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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] [SD-Simuitaneous Dedication] [DD-Directional Drilling] [PLC-Pool/Lease Commingling] [CTB-Lease Commingling] [DHC-Downhole Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [PC-Pool Commingling] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Sait Water Disposai] [IPI-Injection Pressure increase] [PPR-Positive Production Response [EOR-Qualified Enhanced Oll Recovery Certification] [1] TYPE OF APPLICATION - Check Those Which Apply for [A] MAR 2 6 1999 Location - Spacing Unit - Directional Drilling . D NSL ☐ NSP ממ 🗆 OIL CONSERVATION DIVIS Check One Only for [B] or [C] Commingling - Storage - Measurement B ☐ CTB □ PLC □ OLS □ OLM Injection - Disposal - Pressure Increase - Enhanced Oil Recovery [C] □ WFX □ PMX □swD ☐ IPI ☐ EOR [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [A] ☐ Working, Royalty or Overriding Royalty Interest Owners IB1 Offset Operators, Leaseholders or Surface Owner [C] ☐ Application is One Which Requires Published Legal Notice Notification and/or Concurrent Approval by BLM or SLO ID1 U.S. Bureau of Land Menagement - Commissioner of Public Lands, State Land Office E ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Certification

☐ Waivers are Attached

F

Regulations of the Oil (approval is accurate and DRRI) is common. <i>I un</i>	Conservation Division. Fur complete to the best of my knuderstand that any omission	rision, have read and complied wither, I assert that the attached appnowledge and where applicable, verof data (including API numbers, phave the application package returns	dication for administrify that all interest (Woool codes, etc.), pert
Note: Sta	tement must be completed by an ir	ndividual with managerial and/or supervise	ory capacity.
	Some Shaw	unuel	
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 OIL CONSERVATION DIVISION

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

DISTRICT II

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

DISTRICT III

Burlington Resources Oil & Gas Company

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

Address

APPROVAL PROCESS:

X Administrative ___Hearing

EXISTING WELLBORE

_X_YES ___ NO

APPLICATION FOR DOWNHOLE COMMINGLING 1000 Rio Brazos Rd, Aztec, NM 87410-1693

PO Box 4289, Farmington, NM 87499

San Juan 27-5 Unit 127 L 25-27N-05W Rio Arriba							
Lease Well No. Unit Ltr Sec - Twp - Rge County Spacing Unit Lease Types: (check 1 or more)							
Spacing Unit Lease Types: (check 1 or more) OGRID NO. 14538 Property Code 7454 API NO. 30-039-20378 Federal x State (and/or) Fee							
The following facts are submitted in support of downhole commingling: 1. Pool Name and	Upper Zone Blanco Mesaverde - 7231	Principal district	Intermedi Zone	ste	Lower Zone Basin Dakota - 71599		
Pool Code							
2. Top and Bottom of Pay Section (Perforations)	2. Top and Bottom of Pay Section (Perforations) will be supplied upon completion						
Type of production (Oil or Gas)	gas				gas		
Method of Production (Flowing or Artificial Lift)	flowing				flowing		
5. Bottomhole Pressure	(Current) a. 592 psi (see attachme	nt) i	a.		a. 843 psi (see attachment)		
Oil Zones - Artificial Lift: Estimated Current							
Gas & Oil - Flowing: Measured Current All Gas Zones:	(Original) b. 1326 psi (see attachm	ent)	b.		b. 3233 psi (see attachment)		
Estimated or Measured Original 6. Oil Gravity (API) or Gas BTU Content	BTU 1217				BTU 1211		
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 n/a Date: n/a Date: n/a							
last production Rates: Rates: Rates:							
* If Producing, give data and oil/gas/water water of recent test (within 60 days) Date: n/a Rates: Rates: Date: n/a Rates:							
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%) Will be supplied upon completion Oil: Gas: % % % % % % % % % % % % % % % % % % %							
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? Have all offset operators been given written notice of the proposed downhole commingling? X Yes No X Yes No X Yes 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 reliablex_ YesNo (If No, attach explanation)							
12. Are all produced fluids from all commingled zones compatible with each other?x_YesNo							
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 applicationXYes No							
15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) R-10694 attached							
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 all offset operators. * 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 Jean & brigan TITLE: Production Engineer DATE: 03-08-99							
TYPE OR PRINT NAME: Sean Co	•	PHONE NO	D.: (505) 3	26-9700			

