

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

Phillips Petroleum Company 5525 Hwy. 64, Farmington, New Mexico 87401
Operator AddressSan Juan 29-6 Unit #88 L 33 29N 6W Rio Arriba
Lease Well No. Unit Ltr. - Sec - Twp - Rge County

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 017654 Property Code 009257 API NO. 30-039-07491 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)	5037' - 5603'		7550' - 7646'
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	flowing	NOV 1 9 1999	flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 750 psi (est.) b. (Original) 1280 psi (est.)	OIL CON. DIV. DIST. 3	a. 1252 psig (24 hr SI) b. 3130 psi (est.)
6. Oil Gravity ($^{\circ}$ API) or Gas BTU Content	1150 Btu/scf		1020 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 and oil/gas/water rates of recent test	Date: Rates:	Date: Rates:	Date: 8/31/99



PHILLIPS PETROLEUM COMPANY

FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

November 17, 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 #88

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	1,547	January 2000	1,540
February 2000	1,386	March 2000	1,528
April 2000	1,472	May 2000	1,515
June 2000	1,460	July 2000	1,503
August 2000	1,496	September 2000	1,442
October 2000	1,484	November 2000	1,430

For example, if the total volume for December 1999 were 15,497 mcf, then the Dakota would be allocated 1,547 mcf and the Mesaverde 13,950 mcf. And subsequently, the Dakota would be allocated $(1,547/15,497)$ or 9.98% and the Mesaverde would be allocated $(13,950/15,497)$ or 90.02%.

