

3 - ~~AMM~~  
1 - W. G. Cutler  
1 - File

N. MEXICO OIL CONSERVATION COMMIS. JN

Form C-128  
Revised 5/1/57 ✓

Well Location and Acreage Dedication Plat

Section A.

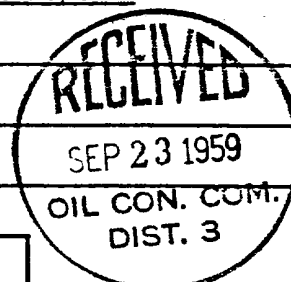
Date 9-15-59

Operator Pacific Northwest Pipeline Corp. Lease San Juan 27-5  
Well No. 15-16 Unit Letter M Section 16 Township 27N Range 5W NMPM  
Located 990' Feet From West Line, 990' Feet From South Line  
County Rio Arriba G. L. Elevation \_\_\_\_\_ Dedicated Acreage 160 Acres  
Name of Producing Formation Pictured Cliffs Pool Tapacito

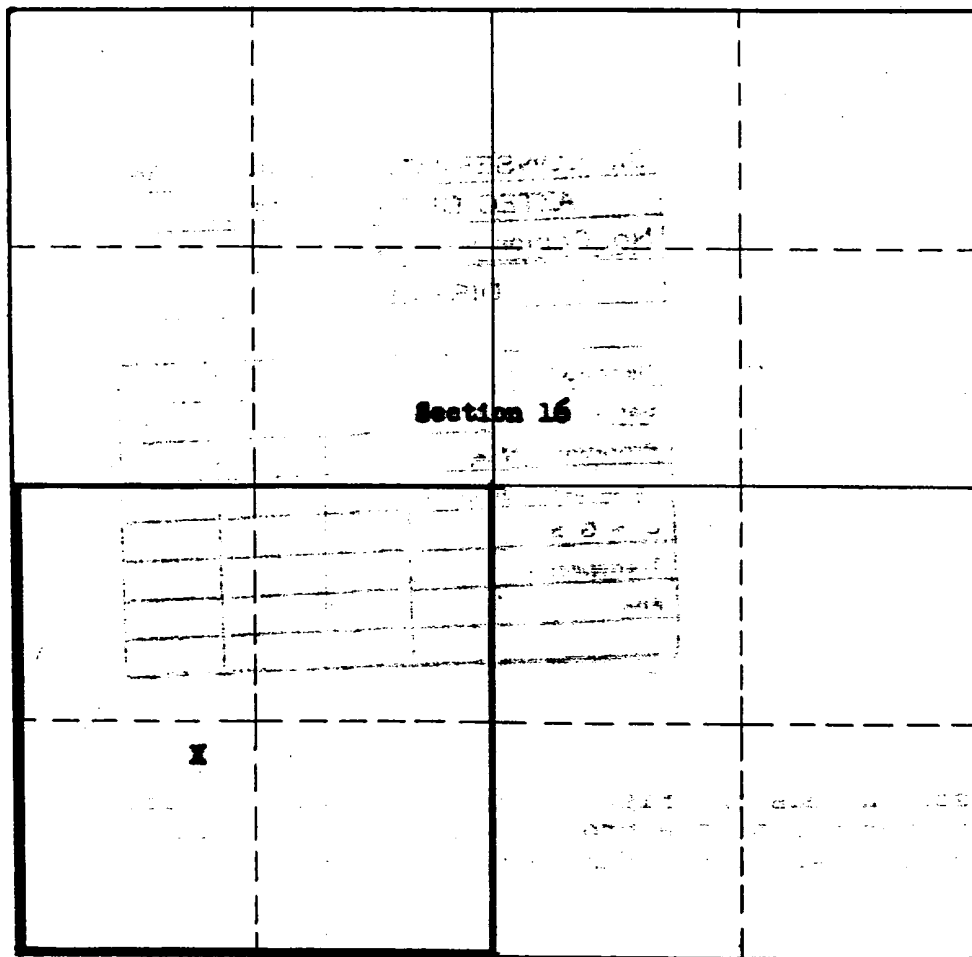
1. Is the Operator the only owner\* in the dedicated acreage outlined on the plat below?  
Yes X No \_\_\_\_\_.
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes \_\_\_\_\_ No \_\_\_\_\_. If answer is "yes," Type of Consolidation \_\_\_\_\_
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner

