DISTRICT !

DISTRICT II

P.O. Box 1980, Hobbs, NM 88241-1980

811 South First St., Arte sin, NM 88210-2835

DISTRICT III 1000 Rio 3 rezos Rd, Aztac, NM 87410-1893 APPLICATION FOR DOWNHOLE COMMINGLING

TYPE OR PRINT NAME L. Tom Loveland

State of New Mexico Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

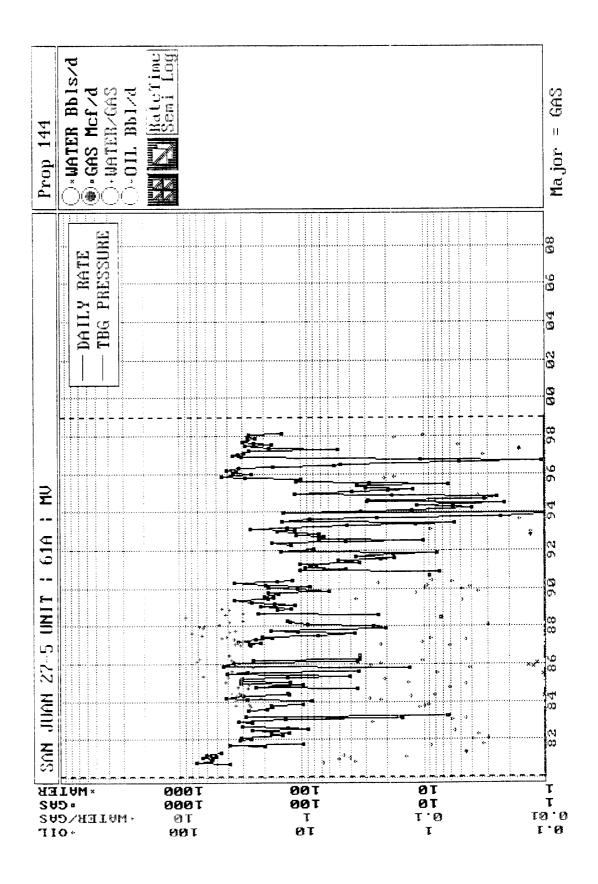
San Juan 27-5 Unit	#61A I-	05-27N-05W		Rio A	rriba
450	Well No. Unit	Ltr Sec - Twp - Rge		County	Types: (check 1 or more)
	7454	API NO. 30-039-2	24850	· -	, State, Fee
GRID NO. <u>14538</u> Property Code	/454	API NO30-039-2		Tederal	, otate, rec
The following facts are submitted in support of downhole commingling:	Upper Zone		Intermediate Zone		Lower Zone
Pool Name and Pool Code	Tapacito Pic Cliffs- 85			Blan	co Mesaverde - 72319
Top and Bottom of Fay Section (Perforations)	3506'-3562		and the second s	5182	2'-6050'
3. Type of production (Oil or Gas)	Gas			Gas	
4. Method of Production (Flowing or Artificial Lift)	Flowing	的医食量的	VEIN	Flov	ving
5. Bottomhole Pressure Oil Zones - Artificial Lift:	(Current) a. 412 psi (see attachment)	<u> 191 2 1</u>	na M	a. 5	00 psi (see attachment)
Estimated Current Gas & Oil - Flowing: Measured All Gas Zones: Estimated Ciriginal	(Original) b. 1179 psi (see attachment)	QU,		b. 8	70 psi (see attachment)
6. Oil Gravity (°API) or Gas BTU Content	BTU 1204			ВТС	1187
7. Producing or Shut-In?	Producing			Pro	ducing
Production Marginal? (yes or no)	Yes			No	
* If Shut-In and oil/gas/water rates of last p∘oduction	Date: N/A Rates:			Date Rate	: N/A 8:
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data					
* If Producing, give data and oil/gas/water water of recent test (within 60 days)	Date: 6/98 Rates: 14 mcfd 0 bopd			4	: 6/98 a: 228 mcfd 0 bopd
8. Fixed Percentage Allocation Formula -% for each zone (total of %'s to equal 100%)	Will be supplied upon con	pletion.		will	be supplied upon completion.
9. If allocation formula is based submit attachments with supp 0. Are all working, overriding, and If not, have all working, overriding, and Have all offset operators been 1. Will cross-flow occur?X_Your production be recovered, and	d royalty interests ide ding, and royalty inter given written notice (ntical in all comming ests been notified b of the proposed dow	gled zones? y certified ma inhole commin	il?	res <u>X</u> No res <u>X</u> No Yes _No
2. Are all produced fluids from al				X_ Yes No	
3. Will the value of production be	decreased by commi	ngling?Yes _X	_ No (If Yes	, attach expla	•
4. If this well is on, or communit Bureau of Land Management h	tized with, state or fe as been notified in wri	deral lands, either ting of this applicat	the Commissi ion. X_{-}	oner of Public s No	: Lands or the United
5. NMOCD Reference Cases for F	Rule 303(D) Exception	s: ORDER NO(S)	R-10694	 -	
A ATTACHMENTS.	to be commingled sh reach zone for at lear roduction history, esti cation method or form	owing its spacing un st one year. (If not a mated production ra nula.	nit and acreag available, attac ates and supp	e dedication. ch explanation orting data.	1.)
			 .		
hereby certify that the infor	mation above is tru	ue and complete	to the best o	f my knowle	edge and belief.

