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### NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -2040 South Pacheco, Santa Fe, NM 87505





## **ADMINISTRATIVE APPLICATION COVERSHEET**

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE **Application Acronyms:** [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location] [DD-Directional Drilling] [SD-Simultaneous Dedication] [PLC-Pool/Lease Commingling] [CTB-Lease Comminging] [DHC-Downhole Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [PC-Pool Commingling] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Sait Water Disposal] [IPI-Injection Pressure increase] [PPR-Positive Production Response] [EOR-Qualified Enhanced Oil Recovery Certification] [1]TYPE OF APPLICATION - Check Those Which Apply for [A] Location - Spacing Unit - Directional Drilling MAR 3 1 1999 ☐ NSP . □ NSL Check One Only for [B] or [C] Commingling - Storage - Measurement **™**DHC □ PLC □ OLM □ CTB □ OLS Injection - Disposal - Pressure Increase - Enhanced Oil Recovery □ WFX □ PMX □swD □ IPI □ EOR NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [2] ☐ Working, Royalty or Overriding Royalty Interest Owners [A] BI 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, ☐ Waivers are Attached

#### [31 INFORMATION / DATA SUPMITTED IS COMPLETE

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	DAIA SUDMITTED I	S COMPLETE - Certification	
Regulations of the Oil Conproval is accurate and control of the ORRI) is common. <i>I una</i>	onservation Division. Fur complete to the best of my known that the best of my known that any omission	vision, have read and complied wit ther, I assert that the attached app nowledge and where applicable, ver of data (including API numbers, p to have the application package retu	lication for administra ify that all interest (WI, pool codes, etc.), pertin
Note: State	ment must be completed by an i	ndividual with managerial and/or superviso	ory capacity.
	Joan Shan	anuel	
Print or Type Name	Signature	Title	Date

#### 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

TYPE OR PRINT NAME: Sean Corrigan

State of New Mexico Energy, Minerals and Natural Resources Department

### **OIL CONSERVATION DIVISION**

APPLICATION FOR DOWNHOLE COMMINGLING

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

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

APPROVAL PROCESS:

\_X\_ Administrative \_\_\_Hearing

**EXISTING WELLBORE** 

\_x\_ YES \_\_\_\_ NO

Burlington Resources Oil & Gas Company PO Box 4289, Farmington, NM 87499							
Operator San Juan 27-5 Unit	120 Well No.	Address  23-27N-05W  Unit Ltr Sec - Twp - Rg		Rio Arriba			
Lease DGRID NO. 14538 Property Co				Unit Lease Types: (check 1 or more) (and/or) F88			
The following facts are submitted in support of downhole commingling:	Upper Zone	-In	termediate Zone	Lower Zone			
1. Pool Name and Pool Code	Blanco Mesaverde - 7	2319	ia i ang	Basin Dakota - 71599			
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			
Method of Production     (Flowing or Artificial Lift)	flowing			flowing			
5. Bottomhole Pressure Oil Zones - Artificial Lift:	(Current) a. 732 psi (see attach	ment) a.		a. 1123 psi (see attachment)			
Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Original) b. 1316 psi (see attac	hment) b.		b. 3235 psi (see attachment)			
6. Oil Gravity (API) or Gas BTU Content	BTU 1196			BTU 1134			
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	Date: n/a Rates:	Date: Rates:		Date: n/a Rates:			
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data							
* 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: %	Oil: %	Gas: %	Oil: Gas: %			
<ol> <li>If allocation formula is based u attachments with supporting dat</li> <li>Are all working, overriding, and ro If not, have all working, overridin Have all offset operators been given</li> </ol>			_				
<ol> <li>Will cross-flow occur? _x production be recovered, and wi</li> </ol>	Yes No If yes, a II the allocation formul	re fluids compatible, will a be reliablex Yes	the formations not No. attac	be damaged, will any cross-flowe h explanation)			
12. Are all produced fluids from all co							
<ol><li>Will the value of production be de</li><li>If this well is on, or communitize</li></ol>				•			
<ol> <li>If this well is on, or communitize Land Management has been notifi</li> <li>NMOCD Reference Cases for Rule</li> </ol>	4						
40 477400000000		ing its spacing unit and a ne year. (If not available, ated production rates and a. oyalty interests for uncon ats required to support co	·	attacrieu			
I hereby certify that the informa	<u> </u>						
SIGNATURE: flan & L	origan Ti	TLE: Production Engir	neer DATE: 03	-29-99			

