

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 87505-6429Form C-107-A
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

APPLICATION FOR DOWNHOLE COMMINGLING

Operator Phillips Petroleum Company Address 5525 Hwy. 64, Farmington, NM 87401

Lease San Juan 30-5 Unit #22A Well No. P, Section 17, T30N, R5W, Rio Arriba, NM County

OGRID NO. 017654 Property Code 009258 API NO. 30-039-25497 Spacing Unit Lease Types: (check 1 or more)
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	Blanco Mesaverde 72319		Basin Dakota 71599
2. Top and Bottom of Pay Section (Perforations)	4142-5736'		7752' - 7828'
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: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 700 psi (est.) b. (Original) 1294 psi (est.)	a. RECEIVED JUN 11 1998 OIL CON. DIV. DIST. 3 b.	a. 1111 psi (24 hr SI) b. 3412 psi (est.)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	1080 btu/ft ³		1000 btu/ft ³
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 * If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Rates: Date: 3/16/98 Rates: 333 mcf/d 0 bopd	Date: Rates: Date: Rates:	Date: Rates: Date: 3/16/98 Rates: 420 mcf/d 0 bopd
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 ☐ 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? ☒ 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 ☐ No (see attachment)
13. 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-10771
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 6/9/98TYPE OR PRINT NAME Mark Stodola TELEPHONE NO. (505) 599-3455

Revised February 21, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0710

DISTRICT III
1000 E. Braxos Rd., Artes, N.M. 87410

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, NM 87504-2088

DISTRICT IV
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-089-25497		*Pool Code 71599 & 72319	*Pool Name Basin Dakota & Blanco Mesaverde
*Property Code 009258	*Property Name SAN JUAN 30-5 UNIT		*Well Number 22A
*OGHD No. 017654	*Operator Name PHILLIPS PETROLEUM		*Elevation 6381

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	17	T.30 N.	R. 5 W.		801	SOUTH	793	EAST	RIO ARriba

11	Bottom Hole Location If Different From Surface				
----	--	--	--	--	--

[illegible]

	¹³ Dedicated Acres	¹⁴ Joint or Infill	¹⁵ Consolidation Code	¹⁶ Order No.
MV-E/2 - 320 ac				
DK-E/2 - 320 ac			Unitized	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16	1	1	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature <u>Ed Hasely</u> Printed Name <u>Ed Hasely</u> Title <u>Envir./Regulatory Engineer</u> Date <u>3-22-95</u>
RECEIVED MAR 23 1995 OIL CON. DIV. DIST. 3	2	2	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plan 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 belief. APRIL 4, 1994 Date of Survey Signature and Seal of Professional Surveyor 8834 8894 Certificate Number
N 89-54 E	5270.10'	793' 801'	5280' Fd.Bc. G.L.O. 1916

29-5 Unit #22A Dakota Forecast

<i>Initial Production Rate</i>	=	200 MCFD
<i>Hyperbolic Exponent</i>	=	0.33
<i>Decline Rate</i>	=	12 %

	Month	Monthly MCF
1998	Aug	6,169
	Sep	5,910
	Oct	6,047
	Nov	5,794
	Dec	5,928
1999	Jan	5,869
	Feb	5,251
	Mar	5,758
	Apr	5,519
	May	5,647
	Jun	5,412
	Jul	5,539
	Aug	5,485
	Sep	5,257
	Oct	5,380
	Nov	5,157
	Dec	5,279
2000	Jan	5,228



PHILLIPS PETROLEUM COMPANY

FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

June 9, 1998

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

Downhole Commingling Allocation Method
on the San Juan 30-5 Unit #22A

Dear Sirs:

Phillips is proposing to utilize the subtraction method on the subject well for approximately 1 year after actual commingling occurs. After the first year, 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

August 1998	6,169	February 1999	5,251
September 1998	5,910	March 1999	5,758
October 1998	6,047	April 1999	5,519
November 1998	5,794	May 1999	5,647
December 1998	5,928	June 1999	5,412
January 1999	5,869	July 1999	5,539

