

DHC 4/16/97

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 Well No. #49 Unit Ltr. - Sec - Twp - Rge M, Sec. 9, T30N, R5W, County Rio Arriba

OGRID NO. 017654 Property Code 009258 API NO. 30-039-21830 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)	4005' 5696'		7682' 7704'
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. 939 psig (24 hr. SI) b. 3412 psi (est).
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	1030BTU/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	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: Estimate Rates: 420 mcf/d	Date: Rates:	Date: Jan, 1997 Rates: 67 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? ☒ 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 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
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
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 30-039-21830	² Pool Code 72319	³ Pool Name Blanco Mesaverde
⁴ Property Code 009258	⁵ Property Name San Juan 30-5 Unit	⁶ Well Number #49
⁷ OGRID No. 017654	⁸ Operator Name Phillips Petroleum Company	⁹ Elevation 6318

¹⁰ Surface Location

UL or lot no. M	Section 9	Township 30N	Range 5W	Lot Idn	Feet from the 815	North/South line South	Feet from the 1005	East/West line West	County Rio Arriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. M	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres 320	¹³ Joint or Infill Y	¹⁴ Consolidation Code U		¹⁵ Order No.					

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

<div>16</div>	<div>17 OPERATOR CERTIFICATION</div> <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> Signature Sean C. Helton Printed Name Staff Reservoir Engineer Title March 25, 1997 Date</p>	
	<div>18 SURVEYOR CERTIFICATION</div> <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 Signature and Seal of Professional Surveyer: See Dakota C-102 dated 2-27-75 Certificate Number</p>	

MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-109
Supersedes C-128
Effective 1-1-65

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

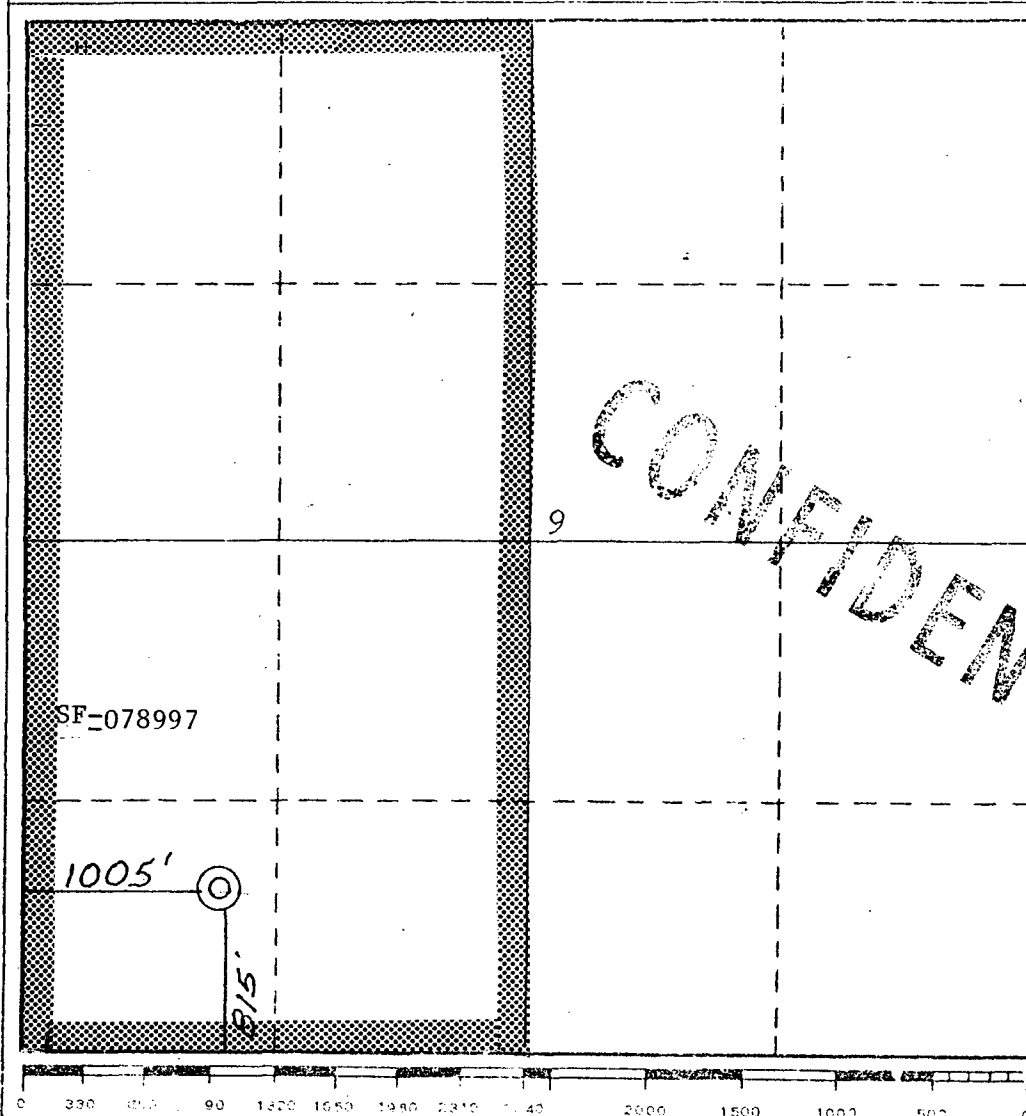
Operator NORTHWEST PIPELINE CORPORATION		Lease San Juan 30-5		Well No. 49
Unit Letter M	Section 9	Township 30 NORTH	Range 5 WEST	County RIO ARRINA
Actual Footage Location of Well: 815 feet from the SOUTH line and 1005 feet from the WEST line				
Ground Level Elev. 6318	Producing Formation Dakota	Pool Basin Dakota	Dedicated Acreage 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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 _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) SW/4, SW/4 Sec. 9, T30N R5W