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

State of New Mexico Energy, Minerals & 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-

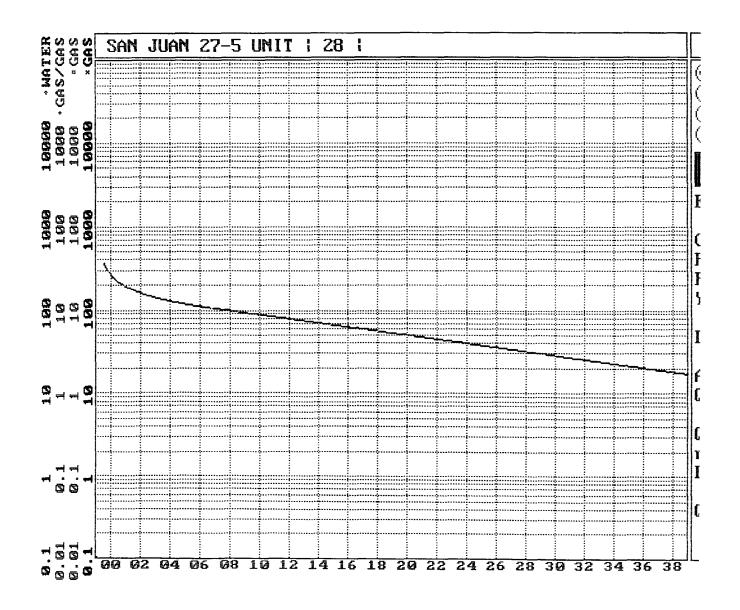
Signature and Seal of Professional Surveyer:

Certificate Number

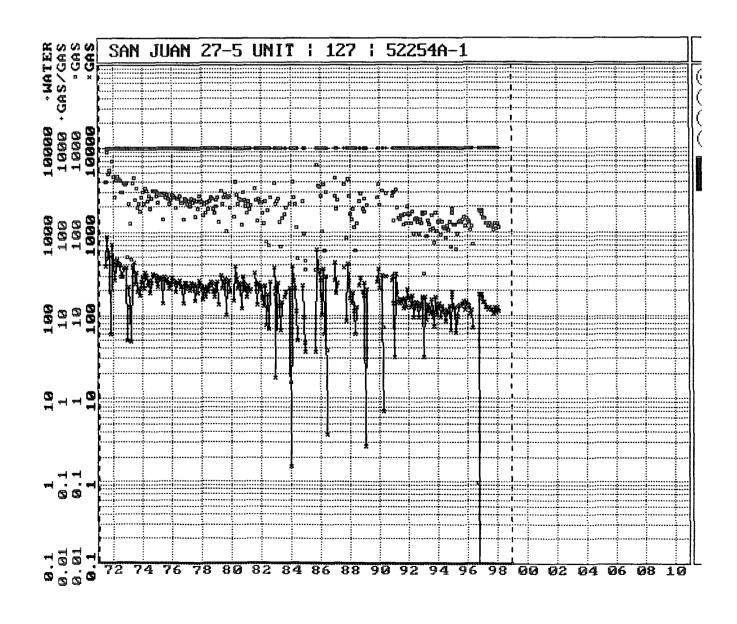
State Lease - 4 Copie Fee Lease - 3 Copic

