

DATE IN 1/12/00	SUSPENSE 2/1/00	ENGINEER DC	LOGGED MW	TYPE DHC
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION  
- Engineering Bureau -

2620

**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 Cole

Print or Type Name

Signature

Regulatory/Compliance Administrator

Title

Date

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 53 M 05-27N-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. 30-039-07158 Federal \_\_\_X\_\_\_ 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	TAPACITOS PIC. CLIFFS- 85920		BLANCO MESAVERDE - 72319
2. Top and Bottom of Pay Section (Perforations)	3472' - 3516'		5218' - 5756'
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) 541 psi (see attachment)		a. (Current) 519 psi (see attachment)
	b. (Original) 1004 psi (see attachment)		b. (Original) 1215 psi (see attachment)
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1163		BTU 1226
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		YES
	Date: N/A Rates:	Date: N/A Rates:	Date: N/A Rates:
	Date: N/A Rates:	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 *At Adson* TITLE PRODUCTION ENGINEER DATE: 1/10/00

TYPE OR PRINT NAME SCOTT DOBSON TELEPHONE NO. 505-326-9700

## Well Location and Acreage Dedication Plat

Section A.

Date MAY 10, 1960

Operator EL PASO NATURAL GAS COMPANY Lease SAN JUAN 27-5 UNIT SF 079393  
 Well No. 53 (PM) Unit Letter M Section 5 Township 27 N Range 5 W NMPM D  
 Located 800 Feet From SOUTH Line, 1050 Feet From WEST Line  
 County RIO ARriba G. L. Elevation 6660 Dedicate Acreage 160 & 319.81 Acres  
 Name of Producing Formation PICTURED CLIFFS & MESA VERDE Pool SO. BLANCO PC EXT. & BLANCO MV

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below?

Yes \_\_\_\_\_ No X2. If the answer to question one is "no", have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes X No \_\_\_\_\_. If answer is "yes", Type of Consolidation.

## Unit Agreement

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.

El Paso Natural Gas Company

(Operator)

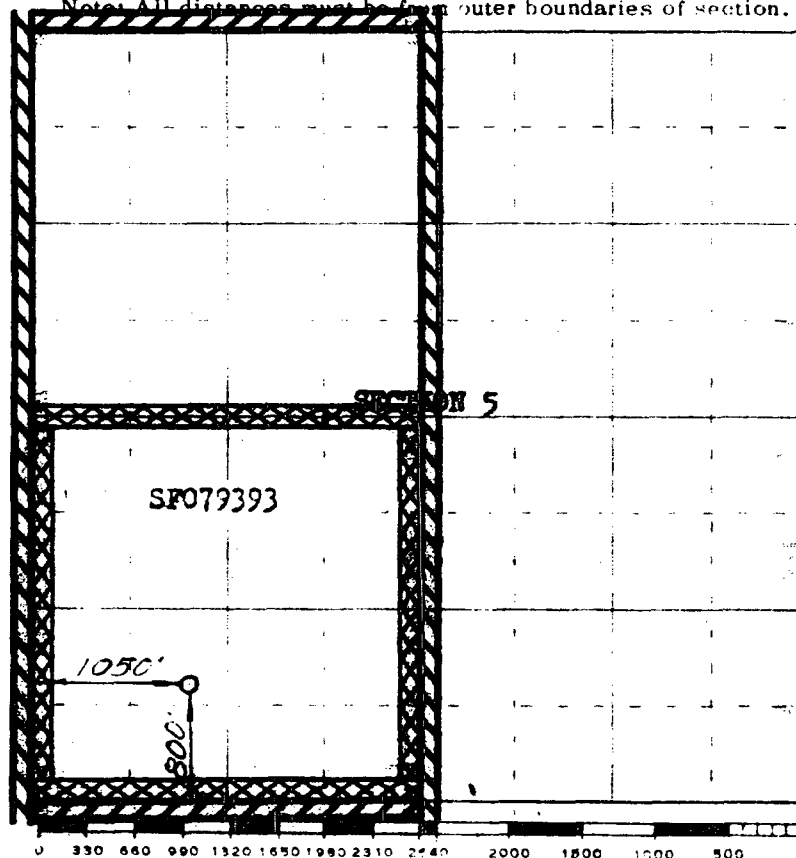
H. E. McNally  
 Box 990 (Representative)

(Address)

Farmington, New Mexico

NOTE: THIS PLAT IS RE-ISSUED TO SHOW  
 CORRECTED LEASE INFORMATION.  
 5/25/60

Note: All distances must be from outer boundaries of section.



