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 State of New Mexico Energy, Minerals and Natural Resources Department **OIL CONSERVATION DIVISION**

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

APPROVAL PROCESS:

X Administrative ___Hearing

EXISTING WELLBORE

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

APPLICATION FOR DOWNHOLE COMMINGLING

x YES ___ NO

Burlington Resources Oil & Gas Company			PO Box 4289, Farmington, NM 87499	
SAN JUAN 27-5 UNIT	43 M 2	4-27N-5W	Rio Arriba	
230	Well No. Unit I	tr Sec - Twp - Rge Spacing	County Unit Lesse Types: (check 1 or more)	
GRID NO14538 Property C	ode _7454 API NO30-039-06			
The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone	
Pool Name and Pool Code	Blanco Mesaverde - 72319		Tapacitos Pictured Cliffs - 85920	
2. Top and Bottom of Pay Section (Perforations)	Will be supplied upon completion (originally 5552' - 5630')	DECEIVED	3410' - 3460'	
3. Type of production (Oil or Gas)	gas	UU MAY 2 0 109/	gas	
4. Method of Production (Flowing or Artificial Lift)	flowing		flowing	
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current	(Current) a. 504 psi (see attachment)	a.	a. 377 psi (see attachment)	
Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated or Measured Original	(Original) b. 1288 psi (see attachment)	b.	b. 1088 psi (see attachment)	
3. Oil Gravity (°API) or Gas BTU Content	BTU 1187		BTU 1190	
7. Producing or Shut-In?	producing		producing	
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:	
ote: For new zones with no production history, pplicant shall be required to attach production stimates and supporting data				
If Producing, give data and illgas/water water of recent test within 60 days)	Date: n/a Rates:	Date: Rates:	Date: n/a Rates:	
Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Oil: % Gas: %	Oil: Gas: %	Oit: Gas: % will be supplied upon completion	
). Are all working, overriding, and i If not, have all working, overridir Have all offset operators been g	royalty interests identical in all c ig, and royalty interests been no iven written notice of the propos	ommingled zones? tified by certified mail? ed downhole commingling?	sed upon some other method, sub ner required data. Yes _x_No Yes _x_No _x_YesNo	
			ot be damaged, will any cross-flov attach explanation)	
. Are all produced fluids from all c . Will the value of production be de	•	— — — —		
. If this well is on, or communitize of Land Management has been no	ed with, state or federal lands, otified in writing of this application	either the Commissioner of Pub	lic Lands or the United States Bur	
NMOCD Reference Cases for Rul	e 303(D) Exceptions: ORDER N	0(s). R-10694 (atte	rched)	
ATTACHMENTS: * C-102 for each zone to the production curve for the production curve for the production curve for zones with no production to support allocation and the production of the produ	o be commingled showing its spa each zone for at least one year. d duction history, estimated produ tion method or formula.	ncing unit and acreage dedication (If not available, attach explanati ction rates and supporting data. erests for uncommon interest case ed to support commingling.	n. on.)	
pereby certify that the informa	ation above is true and com	plete to the best of my know	ledge and belief.	
GNATURE JOHN S	asleyTITLE_Produc	ction EngineerDAT	E5/14/97	
PE OR PRINT NAME Joan	M. Easley TELEPHONI	E NO. <u>(505)</u> <u>326-9700</u>		

