DATE IN 8/20/99	SUSPENSE 9/9/99	ENGINEER DC	LOGGED BY KW	TYPE DHC

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
2040 South Pacheco, Santa Fe, NM 87505

2454

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]
[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]

RECEIVED
AUG 20 1999
OIL CONSERVATION DIVISION

[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] or [C]

[B] Commingling - Storage - Measurement
☒ 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] ❑ 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** - Certification

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 (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.***

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Mark Stodola	Mark Stodola	Reservoir Engr.	8/19/99
Print or Type Name	Signature	Title	Date

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

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

APPLICATION FOR DOWNHOLE COMMINGLING

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

APPROVAL PROCESS:
X Administrative __Hearing

EXISTING WELLBORE
X YES __ NO

Phillips Petroleum Company (Operator) | 5525 Hyw. 64 (Address) | Farmington, NM 87401

San Juan 29-5 Unit #32 (Lease) | Well No. | N, 29, T29N, R5W (Unit Ltr. - Sec - Twp - Rge) | Rio Arriba (County)

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 017654 Property Code 009256 API NO. 30-039-07524 Federal x , 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	72319 Blanco Mesaverde		71599 Basin Dakota
2. Top and Bottom of Pay Section (Perforations)	5,290' - 5,724'		7,775' - 7,872'
3. Type of production (Oil or Gas)	Gas		Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 600 psi (est.) b. (Original) 1234 psi (est.)	a. b.	a. 650 psi (est. b. 2981 psi (est.
6. Oil Gravity (°API) or Gas BTU Content	1200 Btu/scf		1020 Btu/scf
7. Producing or Shut-In?	Producing		Producing
Production Marginal? (yes or no)	Yes		Yes
* If Shut-In, give date and oil/gas/ water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date andoil/gas/ water rates of recent test (within 60 days)	Date: 6/30/99 Rates: 66 mcfd	Date: Rates:	Date: 6/30/99 Rates: 95 mcfd
8. Fixed Percentage Allocation Formula -% for each zone	Oil: % Gas: %	Oil: % Gas: %	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? ___ Yes _X_ No
If not, have all working, overriding, and royalty interests been notified by certified mail? ___ Yes ___ No
Have all offset operators been given written notice of the proposed downhole commingling? ___ 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 reliable. _X_ Yes ___ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? _X_ Yes ___ No

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 application. ___Yes ___ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-10770

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 Mark Stodola TITLE Reservoir Engr. DATE 8/19/99

TYPE OR PRINT NAME Mark Stodola TELEPHONE NO. (505) 599-3455

Form C-128 (6-57) NEW MEXICO OIL CONSERVATION COMMISSION

Well Location and Acreage Dedication Plat

Section A. Date JUNE 15, 1959

Operator EL PASO NATURAL GAS COMPANY Lease SAN JUAN 29-5 UNIT SF 078282

Well No. 32-29(MD) Unit Letter N Section 29 Township 29-N Range 5-W NMPM

Located 990 Feet From SOUTH Line, 1500 Feet From WEST Line

County RIO ARRIBA G. L. Elevation 6522 Dedicated Acreage 320 & 320 Acres

Name of Producing Formation MESA VERDE AND DAKOTA Pool BLANCO MV, DAKOTA WILDCAT

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below?
   Yes ____ No X
2. If the answer to question one is "no", have the interests of all the owners been consolidated by communitization agreement or otherwise? Yes X No ____. If answer is "yes", Type of Consolidation.
   Unit Agreement
3. If the answer to question two is "no", list all the owners and their respective interests below:

Owner	Land Description

Section B.

This is to certify that the information in Section A above is true and complete to the best of my knowledge and belief.