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.



CERTIFICATION

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

O.B. Whitenburg
Name
O.B. Whitenburg
Position
Production & Drilling Engineer
Company
Northwest Pipeline Corp.
Date
March 7, 1975

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
27 February 1975

Registered Professional Engineer
James E. Lease
James E. Lease
Certificate No.
1463

SAN JUAN 30-5 UNIT #49 DAKOTA

	<u>MONTH</u>	<u>MONTHLY FORECAST (MCF)</u>
	Mar-97	2062
1	Apr-97	2061
2	May-97	2061
3	Jun-97	2061
4	Jul-97	2060
5	Aug-97	2060
6	Sep-97	2060
7	Oct-97	2059
8	Nov-97	2059
9	Dec-97	2059
10	Jan-98	2058
11	Feb-98	2058
12	Mar-98	2058
13	Apr-98	2057
14	May-98	2057
15	Jun-98	2057
16	Jul-98	2056
17	Aug-98	2056
18	Sep-98	2056

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

DATE: MARCH 05. 1997

WELL NAME: SAN JUAN 30-5 # 49
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARriba
STATE: NEW MEXICO

ELEVATION: GL
TOTAL DEPTH: 7754' PBTD
PERFORATIONS: 7682' TO 7704'
TUBING SIZE: 2-3/8" TO 7672'
CASING SIZE: TO
PACKER:
OTHER:

CASING PRESSURE: 760
TUBING PRESSURE: 610
OIL LEVEL:
WATER LEVEL: 7044'
TEMPERATURE:
AMERADA ELEMENT NUMBER: 86184
RANGE: 0-3500
WELL STATUS: SHUT IN
24 HOURS

