

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107-A  
New 3-12-96

DISTRICT II  
811 South First St., Artesia, NM 88210-2635

OIL CONSERVATION DIVISION

APPROVAL PROCESS :

DISTRICT III  
1000 Rio Brazos Rd, Aztec, NM 87410-1693

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429

Administrative  Hearing

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE

YES  NO

Burlington Resources Oil & Gas Company

PO Box 4289, Farmington, NM 87499

Operator

Address <sup>29N</sup>

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	<b>RECEIVED</b> FEB 21 1997 <b>OIL CON. DIV.</b> <b>DIST. 3</b>	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)	a.	a. 1199 psi (see attachment)
	(Original) b. 1312 psi (see attachment)	b.	b. 3184 psi (see attachment)
6. Oil Gravity (°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  <small>Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.</small>  * If Producing, give data and oil/gas/water of recent test (within 60 days)	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:
	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

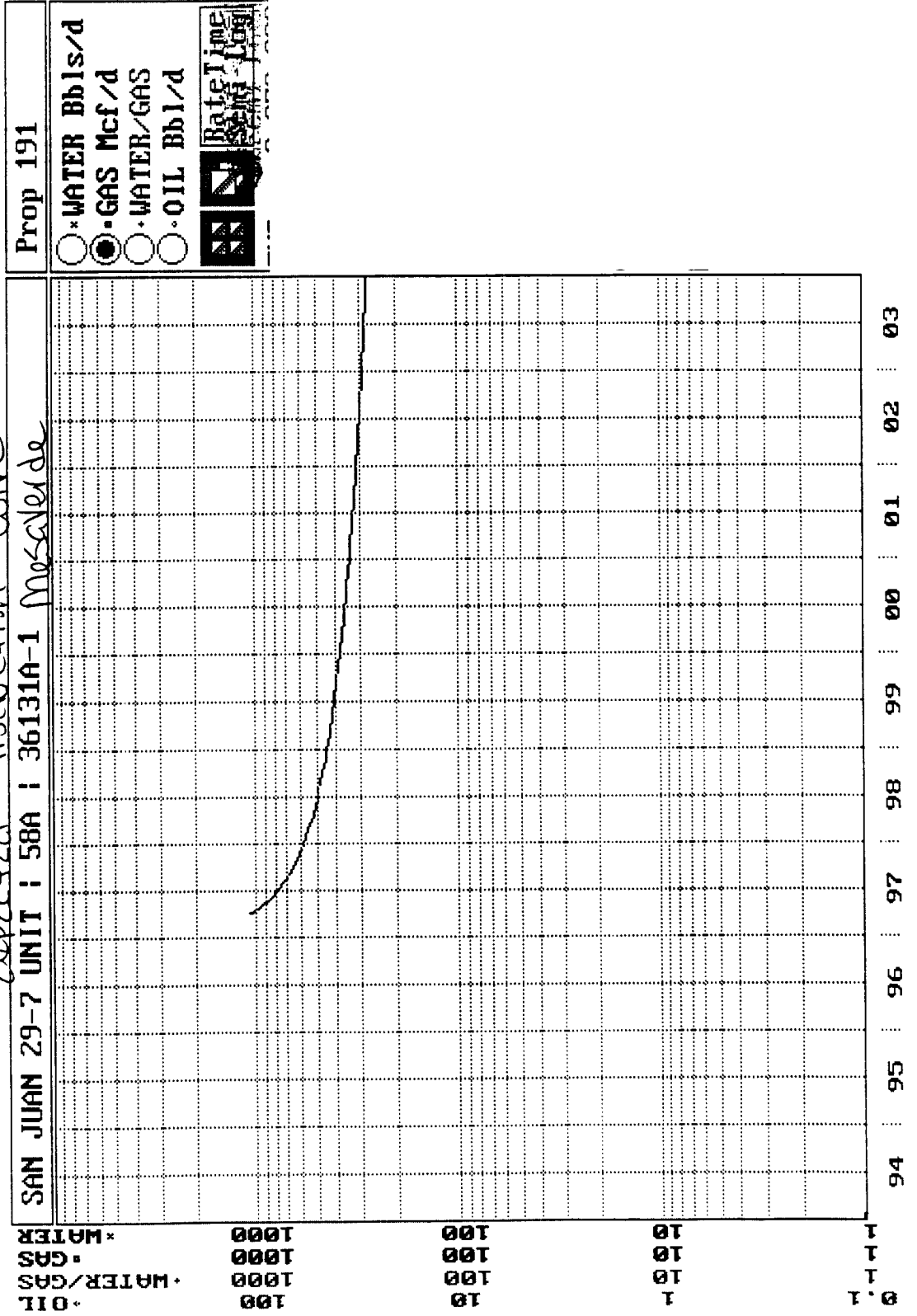
16. ATTACHMENTS:
- \* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
  - \* Production curve for each zone for at least one year. (If not available, attach explanation.)
  - \* For zones with no production history, estimated production rates and supporting data.
  - \* 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.