Land Description



Section B



This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

Pacific Northwest Pipeline Corp  
(Operator)

(Representative)  
Original signed - L. F. Stone  
418 1/2 W. Broadway - agent for  
Address operator

This is to certify that the well location shown on the plat in Section B 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 \_\_\_\_\_

Registered Professional  
Engineer and/or Land Surveyor.

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

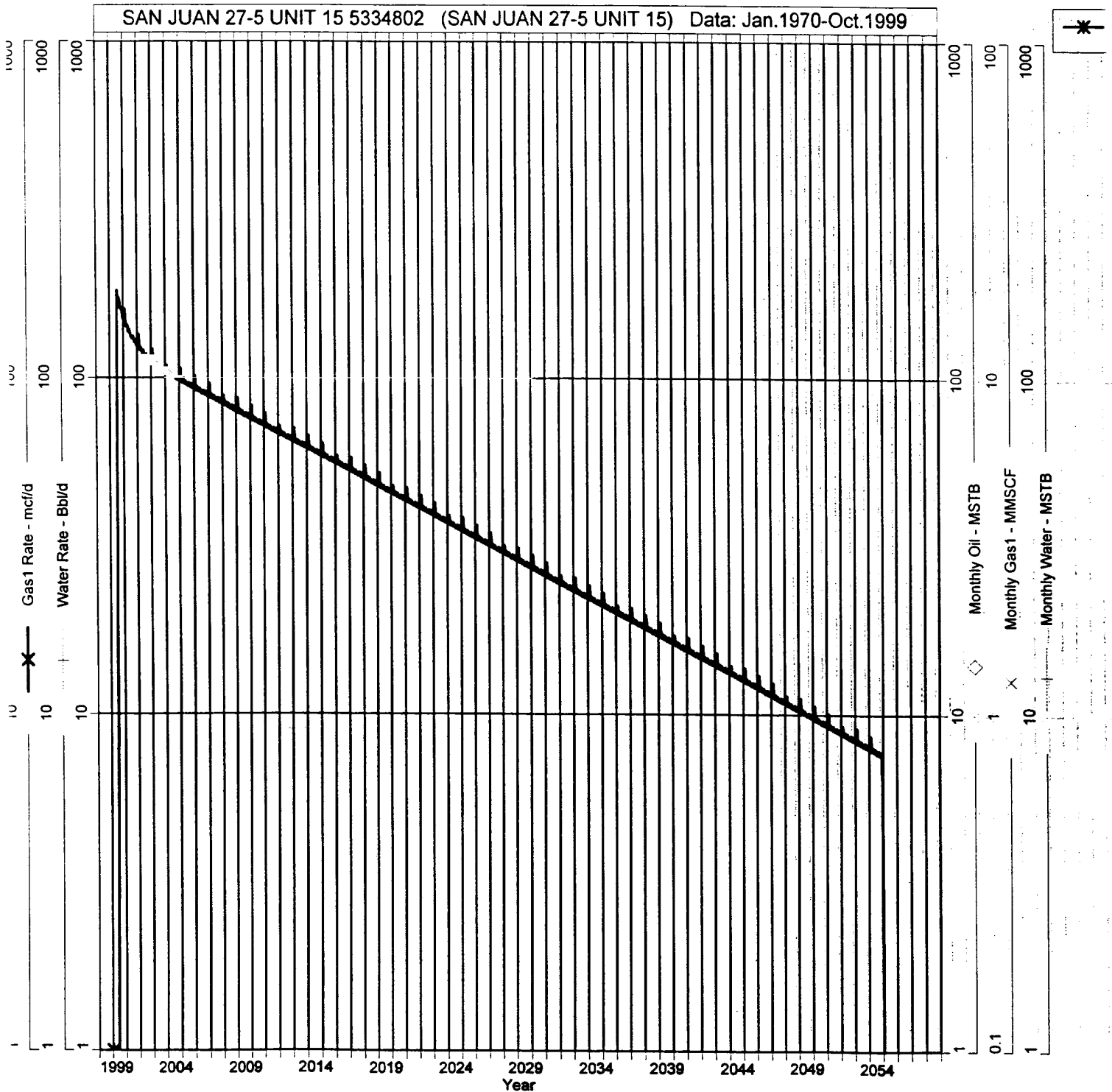
(See instructions for completing this form on the reverse side)

