DATE IN 11/12/99 | SUSPENSE 12/2/99 | ENGINEER DC | LOGGED BY KV | TYPE DHC

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

2040 South Pacheco, Santa Fe, NM 87505

2528

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
NOV 12 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.	11/9/99
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 Hwy. 64, (Address) | Farmington, NM 87401

San Juan 29-6 Unit (Lease) | #86 (Well No.) | N, Section 27, T29N, R6W. (Unit Ltr. - Sec - Twp - Rge) | Rio Arriba, NM (County)

OGRID NO. 017654 Property Code 009257 API NO. 30-039-07516 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)	4,984' - 5540'		7555' - 7658'
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) 750 psi (est.) b. (Original) 1280 psi (est.)	a. b.	a. 907 psi (24-hr SI) b. 3,130 psi (est)
6. Oil Gravity (°API) or Gas BTU Content	1150 btu/scf		1015 btu/scf
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 andoil/gas/ water rates of recent test (within 60 days)	Date: Rates: 450 mcfd (est.)	Date: Rates:	Date: 9/31/99 Rates: 72 mcfd, 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 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? X Yes ___ No

11. Will cross-flow occur? ___ Yes X 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? 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-11187

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 11/9/99

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

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

November 8, 1999

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

Downhole Commingling Allocation Method
On the San Juan 29-6 Unit #86

Dear Sirs:

Phillips Petroleum is proposing to utilize the subtraction method on the subject well for approximately twelve months after actual commingling occurs. After the 12th month period 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 the Dakota interval has been producing for years and that the production will not be stabilized on the Mesaverde for several months.

Dakota Production Forecast

December 1999	2,165	January 2000	2,156
February 2000	1,940	March 2000	2,139
April 2000	2,061	May 2000	2,121
June 2000	2,044	July 2000	2,104
August 2000	2,095	September 2000	2,019
October 2000	2,078	November 2000	2,002

For example, if the total volume for December 1999 were 16,115 mcf, then the Dakota would be allocated 2,165 mcf and the Mesaverde 13,950 mcf. And subsequently, the Dakota would be allocated (2,165/16,115) or 13.43% and the Mesaverde would be allocated (13,950/16,115) or 86.57%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark Stodola

Mark 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: NOVEMBER 2, 1999

WELL NAME: SAN JUAN 29-6 # 86
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: PBTD @ 7764'
PERFS: 7555' TO 7658'
TUBING: 2 3/8 TO 7626'
CASING SIZE:
PACKER:
OTHER: NO SEAT NIPPLE
PRESSURED UP @ 10:00

CASING PRESSURE: 830
TUBING PRESSURE: 100
OIL LEVEL:
WATER LEVEL: 5681'
TEMPERATURE:
ELEMENT NO. 86484
ELEMENT RANGE 0 TO 3000

