ABOVE THIS LINE FOR DIVISION USE ONLY

# NEW MEXICO OIL CONSERVATION DIVISION

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



# ADMINISTRATIVE ADDITION COVERSHEET

ADMINISTRATIVE AFFEIGATION COVERSILE:
THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATION 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]  [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-Sait Water Disposal] [IPI-Injection Pressure Increase]  [EOR-Qualified Enhanced OII Recovery Certification] [PPR-Positive Production Response]
[1] TYPE OF APPLICATION - Check Those Which Apply for [A] [S]  [A] Location - Spacing Unit - Directional Drilling  ONSL ONSP OD OSD MAR 3 1 PC
Check One Only for [B] or [C]  [B] Commingling - Storage - Measurement  DHC CTB PC 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]
[F]
[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Certification
I hereby certify that I or nemonal and a superior to the state of the

Rules a: ninistrati<sup>.</sup> est (WI, F , p**er**tine tion take

Regulations of the Oi approval is accurate an DRRI) is common. <u>I</u>	l Conservation Division. Fund complete to the best of my known that any omission that are also as a second that are a second that are also as a second that are a second that a second that a second that a second that are a second that a se	vision, have read and complied wather, I assert that the attached approved and where applicable, void to a factorial data (including API numbers to have the application package re	pplication for admini erify that all interest ( pool codes, etc.), po
Note: 8	Statement must be completed by an i	individual with managerial and/or supervi	isory capacity.
	Joan Show	1	
Print or Type Name	Signature	Title	Date

#### 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

San Juan 27-5 Unit

OIL CONSERVATION DIVISION

APPROVAL PROCESS: \_X\_ Administrative \_\_\_Hearing

Rio Arriba

DISTRICT II 811 South First St., Artesia, NM 88210-2835

Operator

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

**Burlington Resources Oil & Gas Company** 

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

**EXISTING WELLBORE** 

# APPLICATION FOR DOWNHOLE COMMINGLING

26-27N-05W

129

PO Box 4289, Farmington, NM 87499

\_X\_YES \_\_\_NO

Lease	Well No.	ınıt Ltr Sec - Twp - Kge	Spacing Unit Lease Types: (check 1 or more)				
OGRID NO. 14538 Property Cod	le 7454 API NO. 30-039-2	036800 Federal x St	ate (and/or) Fee				
The following facts are submitted in support of downhole commingling:  1. Pool Name and Pool Code	Upper Zone Blanco Mesaverde - 72319	Intermediate Zone	Lower Zone Basin Dakota - 71599				
Top and Bottom of Pay Section (Perforations)	will be supplied upon complet	ion	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: Estimated Current	(Current) a. 680 psi (see attachment) (Original)	a.	a. 845 psi (see attachment)				
Gas & Oil - Flowing:  Measured Current All Gas Zones: Estimated or Measured Original	b. 1373 psi (see attachment)	b.	b. 3141 psi (see attachment)				
6. Oil Gravity (API) or Gas BTÜ Content	BTU 1214		BTU 1136				
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:	Date: n/a Rates:				
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data		, teason					
* 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: % 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?  If not, have all working, overriding, and royalty interests been notified by certified mail?  Yes							
I hereby certify that the inform	_	nplete to the best of my kno	owledge and belief.				
SIGNATURE from \$	lonigan TITLE:	Production Engineer	DATE: 3-29-99				
TYPE OR PRINT NAME Se	an Corrigan	TELEPHONE NO.	( 505 ) 326-9700				

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

PO Box 2088, Santa Fe, NM 87504-2088

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

OIL CONSERVATION DIVISION PO Box 2088 Santa Fe, NM 87504-2088

Form C-10 Revised February 21, 199 Instructions on bac Submit to Appropriate District Offic-State Lease - 4 Copie Fee Lease - 3 Copic

