

DATE IN 4/18/00	SUSPENSE 5/8/00	ENGINEER DC	LOGGED KW	TYPE DHC
-----------------	-----------------	-------------	-----------	----------

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

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-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

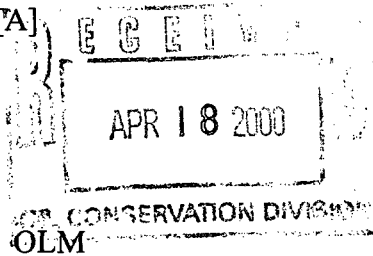
[A] Location - Spacing Unit - Directional Drilling
NSL NSP DD SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement

X DHC CTB PLC 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] X Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Peggy Cole

Print or Type Name

Signature

Regulatory/Compliance Administrator

Title

Date

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

DISTRICT II

811 South First St., Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd, Aztec, NM 87410

DISTRICT IV

2040 S. Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A
Revised March 17, 1999

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

BURLINGTON RESOURCES OIL & GAS COMPANY

PO Box 4289, Farmington, NM 87499

Operator

Address

San Juan 28-6 Unit

#93

M, Sec. 36, T28N, R6W

Rio Arriba

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 14538 Property Code 7462 API NO. 30-039-07227 Federal ☒ State ☐ (and/or) Fee

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	South Blanco Pictured Cliffs - 72439		Blanco Mesaverde - 72319
2. Top and Bottom of Pay Section (Perforations)	3102'-3144'		4786'-5430'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure	a. 227 psia (Current)	a.	a. 393 psia
Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	b. 1166 psia (Original)	b.	b. 1321 psia
6. Oil Gravity (EAPI) or Gas BTU Content	BTU 1160		BTU 1249
7. Producing or Shut-In?	Shut-In		Producing
Production Marginal? (yes or no)	Yes		Yes
* If Shut-In, give date and oil/gas/water rates of last production	Date: 2/00 Rates:	Date: Rates:	Date: Rates:
Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: 12/99 Rates: 20 mcf/d 0.0 bopd	Date: Rates:	Date: 3/00 Rates: 82 mcf/d 0.0 bopd
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)			
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: 50 % Gas: 26 %	Oil: % Gas: %	Oil: 50 % Gas: 74 %

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? ☐ Yes ☒ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☒ No11. Will cross-flow occur? ☒ 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 reliable. ☒ Yes ☐ No (If No, attach explanation)12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No13. Will the value of production be decreased by commingling? ☐ Yes ☒ 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 application. ☒ Yes ☐ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10696

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.
- * 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 Jennifer Dobson TITLE Operations Engineer DATE 4/17/00TYPE OR PRINT NAME Jennifer Dobson TELEPHONE NO. (505) 326-9700