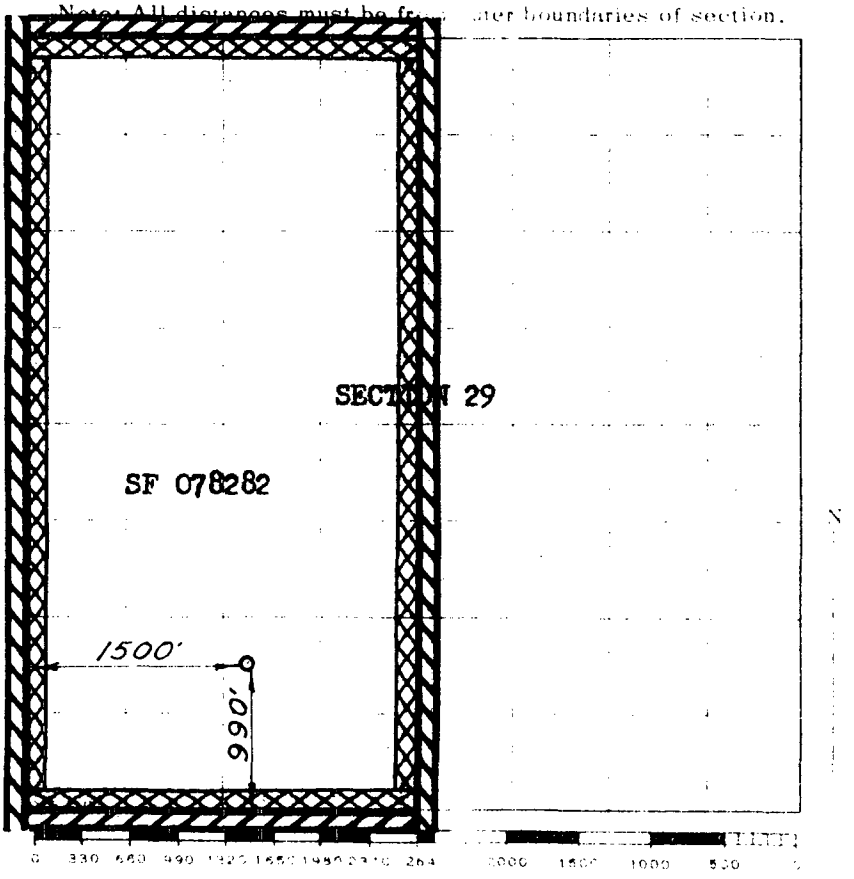
El Paso Natural Gas Company
(Operator)

Original Signed E. H. WOOD
(Representative)

Box 997
(Address)

Farmington, New Mexico

Note: All distances must be from outer boundaries of section.



Scale 4 inches equal 1 mile

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

(Seal)

Date Surveyed OCTOBER 30, 1958

Farmington, New Mexico

C. O. Walker
Registered Professional Engineer and/or Land Surveyor

PHILLIPS PETROLEUM COMPANY
FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

August 19, 1999

New Mexico Oil & Gas Conservation Div.
2040 South Pacheco
Santa Fe, New Mexico 87505-6429

Downhole Commingling Allocation Method
on the San Juan 29-5 Unit #32

Dear Sirs:

Phillips is proposing to utilize the subtraction method on the subject well for approximately 12 months after actual commingling occurs. After the first 12 months, we will convert to the ratio method as indicated in our commingling application. We believe this will be a more accurate method of allocating production considering plans are to restimulate the Lewis Shale interval of the Blanco Mesaverde formation before commingling both zones.

Dakota Production Forecast

September 1999	2,688	March 2000	2,730
October 1999	2,770	April 2000	2,634
November 1999	2,761	May 2000	2,714
December 1999	2,487	June 2000	2,706
January 2000	2,746	July 2000	2,611
February 2000	2,649	August 2000	2,690

For example, if the total volume for October 1999 were 5,200 mcf, then the Dakota would be allocated 2,770 mcf and the Mesaverde 2,430 mcf. And subsequently, the Dakota would be allocated (2,770/5,200) or 53.27%, and Mesaverde would be allocated (2,430/5,200) or 46.73%.