Certificate No. \_\_\_\_\_

# San Juan 27-5 Unit #15

Expected Production

Pictured Cliffs Formation

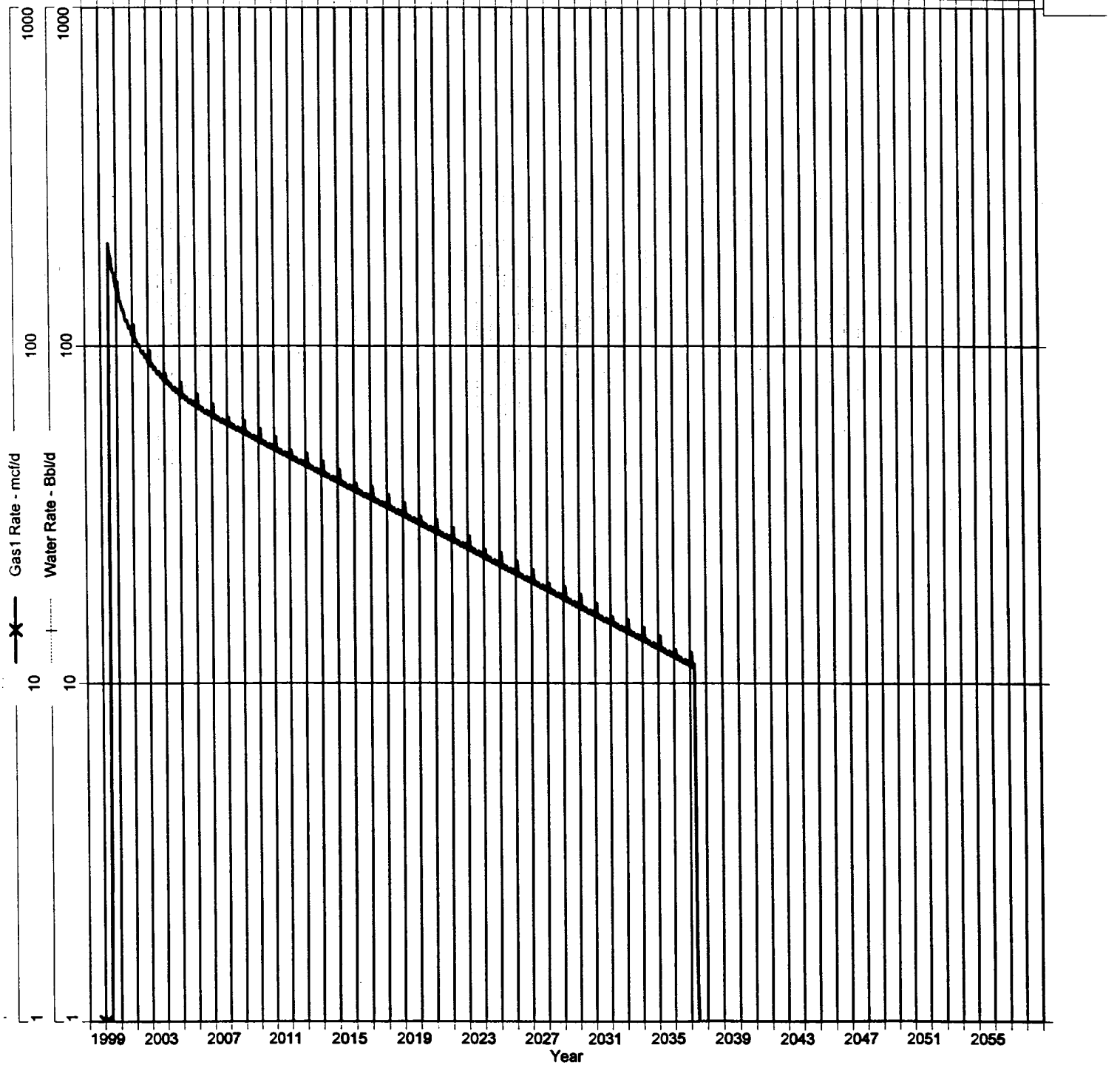


# San Juan 27-5 Unit #15

Expected Production

Mesaverde Formation

(1D829552-B4AF-11D3-BF) Data: Dec.1999-Dec.1999



**San Juan 27-5 Unit #15**

Bottom Hole Pressures

Flowing and Static BHP

Cullender and Smith Method

Version 1.0 3/13/94

<b>Pictured Cliffs</b>		<b>Mesaverde</b>	
<u><b>PC-Current</b></u>		<u><b>MV-Current</b></u>	
GAS GRAVITY	0.652	GAS GRAVITY	0.709
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.34	%N2	0.22
%CO2	0.36	%CO2	0.85
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	2
DEPTH (FT)	3179	DEPTH (FT)	5590
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)	395	SURFACE PRESSURE (PSIA)	382
BOTTOMHOLE PRESSURE (PSIA)	425.4	BOTTOMHOLE PRESSURE (PSIA)	436.9
<u><b>PC-Original</b></u>		<u><b>MV-Original</b></u>	
GAS GRAVITY	0.652	GAS GRAVITY	0.709
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.34	%N2	0.22
%CO2	0.36	%CO2	0.85
%H2S	0	%H2S	0