Scale 4 inches equal 1 mile

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

(Seal)

Date Surveyed

FEBRUARY 4, 1960

Farmington, New Mexico

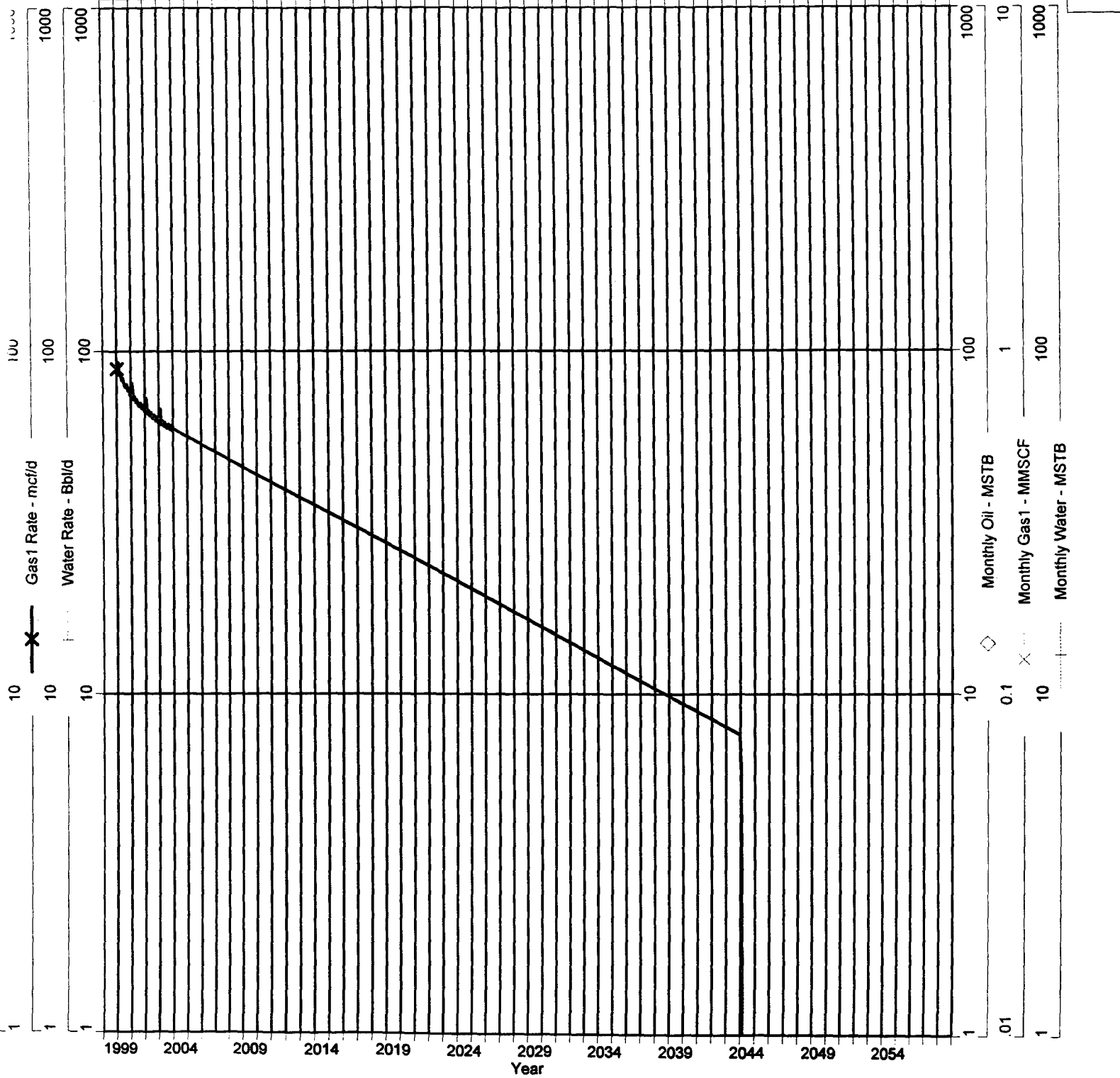
David C. Fikler  
 Registered Professional Engineer and/or Land Surveyor

