DATE IN 6/12/98	SUSPENSE 7/2/98	ENGINEER DC	LOGGED BY MV	TYPE DHC

ABOVE THIS LINE FOR DIVISION USE ONLY

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

1994

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
JUN 12 1998
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.	6/9/98
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

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

APPROVAL PROCESS:
X Administrative __ Hearing

EXISTING WELLBORE
X YES __ NO

APPLICATION FOR DOWNHOLE COMMINGLING

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

San Juan 30-5 Unit #76M — Lease, Well No.
F, Section 15, T30N, R5W, Rio Arriba, NM — Unit Ltr. - Sec - Twp - Rge, County

OGRID NO. 017654 Property Code 009258 API NO. 30-039-25511 Spacing Unit Lease Types: (check 1 or more) 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)	4484-5807'		7758-7854'
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) 700 (est.)	a.	a. 1173 psi (24 hr SI)
	b. (Original) 1294 psi (est.)	b.	b. 3412 psi (est.)
6. Oil Gravity (°API) or Gas BTU Content	1050 btu/ft^3		990 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	Date: Rates:	Date: Rates:	Date: Rates:
* If Producing, give date andoil/gas/ water rates of recent test (within 60 days)	Date: 4/28/98 Rates: 296 mcfd 0 bopd	Date: Rates:	Date: 4/28/98 Rates: 194 mcfd 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 X No
If not, have all working, overriding, and royalty interests been notified by certified mail? X Yes __ No
Have all offset operators been given written notice of the proposed downhole commingling? X 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 (see attachment

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. X 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 6-9-98

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

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

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

State of New Mexico
Energy, Minerals & Natural Resources Departm

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised Febuary 21, 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	2 Pool Code	3 Pool Name
30-039-	72319 & 71599	Blanco Mesaverde & Basin Dakota

4 Property Code	5 Property Name	6 Well Number
009258	SAN JUAN 30-5	76M

7 OGRID No.	8 Operator Name	9 Elevation
017654	PHILLIPS PETROLEUM	6416

10 Surface Location

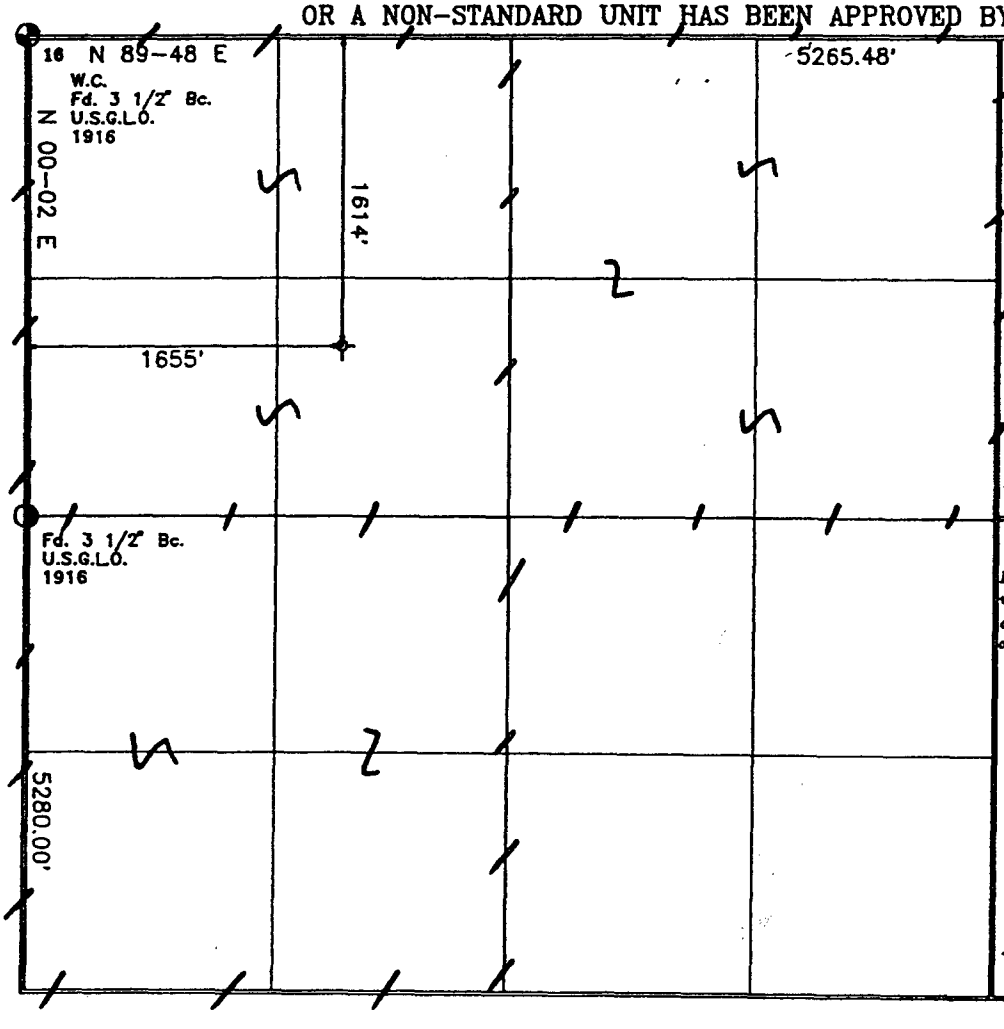
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	15	T. 30 N.	R. 5 W.		1614	NORTH	1655	WEST	RIO ARRIBA

