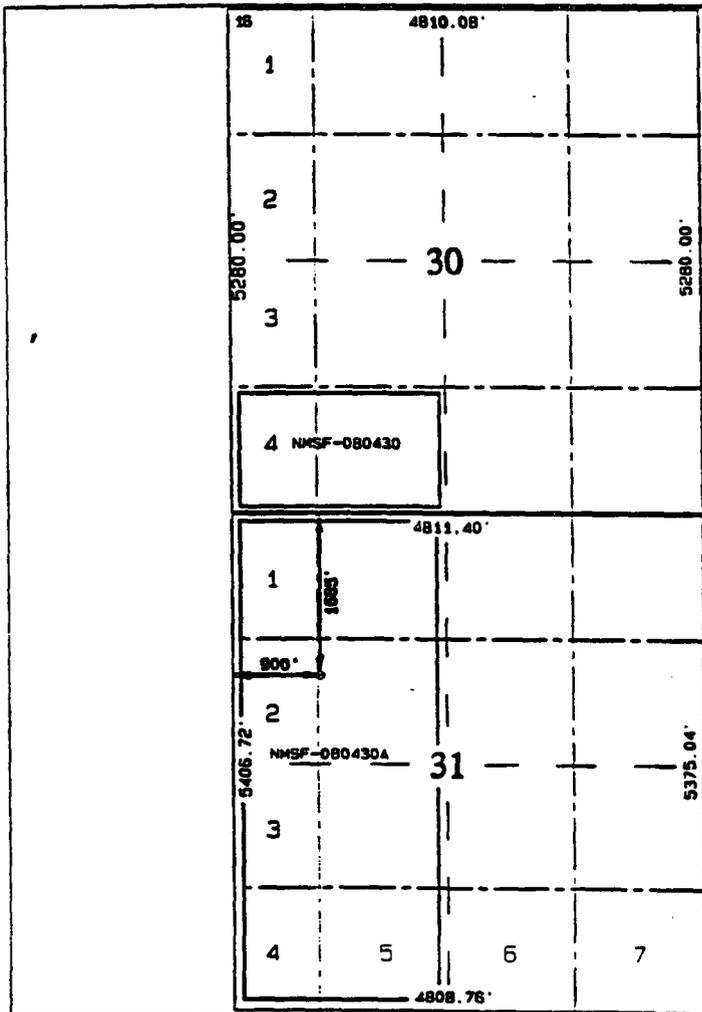
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Cont
F	31	28N	6W		1685	North	900	West	Rio A

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	Cont

¹² Deducted Acres MV-W 268.99 DK- 334.79	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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



¹⁷ OPERATOR CERTIFIC.
I hereby certify that the information herein is true and complete to the best of my knowledge and belief.

Peggy Bradfield
Signature

Peggy Bradfield
Printed Name

Regulatory Administrator
Title

7-11-97
Date

Date

¹⁸ SURVEYOR CERTIFIC.
I hereby certify that the well location on this plat was plotted from field actual surveys made by me or under my supervision, and that the same is correct to the best of my belief.