San Juan 27-5 Unit #53

Expected Production

Pictured Cliffs Formation

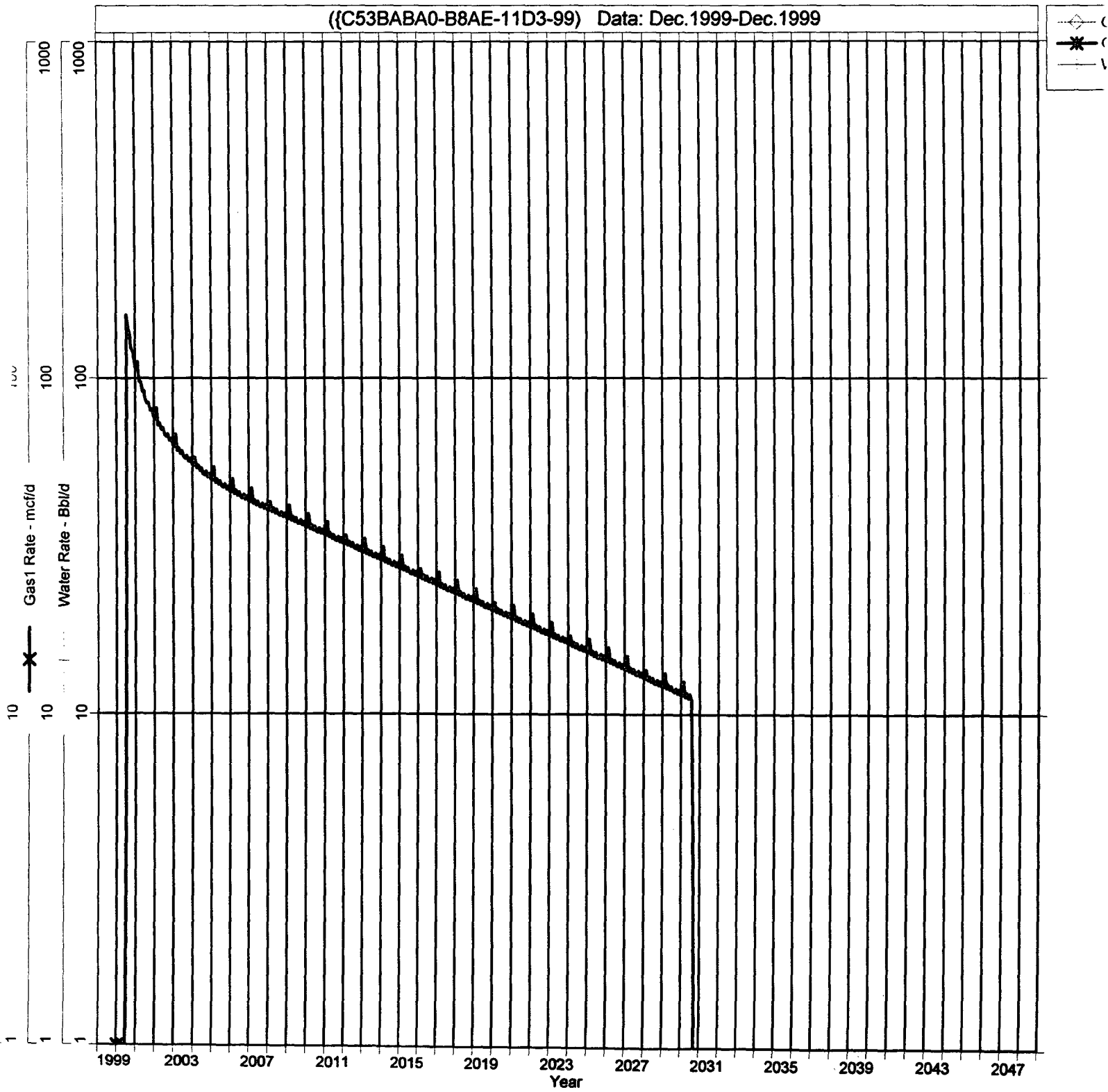
SAN JUAN 27-5 UNIT 53 5338601 (SAN JUAN 27-5 UNIT 53) Data: Jan.1970-Nov.1999