**TELEPHONE NO.:** (505) 326-9700

District I PO Box 1980, Hobbs, NM 88241-1980 District II PO Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV

PO Box 2088, Santa Fe, NM 87504-2088

# State of New Mexico Energy, Minerals & Natural Resources Department

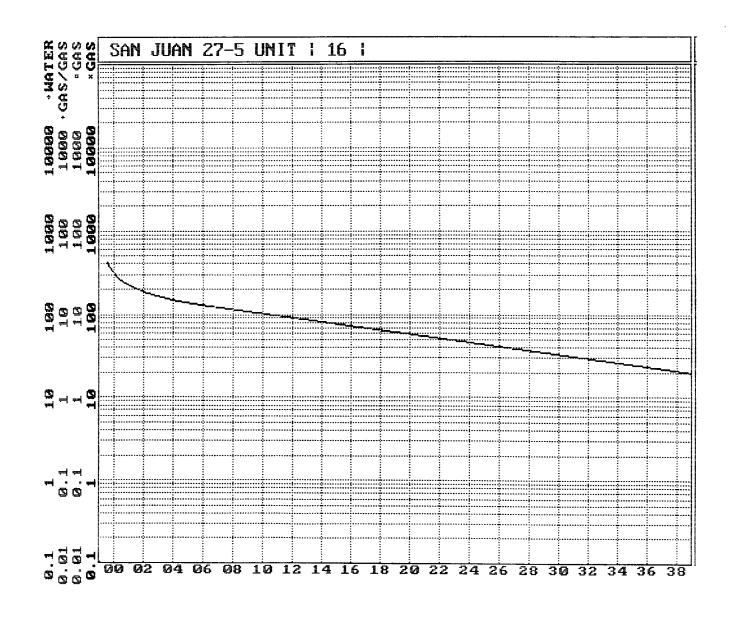
OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088 Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

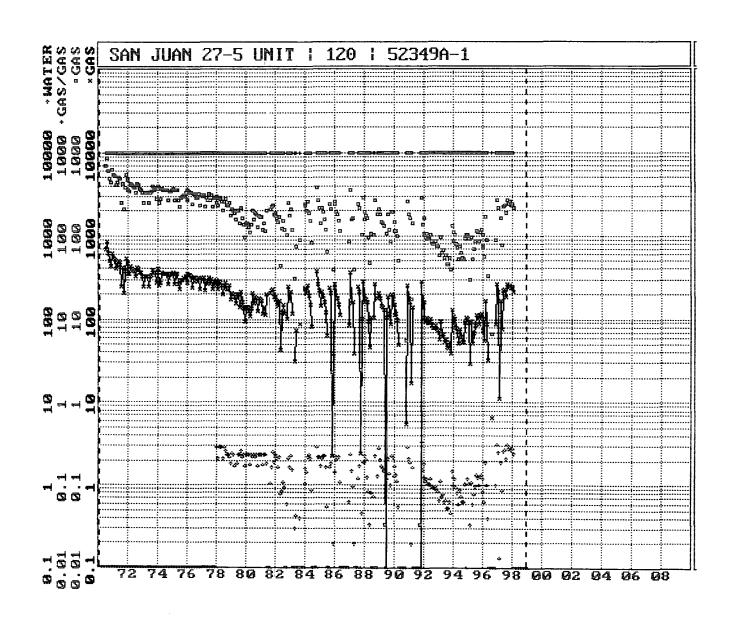
### WELL LOCATION AND ACREAGE DEDICATION PLAT

· A	<sup>2</sup> Pool Code			' Pool Name								
30-039-20313			7231	9/71	599	Blanco Mesaverde/Basin Dakota						
<sup>4</sup> Property Code			<sup>5</sup> Property Name							* Well Number		
7454		San Juan 27-5 Unit							120			
OGRID	No.	Operator Name								' Elevation		
14538	İ	Bur1	ingto	n Re	source	s Oi	.1 & Gas Co	mpany		6508	' GR	
			-				Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from	the	North/South line	Feet from the	East/West line		County	
L	23	27N	5W .		1840	)	South	800	West		RA	
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UL or lot no.	Section	Township	Range	Lot Idn	· · · · · · · · · · · · · · · · · · ·		North/South line	Feet from the	East/We	st line	County	
		1 1										
12 Dedicated Acr	es 13 Joint	or Infill 14 C	onsolidatio	n Code 15	Order No.		·		<u> </u>			
MV-W/32 DK-S/32				1								
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							EEN APPROVED					
116				1				17 OPE	RATOR	CER'	<b>FIFICATION</b>	
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# San Juan 27-5 Unit #120 Expected Production Curve Mesaverde Formation