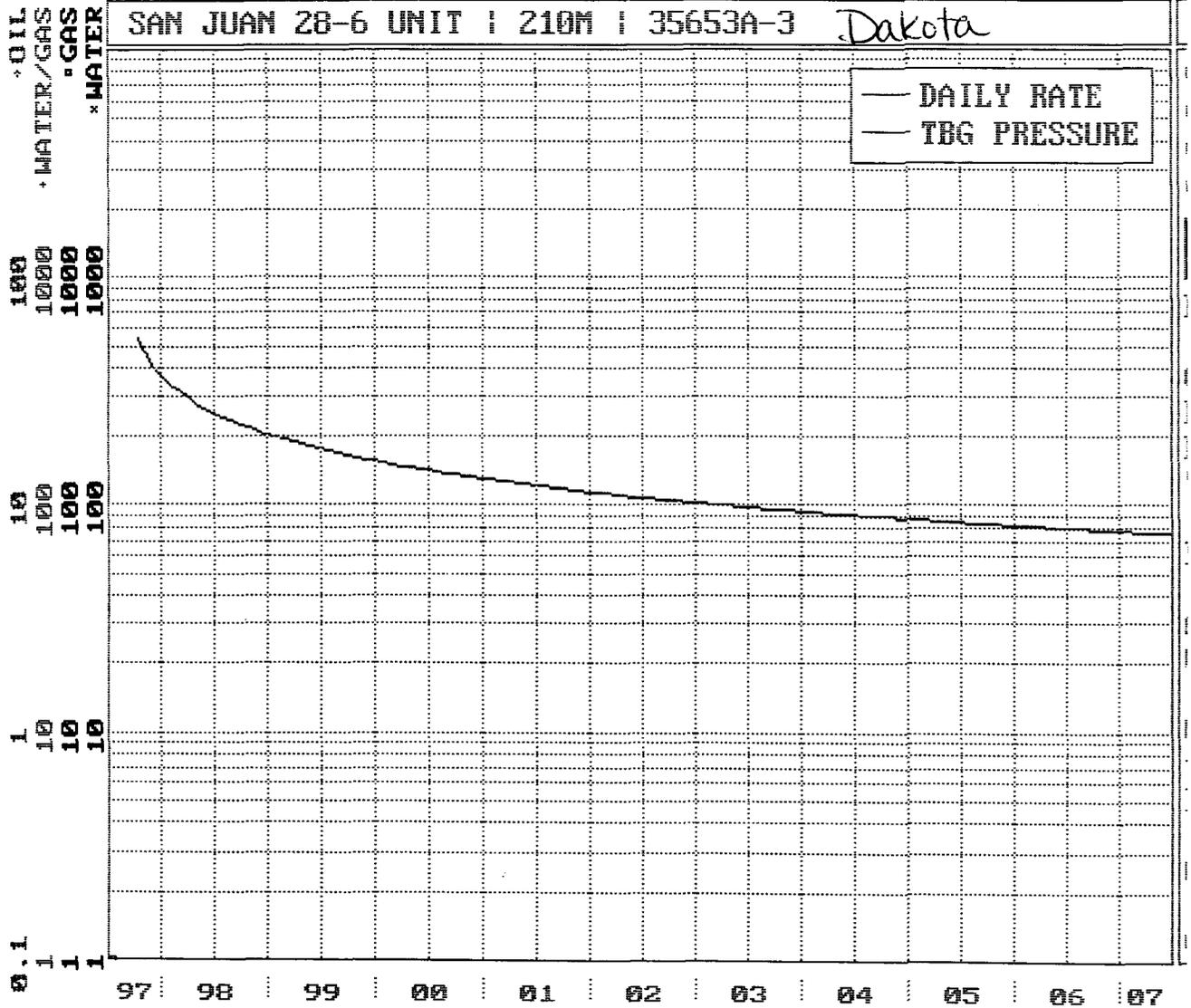
6/10/97
Date of Survey
Signature

C. EDWARD
NEW MEXICO
6857
Professional Surveyor

6857
Certificate Number

EXPECTED PRODUCTION CURVE

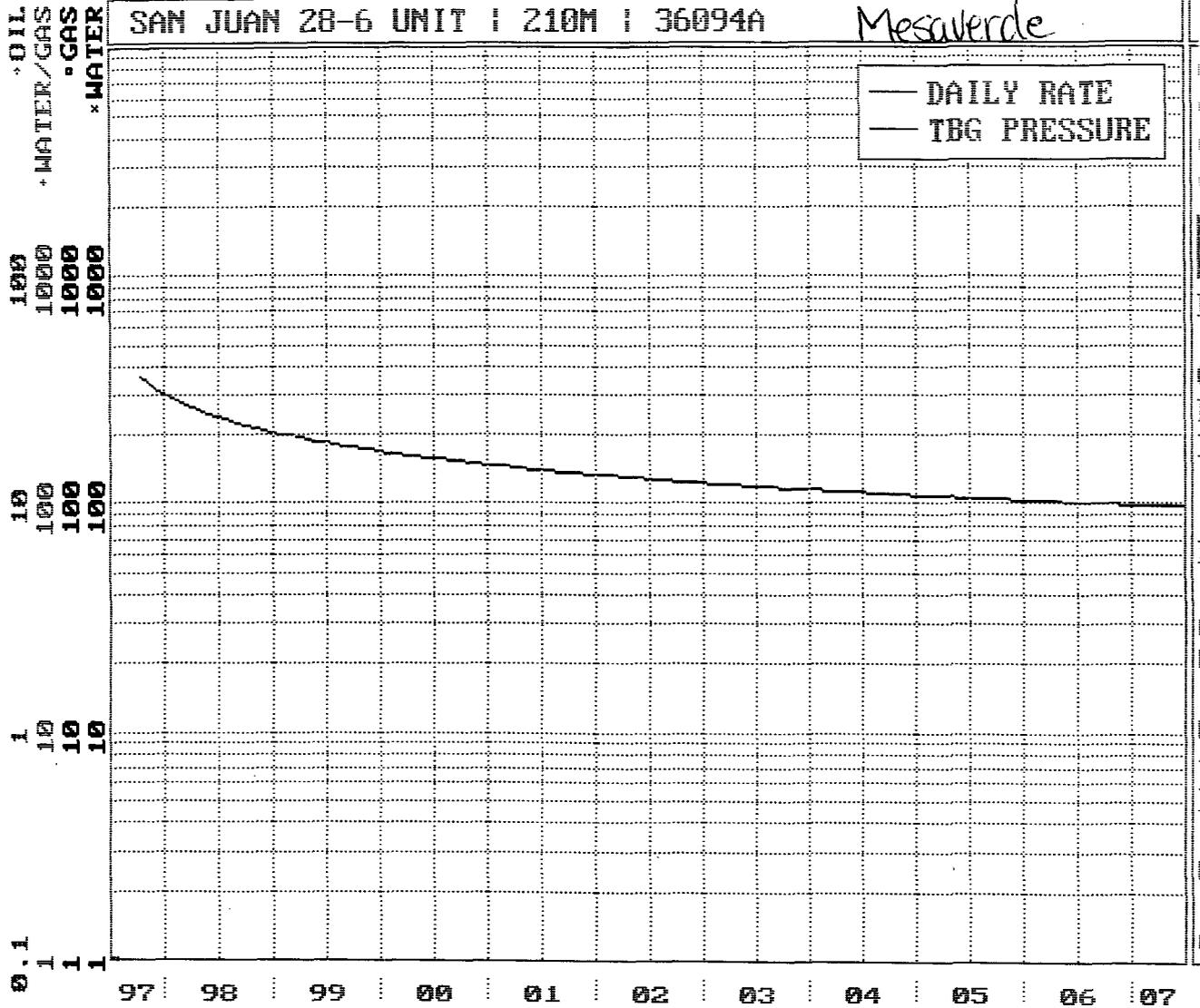
SAN JUAN 28-6 UNIT | 210M | 35653A-3 Dakota



EXPECTED PRODUCTION CURVE

SAN JUAN 28-6 UNIT | 210M | 36094A

Mesaverde



SJ 28-6 Unit #210M
 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	0.709	GAS GRAVITY	0.64
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.28	%N2	0.14
%CO2	0.73	%CO2	1.09
%H2S	0	%H2S	0
DIAMETER (IN)	1	DIAMETER (IN)	1.5
DEPTH (FT)	5640	DEPTH (FT)	7741
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)	654	SURFACE PRESSURE (PSIA)	712
BOTTOMHOLE PRESSURE (PSIA)	761.4	BOTTOMHOLE PRESSURE (PSIA)	847.4
<u>MV-Original</u>		<u>DK-Original</u>	
GAS GRAVITY	0.709	GAS GRAVITY	0.64
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.28	%N2	0.14
%CO2	0.73	%CO2	1.09
%H2S	0	%H2S	0
DIAMETER (IN)	1	DIAMETER (IN)	1.5
DEPTH (FT)	5640	DEPTH (FT)	7741
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)	1002	SURFACE PRESSURE (PSIA)	2646
BOTTOMHOLE PRESSURE (PSIA)	1178.4	BOTTOMHOLE PRESSURE (PSIA)	3201.5