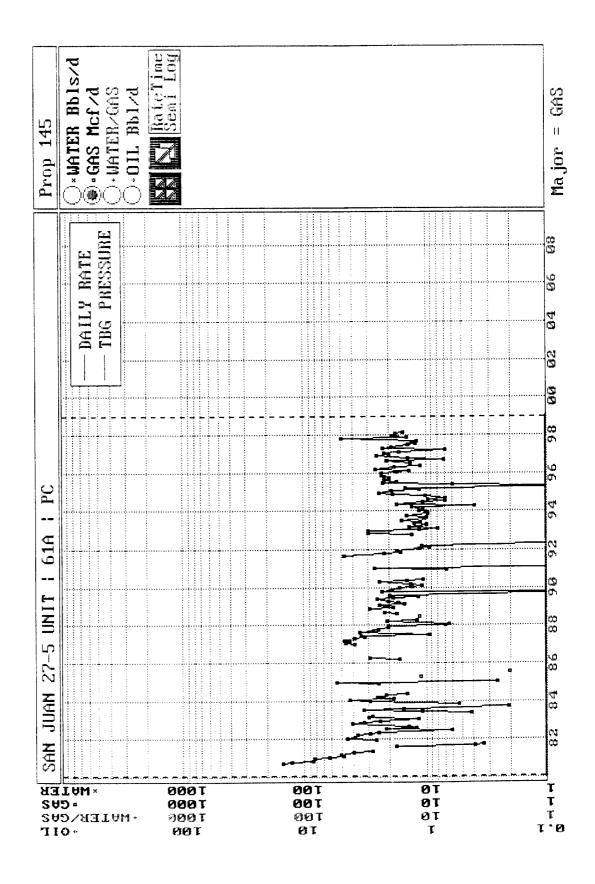
______TELEPHONE NO. (_505_) __326-9700____

CATION AND ACREAGE DEDICATIO Effective 14-65 All distances must be from the outer boundaries of the Section West Head Operator (SF-079393) EL PASO NATURAL GAS COMPANY SAN JUAN 27-5 UNIT 614 Section Hange County Rio Arriba 27N 5W Actual Footuge Location of Well; 820 East South feet from the line and feet from the line Ground Livel Elev. Producting Formation Foot Blanco Mesa Verde 319.75 \$160.00 6681 Mesa Verde-Pictured Cliffs Tapacito Pictured Cliffs 1. Or tline the acreage dedicated to the subject well by colored pencil or hachure marks on the plut below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working in erest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? If answer is "yes," type of consolidation ... Y Yes If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. Note: Plat re-issued to show formation change from single to dual completion 8/27/79 CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Drilling Clerk #61 El Paso Natural Gas Co. \odot August 31, 1979 Sec nosep oci401979v mode by me or SF-079393 under my supervision, and that the same tive and carreet to the best of my 8201 Date Surveyed <u>July 23, 1978</u> Hegistory) (in temperatural for them

AND STATE STREET, THE PROPERTY THE PROPERTY

1320 1661 1980 2310 2640





San Juan 27-5 Unit #61A Bottom Hole Pressures Flowing and Static BHP Cullender and Smith Method