Sincerely,

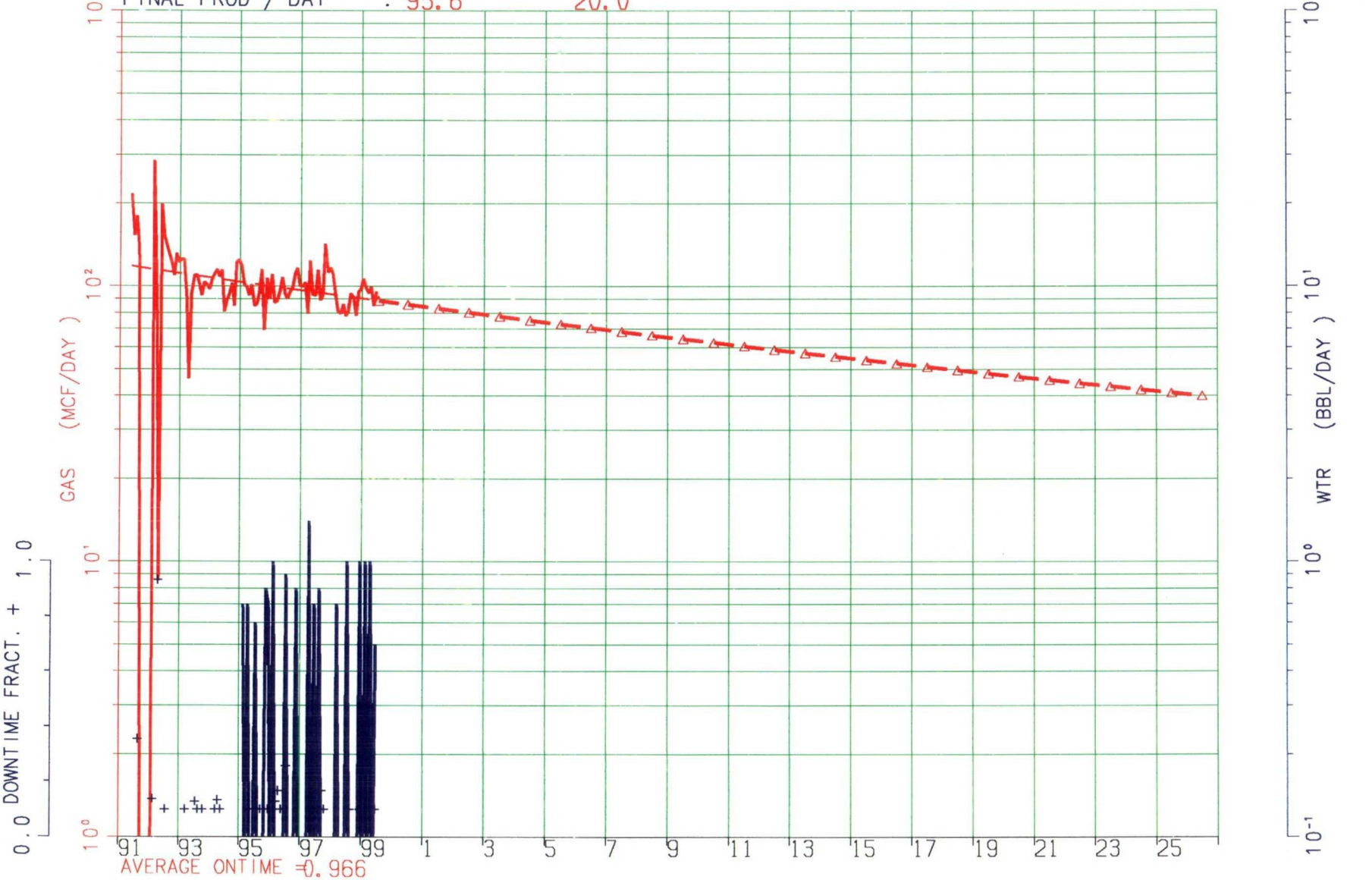
PHILLIPS PETROLEUM COMPANY

Mark W. Stodola
Reservoir Engineer

MS/pc

cc: OCD – Aztec
BLM- Farmington
NM Commissioner of Public Lands – Santa Fe

	5/91-1/99	2/99-LIFE	ASSOC.	Current Cums
INITIAL PROD / DAY	: 118.3	89.9	0.0	291369. MCF GAS
REMAINING LIFE	: 7.75	57.28		
HYPR(0.33) DECL %	: 3.85	3.52		417. BBL WTR
CUM PRODUCTION	: 277501.	883512.	0.	
FINAL PROD / DAY	: 95.6	20.0		



AVERAGE ONTIME =0.966

LEASE- 650318 : SAN JUAN 29-5 UNIT #32 DK NON-CO
RESVR- 076 : BASIN DAKOTA
WELL - 000032 CUM MMCF= 1808.