Page No.: 1

Print Time: Mon Aug 25 16:03:42 1997

Property ID: 10388

Property Name: SAN JUAN 28-6 UNIT | 11 | 49547A-1

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

San Juan 28-6 Unit

210 M

Mesaverde Offset

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

11/30/54	0	1002.0	- original
06/08/56	0	989.0	
11/16/56	14000	955.0	
04/24/57	25000	849.0	
09/06/58	63000	1027.0	
09/22/59	84000	935.0	
10/06/60	110000	869.0	
09/13/61	131000	860.0	
04/09/62	138000	875.0	
08/02/63	159000	829.0	
05/08/64	173000	843.0	
05/03/65	189000	843.0	
06/07/66	206000	839.0	
06/02/67	225000	799.0	
05/27/68	240000	798.0	
11/11/68	251000	718.0	
10/16/70	293932	645.0	
07/07/71	306442	682.0	
05/30/72	313893	754.0	
12/10/80	436409	691.0	
05/18/82	459649	672.0	
07/26/84	482348	676.0	
09/18/86	505484	671.0	
10/08/89	530254	694.0	
04/15/91	545305	642.0	
10/14/91	549228	654.0	- current

Page No.: 2

Print Time: Mon Aug 25 15:29:22 1997

Property ID: 1896

Property Name: SAN JUAN 28-6 UNIT | 210 | 44852A-1

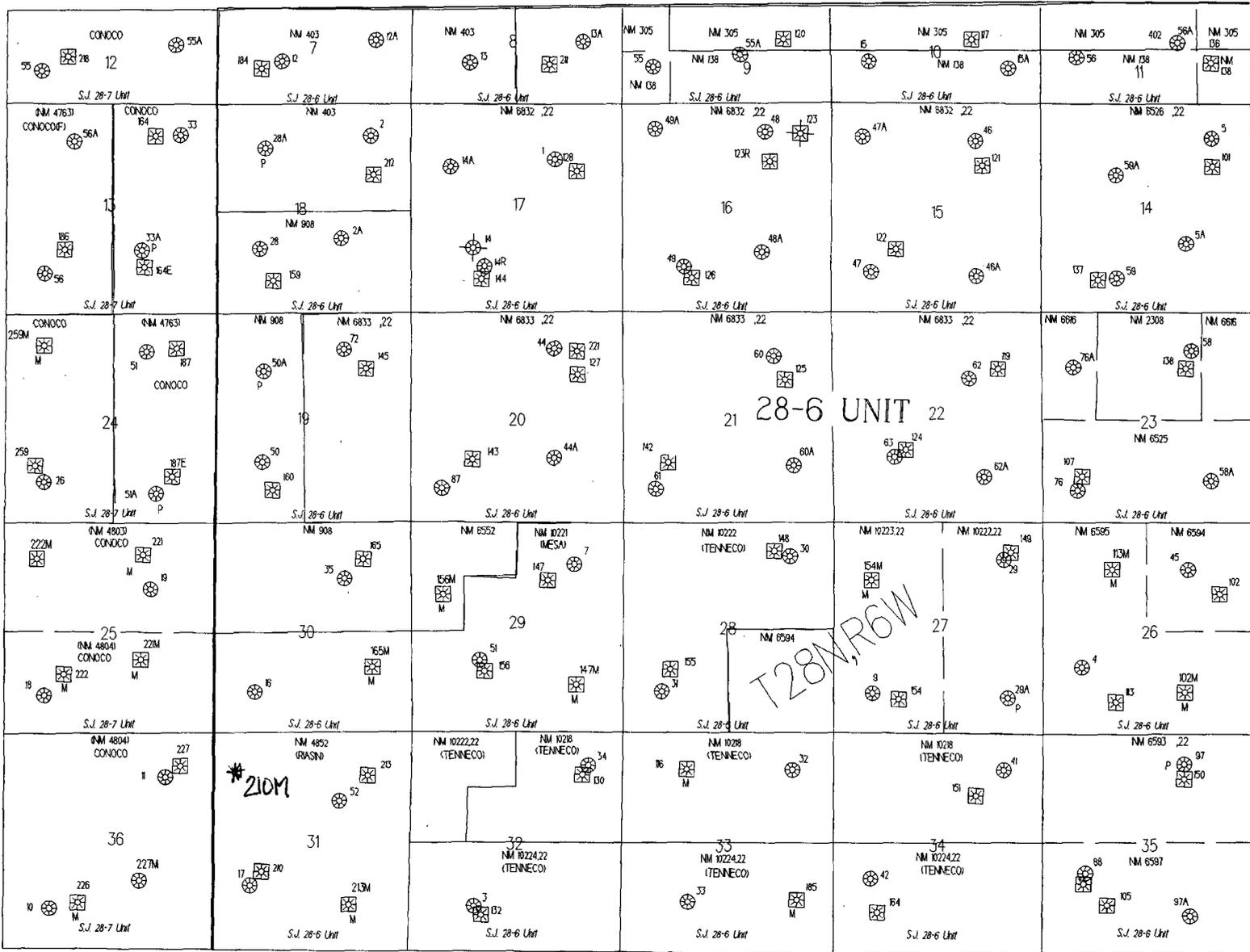
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San Juan 28-6 Unit
#210M