DIAMETER (IN)	1.25	DIAMETER (IN)	2
DEPTH (FT)	3179	DEPTH (FT)	5590
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)	1066	SURFACE PRESSURE (PSIA)	1115
BOTTOMHOLE PRESSURE (PSIA)	1157.3	BOTTOMHOLE PRESSURE (PSIA)	1295.3

Page No.: 2  
 Print Time: Wed Dec 15 15:05:18 1999  
 Property ID: 1377  
 Property Name: SAN JUAN 27-5 UNIT | 15 | 53348B  
 Table Name: R:\RESERVES\GDPNOS\TEST.DBF

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

03/06/56	0	1066.0
08/19/59	0	1065.0
09/22/60	142000	856.0
06/13/61	195000	856.0
12/04/62	321000	772.0
04/19/63	345000	798.0
04/29/64	453000	715.0
05/10/65	547000	708.0
04/19/66	655000	674.0
05/16/67	738000	697.0
05/02/68	807000	664.0
05/05/69	890955	628.0
05/22/70	995658	572.0
07/22/71	1108280	561.0
06/06/72	1204622	499.0
07/19/73	1288225	552.0
06/04/74	1364526	467.0
06/25/76	1506420	423.0
08/02/78	1639964	385.0
05/01/80	1733066	337.0
05/31/82	1792075	378.0
01/07/85	1827311	380.0
04/21/86	1837462	412.0
09/04/89	1870769	589.0
03/07/91	1897548	407.0
05/31/93	1936907	395.0

