

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
San Juan 30-5 # 72 M Sec. 10, T30N, R5W, Rio Arriba
 Lease Well No. Unit Ltr. - Sec - Twp - Rge County
 OGRID NO. 017654 Property Code 009258 API NO. 30-039-22573 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	72319 Blanco Mesaverde		71599 Basin Dakota
2. Top and Bottom of Pay Section (Perforations)	4210' 5906'		7790' 7846'
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) 1030 psi (est.) b. (Original) 1294 psi (est.)	a. b.	a. 760 psig (24 hr SI) b. 3412 (est.)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	1030 BTU/cu.ft.		1000 BTU/cu. ft.
7. Producing or Shut-In?			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: Estimate Rates: 420 mcf/d	Date: Rates: Date: Rates:	Date: Rates: Date: Jan. 1997 Rates: 264 mcf/d 0 bwpd
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?
 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 attached)
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 Sean C Helton TITLE Staff Reservoir Engineer DATE 3-25-97
 TYPE OR PRINT NAME Sean C. Helton TELEPHONE NO. (505) 599-3455

District I
PO Box 1980, Hobbs, NM 88241-1980
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District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-22573		2 Pool Code 72319		3 Pool Name Blanco Mesaverde	
4 Property Code 009258		5 Property Name San Juan 30-5 Unit			6 Well Number #72
7 OGRID No. 017654		8 Operator Name Phillips Petroleum Company			9 Elevation 6429

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
M	10	30N	5W		805	South	820	West	Rio Arriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
M									

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320	Y	U	

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

	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Sean C Helton</i></p> <p>Signature</p> <p>Sean C. Helton</p> <p>Printed Name</p> <p>Staff Reservoir Engineer</p> <p>Title</p> <p>March 25, 1997</p> <p>Date</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyer:</p> <p>See Dakota C-102 dated 8-26-80</p> <p>Certificate Number</p>

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

Operator NORTHWEST PIPELINE CORPORATION			Lease SAN JUAN 30-5 UNIT		Well No. 72
Unit Letter M	Section 10	Township 30N	Range 5W	County Rio Arriba	
Actual Footage Location of Well: 805 feet from the South line and 820 feet from the West line					
Ground Level Elev. 6429	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest 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?

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

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.

Sec.		10	
820'		805'	

Scale: 1"=1000'

CERTIFICATION

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

Paul C. Thompson

Name

Paul C. Thompson

Position

Drilling Engineer

Company

Northwest Pipeline Corp.

Date

August 28, 1980

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

August 26, 1980

Registered Professional Engineer and Land Surveyor

Fred B. Kerr Jr.
Fred B. Kerr Jr.

Certificate No.