11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
MV-320 ac	(W/2) I	Unitized	
DK-320 ac	(N/2) I	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



17 OPERATOR CERTIFICATION

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

Signature

Ed Hasely

Printed Name

Envir./Regulatory Enginee

Title

March 21, 1995

Date

18 SURVEYOR CERTIFICATION

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.

MARCH 13,1995

Date of Survey

Signature and Seal of Professional Surveyor:

ROY A. RUSH
NEW MEXICO
8894
REGISTERED
PROFESSIONAL LAND SURVEYOR

8894

Certificate Number

29-5 Unit #76M Dakota Forecast

Initial Production Rate	=	*250 MCFD*
Hyperbolic Exponent	=	*0.33*
Decline Rate	=	*12 %*

	Month	***Monthly MCF***
1998	Aug	***7,711***
	Sep	***7,388***
	Oct	***7,558***
	Nov	***7,242***
	Dec	***7,410***
1999	Jan	***7,336***
	Feb	***6,563***
	Mar	***7,198***
	Apr	***6,898***
	May	***7,059***
	Jun	***6,765***
	Jul	***6,923***
	Aug	***6,856***
	Sep	***6,571***
	Oct	***6,726***
	Nov	***6,447***
	Dec	***6,598***
2000	Jan	***6,535***

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 #76M

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	7,711	February 1999	6,563
September 1998	7,388	March 1999	7,198
October 1998	7,558	April 1999	6,898
November 1998	7,242	May 1999	7,059
December 1998	7,410	June 1999	6,765
January 1999	7,336	July 1999	6,923

For example, if the total volume for September 1998 were 14,208 mcf, then the Dakota would be allocated 7,388 mcf and the Mesaverde 6,820 mcf. And subsequently, the Dakota would be allocated (7,388/14,208) or 51.99%, and Mesaverde would be allocated (6,820/14,208) or 48.01%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark Stodola

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 # 76M
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

ELEVATION: GL
TOTAL DEPTH: PBTD 7880'
PERFORATIONS: 7758' TO 7854'
TUBING SIZE: 2 3/8 TO 7679'
CASING SIZE: TO
PACKER:
OTHER: 1.3 FN @ 7646'
AT SHUT IN MV CASING 425, DK TUBING 360. 91,000 MCF
INDIVIDUAL WELL DATA SHEET