For example, if the total volume for September 1998 were 10,920 mcf, then the Dakota would be allocated 5,910 mcf and the Mesaverde 5,010 mcf. And subsequently, the Dakota would be allocated $(5,910/10,920)$ or 54.12%, and Mesaverde would be allocated $(5,010/10,920)$ or 45.88%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark W. Stodola
Reservoir Engineer

MS/pc

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

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

DATE: MAY 28, 1998

WELL NAME: SAN JUAN 30-5 # 22A
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARriba
STATE: NEW MEXICO

ELEVATION: GL
TOTAL DEPTH: FBTD 7862'
PERFORATIONS: 7728' TO 7752'
TUBING SIZE: 2 3/8 TO 7735'
CASING SIZE: TO
PACKER: 7714'
OTHER:
AT SHUT IN MV CASING 390, DK TUBING
690. 239,000 CFM
INDIVIDUAL WELL DATA SHEET

CASING PRESSURE: MV 430
TUBING PRESSURE: DK 688
OIL LEVEL:
WATER LEVEL: 6562'
TEMPERATURE:
AMERADA ELEMENT NUMBER: 87977
RANGE: 0-2500
WELL STATUS: SHUT IN 24 HRS
TD @ 7720'

=====

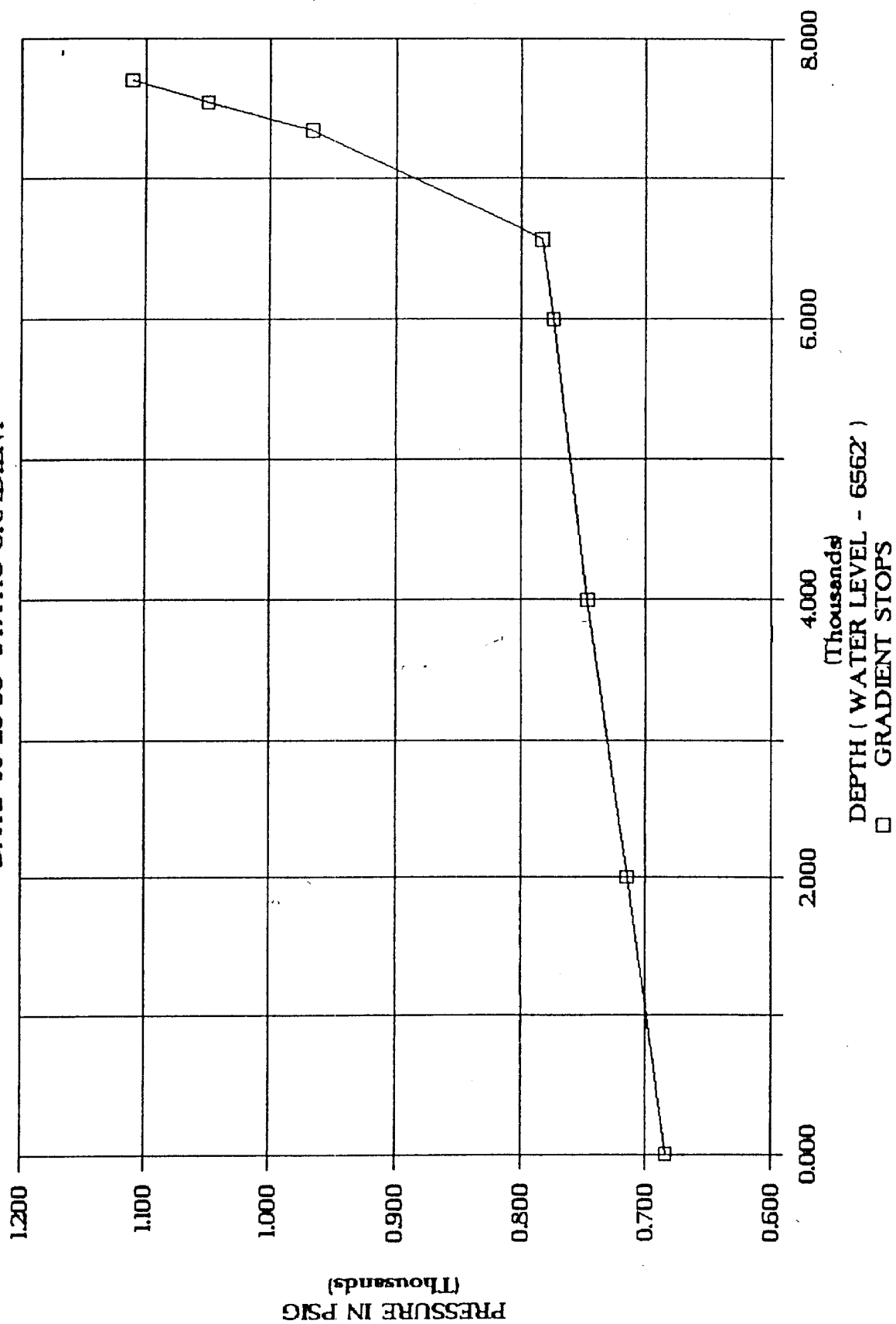
FLOWING GRADIENT TRAVERSE

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	684	
2000	715	0.016
4000	747	0.016
6000	774	0.014
7340	966	0.143
7540	1050	0.420