INDIVIDUAL WELL DATA SHEET

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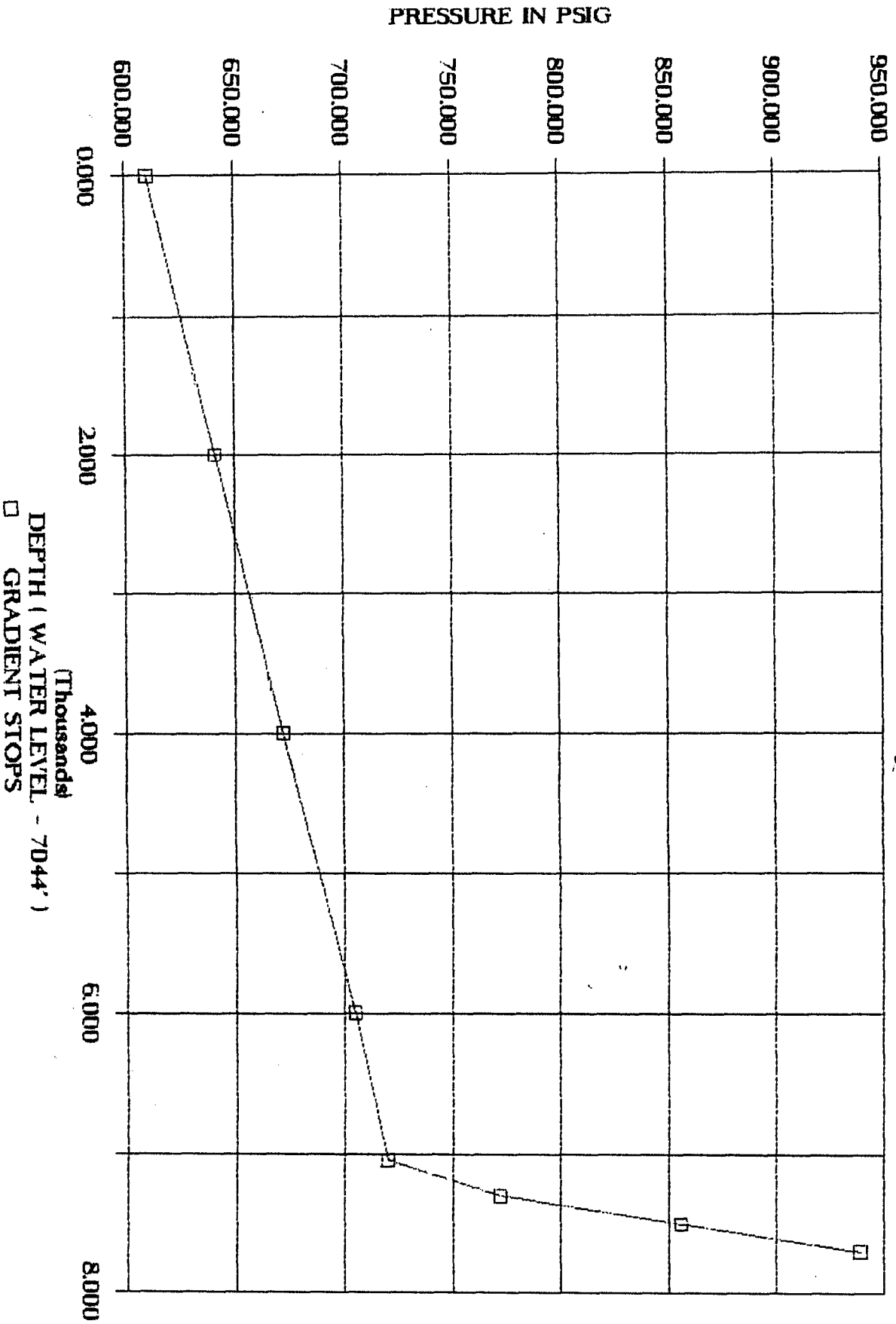
STATIC GRADIENT TRAVERSE

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	610	
2000	641	0.015
4000	672	0.015
6000	705	0.016
7293	772	0.051
7493	856	0.420
7693	939	0.415

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 #49

DATE: 03-05-97 STATIC GRADIENT



MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 3/06/97

DAILY AVERAGE BY MONTH

User: #60X

Wellzone L9886 01 Yr: 1996 Mth: 02 Property: 650262 SAN JUAN 30-5 DAKOTA UNIT
 Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000049
 Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
 Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20076 DAKOTA

