

DATE IN 2/24/97	SUSPENSE 3/17/97	ENGINEER BS	LOGGED KV	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1473

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]

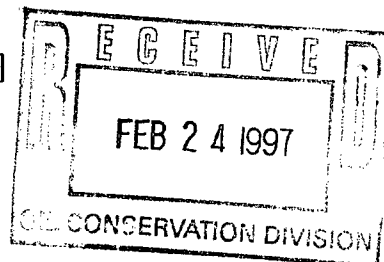
[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[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

Print or Type Name

Signature

Regulatory/Compliance Administrator

Title

Date

2-20-97

BURLINGTON RESOURCES

SAN JUAN DIVISION

February 20, 1997

SENT FEDERAL EXPRESS

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

Re: San Juan 29-7 Unit #58A
790'FNL, 790'FWL Section 26, T-29-N, R-07-W, Rio Arriba County, NM
API #30-039-25617

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 1997 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. Expected production curve for both Mesa Verde and Dakota;
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-10697 dated November 7, 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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 South First St., Artesia, NM 88210-2836
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 Address
San Juan 29-7 Unit 58A D 26-27-7 Rio Arriba
Lease Well No. Unit Ltr. - Sec - Twp - Rge County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7465 API NO. 30-039-25617 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. 550 psi (see attachment) (Original) b. 1312 psi (see attachment)	a. b.	a. 1199 psi (see attachment) b. 3184 psi (see attachment)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	BTU 1209		BTU 1054
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 Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	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

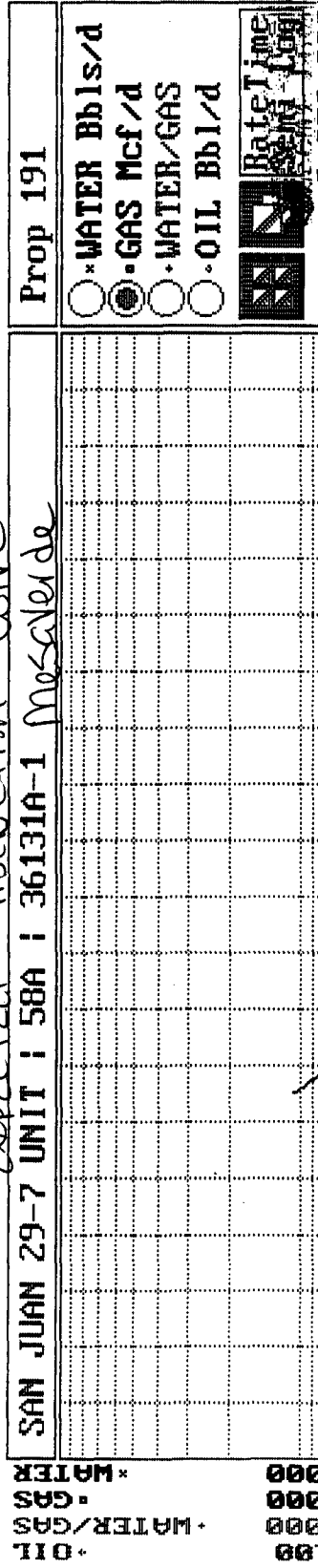
9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.
10. Are all working, overriding, and royalty interests identical 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). ☐ Reference Order R-10697 attached ☐
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 James A. Smith TITLE Production Engineer DATE 2/20/97