CASING PRESSURE: MV 450
TUBING PRESSURE: DK 960
OIL LEVEL:
WATER LEVEL: 7679'
TEMPERATURE:
AMERADA ELEMENT NUMBER: 87977
RANGE: 0-2500
WELL STATUS: SHUT IN 26 1/2 HRS
TD @ 7768'

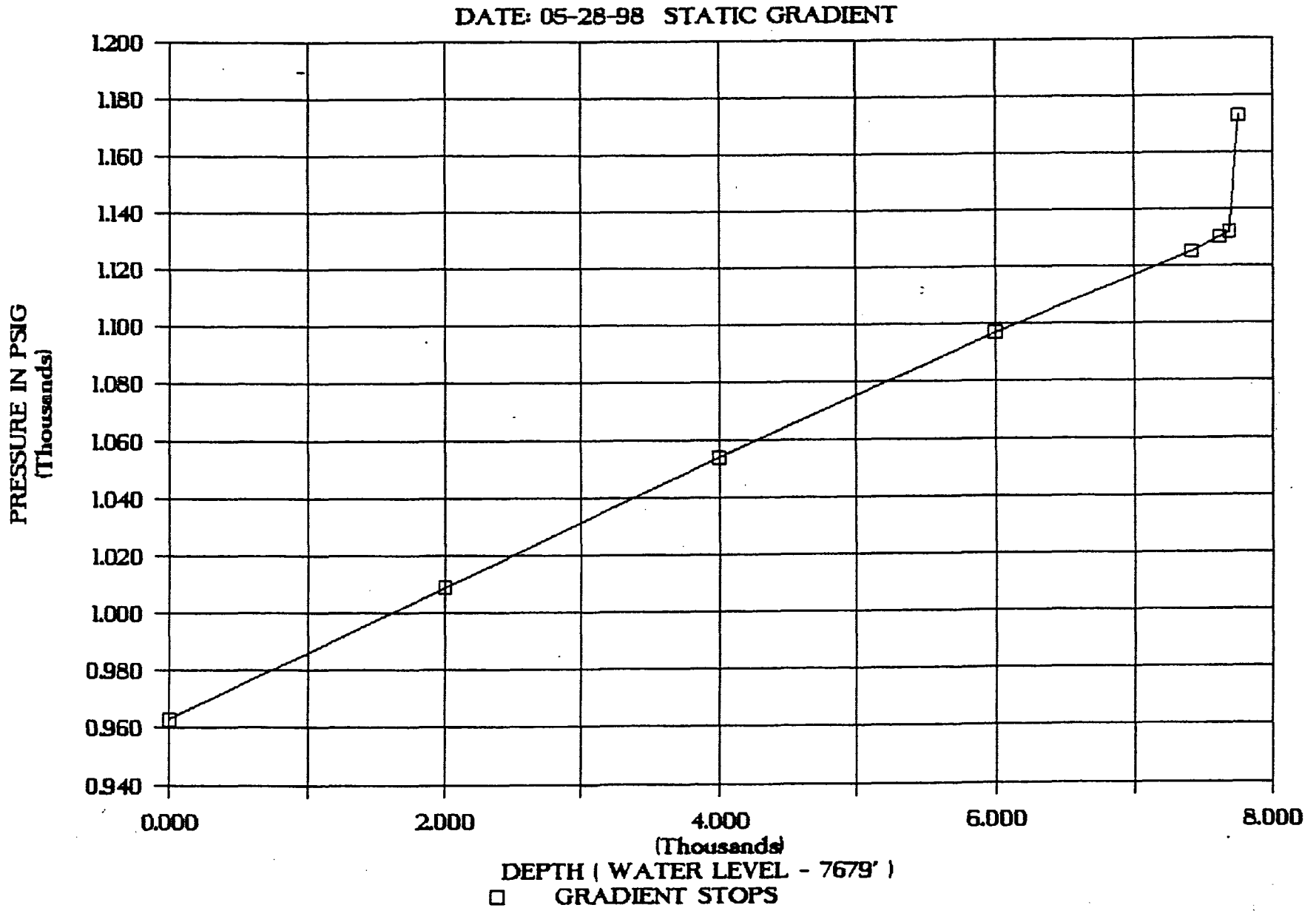
==========

FLOWING GRADIENT TRAVERSE

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	963	
2000	1009	0.023
4000	1054	0.023
6000	1097	0.022
7408	1125	0.020
7608	1130	0.025
7750	1173	0.303