nco

N. MEXICO OIL CONSERVATION COMMISS.
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

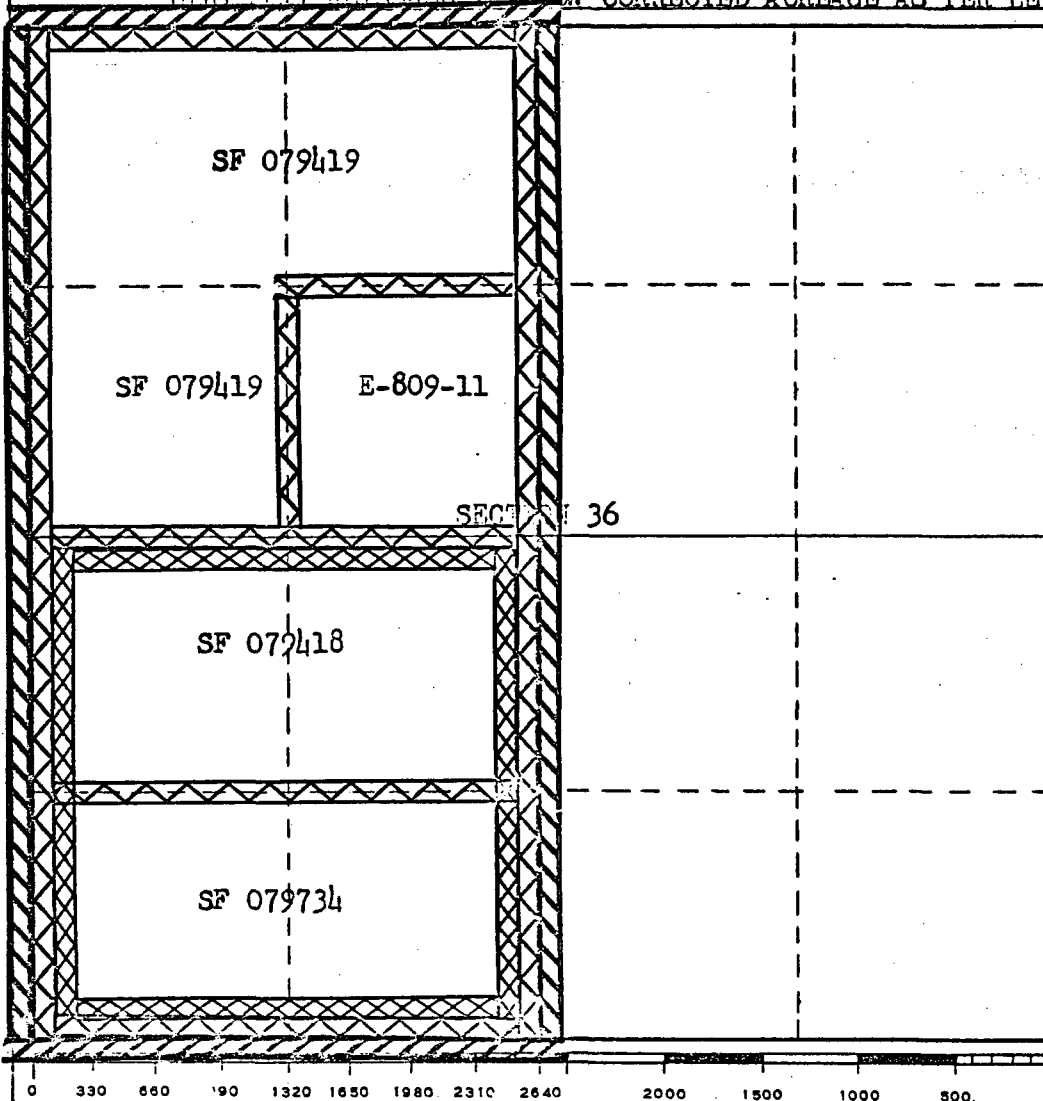
Operator EL PASO NATURAL GAS COMPANY			Lease SAN JUAN 28-6 UNIT		Well No. 93 (PM)
Unit Letter M	Section 36	Township 28-N	Range 6-W	County RIO ARriba	
Actual Footage Location of Well: 990 feet from the S line and 1090 feet from the W line					
Ground Level Elev: 6341 DF	Producing Formation PC & MV		Pool SO. BLANCO PC & BLANCO MV	Dedicated Acres: 181.21 PC 321.21 MV	Acres

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. **100**
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- 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?

☒ Yes ☐ No If answer is "yes," type of consolidation Unitization

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. THIS PLAT ISSUED TO SHOW CORRECTED ACREAGE AS PER LETTER N.M.O.C. DATED 2-11-68.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Chas E. Matthew
Name

El Paso Natural Gas Co.