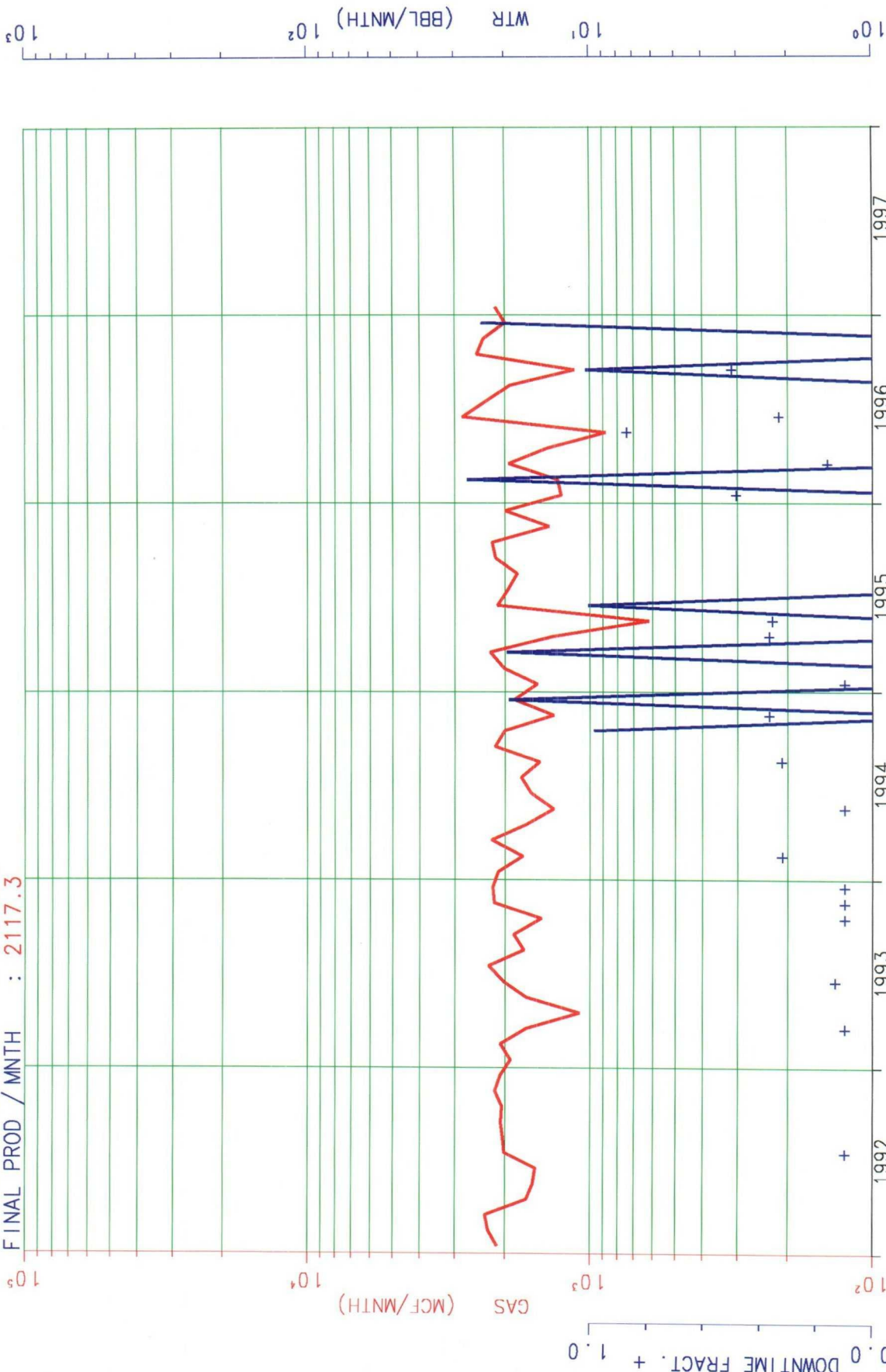
ADJ	FLG DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
	1996-02	0.00	40	0	29.00	29	11	03	2
	1996-03	0.00	74	0	26.00	26	11	03	2
	1996-04	0.00	45	0	30.00	30	11	03	2
	1996-05	0.00	219	0	4.00	4	11	03	2
	1996-06	0.00	136	0	20.00	20	11	03	2
	1996-07	0.00	75	0	31.00	31	11	03	2
	1996-08	0.00	60	0	31.00	31	11	03	2
	1996-09	0.00	71	0	15.00	15	11	03	2
	1996-10	0.00	81	0	31.00	31	11	03	2
	1996-11	0.00	74	0	30.00	30	11	03	2
	1996-12	0.00	64	0	31.00	31	11	03	2
	1997-01	0.00	67	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