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 # 76M



MEP81-01 PARPI - WELLZONE PRODUCTION BROWSE Date: 6/09/98
DAILY AVERAGE BY MONTH User: MWSTODO

Wellzone F0617 01 Yr: 1997 Mth: 05 Property: 650402 SAN JUAN 30-5 DAKOTA UNIT-
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000076M
Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20079 DAKOTA NQ

ADJ		PRODUCED			DAYS	- WELL -			
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
	1997-05	0.00	315	0	31.00	31	11	09	2
	1997-06	0.00	293	6	30.00	30	11	09	2
	1997-07	0.00	300	0	29.00	29	11	09	2
	1997-08	0.00	307	0	31.00	31	11	09	2
	1997-09	0.00	314	0	30.00	30	11	09	2
	1997-10	0.00	287	0	31.00	31	11	09	2
*	1997-11	0.00	295	0	30.00	30	11	09	2
	1997-12	0.00	292	0	31.00	31	11	09	2
	1998-01	0.00	305	0	25.00	25	11	09	2
	1998-02	0.00	297	0	28.00	28	11	09	2
	1998-03	0.00	282	0	31.00	31	11	09	2
	1998-04	0.00	253	0	29.00	29	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 F0617 02 Yr: 1997 Mth: 05 Property: 650113 SAN JUAN 30-5 MESA VERDE
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000076M
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	198	0	31.00	31	11	09	2
	1997-06	0.00	186	0	30.00	30	11	09	2
	1997-07	0.00	190	0	24.00	24	11	09	2
	1997-08	0.00	134	0	31.00	31	11	09	2
	1997-09	0.00	140	0	30.00	30	11	09	2
	1997-10	0.00	211	0	31.00	31	11	09	2
*	1997-11	0.00	117	0	30.00	30	11	09	2
	1997-12	0.00	197	0	31.00	31	11	09	2
	1998-01	0.00	114	0	20.00	20	11	09	2
	1998-02	0.00	192	0	25.00	25	11	09	2
	1998-03	0.00	132	0	31.00	31	11	09	2
	1998-04	0.00	156	0	29.00	29	11	09	2