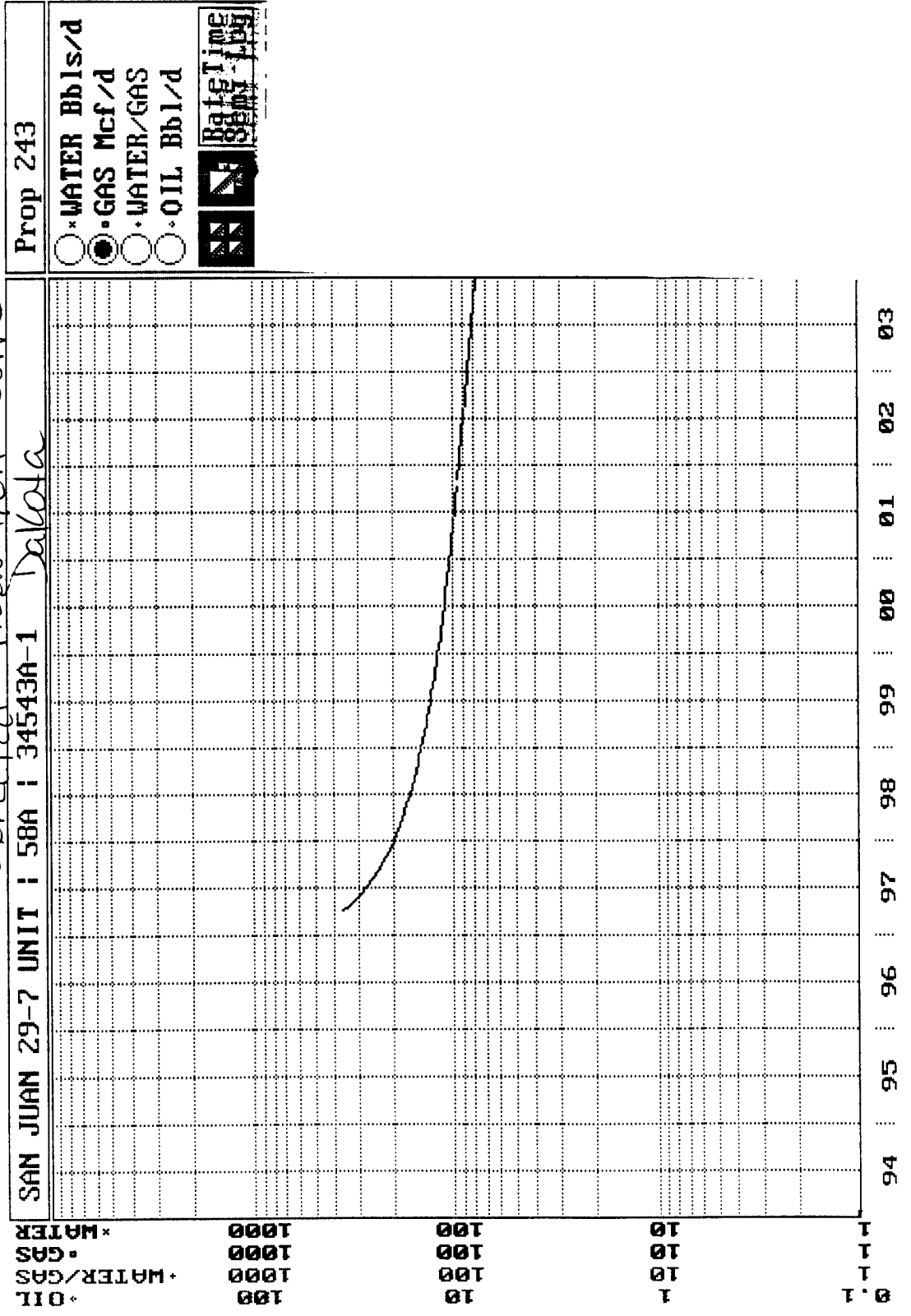
SIGNATURE James A. Smith TITLE Production Engineer DATE 2/20/97