F019902
ZONE-650318076000032 F019902
API-30039075240000 THRU 99/06

MWST 1999/08/19 08:17

1/91-1/99

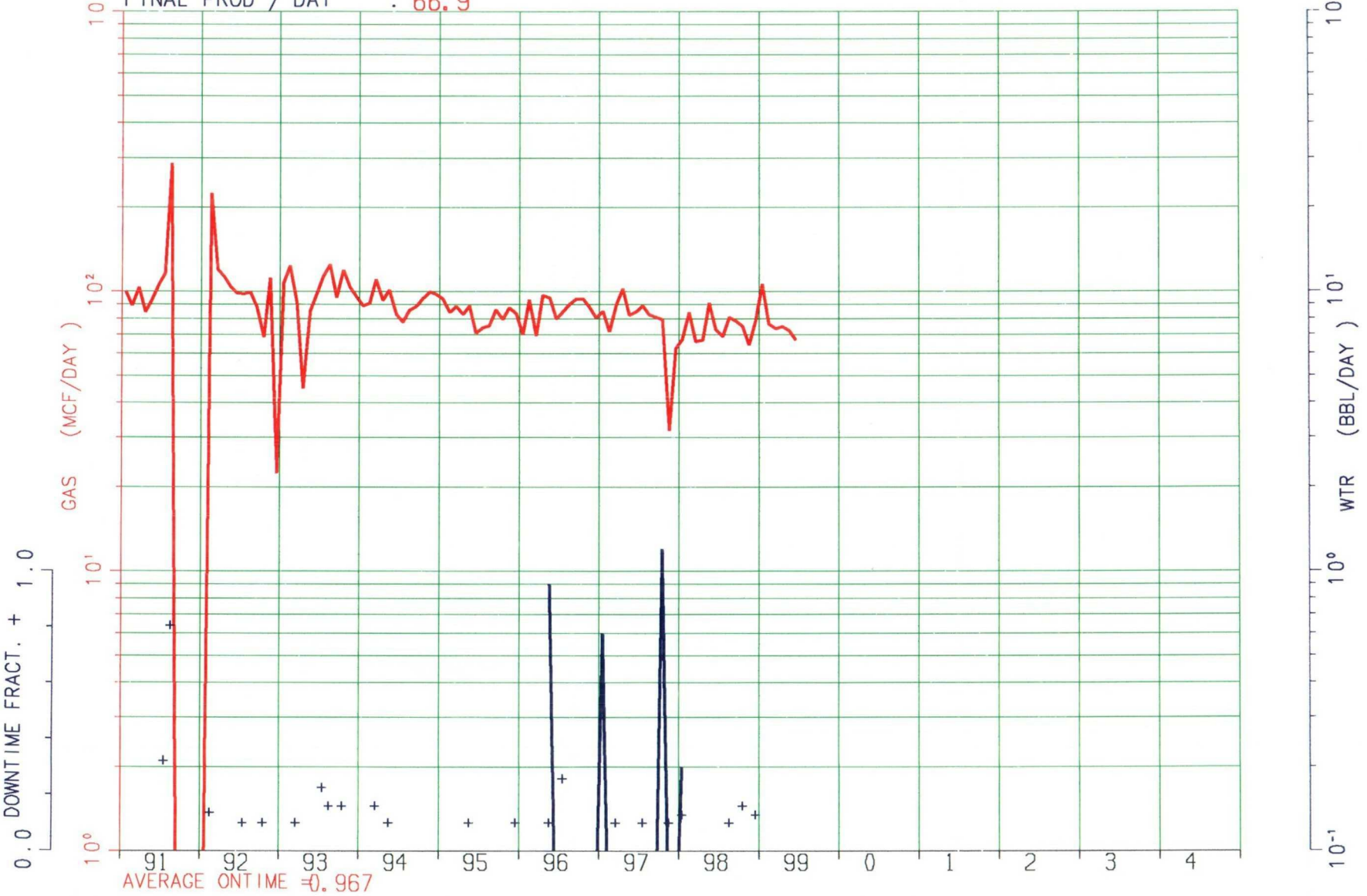
ASSOC.