Position

Petroleum Engineer

Company

March 11, 1968

Date

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

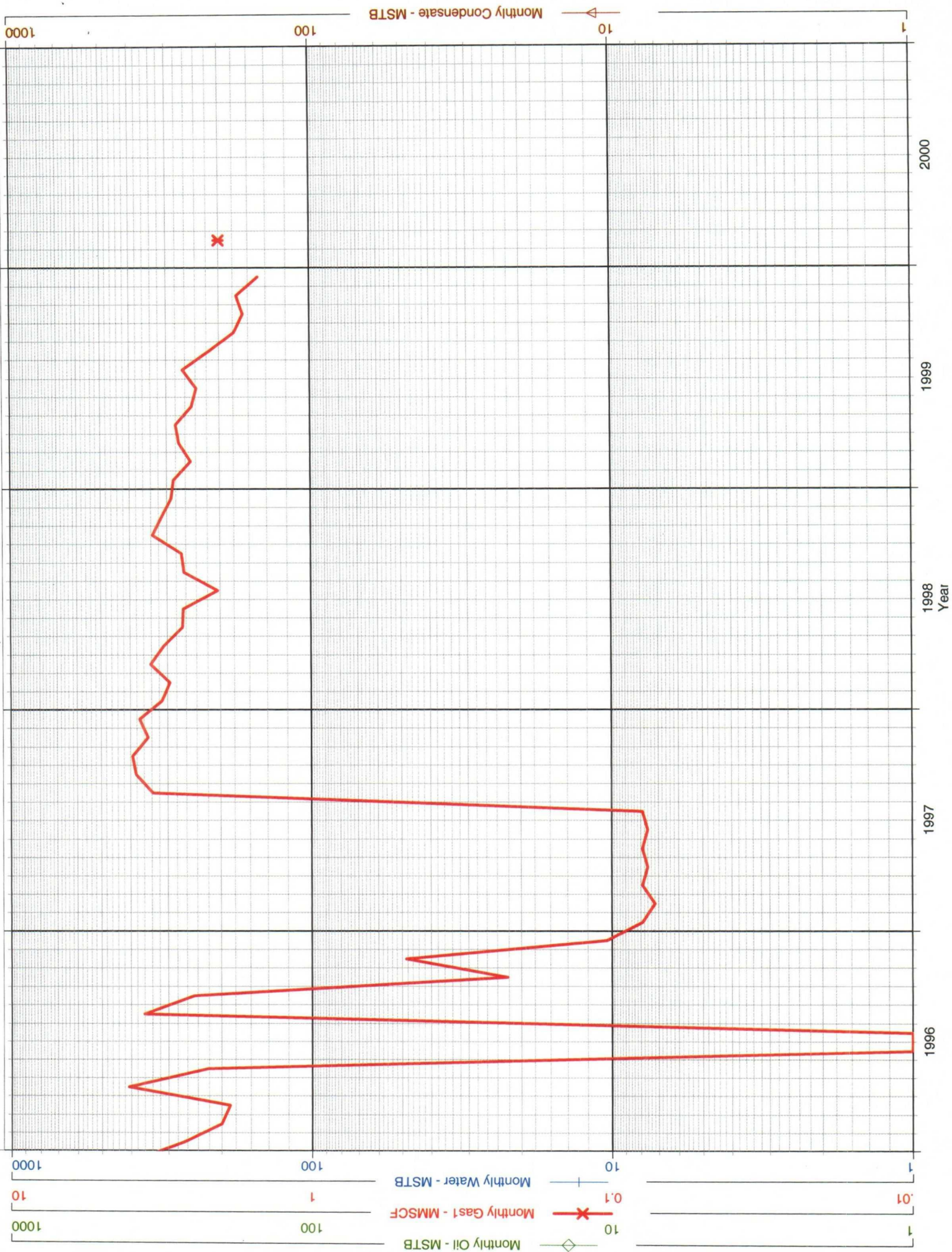
March 12 1968

Registered Professional Engineer and/or Land Surveyor

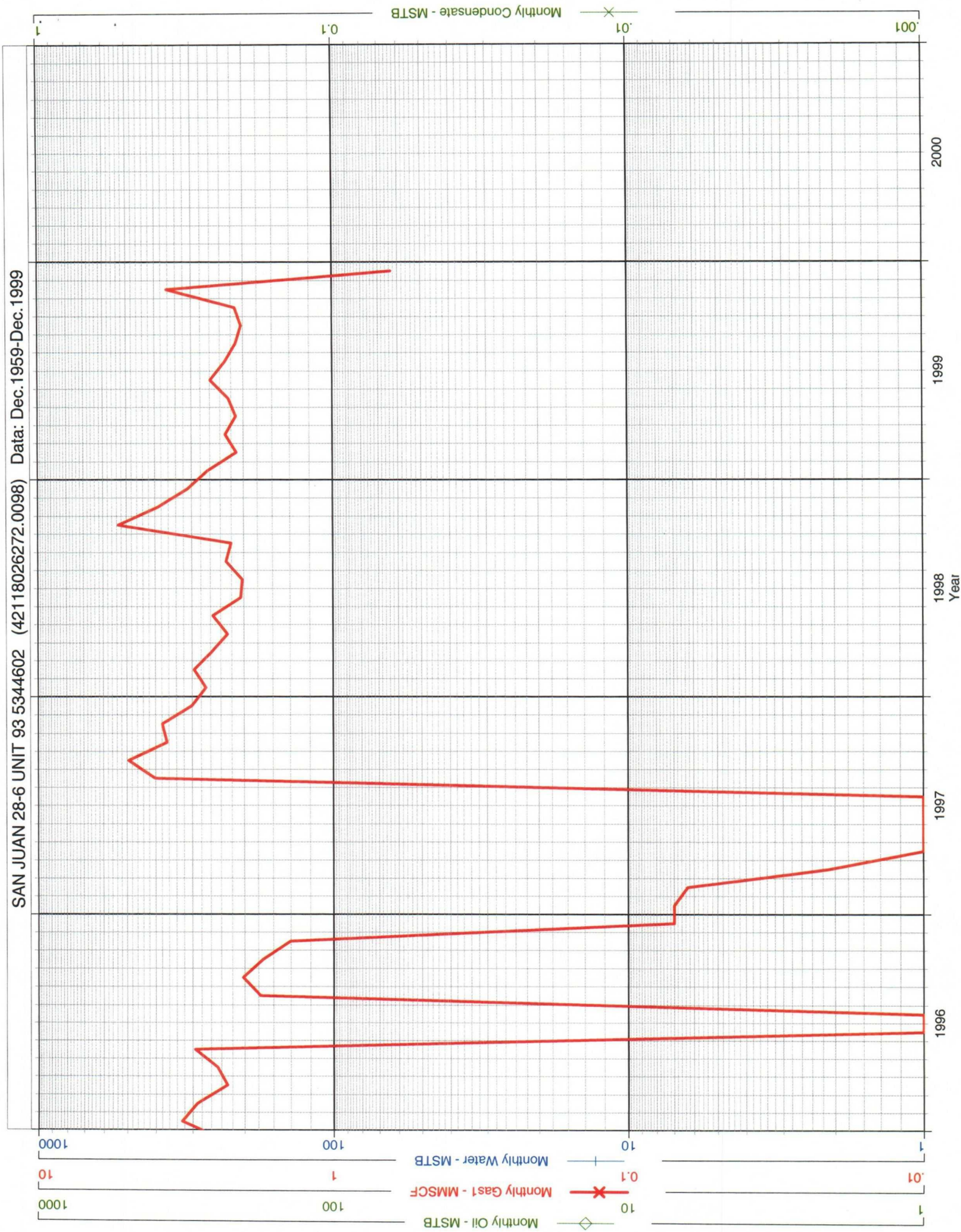
21563

Certificate No.

SAN JUAN 28-6 UNIT 93 5344601 (41986482976.0126) Data: Dec. 1959-Feb. 2000



SAN JUAN 28-6 UNIT 93 5344602 (42118026272.0098) Data: Dec. 1959-Dec. 1999



**San Juan 28-6 Unit #93
Production Allocation**

Gas

*Pictured Cliffs Cumulative Production:	1,693 MMcf	63%
*Mesaverde Cumulative Production:	999 MMcf	37%
Total:	<u>2,692</u>	<u>100.0%</u>

Oil

*Pictured Cliffs Cumulative Production:	0 BBls	0%
*Mesaverde Cumulative Production:	359 BBls	100%
Total:	<u>359</u>	

*Allocation Formula Basis: The fixed percentages are based on cumulative production from 1/60 - 2/00.