7700	1111	0.381

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, N. MEX. 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-10

PHILLIPS PETROLEUM SAN JUAN 30-5 # 22A

DATE: 05-28-98 STATIC GRADIENT



MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 6/09/98

DAILY AVERAGE BY MONTH

User: MWSTODO

Wellzone F0618 01 Yr: 1997 Mth: 05 Property: 650402 SAN JUAN 30-5 DAKOTA UNIT-
 Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000022A
 Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
 Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20079 DAKOTA NQ

ADJ	FLG DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
	1997-05	0.00	242	0	31.00	31	11	09	2
	1997-06	0.00	228	0	30.00	30	11	09	2
	1997-07	0.00	231	0	31.00	31	11	09	2
	1997-08	0.00	190	0	31.00	31	11	09	2
	1997-09	0.00	186	0	30.00	30	11	09	2
	1997-10	0.00	206	0	31.00	31	11	09	2
*	1997-11	0.00	193	0	30.00	30	11	09	2
	1997-12	0.00	197	0	31.00	31	11	09	2
	1998-01	0.00	202	0	31.00	31	11	09	2
	1998-02	0.00	153	0	28.00	28	11	09	2
	1998-03	0.00	171	0	31.00	31	11	09	2
	1998-04	0.00	273	0	30.00	30	11	09	2

PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH
 Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 6/09/98