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	Pl Numbe		LL LO	Pool Co		ACK	EAGE DEDIC	, Pool N			
30-039-2	20378		72319/71599 Blanco Mesaverde/Basin Dakota								
Property (1/23	L 9 / / L J		operty:		Ide/Dasi	I Dako		Well Number
7454	i			San J	Juan 27	-5	Unit			1:	27
OGRID!	No.	-						* Elevation			
14538		R.1.	rlinas	ton Po	25011200	. n	il & Gas C	omp on I		661	9' GR
18330		<u> </u>	LILLIE	ron we			Location	Ошрану		004	7 (71)
UL or lot no. L	Section 25	Township 27N	Range 5W	Lot Idn	Feet from 1750		North/South line South	Feet from the	East/West West		County
		·•	11 Bot	tom Ho	ole Locati	on I	f Different Fro	m Surface		7.00	
UL or lot no.	Section	Township	Range	Lot Ida	Feet from	the	North/South line	Feet from the	East/Wes	t line	County
MV-W/320		or infill 14 (Consolidatio	on Code	Order No.		<u>. </u>		<u> </u>	-	<u> </u>
							ON UNTIL ALL EEN APPROVED			EN CO	NSOLIDATED
16				Ori Dav	ginal pid O. V	olar /ilv	: from ven 2-17-71	I hereby cert true and con	ify that the in	formation	TIFICATIOI consained herein is knowledge and belis
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							· · · · · · · · · · · · · · · · · · ·	Date			
1 900'								I hereby cer was ploued or under my correct to th	tify that the w from field not supervision, e best of my l	ell locationes of actua and that t	TIFICATIOI n shown on this pla al surveys made by the same is true and
! !	1	1		li				Date of Sun	rey		

San Juan 27-5 Unit #127 Expected Production Curve Mesaverde Formation



San Juan 27-5 Unit #127 Actual Production Dakota Formation



San Juan 27-5 Unit #127

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) FLOWRATE (MCFPD) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) D.713 C. 0.713 C. 0.77 9412 0 1.77 60 60 60 60 60 60 60 60 60	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)	0.712 C 0.18 1.01 0 1.5 7854 60 198 0 690
MV-Original	DK-Original	
GAS GRAVITY COND. OR MISC. (C/M) %N2 %CO2 0.77 %H2S DIAMETER (IN) DEPTH (FT) SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) SURFACE PRESSURE (PSIA) BOTTOMHOLE PRESSURE (PSIA) 1325.5	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)	0.712 C 0.18 1.01 0 1.5 7854 60 198 0 2584

Page No.: 1

Print Time: Wed Mar 03 10:04:42 1999

Property ID: 1426
Property Name: SAN JUAN 27-5 UNIT | 28 | 53358B-1
Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

		CUM_GAS Mcf	DATE
San Juan 27-5 Unit #127 Mesaverde Offset	1120.0 1119.0 806.0 727.0 714.0 773.0 781.0 762.0 755.0	Mcf	08/04/58 08/27/58 09/22/59 05/29/60 05/28/61 03/07/62 04/12/63 05/07/64 05/10/65
	571.0 608.0 612.0 629.0 606.0 578.0 561.0 513.0 510.0	274000 310451 312556 318185 336882 485355 513366	04/19/66 05/16/67 05/02/68 08/28/70 11/09/70 04/08/71 08/09/72 12/06/83 10/20/86 09/08/89 05/06/91 05/20/91

Page No.: 1

Print Time: Wed Mar 03 10:04:31 1999

Property ID: 1349
Property Name: SAN JUAN 27-5 UNIT | 127 | 52254A-1
Table Name: Q:\PUBLIC\GENTITY\GDPNOS\TEST.DBF

DATE	CUM_GAS		
06/29/71	0	2584.0	San Juan 27-5 Unit #127
11/03/71 08/09/72		1271.0 1009.0	Existing Dokoto
02/10/73		1104.0	Existing Dakota
08/20/73	275222	1040.0	
12/10/73	300936	1104.0	
06/24/75	446244	747.0	
08/08/77	631469	768.0	
09/27/79	788561	753.0	
04/20/81	907623	747.0	
09/21/83	1045015	882.0	
11/05/85	1125918	989.0	
06/05/86	1169778	771.0	
10/11/88	1278827	828.0	
06/29/90	1347521	827.0	
06/17/94	1538436	690.0	