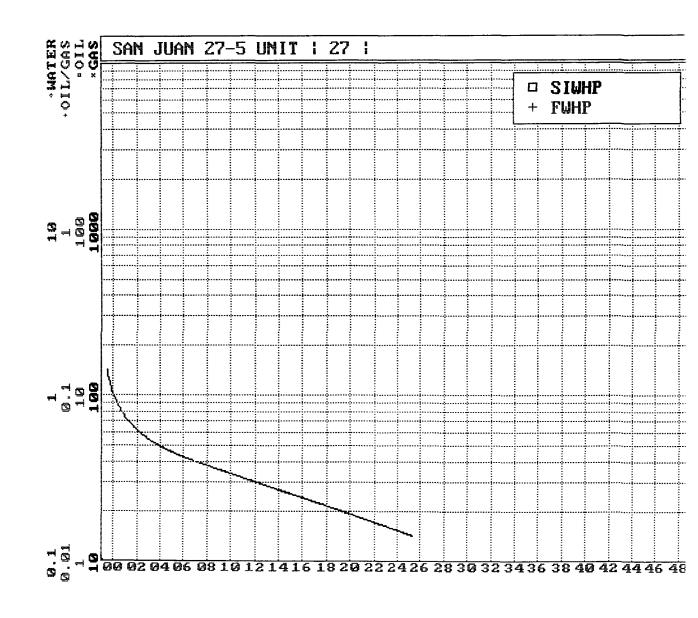
AMENDED REPOR

### WELL LOCATION AND ACREAGE DEDICATION PLAT

	Pl Numbe			<sup>2</sup> Pool Code		'Pool Name Blanco Mesaverde/Basin Dakota						
30-039-	20368		/23.	19/715	99	BTa	nco Mesave	erd	e/Basi ———	n Dako	ota	
<sup>4</sup> Property	Code			<sup>5</sup> Property Name				' Well Numb			Well Number	
7454				San Juan 27-5 Unit				129				
'OGRID'	No.		10.	'Operator Name Burlington Resources Oil & Gas C				oc Comi	2001	(52	* Elevation	
14538		·	DU	11 1 THIS				. G	as comp	Jany	6533	3' GR
		T					Location	-				
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UL or lot no.	Section	Township	Range	Lot Idn	Feet from	a the	North/South line	Fa	t from the	East/We	st line	County
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MV-W/31		or min i C	onsolidatio	n Code	order No.							
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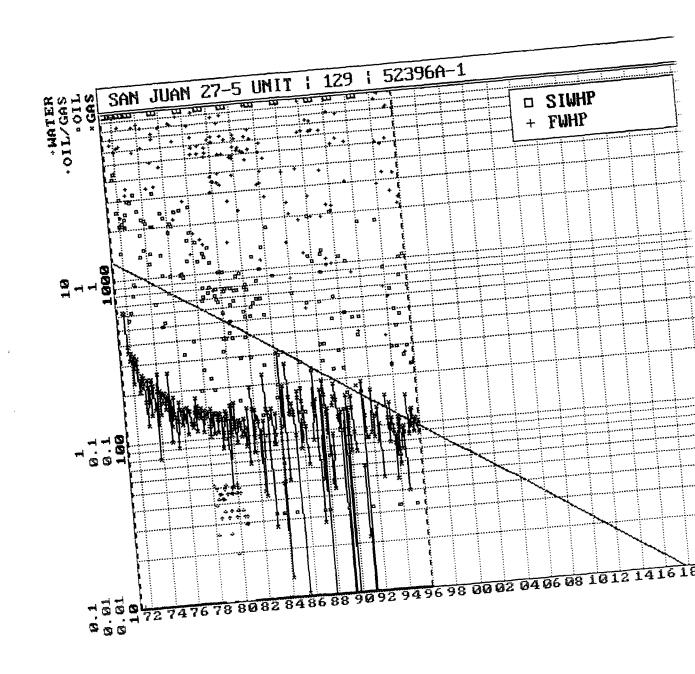
Expected Production

Mesaverde Formation



Actual Production

Dakota Formation



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  %H2S  DIAMETER (IN)  DEPTH (FT)  SURFACE TEMPERATURE (DEG F)  BOTTOMHOLE TEMPERATURE (DEG F)  SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  680.3	GAS GRAVITY 0.664  COND. OR MISC. (C/M) C  %N2 0.15  %CO2 1.06  %H2S 0  DIAMETER (IN) 1.5  DEPTH (FT) 7732  SURFACE TEMPERATURE (DEG F) 60  BOTTOMHOLE TEMPERATURE (DEG F) 198  FLOWRATE (MCFPD) 0  SURFACE PRESSURE (PSIA) 705  BOTTOMHOLE PRESSURE (PSIA) 845.2
MV-Original	DK-Original
GAS GRAVITY COND. OR MISC. (C/M) %C2 %C02 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  0.71 C C 0.19 0.68 0.68 0.68 0.68 0.69 0.69 0.69 0.69 0.69 0.71 0.732 0.73	GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 1.06 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA)  BOTTOMHOLE PRESSURE (PSIA)  3141.2

Page No.: 4

Print Time: Wed Mar 03 17:05:13 1999

Property ID: 1423
Property Name: SAN JUAN 27-5 UNIT | 27 | 53357A-1 Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

	CUM_GAS Mcf	
06/24/57	0	1093.0
07/23/57	0	1163.0
01/15/58		616.0
08/29/58 09/22/59		895.0 778.0
03/06/60		768.0
10/28/61		828.0
08/06/62		848.0
04/19/63		856.0
08/27/64 05/10/65		771.0
05/10/65		736.0 682.0
08/04/67		670.0
05/02/68		639.0
08/28/70		593.0
04/08/71		572.0
08/09/72		544.0
12/06/83 04/18/86		567.0 604.0
09/08/89		604.0
07/16/91		542.0
07/31/91	304965	554.0