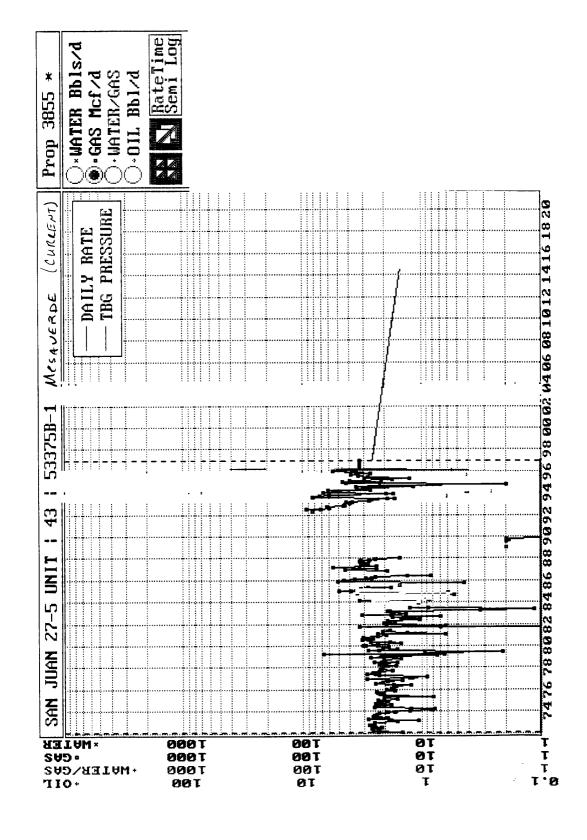
Section A.	DateFEBRUARY 16,	1959
Operator EL PASO NATURAL GAS COMPANY		9192-B
Well No. 13 (PM) Unit Letter M Sec Located 1000 Feet From SOUT County RIO ARRIBA G. L. Elevation Name of Producing Formation MESA VERUE AP 1. Is the Operator the only owner in the dedical Yes No.	TH 990 Feet From WEST	Li Acre
2. If the answer to question one is "no", ha	have the interests of all the owners been consolidated by convolution. If answer is "yes", Type of Consolidation.	mmunitizati
3. If the answer to question two is "no", list <u>Owner</u>	Land Description	
	Land Description FEB-1 8 196 J.Co. All disconnecting the form	'ED
)9
Section B.	Note: 31 distances much be from eater toundaries of sect	ron O
in Section A above is true and complete to the best of my knowledge and belief. EL Paso Natural Gas Company Operator ORIGINAL SIGNED J.J. THLERSON Representative Address: Farmington, New Maxico	SECTION 21	
·	SF 079492-B	- N
	990'	
•	30 550 290 1320 1550 1950 2310 2540 1000 1500 1100 1500 1000 1000 1000 1	:
		tu a l su

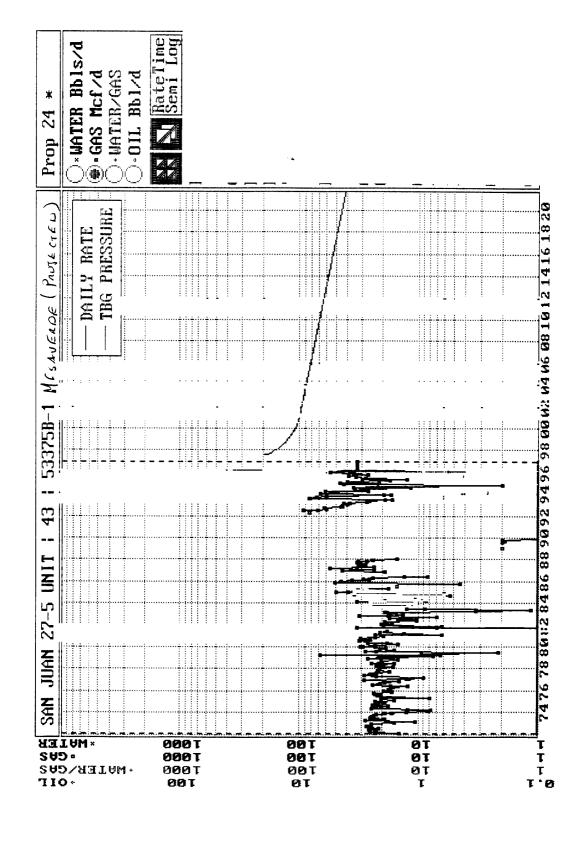
of my knowledge and belief.