DAILY AVERAGE BY MONTH

User: MWSTODO

Wellzone F0618 02 Yr: 1997 Mth: 05 Property: 650113 SAN JUAN 30-5 MESA VERDE

Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000022A

Type: D (T-Total, D-Daily Avg) Field: 070724 BLANCO

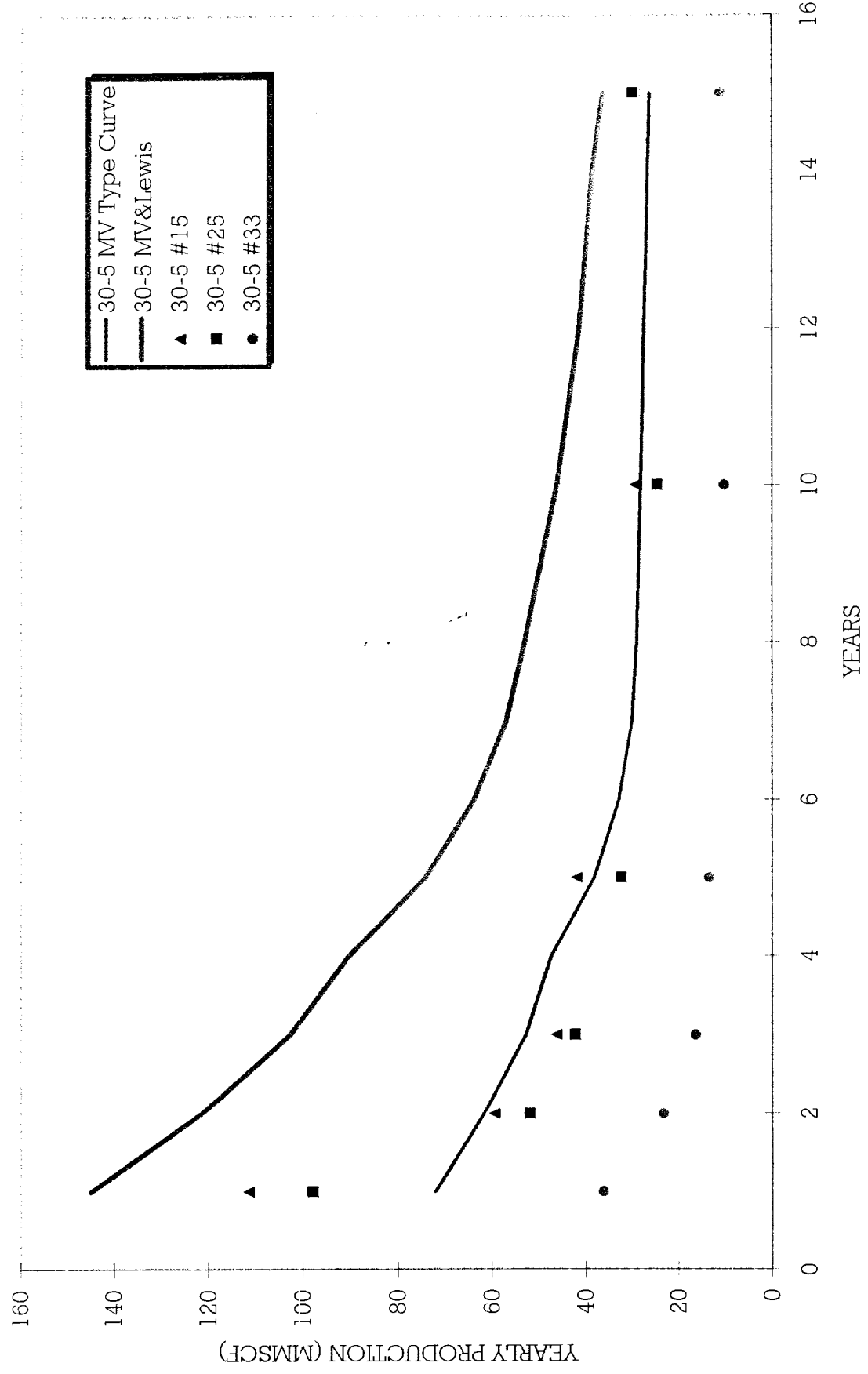
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20170 MESAVERDE

ADJ		PRODUCED			DAYS		WELL		
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
	1997-05	0.00	223	0	31.00	31	11	09	2
	1997-06	0.00	205	0	30.00	30	11	09	2
	1997-07	0.00	218	0	31.00	31	11	09	2
	1997-08	0.00	156	0	31.00	31	11	09	2
	1997-09	0.00	194	0	30.00	30	11	09	2
	1997-10	0.00	214	0	31.00	31	11	09	2
*	1997-11	0.00	137	0	30.00	30	11	09	2
	1997-12	0.00	170	0	31.00	31	11	09	2
	1998-01	0.00	121	0	31.00	31	11	09	2
	1998-02	0.00	168	0	28.00	28	11	09	2
	1998-03	0.00	156	0	31.00	31	11	09	2
	1998-04	0.00	149	0	30.00	30	11	09	2

PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

30-5 MV

30-5 UNIT MESAVERDE



MWS

30-5mvtc

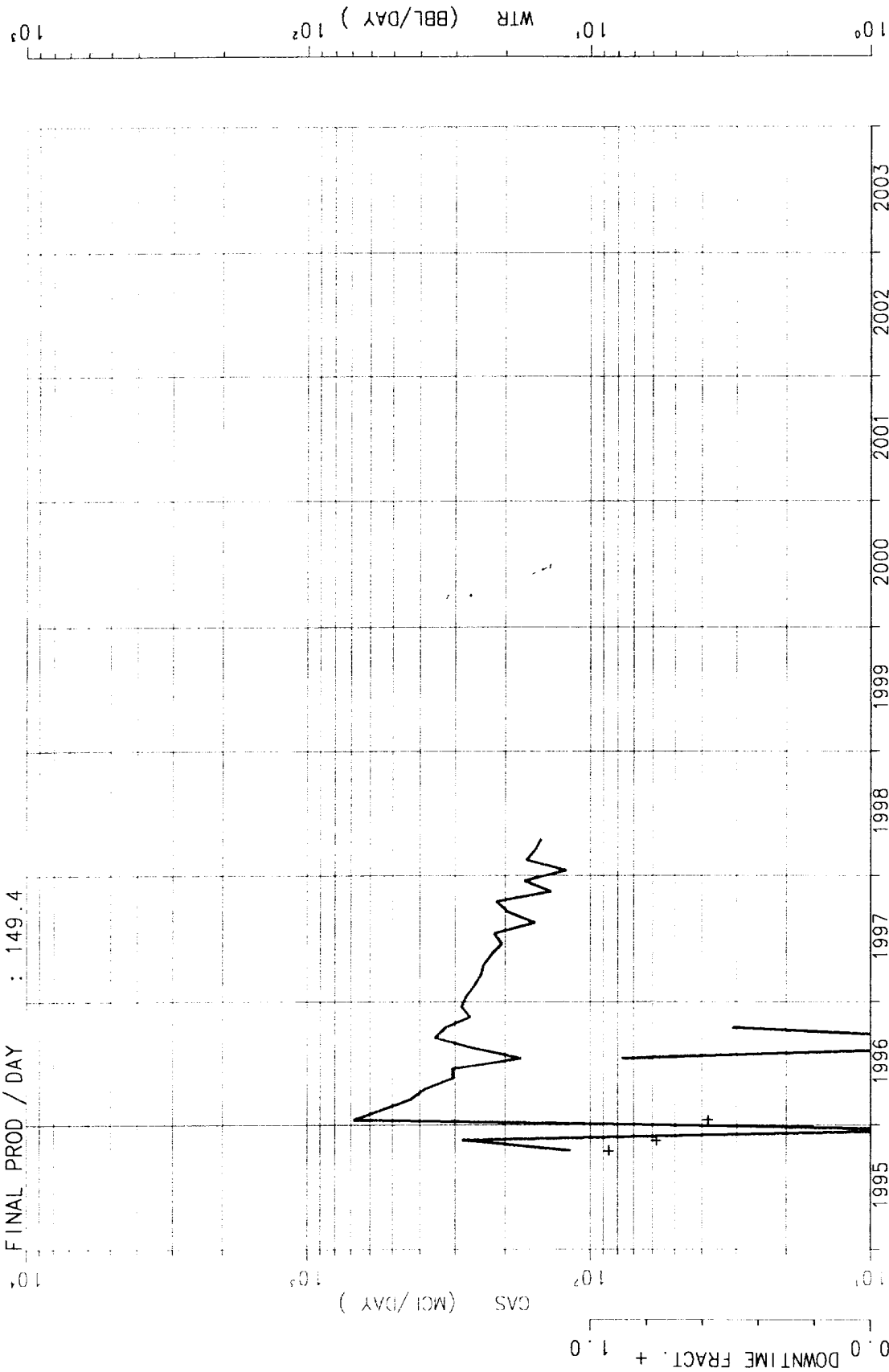
6/9/98

10/95-4/98

INITIAL PROD / DAY : 117.5
REMAINING LIFE : 2.58

CUM PRODUCTION : 215698.
FINAL PROD / DAY : 149.4

Current Cums
215698. MCF GAS
335. BBL WTR



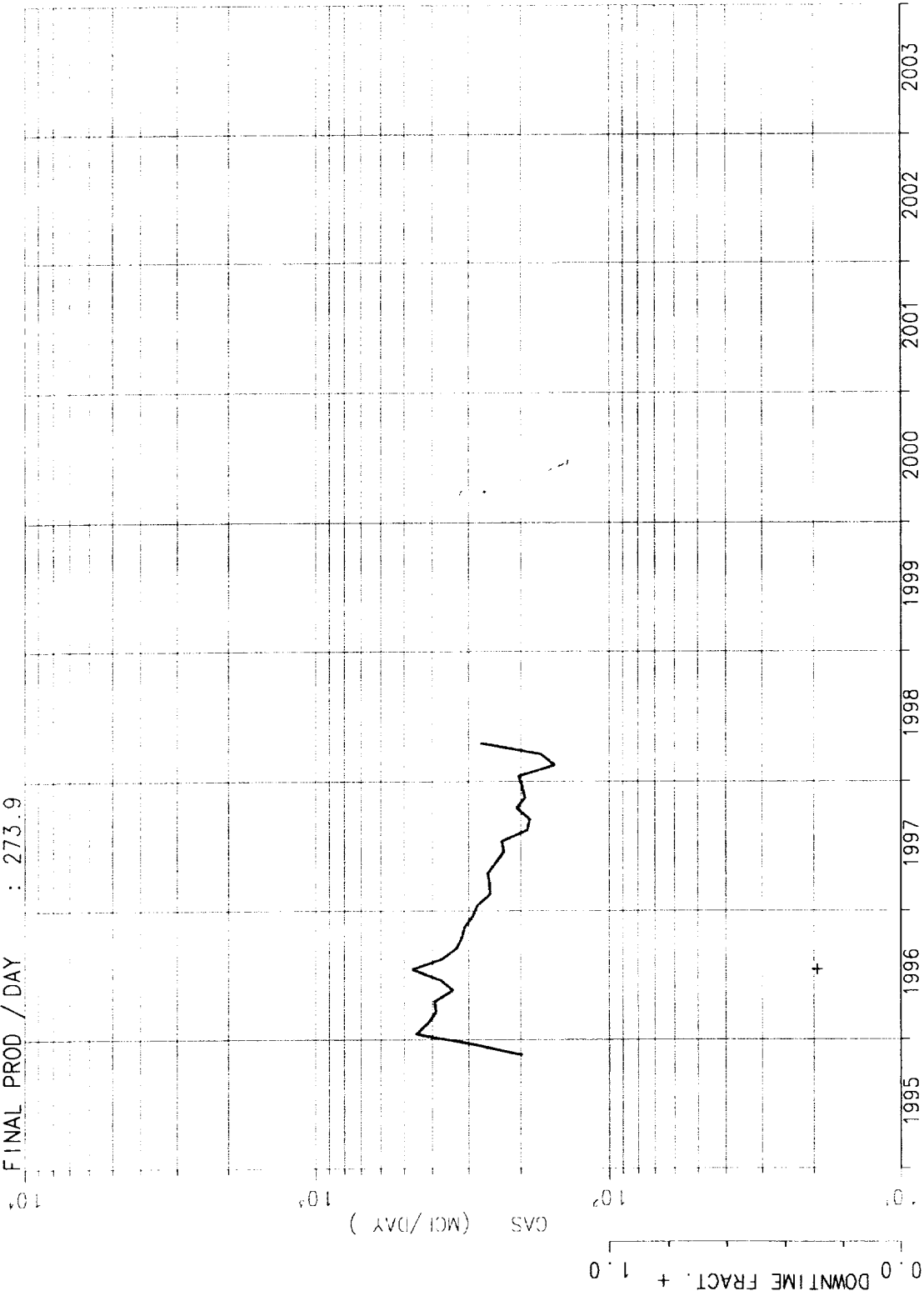
LEASE- 650113 : SAN JUAN 30-5 MESA VERDE
RESVR- 170 : BLANCO
WELL - 00022A CUM MCF = 216250.

F061802
ZONE-650113170000022AF061802
API-30039254970000 THRU 98/04

11/95-4/98

Current Cums
252754. MCF GAS

INITIAL PROD / DAY : 197.1
REMAINING LIFE : 2.50
CUM PRODUCTION : 252754.
FINAL PROD / DAY : 273.9



AVERAGE CNTIME =0.990

LEASE- 650402 : SAN JUAN 30-5 DAKOTA UNIT-APO
RESVR- 079 : BASIN DAKOTA NQ
WELL - 00022A CUM MCF =253165.

F061801
ZONE-650402079000022AF061801
API-30039254970000 THRU 98/04

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 = $\frac{(\text{Commingled rate} - \text{Lower zone rate})}{\text{Commingled rate}}$

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.