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M\* 11814

Page No.: 3

Print Time: Wed Mar 03 17:05:12 1999

Property ID: 1352

Property Name: SAN JUAN 27-5 UNIT | 129 | 52396A-1 Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

05/28/71       0       2570.0         11/03/71       71177       1291.0         08/09/72       151098       966.0         05/16/73       207918       857.0         06/24/75       342968       764.0         08/08/77       455648       747.0         05/02/79       538796       760.0         04/20/81       620276       821.0         09/21/83       703547       782.0         11/18/85       780137       747.0         10/13/88       870347       962.0         05/29/90       932077       802.0         07/02/92       987509       705.0	San Juan 27-5 Unit # 1 Existing Dakota

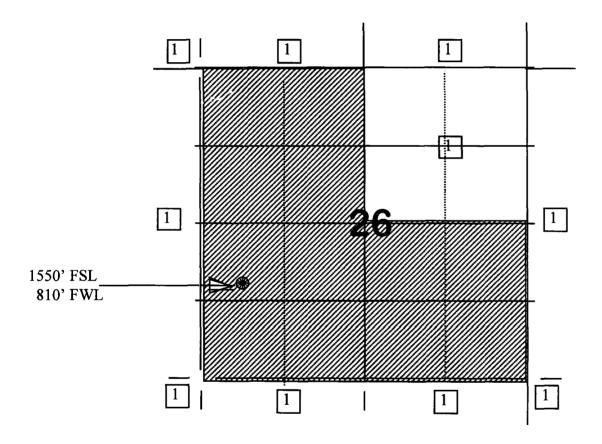
DK

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

# San Juan 27-5 Unit #129 OFFSET OPERATOR/OWNER PLAT

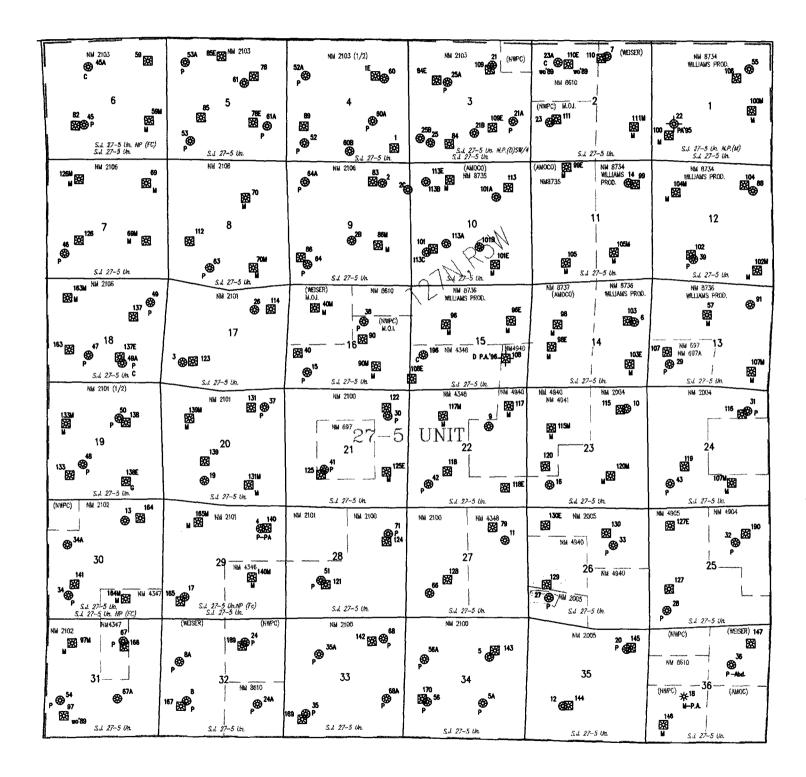
# Commingle Well Mesaverde (W/2) /Dakota (S/2) Formations Well

Township 27 North, Range 5 West



1) Burlington Resources

# Blanco mesaverde / Basin Dakota 27N- 4W -26



# 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.

PIO 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. 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 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-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 wherever 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 Plettired 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 carrier 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 crilled wells within the San Juan 27-5 Unix 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;
  - 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 Pictured Cliffs formations within the San Juan 27-5 Unit, the applicant presented engineering evidence and testimony which indicates that:

- a) the average single-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 bottomhole pressure within the Dakota and Piemred 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 unitzed 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:
  - 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 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 comminged 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 Eurington 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. Mesaverce. 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.

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

- Upon filing of Division Form No. C-107-A's for wells subsequently downhole communated 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 Dakora formations as "marginal", supporting data to verify the Pictures Cliffs and Dakora. 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.
- In order to obtain Division authorization to downhole communie wells within the San Juan 27-5 Unit, the applicant shall file a Form C-107-A with the Santa Fe and Azrec 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 commingting.
- Juristiction of this cause is remined for the entry of such further orders as (4) 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

Director /