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		9	-7-							

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION - Engineering Bureau -
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  JAN 1 2 2000
Check One Only for [B] and [C]  [B] Commingling - Storage - Measurement  X 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] X 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 applicab

ole 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 in-	dividual with supervisory capacity.	
Peggy Cole	Seggy ( selo	Regulatory/Compliance Administrator	
Print or Type Name	Signature	Title	Dat

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

**BURLINGTON RESOURCES OIL & GAS COMPANY** 

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

### **OIL CONSERVATION DIVISION**

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

PO BOX 4289, FARMINGTON, NM 87499

Form C-107-A Revised August 1999 **APPROVAL PROCESS:** 

\_Administrative \_\_\_Hearing

### APPLICATION FOR DOWNHOLE COMMINGLING

**EXISTING WELLBORE** \_X\_\_YES \_\_\_ NO

Operator .	Addres	SS			
SAN JUAN 27-5 UNIT		-27N-05W - Sec - Twp - Rge	RIO ARRIBA County		
OGRID NO14538 Property C	Code7454 API NO30	Spi -039-07176 Federal _	acing Unit Lease Types: (check 1 or more) _X, State, (and/or) Fee		
The following facts are submitted in support of downhole commingling:  1. Pool Name and Pool Code	Upper Zone S.BLANCO PIC.CLIFFS- 72439	intermediate  2009	Lower Zone BLANCO MESAVERDE – 72319		
Top and Bottom of     Pay Section (Perforations)	3362' –3410'		5156' – 5642'		
Type of production (Oil or Gas)	GAS		GAS		
Method of Production     (Flowing or Artificial Lift)	FLOWING		FLOWING		
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing:	a. <sup>(Current)</sup> 450 psi (see attachment)		a. (Current) 500 psi (see attachment)		
Measured Current All Gas Zones: Estimated Or Measured Original	b. <sup>(Oriiginal)</sup> 1158 psi (see attachment)		b. <sup>(Oriiginal)</sup> 1213 psi (see attachment)		
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1183		BTU 1212		
7. Producing or Shut-In?	PRODUCING		PRODUCING YES		
Production Marginal? (yes or no)  * If Shut-In, give date and oil/gas/ water rates of last production	NO  Date: N/A Rates:	Date: N/A 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 date andoil/gas/water rates of recent test (within 60 days)	Date: N/A Rates:	Date: N/A Rates:	Date: N/A Rates:		
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.					
<ul> <li>10. Are all working, overriding, and royalty interests identical in all commingled zones?  If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes X No Yes X N</li></ul>					
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? YesX 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 applicationX_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 Ada	TITLE	PRODUCTION ENGINEER	DATE: 1/10/00		
TYPE OR PRINT NAME SCOTT DOBSON TELEPHONE NO. 505-326-9700					

### W MEXICO OIL CONSERVATION COMMIS

Well Location and Acronge Detreation Plat

Date FEBRUARY 13, 1959 Section A. Operator EL PASO NATURAL GAS COMPANY Lease SAN JUAN 27-5 UNIT SF 079393 Well No. 15 (PM) Unit Letter K 27-N Range Township 1750 Feet From **SOUTH** WEST Dedicated Acreage 321.83 & 161.17 County RIO ARRIBA .\_\_\_G. L. Elevation Name of Producing Formation MESA VERDE & PICTURED CLIFF Pool Blanco My, So. Blanco PC EFF. 1. Is the Operator the only owner in the dedicated acreage outlined on the tilu below? 2. If the answer to question one is "no", have the interests of all the owners been consolidated by communitization . 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 TEB 1 6 1959 JLOGIUM- -Section B. from outer boundaries of section. 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 ORIGINAL SIGNED J.J. TILLERSON .Representative)

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.

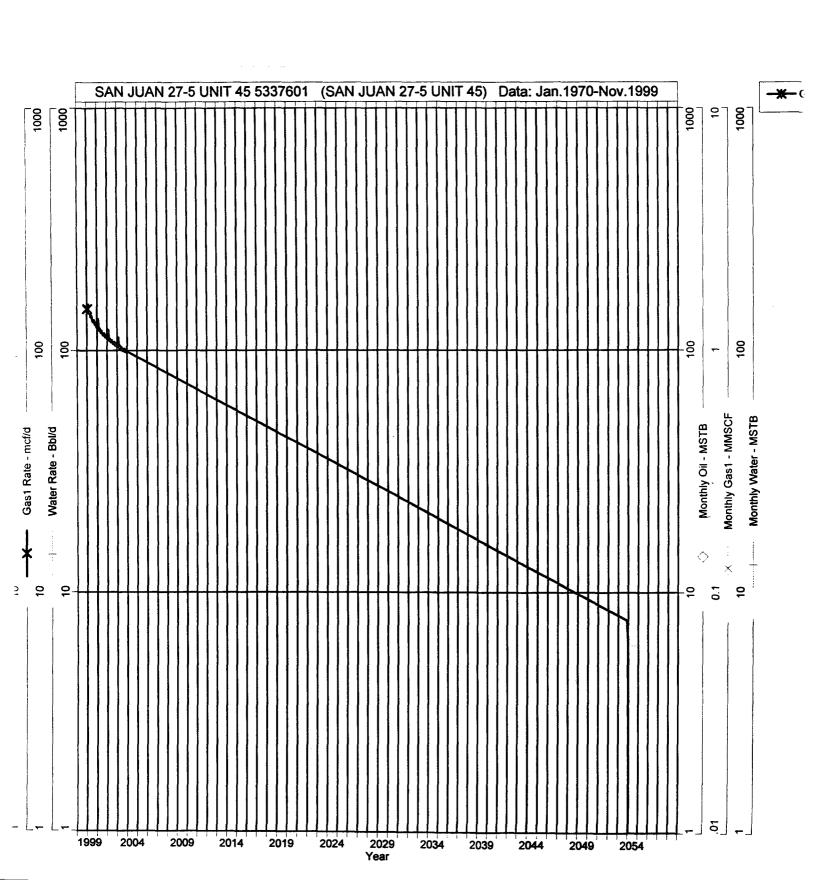
(Seal)