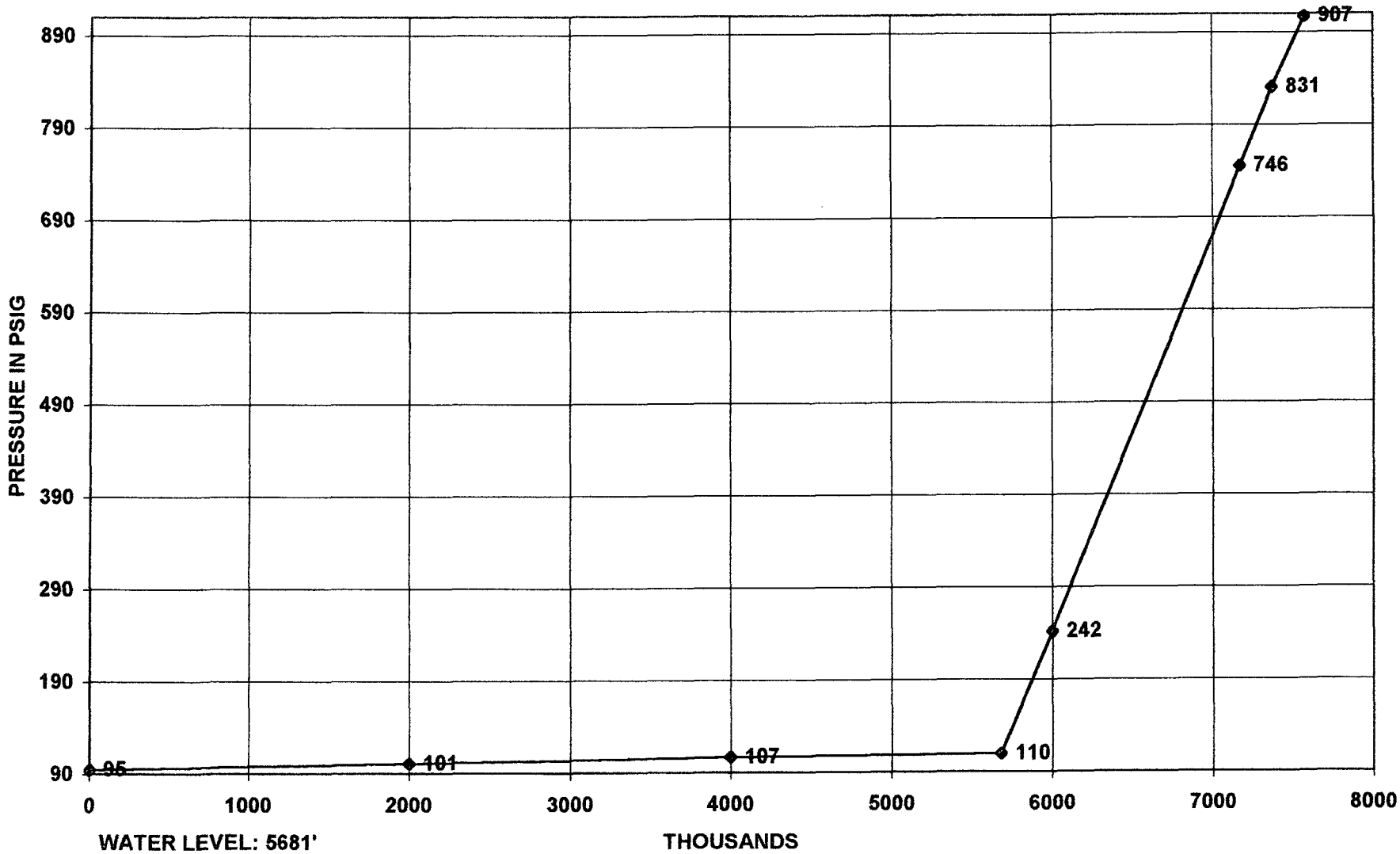
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	95	
2000	101	0.003
4000	107	0.003
6000	242	0.068
7175	746	0.418
7375	831	0.425
7575	907	0.380

SLM @ 7582'

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-11

PHILLIPS PETROLEUM SAN JUAN 29-6 # 86
DATE: NOVEMBER 2, 1999



WATER LEVEL: 5681'

4/91-7/99

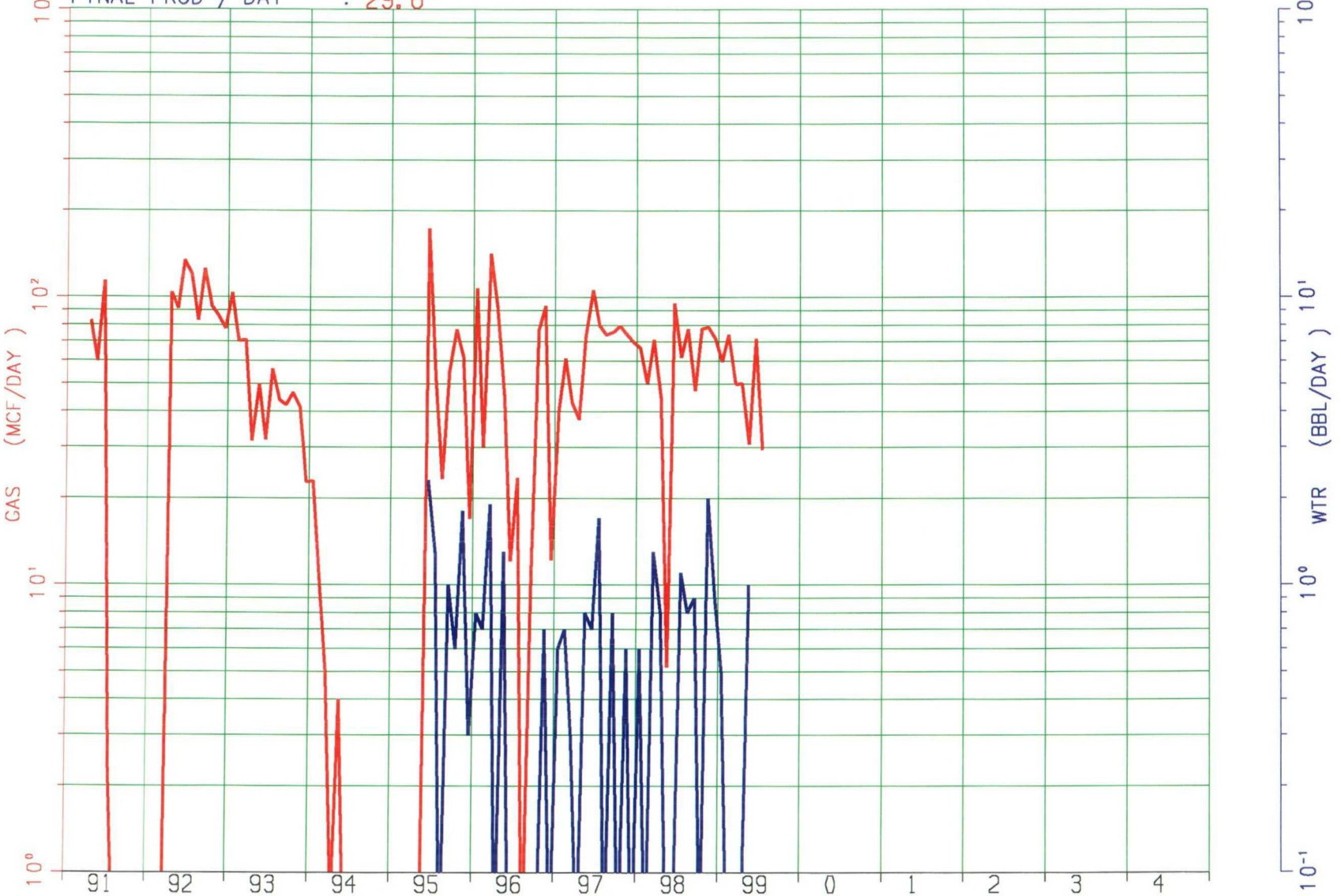
ASSOC.