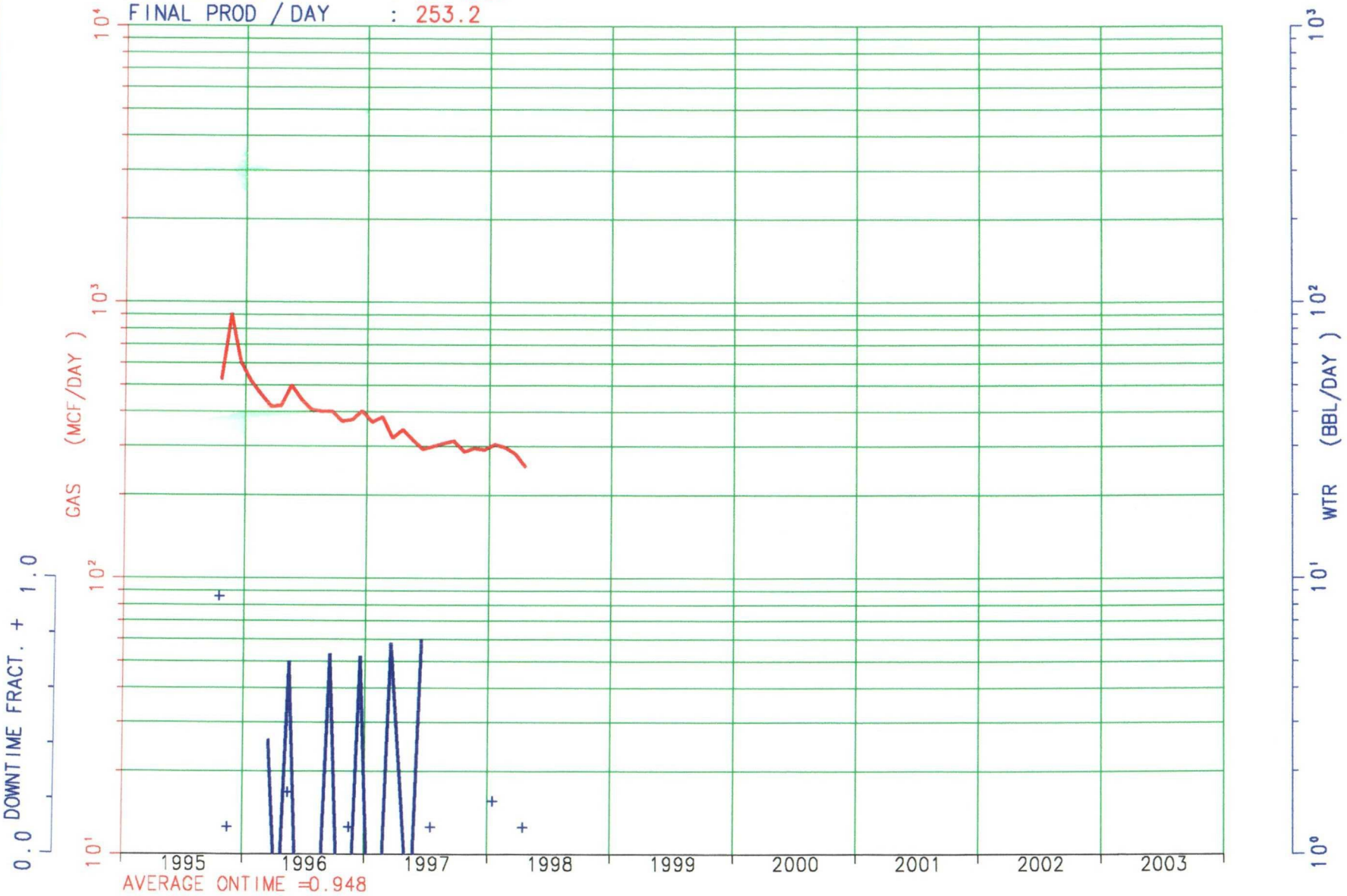
PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

10/95-4/98

INITIAL PROD / DAY : 522.5
REMAINING LIFE : 2.58
0.00
CUM PRODUCTION : 344108.
FINAL PROD / DAY : 253.2

Current Cums
344108. MCF GAS

932. BBL WTR



AVERAGE ONTIME =0.948

LEASE- 650402 : SAN JUAN 30-5 DAKOTA UNIT-APO
RESVR- 079 : BASIN DAKOTA NQ
WELL - 00076M CUM MCF =344583.