Farmington, New Mexico

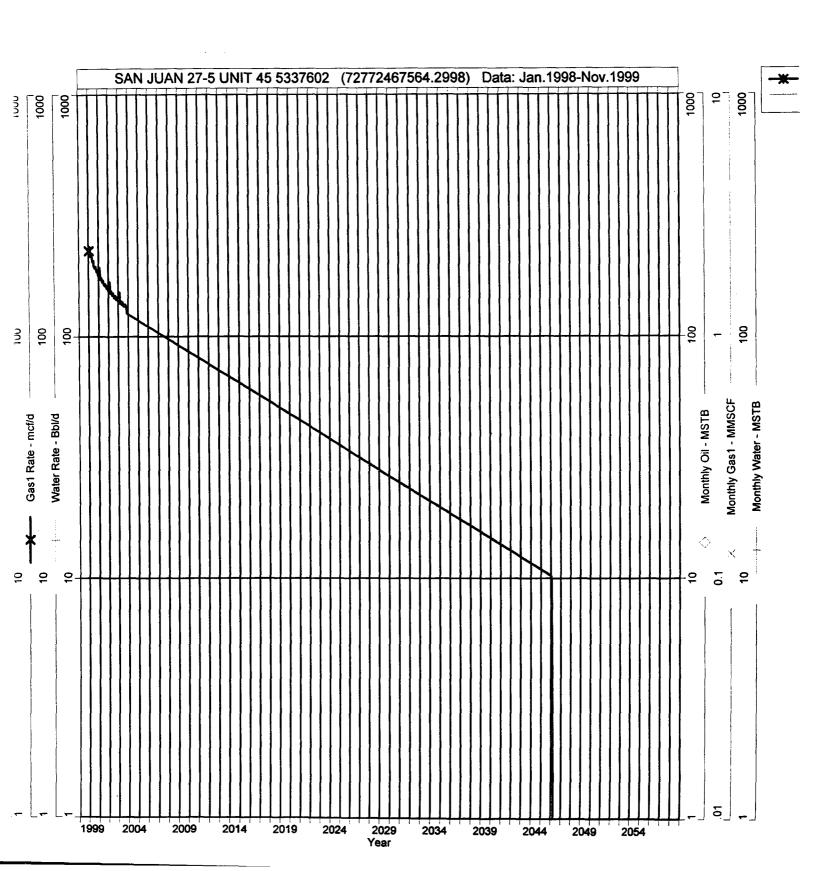
Date Surveyed FRRUARY 12, 1959

Registered Professional Engineer and/or Land Surveyor

San Juan 27-5 Unit #45
Expected Production
Pictured Cliffs Formation



San Juan 27-5 Unit #45
Expected Production
Mesaverde Formation



### San Juan 27-5 Unit #45

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

Pictured Cli	ffs	Mesaverde  MV-Current			
PC-Current					
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA)	0.684 C 0.25 1.12 0 1.25 3396 60 137 0 414	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA)	0.702 C 0.25 1.1 0 2 5584 60 198 0 437		
PC-Origina		MV-Original	y and a plant and		
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD)	0.684 C 0.25 1.12 0 1.25 3396 60 137	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD)	0.702 C 0.25 1.1 0 2 5584 60 198		

Page No.: 1

Print Time: Wed Dec 22 10:25:07 1999
Property ID: 1453

Property Name: SAN JUAN 27-5 UNIT | 45 | 53376A
Table Name: R:\RESERVES\GDPNOS\TEST.DBF