Current Cums

147948. MCF GAS

877. BBL WTR

INITIAL PROD / DAY : 82.9
REMAINING LIFE : 8.33
0.00
CUM PRODUCTION : 147948.
FINAL PROD / DAY : 29.6



LEASE- 650299 : SAN JUAN 29-6 DAKOTA
RESVR- 076 : BASIN DAKOTA
WELL - 000086 CUM MCF =908095.

F057801
ZONE-650299076000086 F057801
API-30039075160000 THRU 99/07

MWST 1999/11/05 14:52

MEP81-01 PARPI - WELLZONE PRODUCTION BROWSE Date: 11/05/99
MONTHLY TOTALS User: MWSTODO

Wellzone F0578 01 Yr: 1998 Mth: 09 Property: 650299 SAN JUAN 29-6 DAKOTA
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000086
Type: T (T-Total, D-Daily Avg) Field: 042233 BASIN
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20076 DAKOTA

ADJ	PRODUCED			DAYS	- WELL -			
FLG DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
* 1998-09	0.00	1,428	27	30.00	30	11	03	2
1998-10	0.00	2,412	0	31.00	31	11	03	2
* 1998-11	0.00	2,371	60	30.00	30	11	03	2
* 1998-12	0.00	2,226	28	31.00	31	11	03	2
* 1999-01	0.00	1,852	17	31.00	31	11	03	2
* 1999-02	0.00	2,078	0	28.00	28	11	03	2
1999-03	0.00	1,548	0	31.00	31	11	03	2
1999-04	0.00	1,502	0	30.00	30	11	03	2
* 1999-05	0.00	959	31	31.00	31	11	03	2
1999-06	0.00	2,150	0	30.00	30	11	03	2
1999-07	0.00	919	0	31.00	31	11	03	2
* 1999-08	0.00	0	0	29.00	31	46	03	2

PA1=ICE PA2=Exit PF1=Help PF3=End PF5=INITIAL CUM PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