Current Cums

INITIAL PROD / DAY : 108.3
REMAINING LIFE : 8.08
HYPR(0.33) DECL % : 5.19
CUM PRODUCTION : 240463.
FINAL PROD / DAY : 66.9

251370. MCF GAS

87. BBL WTR



AVERAGE ONTIME =0.967

LEASE- 650111 : SAN JUAN 29-5 MESA VERDE
RESVR- 002 : BLANCO MESAVERDE
WELL - 000032 CUM MMCF= 3503.

F019901
ZONE-650111002000032 F019901
API-30039075240000 THRU 99/06

MWST 1999/08/19 08:22

29-5 Unit #32 Dakota Forecast

Initial Production Rate	=	*90 MCFD*
Hyperbolic Exponent	=	*0.33*
Decline Rate	=	*3.52 %*

	Month	***Monthly MCF***
1999	Aug	***2,786***
	Sep	***2,688***
	Oct	***2,770***
	Nov	***2,761***
	Dec	***2,487***
2000	Jan	***2,746***
	Feb	***2,649***
	Mar	***2,730***
	Apr	***2,634***
	May	***2,714***
	Jun	***2,706***
	Jul	***2,611***
	Aug	***2,690***
	Sep	***2,596***
	Oct	***2,674***
	Nov	***2,667***
	Dec	***2,402***
2001	Jan	***2,652***

Use subtraction method for +/- 12 months based on this Dakota forecast.

b) the average current shut-in bottomhole pressure within the Mesaverde and Dakota formations are approximately 843 psi and 1,224 psi, respectively.

(10) There is sufficient pressure data available within the San Juan 29-5 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 29-5 Unit depending on the circumstances. Some of the methods and circumstances are described as follows:

a) in those instances where a newly completed zone is commingled with an existing producing interval with an established decline, the subtraction method will be utilized for a period of +/- 12 months. Subsequent to this time, and assuming that the production rate has stabilized, a fixed allocation will be determined and utilized; and,

b) in those instances where a well is newly drilled, the lower zone will be production tested for a period of two to four weeks or until a stabilized rate is obtained. Subsequent to that time, a stabilized rate from both commingled zones within the well will be obtained. A fixed allocation of production will then be determined utilizing the data obtained from the flow tests.

(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 29-5 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 29-5 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 29-5 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 29-5 Unit of subsequent downhole comminglings is unnecessary and is an excessive burden on the applicant;

Production Allocation Methodology

- Adding New Zone to Existing Zone - Initially Subtraction Method followed by Fixed Allocation Method
  - Subtraction Method (+/- 1st 12 months)
    - Forecast production rate by month for existing zone utilizing established decline curve for zone
    - Subtract forecasted rate from commingled rate to define new zone rate
    - Utilize subtraction method for +/- 12 months until new zone rate stabilizes, then utilize fixed allocation method with current rates
  - Fixed Allocation Method (after Subtraction Method)
    - Utilize forecasted rate from established decline curve for lower zone
    - Calculate upper zone rate by subtracting lower zone rate from commingled rate
    - Lower zone allocation = $\frac{\text{Lower zone rate}}{\text{Commingled rate}}$
    - Upper zone allocation = (Commingled rate - Lower zone rate) / Commingled rate

Attachment

OCD Form C-107A (3/12/96)

Item No. 12 - additional explanation:

Based on water analysis from the Mesaverde and Dakota zones and discussions with the chemical treating/analysis company the water from these two zones are compatible. Lab analysis of the individual waters from both the Mesaverde and Dakota formations resulted in positive scaling indices for barium sulfate. There was a slight increase in the barium sulfate scaling index of the combined waters relative to the scaling index of the individual waters.

None of the waters, combined or individual, had meaningful scaling tendencies and combined with the fact that typical water production from either of these zones in San Juan 30-5 are 0-1 BWPD and no barium sulfate scale has been detected to date, no negative impacts to the formations are anticipated.