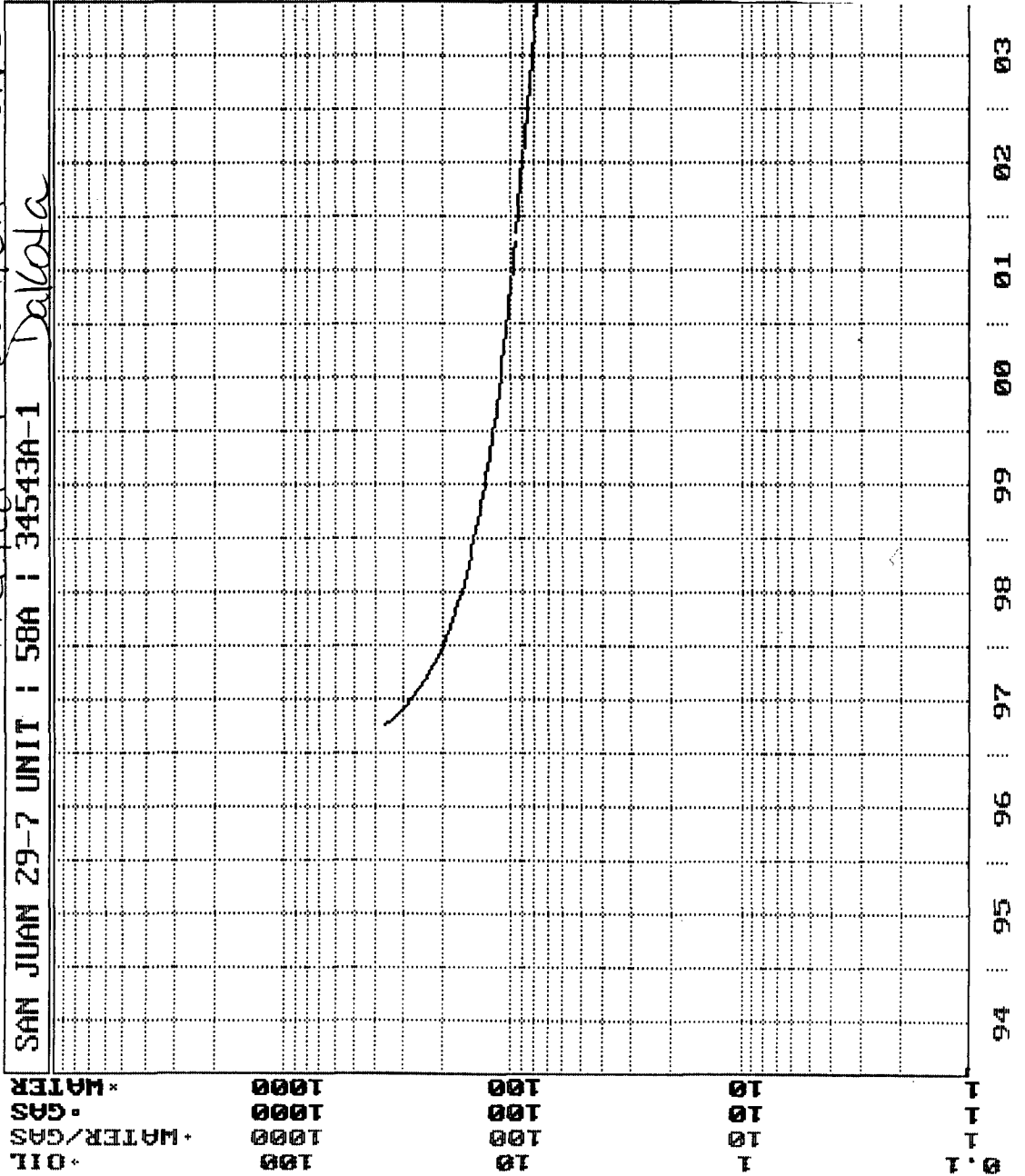
TYPE OR PRINT NAME James A. Smith TELEPHONE NO. (505) 326-9700

Expected Production Curve



Expected Production Curve

SAN JUAN 29-7 UNIT : 58A : 34543A-1 Dakota		Prop 243
<input type="radio"/> OIL	<input type="radio"/> WATER/GAS	<input type="radio"/> WATER Bbls/d
<input type="radio"/> GAS	<input type="radio"/> WATER/GAS	<input checked="" type="radio"/> GAS Mcf/d
<input type="radio"/> WATER	<input type="radio"/> OIL	<input type="radio"/> OIL Bbl/d