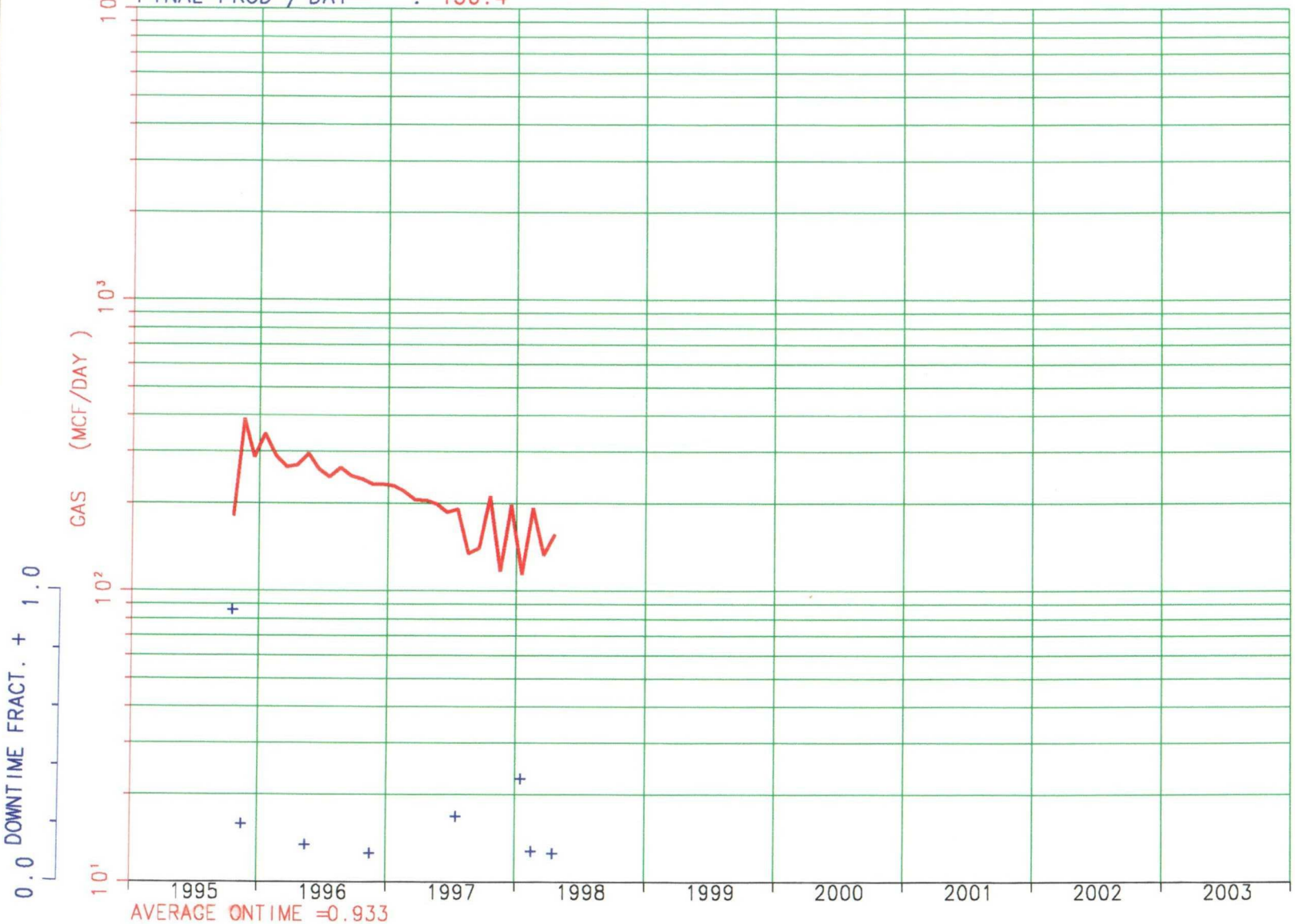
F061701
ZONE-650402079000076MF061701
API-30039255110000 THRU 98/04