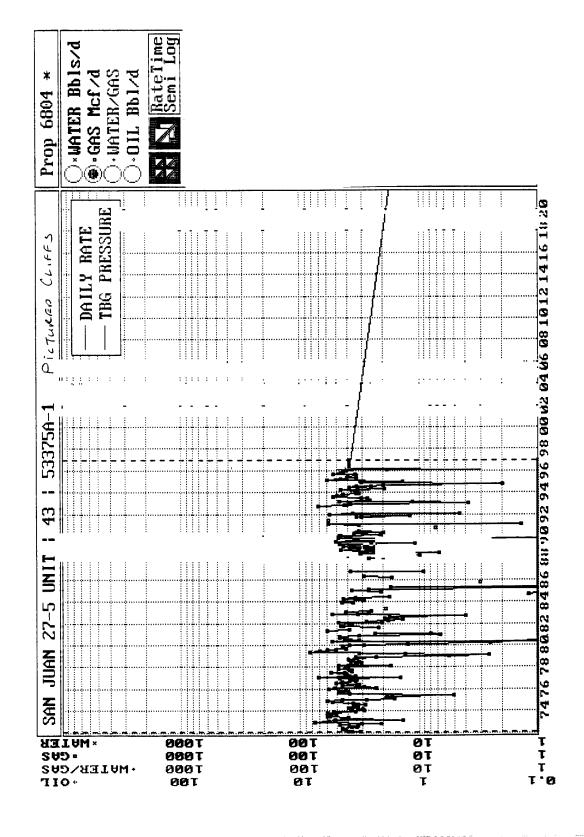
Seal

Farmington, New Mexico

Registered Professional Engineer and for Land Surveyor





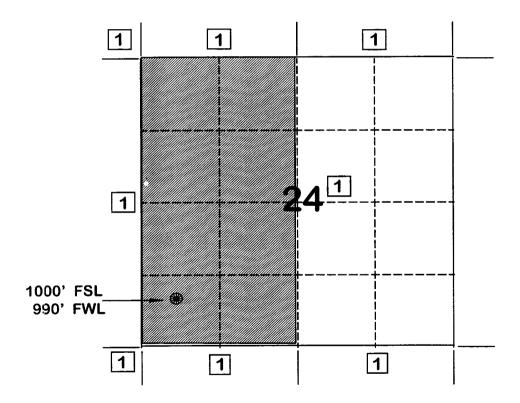


BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 27-5 Unit #43 OFFSET OPERATOR \ OWNER PLAT