San Juan 27-5 Unit #53

Expected Production

Mesaverde Formation



**San Juan 27-5 Unit #53**

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	0.663	GAS GRAVITY	0.708
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.51	%N2	0.24
%CO2	0.43	%CO2	0.9
%H2S	0	%H2S	0
DIAMETER (IN)	1.66	DIAMETER (IN)	2.375
DEPTH (FT)	3482	DEPTH (FT)	5693
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)	497	SURFACE PRESSURE (PSIA)	452
BOTTOMHOLE PRESSURE (PSIA)	540.6	BOTTOMHOLE PRESSURE (PSIA)	519.0
<u><b>PC-Original</b></u>		<u><b>MV-Original</b></u>	
GAS GRAVITY	0.663	GAS GRAVITY	0.708
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.51	%N2	0.24
%CO2	0.43	%CO2	0.9
%H2S	0	%H2S	0
DIAMETER (IN)	1.66	DIAMETER (IN)	2.375
DEPTH (FT)	3482	DEPTH (FT)	5693
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)	918	SURFACE PRESSURE (PSIA)	1045
BOTTOMHOLE PRESSURE (PSIA)	1004.4	BOTTOMHOLE PRESSURE (PSIA)	1215.2

Page No.: 1

Print Time: Wed Dec 22 13:36:45 1999

Property ID: 1466

Property Name: SAN JUAN 27-5 UNIT | 53 | 53386A

Table Name: R:\RESERVES\GDPNOS\TEST.DBF

--DATE-- ---CUM\_GAS-- M SIWHP  
Mcf Psi

12/02/60	0	918.0
12/28/60	0	917.0
09/05/61	16000	670.0
10/01/62	33000	657.0
04/19/63	39000	658.0
04/29/64	53000	587.0
05/10/65	64000	591.0
04/19/66	74000	559.0
05/16/67	83000	568.0
05/02/68	91000	563.0
06/22/69	102000	550.0
05/22/70	107213	533.0
06/22/71	117296	512.0
06/07/72	124896	521.0
11/30/81	188417	480.0
02/20/84	199922	437.0
05/03/84	201787	451.0
04/18/86	209314	484.0
05/08/89	223943	532.0
10/04/91	240939	550.0
05/31/93	253227	497.0