# San Juan 27-5 Unit #120 Actual Production Dakota Formation



## San Juan 27-5 Unit #120

Bottom Hole Pressures Flowing and Static BHP Cullender and Smith Method Version 1.0 3/13/94

Mesaverde	Dakota				
MV-Current	<u>DK-Current</u>				
GAS GRAVITY COND. OR MISC. (C/M)  %N2  %CO2  DIAMETER (IN)  DEPTH (FT)  SURFACE TEMPERATURE (DEG F)  BOTTOMHOLE TEMPERATURE (DEG F)  SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  0.7  C 0.7	GAS GRAVITY 0.666  COND. OR MISC. (C/M) C  %N2 0.14  %CO2 1.26  %H2S 0  DIAMETER (IN) 1.5  DEPTH (FT) 7674  SURFACE TEMPERATURE (DEG F) 60  BOTTOMHOLE TEMPERATURE (DEG F) 198  FLOWRATE (MCFPD) 0  SURFACE PRESSURE (PSIA) 932  BOTTOMHOLE PRESSURE (PSIA) 1122.8				
MV-Original	DK-Original				
GAS GRAVITY COND. OR MISC. (C/M)  %N2	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 1.26 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  3235.0				

Page No.: 1

Print Time: Wed Mar 03 09:30:48 1999 Property ID: 1384

Property Name: SAN JUAN 27-5 UNIT | 16 | 49640A-1 Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

DATE	CUM_GAS	M SIWHP	
11/07/56 11/30/56 07/30/57 11/06/58 09/22/59 05/29/60 09/13/61 08/06/62 07/16/63 09/28/64 10/25/65 04/19/66 11/24/67 05/02/68 08/28/70 04/08/71 08/09/72 12/01/81 10/20/86 09/08/89 07/28/91	0 24000 59000 74000 87000 117000 129000 141000 153000 166000 172000 207000 240392 251176 271976 395306 444212 477021	1121.0 1120.0 806.0 670.0 697.0 711.0 682.0 744.0 758.0 782.0 782.0 571.0 566.0 539.0 519.0 600.0 534.0 620.0	San Juan 27-5 Unit #120 Mesaverde Offset
07/30/91	490474 490474	644.0 632.0	

Page No.: 2

Print Time: Tue Mar 16 06:51:53 1999 Property ID: 1342

Property Name: SAN JUAN 27-5 UNIT | 120 | 52349A-1 Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

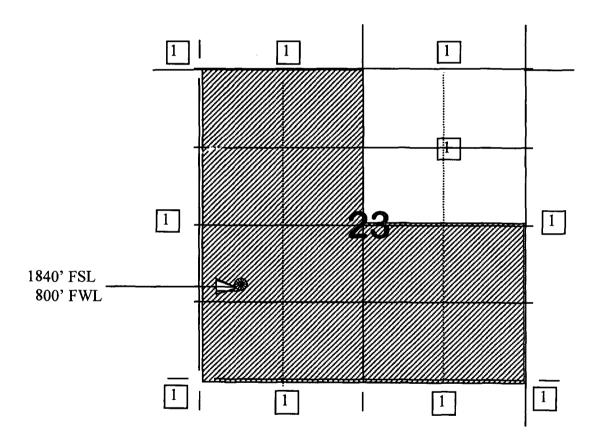
DATE	CUM_GAS		
06/03/70	0	2651.0	San Juan 27-5 Unit #120
10/23/70	80955	1709.0	
07/22/71	209254	1368.0	Existing Dakota
06/06/72	341000	1243.0	3
07/19/73	474019	1145.0	
05/22/75	698744	998.0	
07/06/77	932399	898.0	
05/01/79	1092633	1137.0	
05/04/81	1204759	1462.0	
02/20/84	1321536	1475.0	
05/20/85	1393898	1462.0	
07/12/88	1524340	1421.0	
04/28/90	1608339	1099.0	
03/11/99	1959785	932.0	