	M SIWHP	CUM_GAS Mcf	DATE
	PSI	MCI	***************************************
San Juan 27-5 Unit #45	1055.0	0	03/02/59
	1057.0	0	03/30/59
Existing Pictured Cliffs	758.0	50000	10/22/59
-	788.0	87000	09/22/60
	782.0	117000	06/13/61
	682.0	184000	06/04/62
	727.0	233000	05/06/63
	674.0	272000	04/22/64
	660.0	309000	05/03/65
	640.0	363000	06/07/66
	629.0	406000	05/25/67
	610.0	449000	05/27/68
	559.0	498000	06/22/69
	550.0	535616	04/15/70
	494.0	590518	06/22/71
	489.0	635205	06/07/72
	462.0	689306	08/29/73
	448.0	728726	07/15/74
	447.0	806253	08/16/76
	422.0	870706	05/02/78
	411.0	939508	07/02/80
	440.0	991022	06/04/82
	466.0	1022176	05/03/84
	434.0	1048123	05/20/85
	510.0	1094928	10/10/88
	404.0	1145158	04/22/90
	447.0	1239908	03/01/94
	414.0	1247679	08/03/94

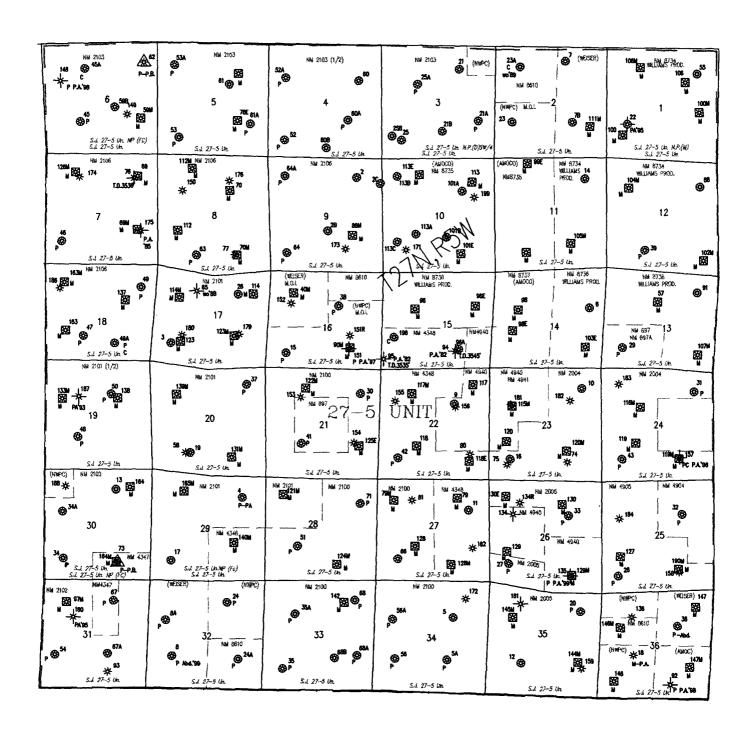
Page No.: 2

Print Time: Wed Dec 22 10:25:07 1999

Property ID: 1454
Property Name: SAN JUAN 27-5 UNIT | 45 | 53376B
Table Name: R:\RESERVES\GDPNOS\TEST.DBF

	CUM_GAS	M SIWHP	
03/02/59 03/19/59	0	1048.0 1047.0	San Juan 27-5 Unit #45
10/22/59	97000	826.0	Existing Mesaverde
09/22/60	201000	805.0	= mouning modulorus
12/20/61	363000	731.0	
12/05/62	453000	710.0	
10/21/63	529000	705.0	
12/02/64	636000	687.0	
05/03/65	680000	660.0	
06/07/66	787000	642.0	
05/25/67	864000	613.0	
05/27/68	939000	606.0	
06/27/69	1028000	560.0	
04/15/70	1095662	554.0	
06/22/71	1186414	522.0	
06/07/72	1261346	524.0	
08/29/73	1358482	438.0	
07/15/74	1436569	443.0	
08/16/76	1552851	466.0	
05/02/78	1655510	462.0	
07/02/80	1754463	467.0	
06/04/82	1825287	478.0	
05/03/84 04/18/86	1875467	475.0	
04/18/86	1942128	476.0	
09/04/89	2028167	472.0	
02/21/91 08/27/91	2073030	509.0	
05/06/93	2077614	521.0	
03/06/93	2130567	437.0	

# San Juan 27-5 Unit #45 Pictured Cliffs / Mesaverde 27N – 5W – 06



# 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.

- Prio 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 comminging "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. Messaverde, Fruitland Coal and Pletures 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 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-Fruitland 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 Pieured 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 carrain 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 communiting of existing or future drilled wells within the San Juan 27-5 Unit without additional nonce to each affected unterest 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 undereloped drill block are approximately 583 MMCFG and 426 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 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 Pictures Cliffs formations within the San Juan 27-5 Unit, the applicant presented engineering evidence and testimony which indicates that:

- a) the average shur-in bottominole pressure within the Dakota and Pienred 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 CIII's formations are approximately 1.032 ps; 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 restrict that various allocation methods will be unliked for downhole comminged wells within the San Juan 27-5 Unit depending on the circumstances. Some of the methods and circumstances are described as follows:
  - the subtraction method will likely be utilized in those instances involving the Basin-Fruitiand 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 unifized 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 motice 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 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 contained 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 downnois 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. Mesavertie. 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 downtole communited within the San Juan 27-5 Unit 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 25: the Division may deem necessary.

DONE at Samz Fe. New Mexico. on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J/ LeMAY

Director