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

APPLICATION FOR DOWNHOLE COMMINGLING

2040 S. Pacheco Santa Fe, New Mexico 87505-6429 Form C-107-A New 3-12-96

APPROVAL PROCESS:

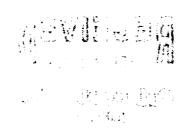
X Administrative ___Hearing

EXISTING WELLBORE

X_YES __NO

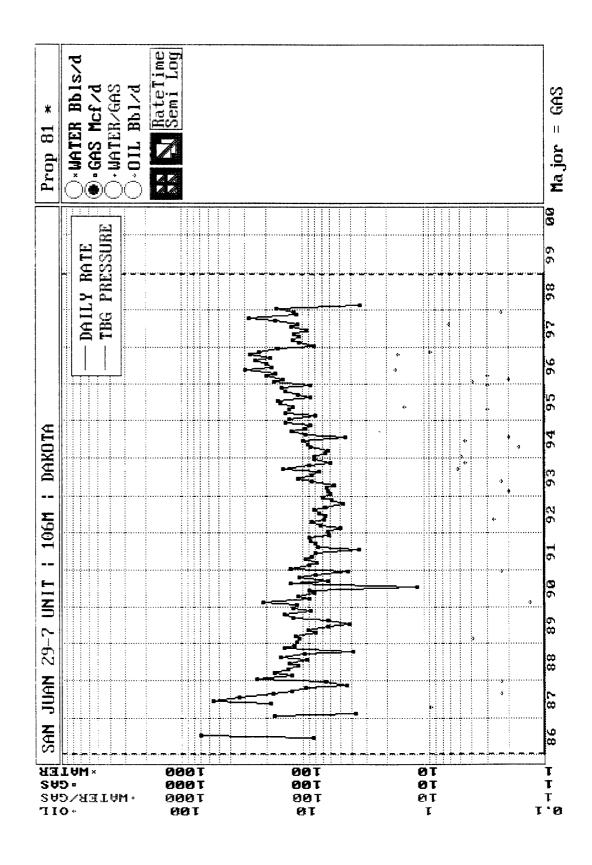
Burlington Resources Oil and Gas

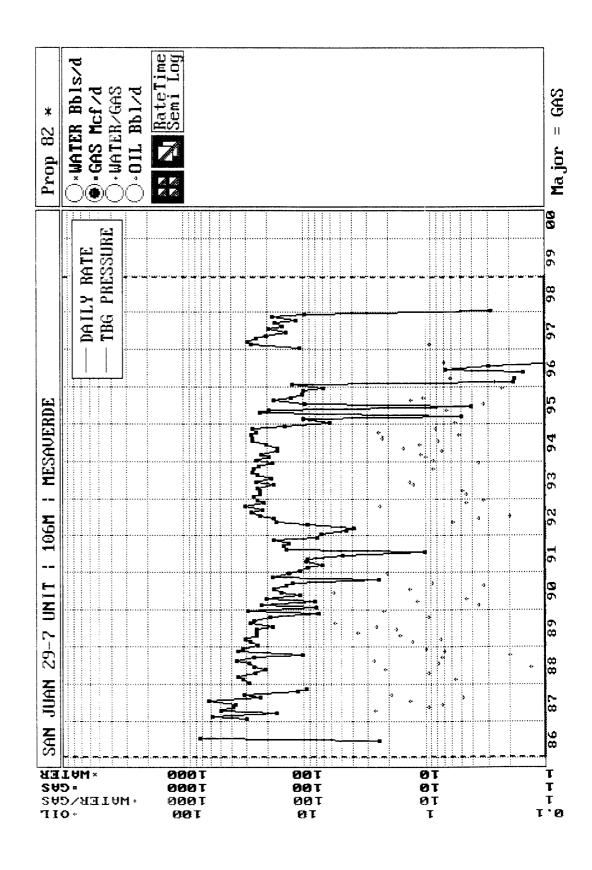
San Juan 29-7 Unit #	106M C-36-29	1r-s-s N-07W F	Rio Arriba
•410	Well No. Unit Ltr Sec -	· Twp - Rge	County
OGRID NO. <u>14538</u> Property Co	de 7465 API NO		Unit Lease Types: (check 1 or more)
			,_, State, Fee
The following facts are submitted in support of downhole in support of downhole in a support of	Upper (2016)	In Campellato	**************************************
Pool Name and Pool Code	Mesaverde - 72319		Dakota - 71599
2. Top and Bottom of Pay Section (Perforations)	5186'-6064'		7767'-7956'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	(Current) a. 554 psi (see attachment)	DEGELAR!	a. 551 psi (see attachment)
Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones:	(Original) b. 730 psi (see attachment)	APR 2 1 1998	b. 2715 psi (see attachment)
Estimated or Measured Original 6. Oil Gravity (°API) or	BTU 1095	OIL CON. DIV. DIST. 3	BTU 1127
7. Producing or Shut-In?	Shut-In	M (000 9)	Producing
Production Marginal? (yes or no)	Yes		No
* If Shut-In and oil/gas/water rates of last production	Date: 1/98		Date: N/A
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Rates: 14.5 mcfd		Rates:
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: Rates:		Date: 2/98 Rates: 37 mcfd 0 bopd
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Will be supplied upon completion.		Will be supplied upon completion.
0. Are all working, overriding, and If not, have all working, overrid	orting data and/or explaining n d royalty interests identical in a ding, and royalty interests bee	nethod and providing rate projec all commingled zones?	s based upon some other metho tions or other required data. Yes _X_No Yes _X_No X Yes _No
Will cross-flow occur? _X_Ye production be recovered, and	•	• • • • • • • • • • • • • • • • • • • •	
2. Are all produced fluids from all			
3. Will the value of production be		•	•
4. If this well is on, or communit Bureau of Land Management ha			
5. NMOCD Reference Cases for R		, ,	
		spacing unit and acreage dedicar. (If not available, attach expla oduction rates and supporting di interests for uncommon interest uired to support commingling.	ation. nation.) ata. : cases.
hereby certify that the inforr		omplete to the best of my kr	
SIGNATURE J. Jom Jo	rekTITLE	Engineer I	_DATE04-20-98
TYPE OR PRINT NAME			



MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATIO. LAT

			All distances must be	from the outer boundarie	es of the Section		
Operato				Lease			Well No.
	ML PASO	NATURAL GAS (COMPANY	SAN JUAN	29-7 UNIT	(E-5111-4)	106M
Unit Le		Section	Township	Range	County		
i	<u>C</u>	36	29N	7W	Ri	o Arriba	<u> </u>
i		ation of Weil:					
	990	feet from the	North line and	1650	feet from the	West	line
	6716'	Producing Fo Mesa V	erde/Dakota	P∞1 Blanco/B	asin	520/	ted Acreage:
,	0 4. 4		— 				
i 1. t	Outline in	e acreage dedici	ated to the subject w	eil by colored pend	il or hachure	marks on the pla	t below
, <u>2</u> . :	If more th interest ar	an one lease is id royalty).	dedicated to the wel	l, outline each and	identify the	ownership thereo	(both as to workin:
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	Yes Y	☐ No If a	nswer is "'yes;" type o	f consolidation	Unitiza	ition	
· I	lansweri	s "no." list the	owners and tract desc	riptions which hav	e actually bed	en consolidated.	(Use reverse side o
:	his form if	necessary.)	· · · · · · · · · · · · · · · · · · ·				
•	n allowab	le will be assign	ed to the well until all	interests have been	en consolidat	ed (by communit	ization. unitization
·	arced-pool	ing, or otherwise) or until a non-standar	d unit, eliminating	such interest	s, has been appro	oved by the Commis-
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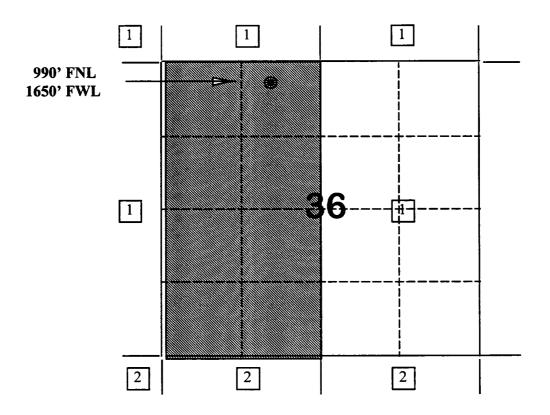


BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 29-7 Unit #106M

OFFSET OPERATOR/OWNER PLAT Mesaverde / Dakota Formations Commingle Well

Township 29 North, Range 7 West



- 1) Burlington Resources
- 2) Conoco, Inc. 10 Desta Drive, Suite 100W Midland, TX 79705-4500

San Juan 29-7 Unit #106M Bottom Hole Pressures Flowing and Static BHP Cullender and Smith Method