San Juan 27-5 Unit #53

Existing Pictured Cliffs

Page No.: 2

Print Time: Wed Dec 22 13:36:45 1999

Property ID: 1467

Property Name: SAN JUAN 27-5 UNIT | 53 | 53386B

Table Name: R:\RESERVES\GDPNOS\TEST.DBF

--DATE-- ---CUM\_GAS-- M SIWHP  
Mcf Psi

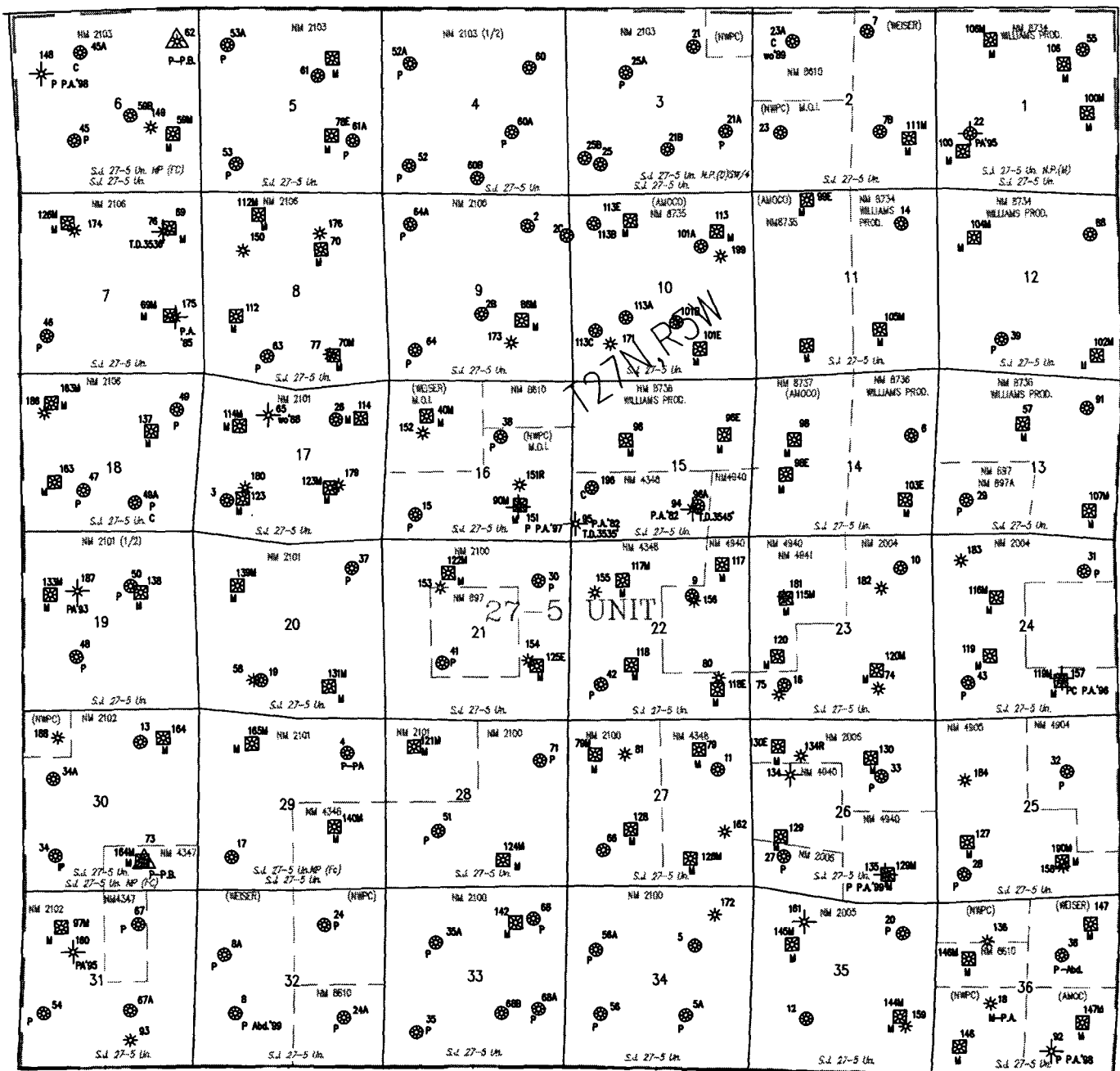
12/02/60	0	1045.0
12/21/60	0	1044.0
09/05/61	99000	798.0
10/30/62	221000	712.0
09/27/63	294000	733.0
04/29/64	352000	702.0
05/10/65	432000	650.0
04/19/66	493000	706.0
05/16/67	561000	645.0
08/14/68	633000	624.0
06/27/69	685830	596.0
07/28/70	725921	612.0
06/21/71	772436	510.0
06/07/72	813845	577.0
07/15/74	906103	530.0
08/16/76	988058	519.0
05/02/78	1048848	505.0
07/02/80	1116478	494.0
06/05/81	1141152	493.0
06/04/82	1162538	515.0
04/18/86	1226232	501.0
09/04/89	1283340	530.0
01/24/91	1301665	518.0
09/24/91	1308522	530.0
05/31/93	1337194	452.0

San Juan 27-5 Unit #53

Existing Mesaverde



27N - 5W - 05



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. Catarach 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 commingling (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-Mesa Verde Gas Pool wells, eighty-seven (87) South Blanco-Pictured Cliffs and Tapacino-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 425 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 drally 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.

CASE NO. 11626  
Order No. R-10694  
Page -6-

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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 Pierre Cliffs and Dakota formations as "marginal", supporting data to verify the Pierre 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