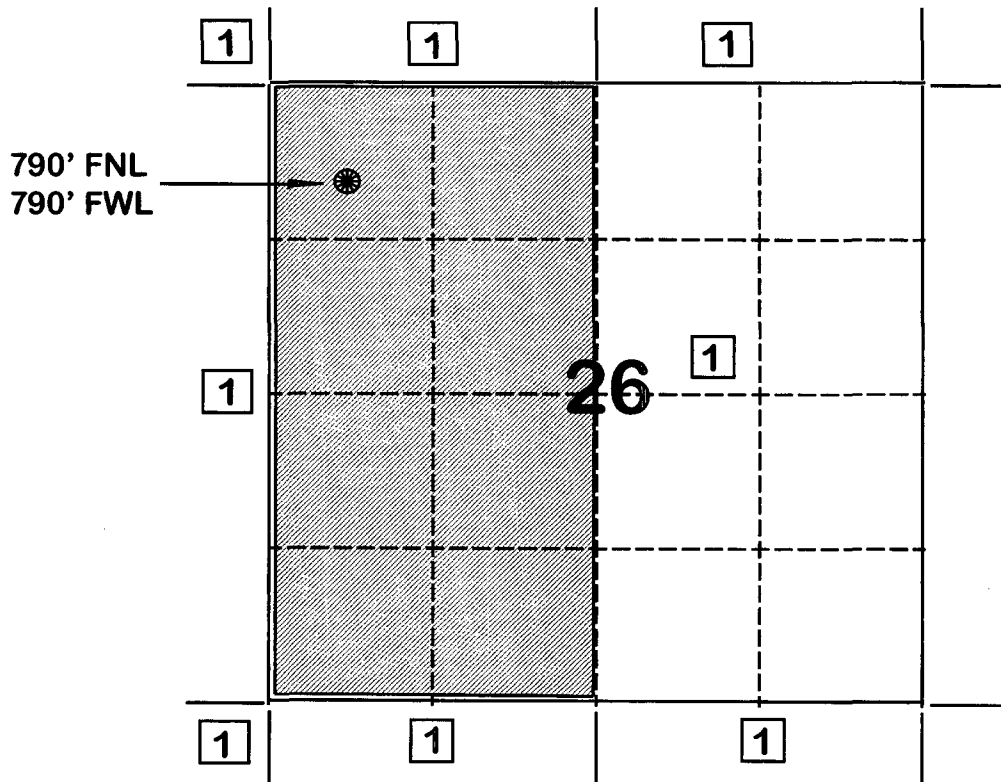


BURLINGTON RESOURCES OIL AND GAS COMPANY

**San Juan 29-7 Unit #58A
OFFSET OPERATOR \ OWNER PLAT**

Mesaverde/Dakota Formations Commingle Well

Township 29 North, Range 7 West



1) Burlington Resources Oil and Gas Company

Mesa Verde

Page No.: 1

Print Time: Thu Feb 13 14:38:05 1997

Property ID: 11085

Property Name: SAN JUAN 29-7 UNIT | 58 | 69655-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

San Juan 29-7
#58A Offset

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

01/06/57	0	1119.0	← original
02/26/57	0	1118.0	
01/15/58	154000	808.0	
10/29/58	304000	723.0	
02/22/59	367000	734.0	
12/22/60	635000	653.0	
03/28/61	662000	690.0	
03/13/62	767000	696.0	
02/12/63	851000	710.0	
02/07/64	954000	676.0	
02/25/65	1066000	664.0	
02/28/66	1201000	630.0	
03/03/67	1324000	619.0	
03/05/68	1443000	610.0	
05/27/69	1586390	568.0	
08/18/70	1757283	587.0	
03/30/71	1819346	575.0	
06/12/72	1962122	529.0	
07/09/73	2118911	437.0	
08/21/74	2249996	444.0	
04/20/76	2429090	439.0	
05/16/78	2630938	468.0	
07/18/80	2810685	497.0	
05/19/82	2951746	484.0	
09/19/84	3099375	505.0	
09/03/86	3237007	460.0	
09/07/89	3425030	500.0	
02/18/91	3490190	530.0	
05/31/91	3500165	542.0	
05/03/93	3615698	477.0	← current

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.715
COND. OR MISC. (C/M)	C
%N2	0.66
%CO2	0.93
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5468
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	477
BOTTOMHOLE PRESSURE (PSIA)	549.6

SAN JUAN 29-7 UNIT #58 MESAVERDE - CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.715
COND. OR MISC. (C/M)	C
%N2	0.66
%CO2	0.93
%H2S	0
DIAMETER (IN)	2
DEPTH (FT)	5468
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1119
BOTTOMHOLE PRESSURE (PSIA)	1312.0

SAN JUAN 29-7 UNIT #58 MESAVERDE - ORIGINAL

Dakota

Page No.: 1

Print Time: Thu Feb 13 14:37:28 1997

Property ID: 2091

Property Name: SAN JUAN 29-7 UNIT | 123 | 53762A-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

San Juan 29-7
#58A Offset

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

03/19/85	0	2664.0	← original
08/12/85	70345	1082.0	
12/04/87	182407	772.0	
08/03/88	213774	702.0	
04/09/90	276156	692.0	
04/29/92	312880	1012.0	← current

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.619
COND. OR MISC. (C/M)	C
%N2	0.11
%CO2	1.55
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7593
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1012
BOTTOMHOLE PRESSURE (PSIA)	1198.7