Version 1.0 1/14/98

Mesaverde	Dakota				
MV-Current	DK-Current				
GAS GRAVITY 0.699 COND. OR MISC. (C/M) C %N2 0.17 %CO2 0.86 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5625 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 144 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 480 BOTTOMHOLE PRESSURE (PSIA) 553.9	GAS GRAVITY 0.661 COND. OR MISC. (C/M) C %N2 0.14 %CO2 1.16 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7862 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 177 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 460 BOTTOMHOLE PRESSURE (PSIA) 551.3				
MV-Original	DK-Original				
GAS GRAVITY 0.699 COND. OR MISC. (C/M) C %N2 0.17 %CO2 0.86 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 5625 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 144 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 630 BOTTOMHOLE PRESSURE (PSIA) 729.7	GAS GRAVITY 0.661 COND. OR MISC. (C/M) C %N2 0.14 %CO2 1.16 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 7862 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 177 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 2714.7				

Page No.: 2

Print Time: Wed Apr 08 12:53:21 1998

Property ID: 82

Property Name: SAN JUAN 29-7 UNIT | 106M | MESAVERDE Table Name: S:\ARIES\78LTL\TEST.DBF

DATE	CUM_OIL- Bbl	CUM_GAS Mcf	<u>M</u>	SIW <u>HP</u> Psi	
02/13/86 08/04/86		0 22992		630.0 569.0	original
09/03/87		128935		507.0	
10/04/88		217526		492.0	
04/10/89		270723		492.0	
02/18/91		381131		530.0	
07/29/91		390920		542.0	- 1
05/31/93		515484		480.0	Current

Page No.: 1 Print Time: Wed Apr 08 12:53:21 1998

Property ID: 81
Property Name: SAN JUAN 29-7 UNIT | 106M | DAKOTA
Table Name: S:\ARIES\78LTL\TEST.DBF

<u>DATE</u>	CUM_OIL- Bbl	CUM_GAS Mcf	M_SIW <u>HP</u> Psi	
02/06/86 08/04/86 09/03/87		0 24024 72598	1453.0 662.0	Original
10/04/88 04/22/90 03/05/93		118669 177911 259817	581.0 615.0 460.0	Current

FARMINGTON 1998 MONTHLY PRODUCTION FOR 54475A PHS030M1

SAN JUAN 29-7 UNIT 106M

BLANCO MESAVERDE (PRORATED GAS FIELD MESAVERDE ZONE

D C

PF6 - RETURNS TO ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE
PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY THE

PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY INJECTION

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FARMINGTON 1998 MONTHLY PRODUCTION FOR 1792 PHS030M1

SAN JUAN 29-7 UNIT 106M

BASIN DAKOTA (PRORATED GAS) FIELD DAKOTA ZONE

		DAYS	=====	OIL ===	====	=======	=====	GAS	=========	=		
MO T	S	ON	PC	PROD	GRV	PC	PROD	ON	BTU PRESS	S WATER	PROD	С
1 2	F	26	02	1		01	5098	26	1127 15.025	5		
2 2	F	28	02			01	1030	28	1127 15.025	5		
3 4							1030	- 28	= 36.8 mcfd			
5												
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PF6 - RETURNS TO ANNUAL DISPLAY PF3 - TRANSFER TO UPDATE

PF10 - HELP INFORMATION PF9 - DISPLAY MONTHLY INJECTION

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SAN JUAN 29-7 #106M SEC. 36 T29N, R7W MESAVERDE/DAKOTA

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. 11629 ORDER NO. R-10697

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 29-7 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 8th 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 29-7 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 29-7 Unit which encompasses some 22.500 acres in Township 29 North, Range 7 West, NMPM, San Juan County, New Mexico.
- (5) Within the San Juan 29-7 Unit, the applicant currently operates fifty-five (55) Basin-Dakota Gas Pool wells, one hundred thirty-one (131) Blanco-Mesaverde Gas Pool wells, thirteen (13) Blanco-Pictured Cliffs and South Blanco-Pictured Cliffs Gas Pool wells, and forty-nine (49) 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 29-7 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 29-7 Unit;
 - c) 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 29-7 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 29-7 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 29-7 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 245 MMCFG and 76 MMCFG, respectively;
 - the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 218 MCFGD and 238 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 29-7 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 29-7 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 was approximately 3.209 psi and 1,148 psi, respectively; and,
 - b) the average current shut-in bottomhole pressure within the Dakota and Pictured Cliffs formations is approximately 952 psi and 655 psi, respectively.

- (10) There is sufficient pressure data available within the San Juan 29-7 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 29-7 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 29-7 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 29-7 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 29-7 Unit every time a Form C-107-A is submitted to the Division. There are a considerable number of such interest owners within the unit:
 - c) providing notice to each interest owner within the San Juan 29-7
 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 29-7 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 29-7 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 29-7 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 29-7 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 29-7 Unit, San Juan County, New Mexico, is hereby approved.
- downhole commingled within the San Juan 29-7 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.
- (3) In order to obtain Division authorization to downhole commingle wells within the San Juan 29-7 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 29-7 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 J. LeMAY

Director/

S E A L