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

Expected Production Curve  
 SAN JUAN 29-7 UNIT : 58A : 36131A-1 Mesaverde



*Expected Production Curve*

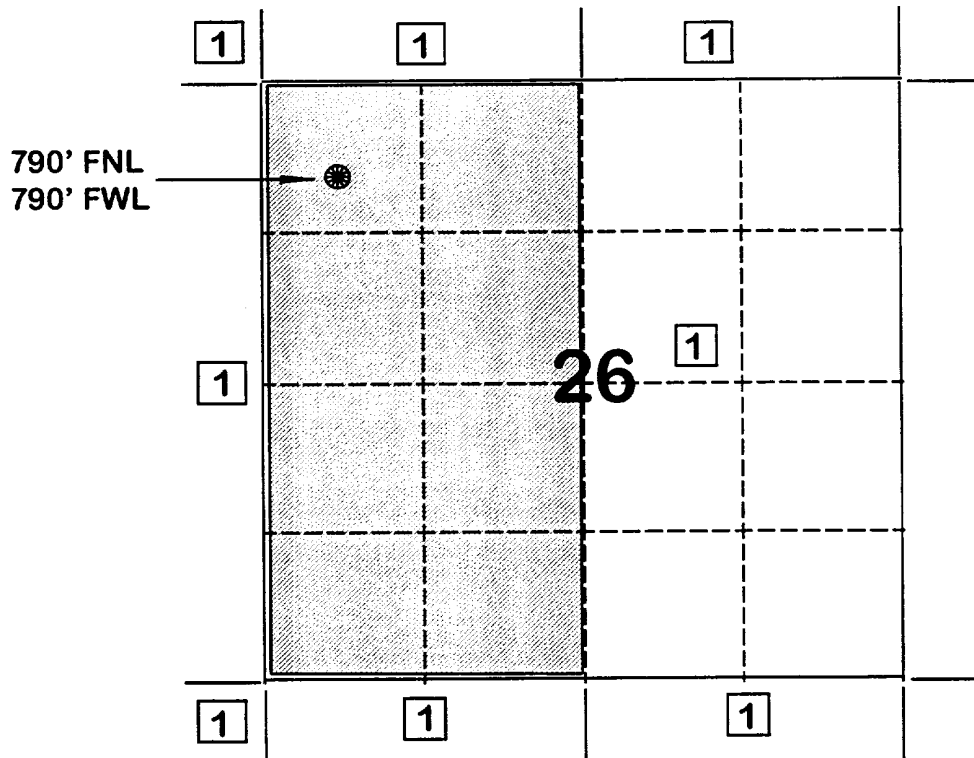


**BURLINGTON RESOURCES OIL AND GAS COMPANY**

**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  
# 13A 26-504

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