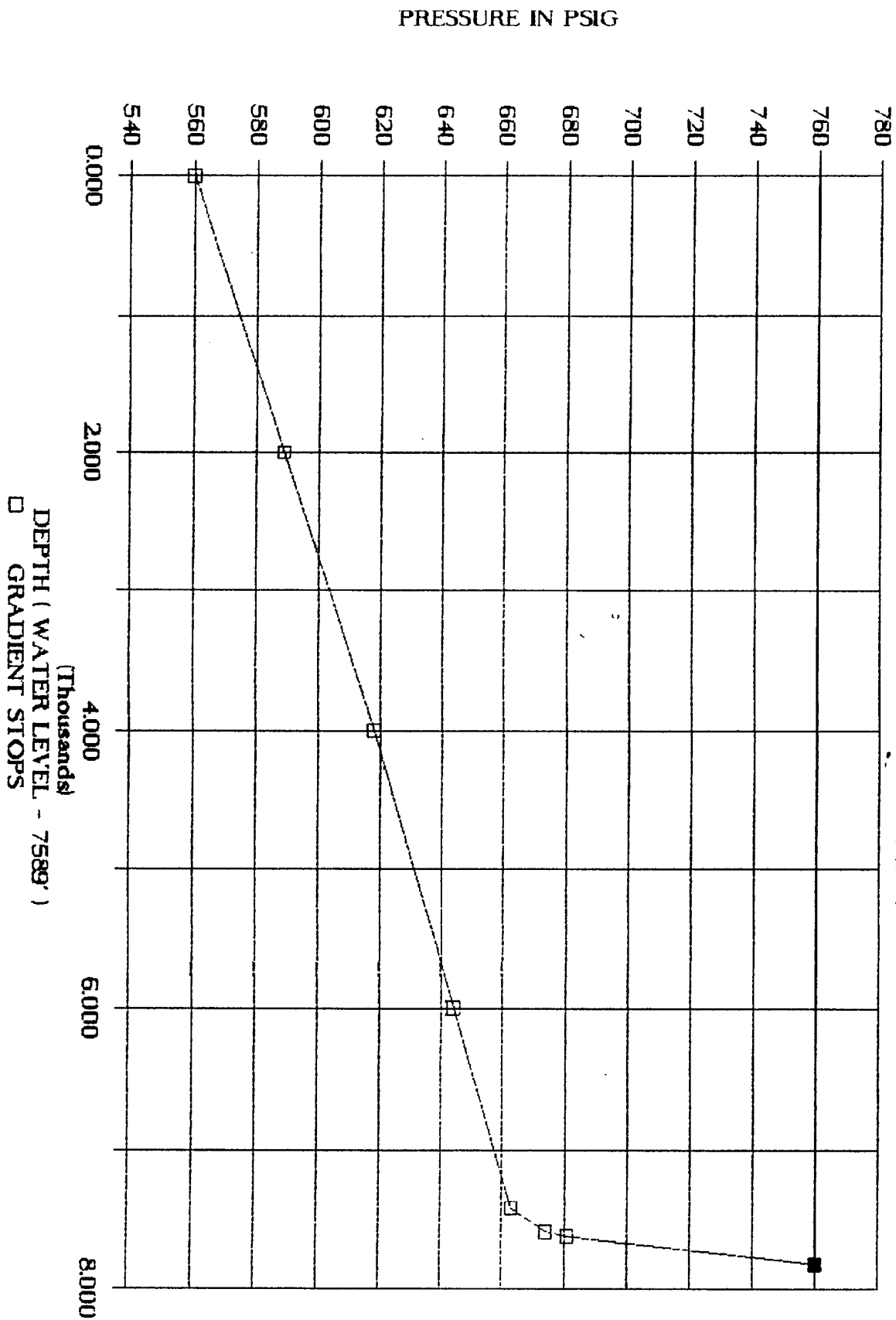
39508

SAN JUAN 30-5 UNIT #72 DAKOTA

	<u>MONTH</u>	<u>MONTHLY FORECAST (MCF)</u>
	Mar-97	8496
1	Apr-97	8486
2	May-97	8477
3	Jun-97	8467
4	Jul-97	8457
5	Aug-97	8447
6	Sep-97	8437
7	Oct-97	8427
8	Nov-97	8418
9	Dec-97	8408
10	Jan-98	8398
11	Feb-98	8388
12	Mar-98	8379
13	Apr-98	8369
14	May-98	8359
15	Jun-98	8350
16	Jul-98	8340
17	Aug-98	8330
18	Sep-98	8321

PHILLIPS PETROLEUM SAN JUAN 30-5 #72

DATE: 03-05-97 STATIC GRADIENT



MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 3/06/97

DAILY AVERAGE BY MONTH

User: #60X

Wellzone L9893 01 Yr: 1996 Mth: 02 Property: 650262 SAN JUAN 30-5 DAKOTA UNIT
 Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000072
 Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
 Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20076 DAKOTA