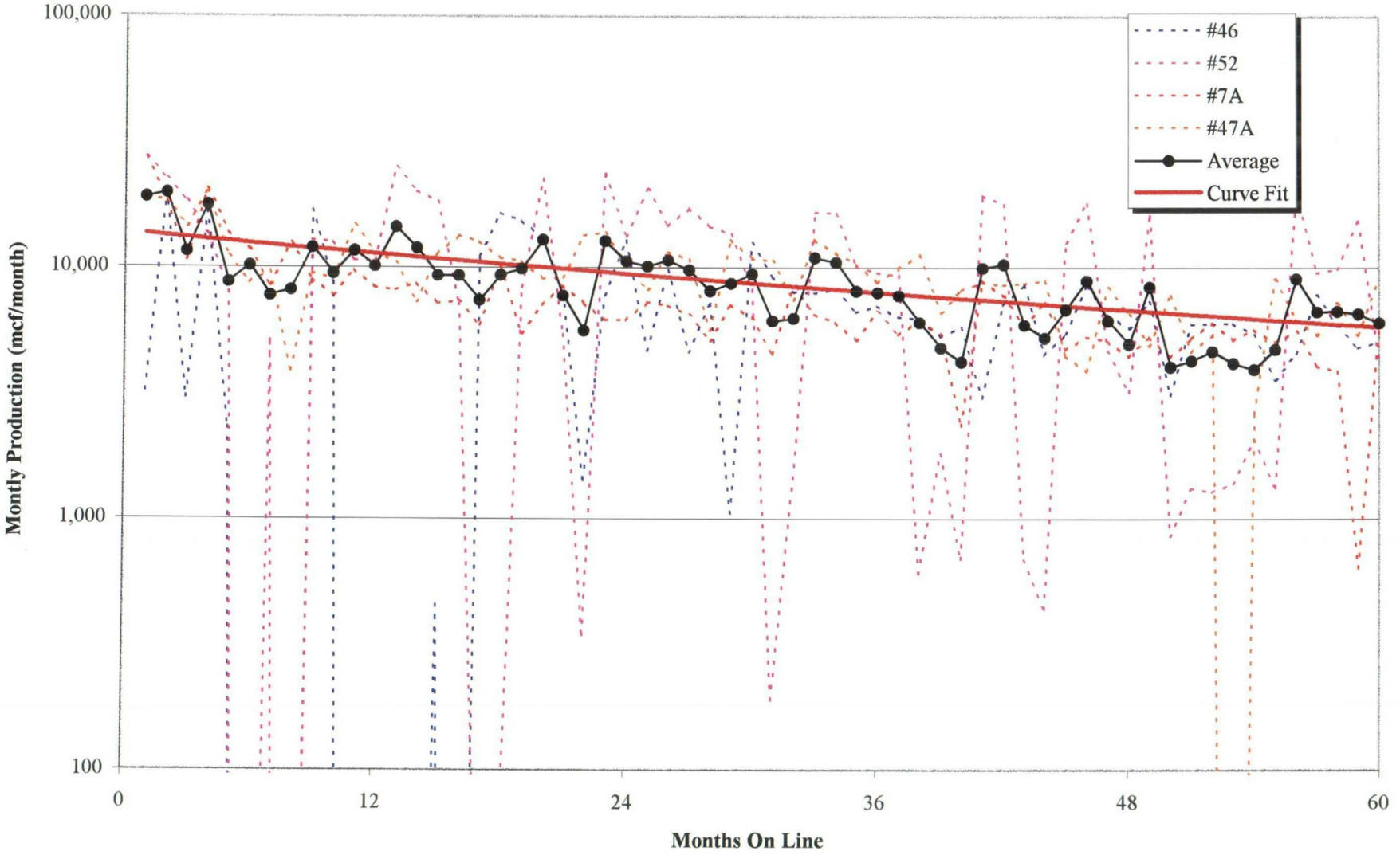
MEP81-01 PARPI - WELLZONE PRODUCTION BROWSE Date: 11/05/99
DAILY AVERAGE BY MONTH User: MWSTODO

Wellzone F0578 01 Yr: 1998 Mth: 09 Property: 650299 SAN JUAN 29-6 DAKOTA
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000086
Type: D (T-Total, D-Daily Avg) Field: 042233 BASIN
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20076 DAKOTA

ADJ		PRODUCED			DAYS	- WELL -			
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
*	1998-09	0.00	47	0	30.00	30	11	03	2
	1998-10	0.00	77	0	31.00	31	11	03	2
*	1998-11	0.00	79	2	30.00	30	11	03	2
*	1998-12	0.00	71	0	31.00	31	11	03	2
*	1999-01	0.00	59	0	31.00	31	11	03	2
*	1999-02	0.00	74	0	28.00	28	11	03	2
	1999-03	0.00	49	0	31.00	31	11	03	2
	1999-04	0.00	50	0	30.00	30	11	03	2
*	1999-05	0.00	30	1	31.00	31	11	03	2
	1999-06	0.00	71	0	30.00	30	11	03	2
	1999-07	0.00	29	0	31.00	31	11	03	2
*	1999-08	0.00	0	0	29.00	31	46	03	2

PA1=ICE PA2=Exit PF1=Help PF3=End PF5=INITIAL CUM PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

San Juan 29-6 Unit Mesaverde Production
Near the 29-6 #86



29-6 Unit #86 Dakota Forecast

Initial Production Rate	=	*70 MCFD*
Hyperbolic Exponent	=	*0.33*
Decline Rate	=	*5 %*

	Month	***Monthly MCF***
1999	Dec	***2,165***
2000	Jan	***2,156***
	Feb	***1,940***
	Mar	***2,139***
	Apr	***2,061***
	May	***2,121***
	Jun	***2,044***
	Jul	***2,104***
	Aug	***2,095***
	Sep	***2,019***
	Oct	***2,078***
	Nov	***2,002***
	Dec	***2,061***
2001	Jan	***2,052***
	Feb	***1,846***
	Mar	***2,036***
	Apr	***1,962***
	May	***2,019***

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

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