1/92-1/97

INITIAL PROD / MNTH : 2092.1
 REMAINING LIFE : 5.08
 CUM PRODUCTION : 112831.
 FINAL PROD / MNTH : 2117.3

Current Cums
 112831. MCF GAS
 120. BBL WTR

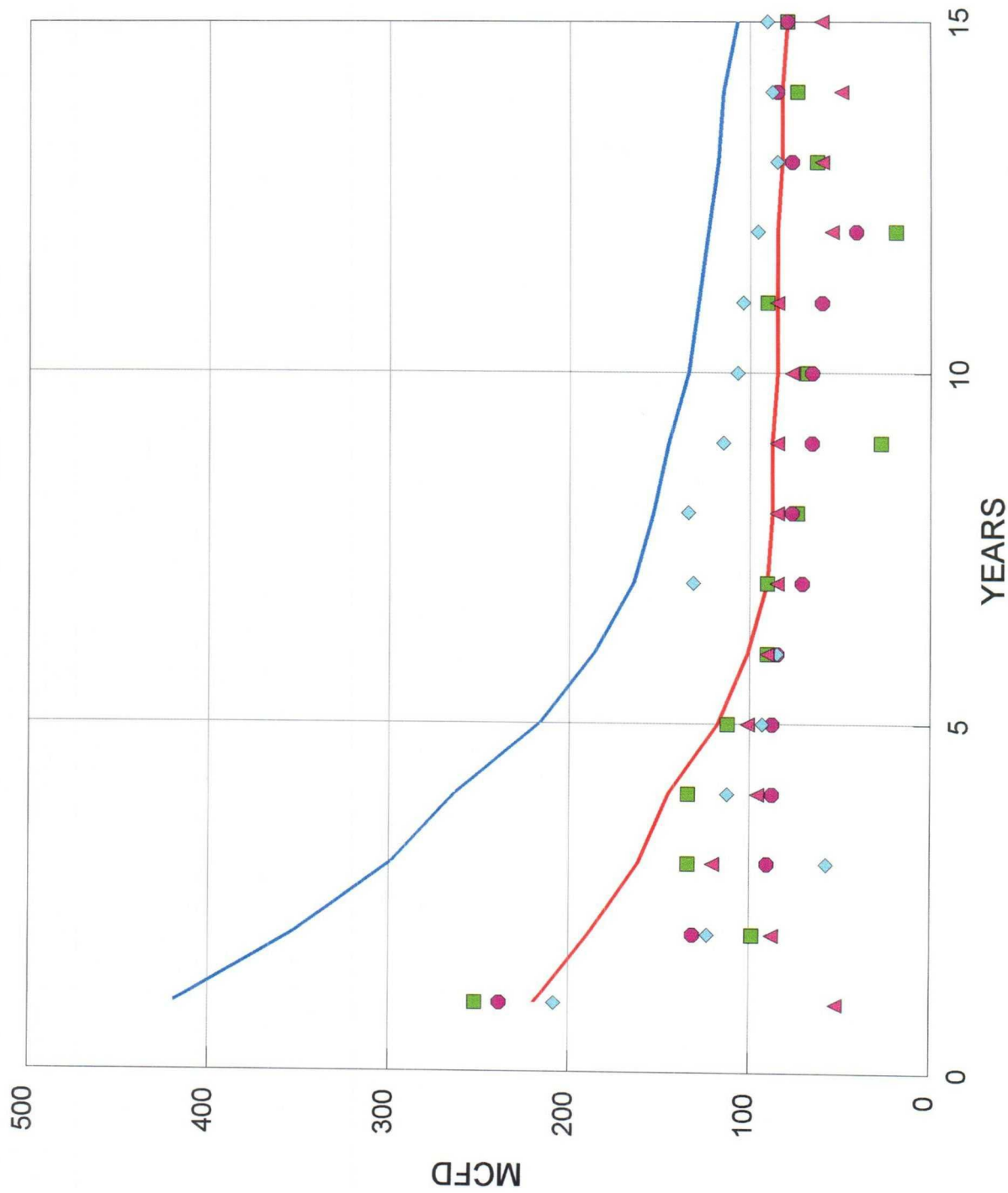


AVERAGE ONTIME = 0.924

LEASE- 650262 : SAN JUAN 30-5 DAKOTA UNIT
 RESVR- 076 : BASIN DAKOTA
 WELL - 000049 CUM MCF = 376057.

L988601
 ZONE-650262076000049 L988601
 API-30039218300000 THRU 97/01

SAN JUAN 30-5 UNIT MESAVERDE



- 30-5 MV Type Curve
- 30-5 MV T.C. w/ Lewis
- 30-5 #11 MV
- 30-5 #19 MV
- 30-5 #22 MV
- 30-5 #24 MV

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

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.