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

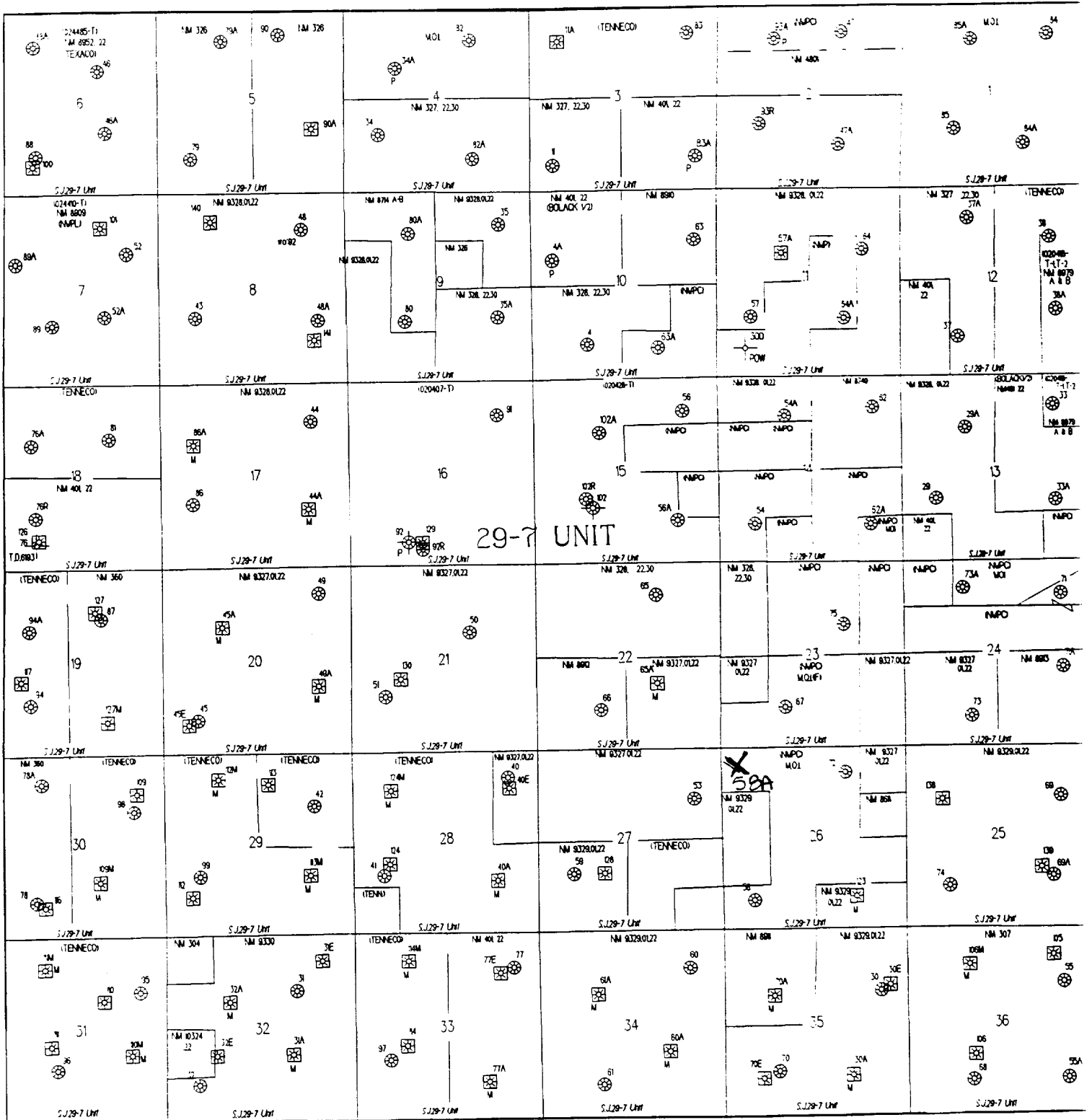
SAN JUAN 29-7 UNIT #123 DAKOTA-CURRENT

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

VERSION 1.0 3/13/94

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

SAN JUAN 29-7 UNIT #123 DAKOTA-ORIGINAL



29-7 UNIT

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.