San Juan 27-5 Unit #15

Existing Pictured Cliffs

Page No.: 1  
Print Time: Wed Dec 15 15:05:17 1999  
Property ID: 1376  
Property Name: SAN JUAN 27-5 UNIT | 15 | 53348A  
Table Name: R:\RESERVES\GDPNOS\TEST.DBF

03/12/56	0	1115.0
04/12/56	0	1121.0
12/30/57	7000	852.0
11/06/58	77000	702.0
06/14/59	90000	769.0
09/22/60	125000	748.0
06/13/61	149000	725.0
10/01/62	191000	694.0
04/19/63	204000	709.0
04/29/64	234000	702.0
05/10/65	263000	627.0
04/19/66	291000	593.0
05/16/67	311000	631.0
05/02/68	328000	595.0
10/07/70	337274	577.0
07/22/71	350564	564.0
06/06/72	372205	475.0
12/05/83	524294	416.0
03/04/87	545840	500.0
09/04/89	593822	627.0
04/15/91	615737	370.0
05/08/91	614790	382.0

## Existing Mesaverde



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.~~

*RIO ARRIBA*

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. Catamach 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-Picured Cliffs and Tapacino-Picured 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 Picured 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 Picured 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 Picured Cliffs formations are very consistent;
- b) the average recoverable Dakota and Picured 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 Picured 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 Picured 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 Picured 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 Picured Cliffs formations within the San Juan 27-5 Unit, the applicant presented engineering evidence and testimony which indicates that:

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- a) the average shut-in bottomhole pressure within the Dakota and Picured 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 Picured 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.

CASE NO. 11626  
Order No. R-10694  
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(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 Piñon Cliffs and Dakota formations as "marginal", supporting data to verify the Piñon 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 H. LEMAY  
Director

DISTRICT I:  
1625 N. French Dr., Hobbs, NM 88240  
DISTRICT II  
811 South First St., Artesia, NM 88210  
DISTRICT III  
1000 Rio Brazos Rd, Aztec, NM 87410  
DISTRICT IV  
2040 S. Pacheco, Santa Fe, NM 87505

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  
Revised August 1999

APPROVAL PROCESS:

Administrative Hearing

EXISTING WELLBORE

X YES NO

APPLICATION FOR DOWNHOLE COMMINGLING

BURLINGTON RESOURCES OIL & GAS COMPANY

PO BOX 4289, FARMINGTON, NM 87499

Operator

Address

SAN JUAN 27-5 UNIT

15

M 16-27N-05W

RIO ARRIBA

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7454 API NO. 30-039-07042 Federal X, State, (and/or) Fee

The following facts are submitted in support of downhole commingling: 1. Pool Name and Pool Code	Upper Zone TAPACITOS PIC. CLIFFS- 85920	Intermediate Zone	Lower Zone BLANCO MESAVERDE - 72319
2. Top and Bottom of Pay Section (Perforations)	3282' - 3302'		4926' - 5590'
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	a. (Current) 425 psi (see attachment) b. (Original) 1157 psi (see attachment)		a. (Current) 437 psi (see attachment) b. (Original) 1295 psi (see attachment)
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1152		BTU 1230
7. Producing or Shut-In?	PRODUCING		PRODUCING
Production Marginal? (yes or no) * If Shut-In, give date 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 date and oil/gas/ water rates of recent test (within 60 days)	NO Date: N/A Rates: Date: N/A Rates:		YES Date: N/A 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: % WILL BE SUPPLIED UPON COMPLETION	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 X No  
If not, have all working, overriding, and royalty interests been notified by certified mail? Yes X No

11. Will cross-flow occur? X 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. X Yes No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? X Yes No

13. Will the value of production be decreased by commingling? Yes X 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. X Yes No

15. NMOCD 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 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

Ad. Dobson

TITLE PRODUCTION ENGINEER

DATE: 1/10/00

TYPE OR PRINT NAME SCOTT DOBSON

TELEPHONE NO. 505-326-9700