Version 1.0 1/14/98

Pictured Cliffs	Mesa Verde
PC-Current	MV-Current
GAS GRAVITY 0.698 COND. OR MISC. (C/M) C %N2 1.1 %CO2 0.62 %H2S 0 DIAMETEIR (IN) 7 DEPTH (IFT) 3534 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 109 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 376 BOTTOMHOLE PRESSURE (PSIA) 411.9	GAS GRAVITY 0.685 COND. OR MISC. (C/M) C %N2 0.23 %CO2 1.06 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 5616 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 138 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 435 BOTTOMHOLE PRESSURE (PSIA) 500.0
PC-Original	MV-Original
GAS GRAVITY 0.698 COND. ()R MISC. (C/M) C %N2 1.1 %CO2 0.62 %H2S 0 DIAMETER (IN) 7 DEPTH (FT) 3534 SURFACE TEMPERATURE (DEG F) BOTTOMHOLE TEMPERATURE (DEG F) FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 1062 BOTTOMHOLE PRESSURE (PSIA) 1178.6	GAS GRAVITY 0.685 COND. OR MISC. (C/M) C %N2 0.23 %CO2 1.06 %H2S 0 DIAMETER (IN) 2.375 DEPTH (FT) 5616 SURFACE TEMPERATURE (DEG F) 60 BOTTOMHOLE TEMPERATURE (DEG F) 138 FLOWRATE (MCFPD) 0 SURFACE PRESSURE (PSIA) 751 BOTTOMHOLE PRESSURE (PSIA) 870.1

Page No.: 6
Print Time: Tue May 12 13:48:38 1998
Property ID: 202
Property Name: SAN JUAN 27-5 UNIT | 61A | PICTURED CLIFFS
Table Name: S:\ARIES\78LTL\TEST.DBF

<u>DATE</u>	CUM_OIL- Bbl	CUM_GAS Mcf	M_SIWHP Psi		
05/05/80		0	1062.0	Original	
11/03/80		11064	685.0	9	
05/04/81		20642	537.0		
05/31/82		27610	569.0		
02/13/84		39383	543.0		
05/02/84		41266	509.0		
04/17/86		45567	656.0		
09/28/89		67560	484.0		
10/01/91		75186	582.0		
05/03/93		81142	542.0		- 11 1
04/01/98		108307	376.0	Current estimated f	rom YZ/data

Page No.: 7
Print Time: Tue May 12 13:48:38 1998
Property ID: 203
Property Name: SAN JUAN 27-5 UNIT | 61A | MESAVERDE Table Name: S:\ARIES\78LTL\TEST.DBF

DATE	CUM_OIL- Bbl	CUM_GAS Mcf	M_SIWHP Psi		
04/05/80 11/03/80 05/04/81 12/18/84 01/02/87 09/28/89 02/18/91 08/16/91		51386 135632 342501 456071 588429 640767 650018		Original	
05/03/93 04/01/98		945926	435.0	Current estimat	ed from Pz data

Package Preparation Volume Data

Supt: 60	KEN RAYE	BON F	F: 335 L	ARY BYARS		MS:	378 GARY N	IELSON	
Pipeline: Wi	-s	Plunger:	No	Di	ual: Yes		Compre	essor:	No
Own	ership (No	Trust)		Pr	ior Year		Cur	rent Yea	
	<u>Gas</u>	<u>Oil</u>				<u>Days</u>			Days
G'WI: 68	3.0078%	64.8149%		MCF/M	BOPM	<u>On</u>	MCF/M	BOPM	<u>On</u>
GNI: 5	7.2658%	54.8288%	Jan	576	0.0	31	442	0.0	31
			Feb	408	0.0	28	371	0.0	28
/olumes			Mar	98	0.0	31	396	0.0	31
Days On)	MCF	D BOPD	Apr	594	0.0	30	0	0.0	30
Day Avg	20	0.0	May	480	0.0	31	0	0.0	0
0 Day Avg	14	4 0.0	Jun	324	0.0	30	0	0.0	0
0 Day Avg	13	3 0.0	Jul	263	0.0	31	0	0.0	0
Mo Avg	13	3 0.0	Aug	293	0.0	31	0	0.0	0
Mo Avg	20	0.0	Sept	259	0.0	30	0	0.0	0
2 MoAvg	16	5 0.0	Oct	1,448	0.0	25	0	0.0	0
_			Nov	332	0.0	30	0	0.0	0
/olurnes			Dec	479	0.0	31	0	0.0	0
Days in Mon	th) MCF	D BOPD	Total	5, 554	0.0		1,209	0.0	
30 Day Avg	14	4 0.0		0,00					
0 Day Avg	10	3 0.0					Edition.	7 F 3 2	
Mo Avg	10	3 0.0						nt Form	Military and
Mo Avg	19	9 0.0					E EN WE		Data
12 Mo Avg	16	6 0.0					Exit Volumes Data		