Dakota Offset

--DATE--	---CUM GAS--	M SIWHP	
.....Mcf.....Psi.....	
07/17/79	0	2646.0	- original
07/18/79	0	2647.0	
10/04/79	61304	1562.0	
06/20/80	163740	969.0	
07/13/81	256312	810.0	
10/12/83	375867	826.0	
06/27/85	466660	730.0	
10/04/88	589876	777.0	
05/08/90	656030	752.0	
05/28/92	722598	712.0	- current

San Juan 28-6 Unit #210M Mesaverde / Dakota 28N-06W-31D

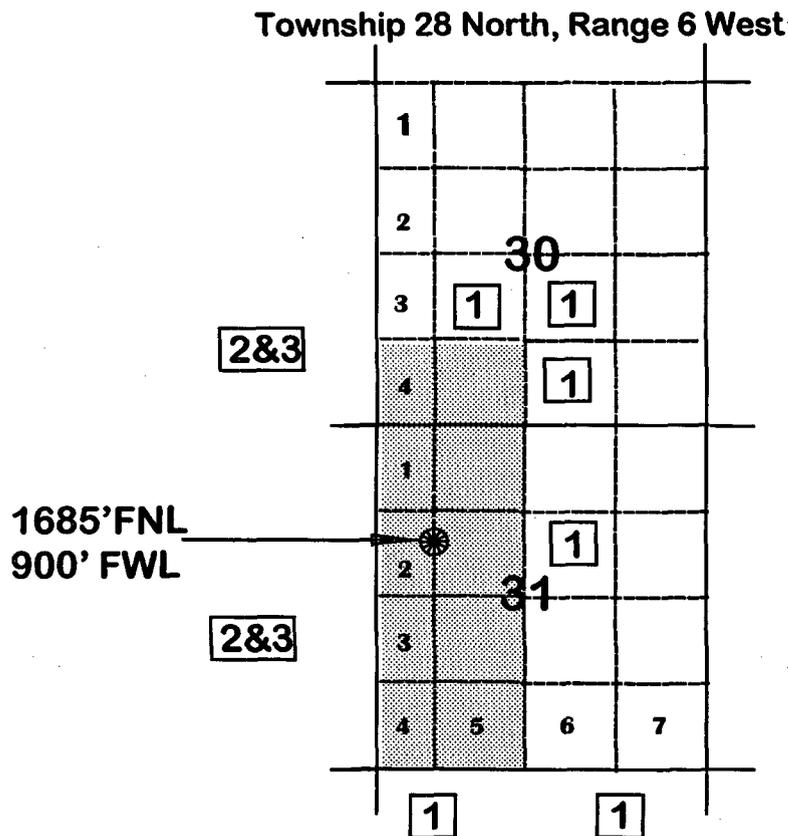


BURLINGTON RESOURCES OIL AND GAS COMPANY

SAN JUAN 28-6 UNIT #210M

OFFSET OPERATOR \ OWNER PLAT

**Mesaverde / Dakota Formations Commingle Well
Mesaverde (W/2 Sec. 31) / Dakota (Nonstandard dedication covering
S/2SW/4 Sec. 30, W/2 Sec. 31)**



- 1) Burlington Resources Oil and Gas Company.
- 2) Amoco Production Company
Bruce Zimney
1670 Broadway
P. O. Box 800
Denver, Colorado 80201
- 3) Conoco
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

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.