MWST 06/09/98 09:57

10/95-4/98

Current Cums
196280. MCF GAS

INITIAL PROD / DAY : 180.5
REMAINING LIFE : 2.58
0.00
CUM PRODUCTION : 196280.
FINAL PROD / DAY : 156.4



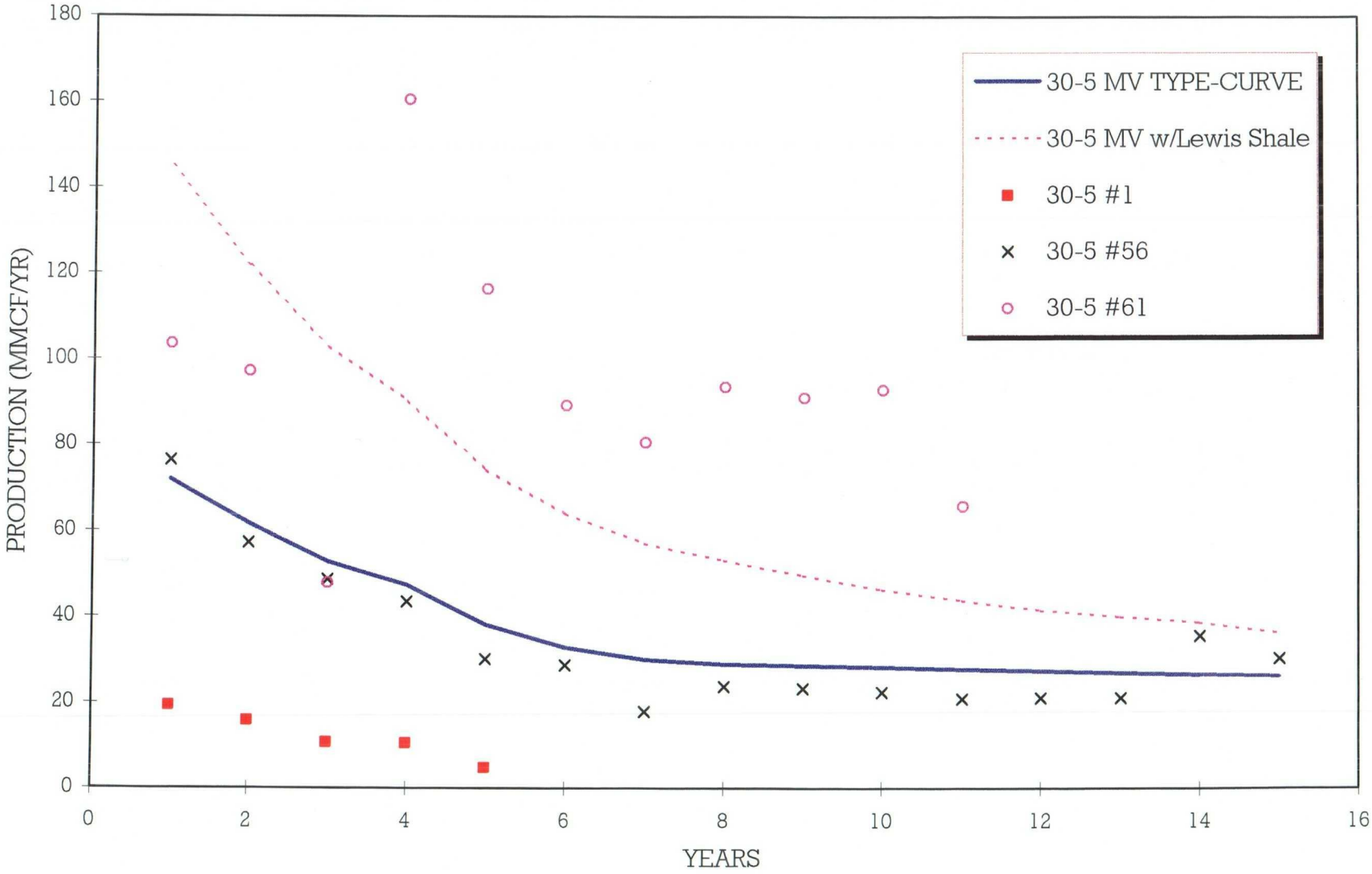
AVERAGE ONTIME =0.933

LEASE- 650113 : SAN JUAN 30-5 MESA VERDE
RESVR- 170 : BLANCO MESAVERDE
WELL - 00076M CUM MCF =196572.

F061702
ZONE-650113170000076MF061702
API-30039255110000 THRU 98/04

MWST 06/09/98 09:57

30-5 UNIT MESAVERDE



30-5mvtc

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.