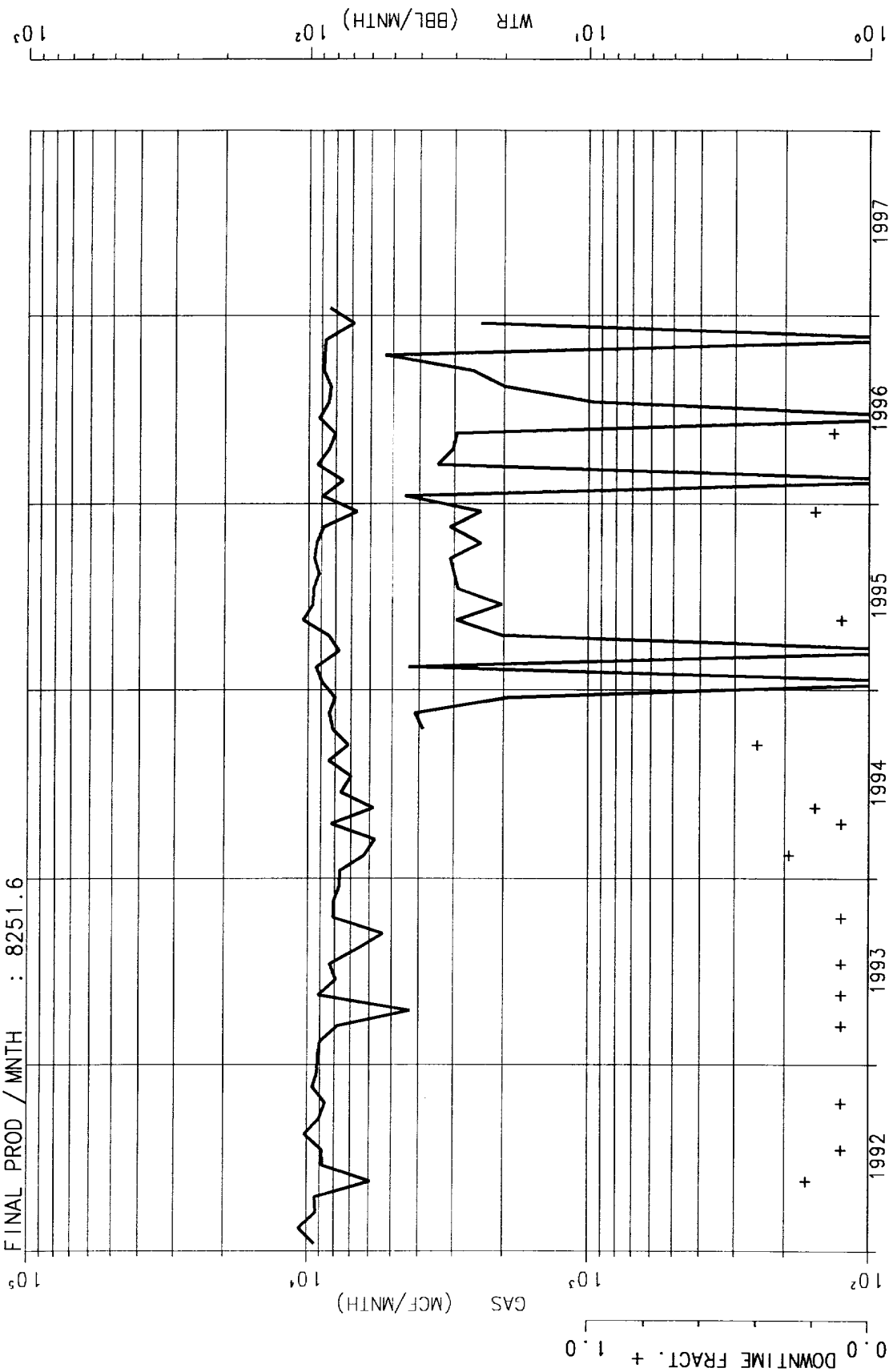
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ADJ          ----- PRODUCED ----- DAYS ----- - WELL -
FLG DATE      OIL (BBL)      GAS (MCF)      WATER (BBL)      PROD      OP ST CL TY
1996-02          0.00          233              0      29.00      29 11 03 2
1996-03          0.00          297              1      31.00      31 11 03 2
1996-04          0.00          270              1      30.00      30 11 03 2
1996-05          0.00          296              1      27.00      27 11 03 2
1996-06          0.00          294              0      30.00      30 11 03 2
1996-07          0.00          276              0      31.00      31 11 03 2
1996-08          0.00          263              0      31.00      31 11 03 2
1996-09          0.00          278              0      30.00      30 11 03 2
1996-10          0.00          286              1      31.00      31 11 03 2
1996-11          0.00          274              0      30.00      30 11 03 2
1996-12          0.00          225              0      31.00      31 11 03 2
1997-01          0.00          264              0      31.00      31 11 03 2
PA1=ICE  PA2=Exit  PF1=Help      PF3=End      PF5=INITIAL CUM  PF11=GRAPH
Transfer->      PF7=Backward  PF8=Forward  PF10=GRAND MENU  PF12=LOG GRAPH
  