San Juan 28-6 Unit 93
Bottom Hole Pressures
Flowing and Static BHP
Cullender and Smith Method

Version 1.0 3/13/94

Pictured Cliffs		Dakota	
<u>PC-Current</u>		<u>MV-Current</u>	
GAS GRAVITY	0.662	GAS GRAVITY	0.723
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.31	%N2	0.27
%CO2	0.4	%CO2	0.75
%H2S	0	%H2S	0
DIAMETER (IN)	7.625	DIAMETER (IN)	2.375
DEPTH (FT)	3123	DEPTH (FT)	6447
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	115	BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	211	SURFACE PRESSURE (PSIA)	333
BOTTOMHOLE PRESSURE (PSIA)	227.1	BOTTOMHOLE PRESSURE (PSIA)	392.9
<u>PC-Original</u>		<u>MV-Original</u>	
GAS GRAVITY	0.651	GAS GRAVITY	0.728
COND. OR MISC. (C/M)	M	COND. OR MISC. (C/M)	M
%N2	0.91	%N2	0.66
%CO2	0.32	%CO2	0.75
%H2S	0	%H2S	0
DIAMETER (IN)	7.625	DIAMETER (IN)	2.375
DEPTH (FT)	3123	DEPTH (FT)	6447
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	115	BOTTOMHOLE TEMPERATURE (DEG F)	150
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	1073	SURFACE PRESSURE (PSIA)	1087
BOTTOMHOLE PRESSURE (PSIA)	1166.4	BOTTOMHOLE PRESSURE (PSIA)	1320.9

San Juan 28-6 Unit #93
5344602/5344601
Pictured Cliffs/Mesaverde

PICTURED CLIFFS

PRESSURE DATA		
Date	Gas Cum	Press
12/28/1959	0	1073
12/17/1999	1691236	211

MESAVERDE

PRESSURE DATA		
Date	Gas Cum	SIWHP
12/18/1959	0	1087
12/17/1999	997139	333

Thursday, April 01, 1999 Through Sunday, April 30, 2000

Page No : 1

Report Number : R_040

Print Date : 04/17/2000, 8:19:20 AM

Meter	Volume	Volume	Ticket #	Volume	Heat Value	Period	Disp.	Prod.	Purchaser	Gatherer
	Date					Start	End			
SAN JUAN 28-6 UNIT	93	72572	8800001598	2,720.52	3,535.41	04/01/1999	04/30/1999	20	100	WILLIAMS FIELD SERV
			7800001691	2,393.07	3,110.06	05/01/1999	05/31/1999	20	100	WILLIAMS FIELD SERV
			7700000461	2,309.74	3,001.94	06/01/1999	06/30/1999	20	100	WILLIAMS FIELD SERV
			7000005514	2,566.60	3,335.49	07/01/1999	07/31/1999	20	100	WILLIAMS FIELD SERV
			9700000163	2,077.40	2,700.01	08/01/1999	08/31/1999	20	100	WILLIAMS FIELD SERV
			0200000065	1,702.90	2,213.46	09/01/1999	09/30/1999	20	100	WILLIAMS FIELD SERV
			7500003988	1,586.23	2,061.47	10/01/1999	10/31/1999	20	100	WILLIAMS FIELD SERV
			4400003146	1,674.47	2,175.72	11/01/1999	11/30/1999	20	100	WILLIAMS FIELD SERV
			5800000665	1,407.81	1,829.93	12/01/1999	12/31/1999	20	100	WILLIAMS FIELD SERV
Totals --	1999			18,438.72	23,963.50					
	02/01/2000		7600000510	1,928.38	2,506.21	02/01/2000	02/29/2000	20	100	WILLIAMS FIELD SERV
	03/01/2000		3100001883	2,459.74	3,193.71	03/01/2000	03/31/2000	20	100	WILLIAMS FIELD SERV
Totals --	2000			4,388.12	5,695.91					
Totals - SAN JUAN 28-6 UNIT	93	72572		22,826.84	29,663.41					
SAN JUAN 28-6 UNIT	93	74979	8800001262	2,057.79	2,481.73	04/01/1999	04/30/1999	20	100	WILLIAMS FIELD SERV
			7800000274	2,179.35	2,627.59	05/01/1999	05/31/1999	20	100	WILLIAMS FIELD SERV
			7700000112	2,523.46	3,042.74	06/01/1999	06/30/1999	20	100	WILLIAMS FIELD SERV
			7000005541	2,242.10	2,704.09	07/01/1999	07/31/1999	20	100	WILLIAMS FIELD SERV
			9700000628	2,053.87	2,476.63	08/01/1999	08/31/1999	20	100	WILLIAMS FIELD SERV
			0200000330	1,965.63	2,370.54	09/01/1999	09/30/1999	20	100	WILLIAMS FIELD SERV
			7500003916	2,068.57	2,493.97	10/01/1999	10/31/1999	20	100	WILLIAMS FIELD SERV
			4400003470	3,566.57	4,300.43	11/01/1999	11/30/1999	20	100	WILLIAMS FIELD SERV
			5800000325	571.55	689.54	12/01/1999	12/31/1999	20	100	WILLIAMS FIELD SERV
Totals - SAN JUAN 28-6 UNIT	93	74979		19,228.90	23,187.26					
Report Totals				42,055.74	52,850.67					