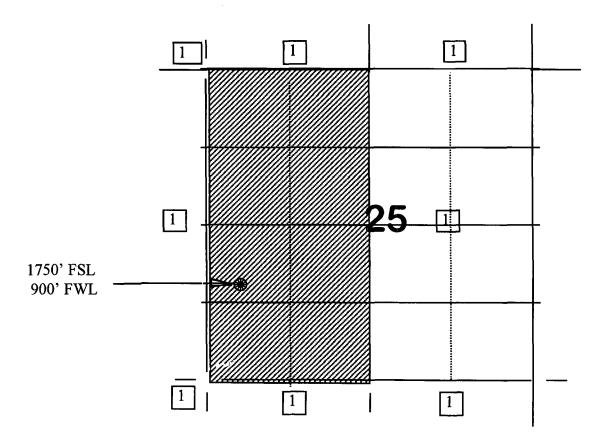
BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 27-5 Unit #127

OFFSET OPERATOR/OWNER PLAT

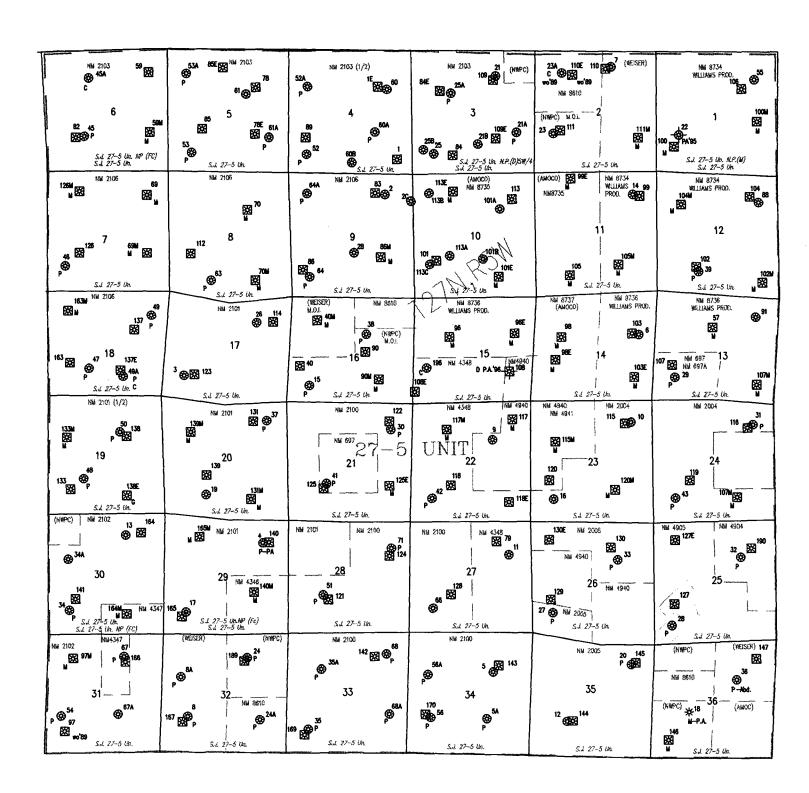
Mesaverde/Dakota Formations Commingled well

Township 27 North, Range 5 West



1) Burlington Resources

San Juan 27-5 Unit #127 Blanco Mesaverde / Basin Dakota 27N - 5W - 25



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.

THO 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 maner 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-Messverde Gas Pool wells, eighty-seven (87) South Blanco-Pictured Cliffs and Tapacino-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 Piemred 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 communiting of existing or future crilled 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 Dakora 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 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 Dakota and Pictured Cliffs formations are approximately 1.032 pst and 441 pst. 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 Hasin-Fruitland Coal Gas Pool and in those instances where a zone with a well established decline rate is comminged with a newly completed zone:
 - b) a fixed allocation formula will be unilized 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 fortunias 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 downnole communitings is unnecessary and is
 an excessive oursen on the applicant:
- d) the downhole comminging of weils within the San Juan 27-5 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole comminging 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 Euriington 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 communited 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 "marginai", 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 downinie community wells within the San Juan 27-5 Unit, the applicant shall file a Form C-107-A with the Santa Fe and Azree 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) Juristiction 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