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1/92-1/97

INITIAL PROD / MNTH : 9221.7
REMAINING LIFE : 5.08
CUM PRODUCTION : 505576.
FINAL PROD / MNTH : 8251.6

Current Cums
505576. MCF GAS
655. BBL WTR

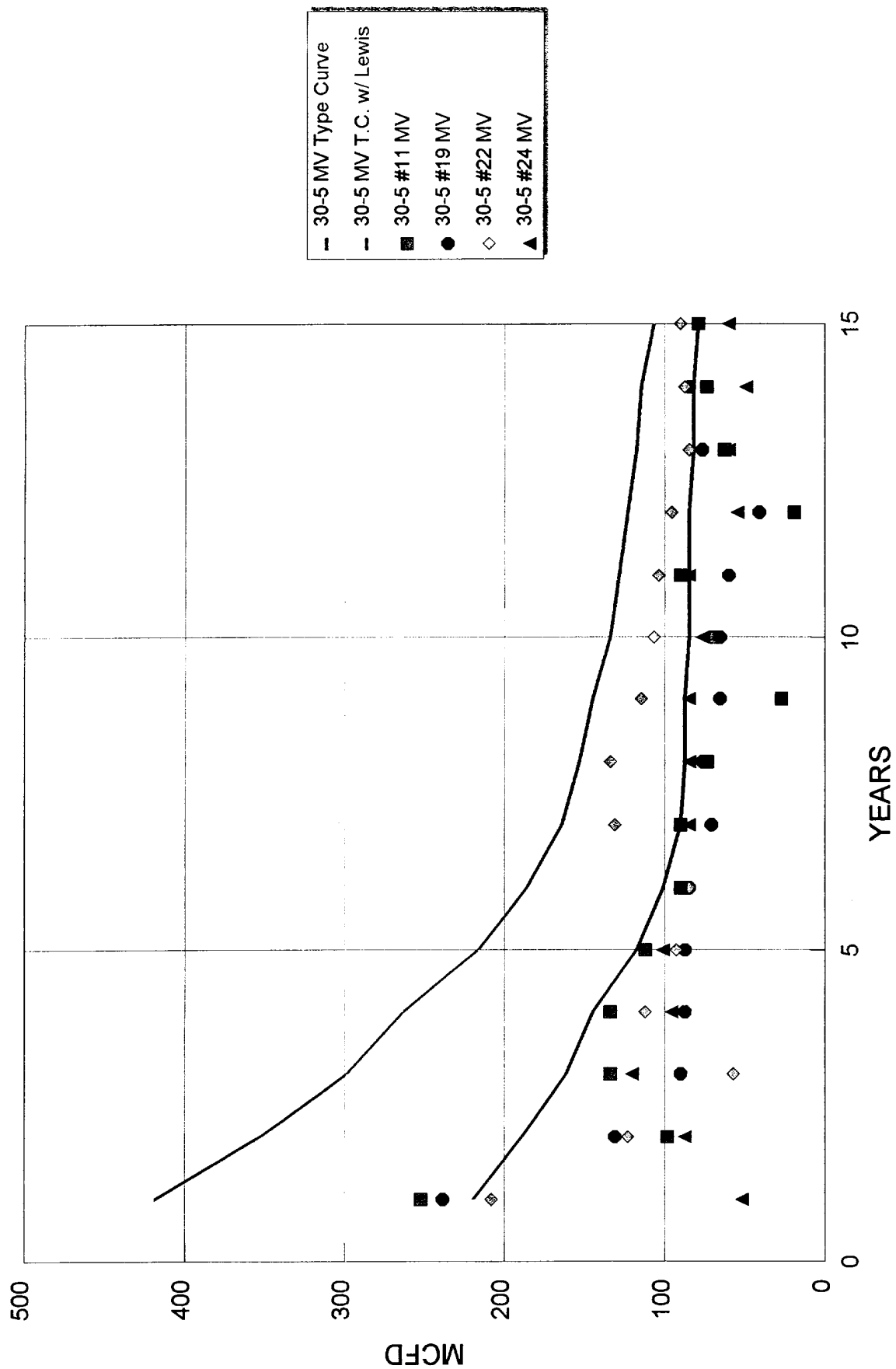


AVERAGE ONTIME = 0.967

LEASE- 650262 : SAN JUAN 30-5 DAKOTA UNIT
RESVR- 076 : BASIN DAKOTA
WELL - 000072 CUM MMCF= 1635.

L989301
ZONE-650262076000072 L989301
API-30039225730000 THRU 97/01

SAN JUAN 30-5 UNIT **MESAVERDE**



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.