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. 11628
ORDER NO. R-10696

APPLICATION OF BURLINGTON RESOURCES
OIL & GAS COMPANY FOR THE ESTABLISHMENT
OF A DOWNHOLE COMMINGLING "REFERENCE
CASE" FOR ITS SAN JUAN 28-6 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 28-6 Unit, San Juan County, New Mexico.

(3) Division Rule No. 303.E., amended by Order No. R-10470-A, currently states:

- 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 28-6 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 28-6 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 28-6 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 449 MMCFG and 186 MMCFG, respectively;
- c) the average initial producing rate for a newly drilled or recompleted Dakota and Pictured Cliffs gas well is approximately 254 MCFGD and 216 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 28-6 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 28-6 Unit, the applicant presented engineering evidence and testimony which indicates that:

- c) providing notice to each interest owner within the San Juan 28-6 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 28-6 Unit Area will benefit working, royalty, and overriding royalty interest owners. In addition, the downhole commingling of wells within the San Juan 28-6 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 28-6 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 28-6 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 28-6 Unit, San Juan County, New Mexico, is hereby approved.

San Juan 28-6 Unit #93 **Production Allocation**

Gas

*Pictured Cliffs Cumulative Production:	1,693 MMcf	63%
*Mesaverde Cumulative Production:	999 MMcf	37%
Total:	2,692	100.0%

Oil

*Pictured Cliffs Cumulative Production:	0 BBls	0%
*Mesaverde Cumulative Production:	359 BBls	100%
Total:	359	

*Allocation Formula Basis: The fixed percentages are based on cumulative production from 1/60 - 2/00.

*Pictured Cliffs Daily Production:	90 Mcfd	60%
*Mesaverde Daily Production:	60 Mcfd	40%
Total:	150	100.0%

Due to recent downhole production problems, an allocation based on cumulative production is expected to be more accurate. Please refer to the attached production plots.

● Cal Day Gas1 - mcf/d
✱ Cal Day Condensate - Bbl/d
✱ Cond/Gas1 Ratio - Bbl/MMSCF

Cum: 1001.68 MMSCF
 Cum: 0 MSTB
 Cond/Gas1 Ratio - Bbl/MMSCF

MV
 production
 ~60 MCFD.

Year

1970 1973 1976 1979 1982 1985 1988 1991 1994 1997 2000 2003 2006 2009 2012

1
10
100
1000
1E4

0.1
1
10
100
1000

Cal Day Gas1 - mcf/d
 Cum: 1916.57 MMSCF
 Cal Day Condensate - Bbl/d
 Cum: 0.79 MSTB
 Cond/Gas1 Ratio - Bbl/MMSCF

Cal Day Gas1 - mcf/d
 Cal Day Condensate - Bbl/d
 Cond/Gas1 Ratio - Bbl/MMSCF

PC
production
~90 MCFD.

Year