Pictured Cliffs (SW/4)/Mesaverde (W/2) Formations Commingle Well

Township 27 North, Range 5 West



1) Burlington Resources Oil and Gas Company

MESAVERDE

Page No.: 1

Print Time: Tue May 13 11:12:02 1997

Property ID: 3855

Property Name: SAN JUAN 27-5 UNIT | 43 | 53375B-1

Table Name: K:\ARIES\RR97PDP\TEST.DBF

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--DATE-- ---CUM GAS-- M SIWHP
Mcf.....Psi
                0 1101.0 coeffined
02/27/59
08/28/70
          179232 563.0
04/08/71
          186350 509.0
08/09/72
        198875 549.0
12/06/83
        275678 580.0
04/21/86
       292896 545.0
05/03/93
            328420 546.0
                   438,0 = current
5/13/93
```

PICTURED CLIFFS

Page No.: 1

Print Time: Tue May 13 11:11:31 1997
Property ID: 6804
Property Name: SAN JUAN 27-5 UNIT | 43 | 53375A-1
Table Name: K:\ARIES\RR97PDP\TEST.DBF

DATE	CUM_GAS	M SIWHP	
02/27/59 03/24/59 10/22/59 05/29/60 09/13/61 08/06/62 07/16/63 08/27/64 05/10/65 04/19/66 08/04/67 09/23/68 05/29/69 08/28/70 04/08/71 08/09/72 05/16/73 07/15/74 06/25/76 01/07/78 11/07/78 11/07/78 06/04/80 07/02/80 06/20/86 09/08/89	CUM_GAS Mcf::::::::::::::::::::::::::::::::::::	Psi	e crisinal
05/06/91 05/03/93 5/13/93	409143 423879	590.0 530.0 345 .0	e curent

FLOWING AND STATIC BHP CULLENDER AND SMITH METHOD

GAS GRAVITY	0.695
COND. OR MISC. (C/M)	С
%N2	0.29
%CO2	0.83
%H2S	0
DIAMETER (IN)	2.375
DEPTH (FT)	5600
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	438
BOTTOMHOLE PRESSURE (PSIA)	503.6

FLOWING AND STATIC BHP CULLENDER AND SMITH METHOD

GAS GRAVITY	0.695
COND. OR MISC. (C/M)	C
%N2	0.29
%CO2	0.83
%H2S	0
DIAMETER (IN)	2.375
DEPTH (FT)	5600
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1101
BOTTOMHOLE PRESSURE (PSIA)	1287.6

FLOWING AND STATIC BHP CULLENDER AND SMITH METHOD

GAS GRAVITY	0.692
COND. OR MISC. (C/M)	C
%N2	0.78
%CO2	0.2
%H2S	0
DIAMETER (IN)	2.375
DEPTH (FT)	3435
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	110
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	345
BOTTOMHOLE PRESSURE (PSIA)	376.5

FLOWING AND STATIC BHP CULLENDER AND SMITH METHOD

GAS GRAVITY	0.692
COND. OR MISC. (C/M)	С
%N2	0.78
%CO2	0.2
%H2S	0
DIAMETER (IN)	2.375
DEPTH (FT)	3435
SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	110
FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	985
BOTTOMHOLE PRESSURE (PSIA)	1087.5

FARMINGTON 1997 MONT SAN JUAN 27-5 UNIT 43 BLANCO MESAVERDE (PRORATED GAS F		FOR 53375B AVERDE ZONE	PHS030M
DAYS ====== OIL ======= MO T S ON PC PROD GRV 1 2 F 31 02 2 2 F 28 02 1 3 2 F 31 02 10 4 5 6 7 8 9 10 11 12	PC PROD 01 1402 01 1149	ON BTU PRESS WATER 31 1203 15.025	2 PROD
PF6 - RETURNS TO ANNUAL DIS PF10 - HELP INFORMATION 00/00/00		PF9 - DISPLAY MONTHLY	
NUM NUM	LU #28		
FARMINGTON 1997 MONT SAN JUAN 27-5 UNIT 43 TAPACITO P.C. (PRO GAS) FIELD	,	FOR 53375A TURED CLIFFS ZONE	PHS030M
DAYS ===== OIL ====== MO T S ON PC PROD GRV 1 2 F 2 2 F 3 2 F 4 5 6 7			R PROD

PF6 - RETURNS TO ANNUAL DISPLAY
PF10 - HELP INFORMATION

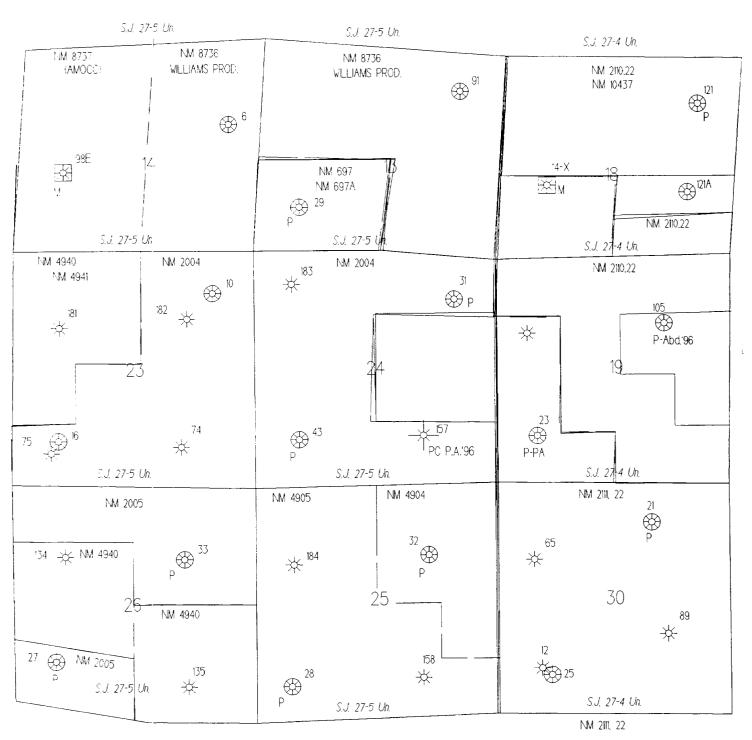
PF3 - TRANSFER TO UPDATE
PF9 - DISPLAY MONTHLY INJECTIC

00/00/00 00:00:00:0 PRS 05/03/97

B MY JOB NUM LU #28

В

San Juan 27-5 Unit #43 Section 24, T27N, R5W Mesaverde / Piotured Cliffs



R-05-W

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT \(\cdot \text{ OIL CONSERVATION DIVISION} \)

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.

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, 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 commingle (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 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 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 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:

- 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.

- Upon filing of Division Form No. C-107-A's for wells subsequently (2)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 Pictured Cliffs and Dakota formations as "marginal", supporting data to verify the Pictured 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.
- 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.
- 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