Package Preparation Volume Data

DPNo: 53394B SAN JUAN 27-5 UNIT 61A Form: MV KEN RAYBON FF: 335 LARY BYARS MS: 378 GARY NELSON **Supt**: 60 Dual: Yes Compressor: Pipeline: WFS Plunger: No Nο **Current Year** Ownership (No Trust) Prior Year <u>Gas</u> Oil Days <u>Days</u> <u>On</u> MCF/M <u>On</u> **BOPM** GWI: 67.4570% 64.6688% **BOPM** MCF/M 31 8,232 31.0 GNI: 56.8126% 54.6845% 10,214 10.0 31 Jan Feb 9,105 0.0 28 4,433 0.0 28 Mar 7,483 0.0 8,219 2.0 31 31 **Volumes** (Days On) 0 0.0 30 MCFD **BOPD** Apr 1,505 5.0 30 0 0.0 0 7 Day Avg 294 0.0 May 5,609 5.0 31 0.0 30 Day Avg 228 0.0 8,806 0.0 0 0 Jun 30 60 Day Avg 235 0.0 Jul 5,382 16.0 31 0 0.0 0 0.3 31 0 0.0 0 224 7,528 0.0 3 Mo Avg Aug 0 0.0 0 6 Mo Avg 248 0.5 Sept 9,234 0.0 30 Oct 8,340 0.0 27 0 0.0 12 MoAvg 228 0.3 0 Nov 7,327 1.0 30 0 0.0 **Volumes** Dec 8,409 53.0 0 0.0 0 (Days in Month) MCFD **BOPD** 89,678 92.0 20,148 31.0 Total 30 Day Avg 228 0.0 235 0.0 60 Day Avg Print Form 3 Mo Avg 224 0.3 6 Mo Avg 242 0.5 Exit Volumes Data 12 Mo Avg 225 0.3

6/4/93

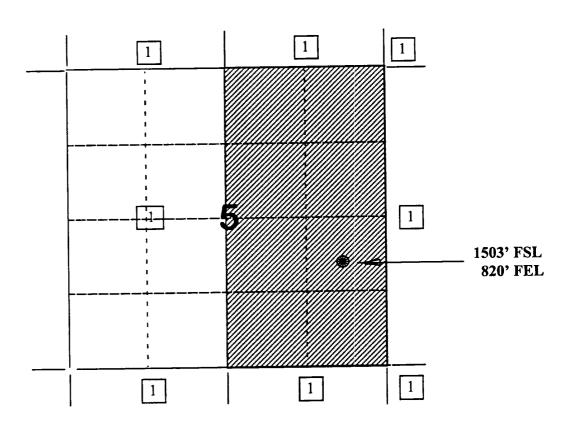
BURLINGTON RESOURCES OIL AND GAS COMPANY

San Juan 27-5 Unit #61A

OFFSET OPERATOR/OWNER PLAT

Pictured Cliffs (SE/4) / Mesaverde (E/2) Formations Commingle Well

Township 27 North, Range 5 West



1) Burlington Resources

	51 �		240 4		52 �	
31 ♥ 42		38 \$	2 38A ₩	11⊕	33 _{11A}	15
45A �	59 \$ 62	53A ₩	61 ®	52A 麥	60 \$	
45 · 数	149 ⇔ 59M	SJ 53 ₩	フ 27 -5 . し 築	nit =€ 52 \$	T 60A 51A 数	25 ©
174 ☆	69 -)	150 \	176 ** 70	₩ 64A	2	
7	69M ♥ 175	63 麥	8 77 \$	64	9 86M 173	
	49 \	65	26	152	38	

PLH 5/27/98

San Juan 27-5 Unit #61A Sec. 5, T27N, R5W Pictured Cliffs/Mesaverde

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.

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:

- 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;
 - 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 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;

- 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.

- (2) Upon filing of Division Form No. C-107-A's for wells subsequently 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.
- (3) 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.
- (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