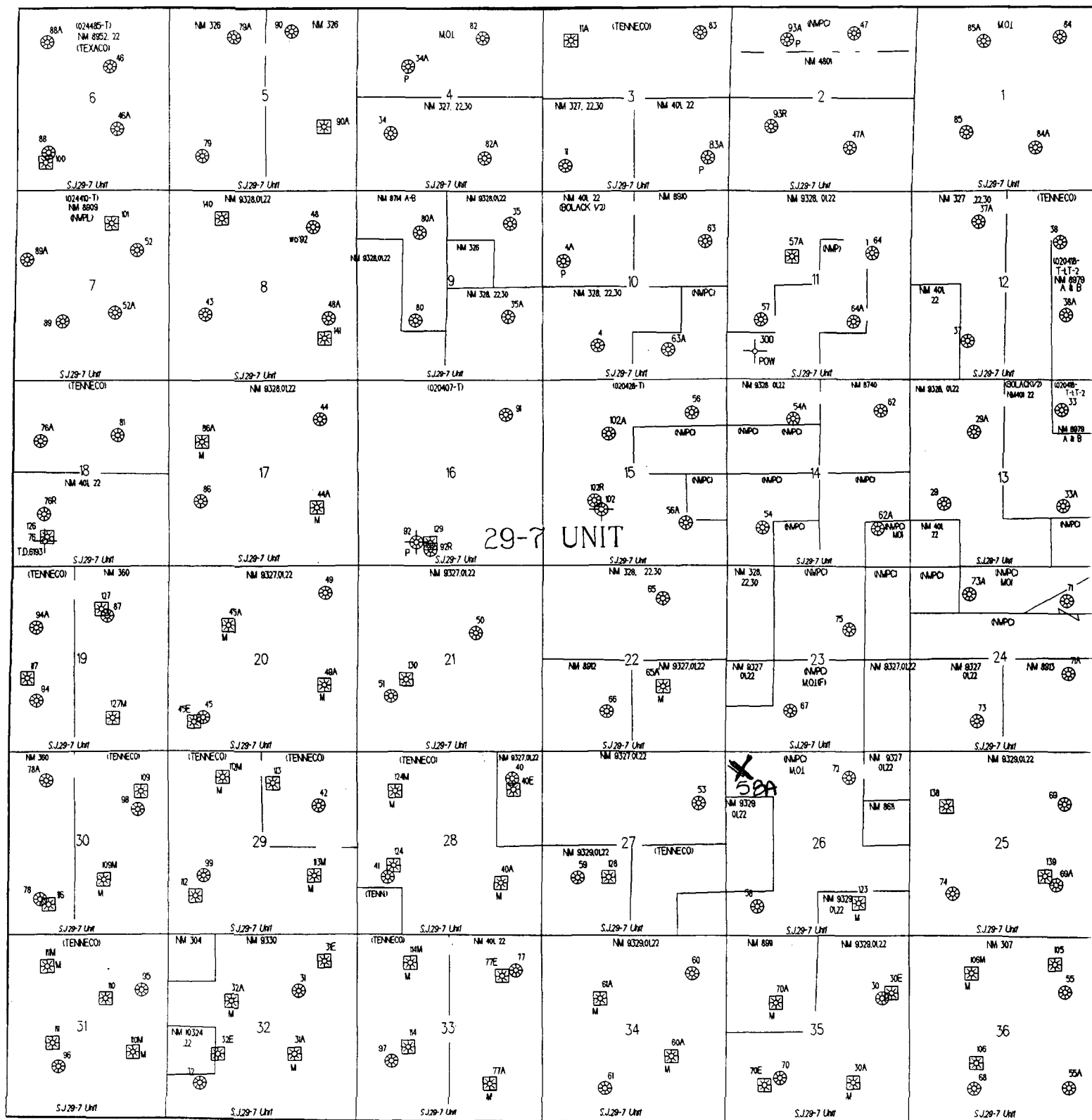
SAN JUAN 29-7 UNIT #123 DAKOTA-CURRENT

**FLOWING AND STATIC BHP
CULLENDER AND SMITH METHOD**

VERSION 1.0 3/13/94

GAS GRAVITY	0.619
COND. OR MISC. (C/M)	C
%N2	0.11
%CO2	1.55
%H2S	0
DIAMETER (IN)	1.5
DEPTH (FT)	7593
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	200
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	2664
BOTTOMHOLE PRESSURE (PSIA)	3184.3

SAN JUAN 29-7 UNIT #123 DAKOTA-ORIGINAL



**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. 11629
ORDER NO. R-10697**

**APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 29-7 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 8th 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 29-7 Unit, San Juan County, New Mexico.

(3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

- d) establish a "reference case" or an administrative procedure for authorizing the downhole commingling of existing or future drilled wells within the San Juan 29-7 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 29-7 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 245 MMCFG and 76 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 218 MCFGD and 238 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 29-7 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 29-7 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 was approximately 3,209 psi and 1,148 psi, respectively; and,
- b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations is approximately 952 psi and 655 psi, respectively.

- 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 29-7 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 29-7 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 29-7 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 29-7 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 29-7 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 29-7 Unit of such proposed commingling.