## **BURLINGTON RESOURCES OIL AND GAS COMPANY**

# San Juan 27-5 Unit #120 OFFSET OPERATOR/OWNER PLAT

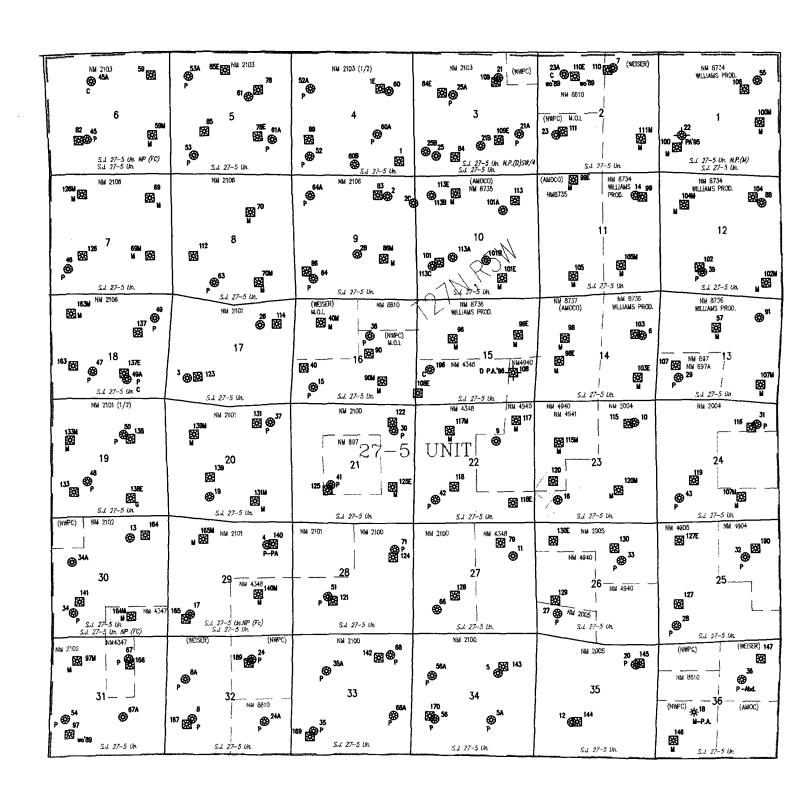
# Commingle Well Mesaverde (W/2) /Dakota (S/2) Formations Well

Township 27 North, Range 5 West



1) Burlington Resources

# San Juan 27-5 Unit #120 Blanco Mesaverde / Basin Dakota 27N - 5W - 23



# 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.

TIO 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. 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 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, em., so as to remer 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 commingie (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-Pictured Cliffs and Tapacito-Pictured Cliffs Gas Pool wells, and four (4) Basin-Fruitiand Coal Gas Pool wells.
  - (6) According to its evidence and testimony, Burlington seeks to:
  - 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:

- establish a "reference case" whereby the Division unitizes 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 Units and
- d) establish a "reference case" or an administrative procedure for authorizing the downhole communating of existing or funce cirilled wells within the San Juan 27-5 Unit without additional nonce 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 Pictures 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 426 MMCFG, respectively;
  - 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 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 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:

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- a) the average shut-in bottominole 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 bottominole pressure within the Dakotz 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 restified that various allocation methods will be unitized 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:
    - the interest ownership between two zones within a given weilbore 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 downnote communitings is unnecessary and is an excessive burden on the applicant:
- d) the downhole commingting of wells within the San Juan 27-5 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingting 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 commined within Division Rule No. 303.C. are compiled 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 downtole comminging approvals within the San Juan 27-5 Unit, and will not violate correlative rights.

#### IT IS THEREFORE ORDERED THAT:

(1) The application of Burington 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 downhold comminging of Dakota. Mesavercie. Fruitiand 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.

- (2) Upon filing of Division Form No. C-107-A's for weils subsequently downhole communicated within the San Juan 27-5 Unix Area, the applicant shall not be required to submit supporting data to justify the classification of the Pictures Cliffs and Dakota formations as "marginal", supporting data to verify the Pictures 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 commungle wells within the San Juan 27-5 Unit, the applicant shall file a Form C-107-A with the Santa Fe and Aziec 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 I LEMAY

Director