Sincerely,

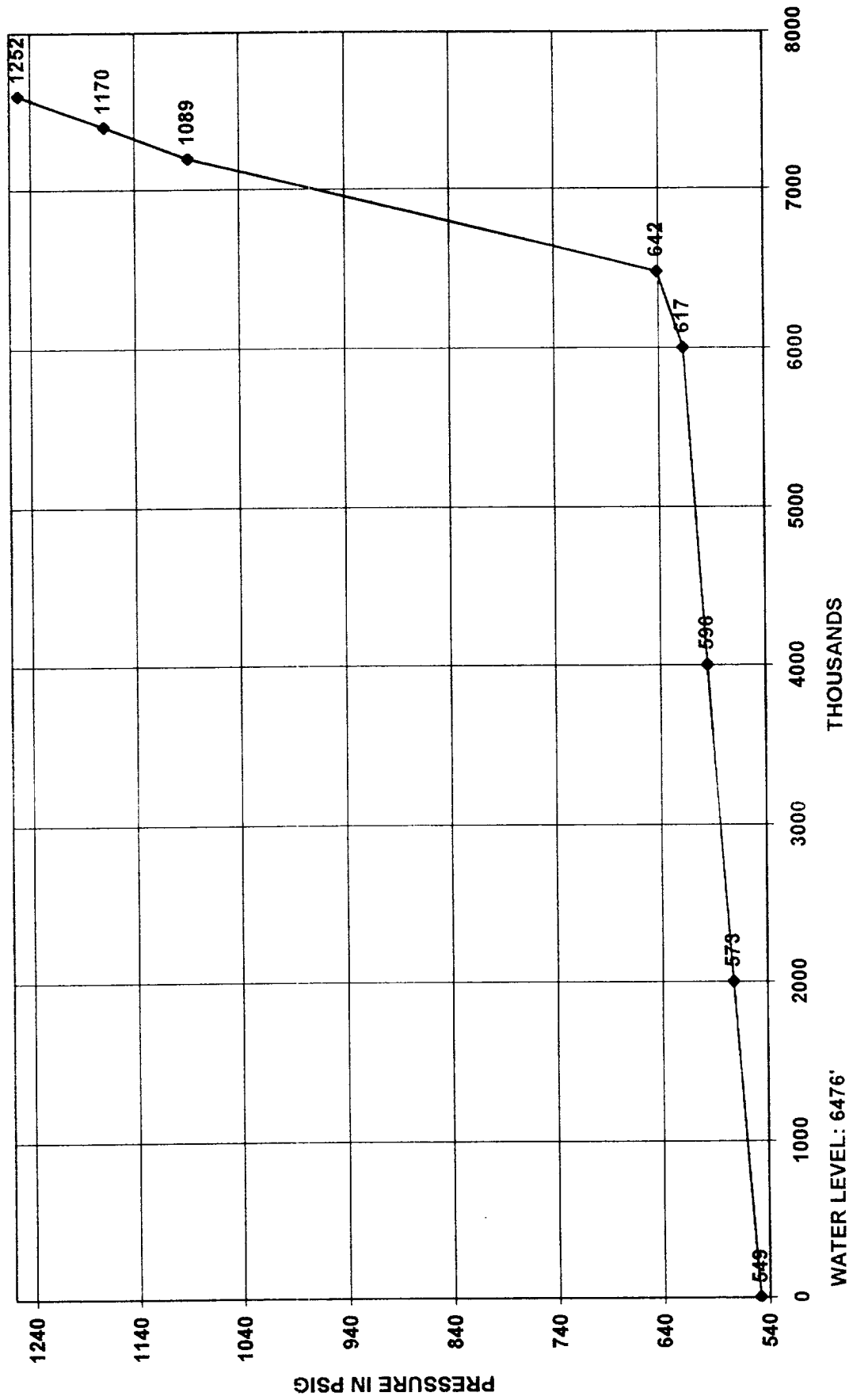
PHILLIPS PETROLEUM COMPANY

Mark Stodola
Reservoir Engineer

MS/pc

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

PHILLIPS PETROLEUM SAN JUAN 29-6 # 88
DATE: NOVEMBER 15, 1999

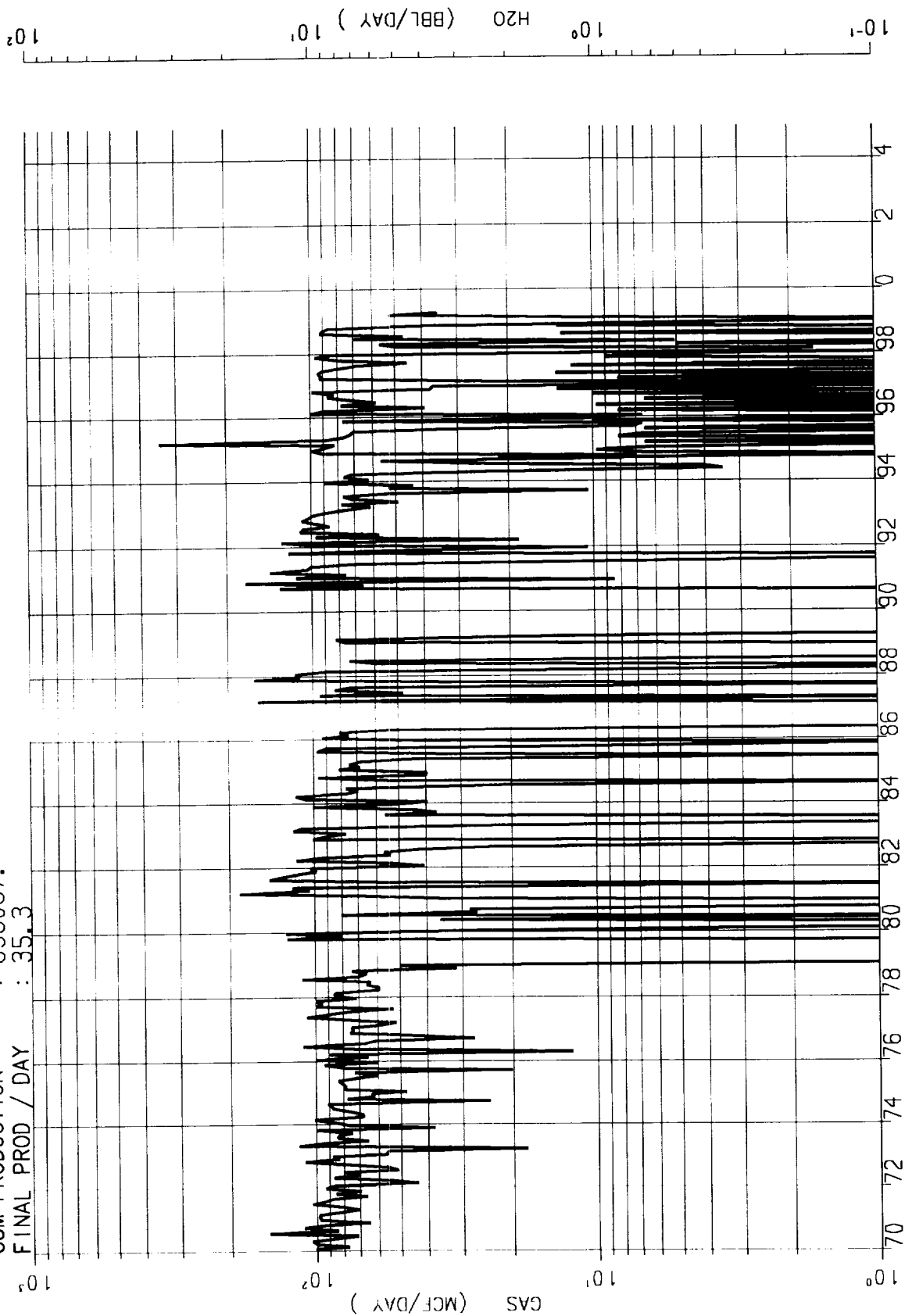


1/70-4/99

INITIAL PROD / DAY : 101.0
REMAINING LIFE : 29.33
0.00

CUM PRODUCTION : 636067.
FINAL PROD / DAY : 35.3

ASSOC. Current Cums
828123. MCF GAS
642. BBL H2O



DWIGHTS ACT
251,039,29N06W33L00DK API-300390749100
PHILLIPS PETROLEUM CO THRU 4/99

RESVR- 004 : BASIN (DAKOTA)
WELL - 88 CUM MCF = 828666. 33L 29N 6W

SAN JUAN 29 6 UNIT

MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 11/10/99

YEARLY TOTALS

User: MWSTODO

Wellzone F0580 01 Yr: 1991 Mth: 01 Property: 650299 SAN JUAN 29-6 DAKOTA

Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000088

Type: T (T-Total, D-Daily Avg) Field: 042233 BASIN

Period: Y (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
	1991 IC	0.00	13,885	0	127.00	127		
	1992	0.00	33,742	0	314.00	320		
	1993	0.00	22,982	0	362.00	362		
	1994	0.00	16,039	115	365.00	365		
	1995	0.00	29,147	135	365.00	365		
	1996	0.00	23,955	145	350.00	350		
	1997	0.00	25,753	151	334.00	334		
	1998	0.00	16,623	95	338.00	338		
	1999	0.00	4,129	0	232.00	162		

NO MORE DATA AVAILABLE

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

ADJ		PRODUCED			DAYS		WELL		
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
*	1999-01	0.00	0	0	0.00	0	11	03	2
*	1999-02	0.00	360	0	26.00	28	11	03	2
	1999-03	0.00	1,620	0	31.00	31	11	03	2
	1999-04	0.00	1,060	0	30.00	30	11	03	2
*	1999-05	0.00	0	0	29.00	0	46	03	2
*	1999-06	0.00	0	0	28.00	1	46	03	2
*	1999-07	0.00	0	0	28.00	11	46	03	2
	1999-08	0.00	1,051	0	30.00	31	46	03	2
*	1999-09	0.00	38	0	30.00	30	11	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
```

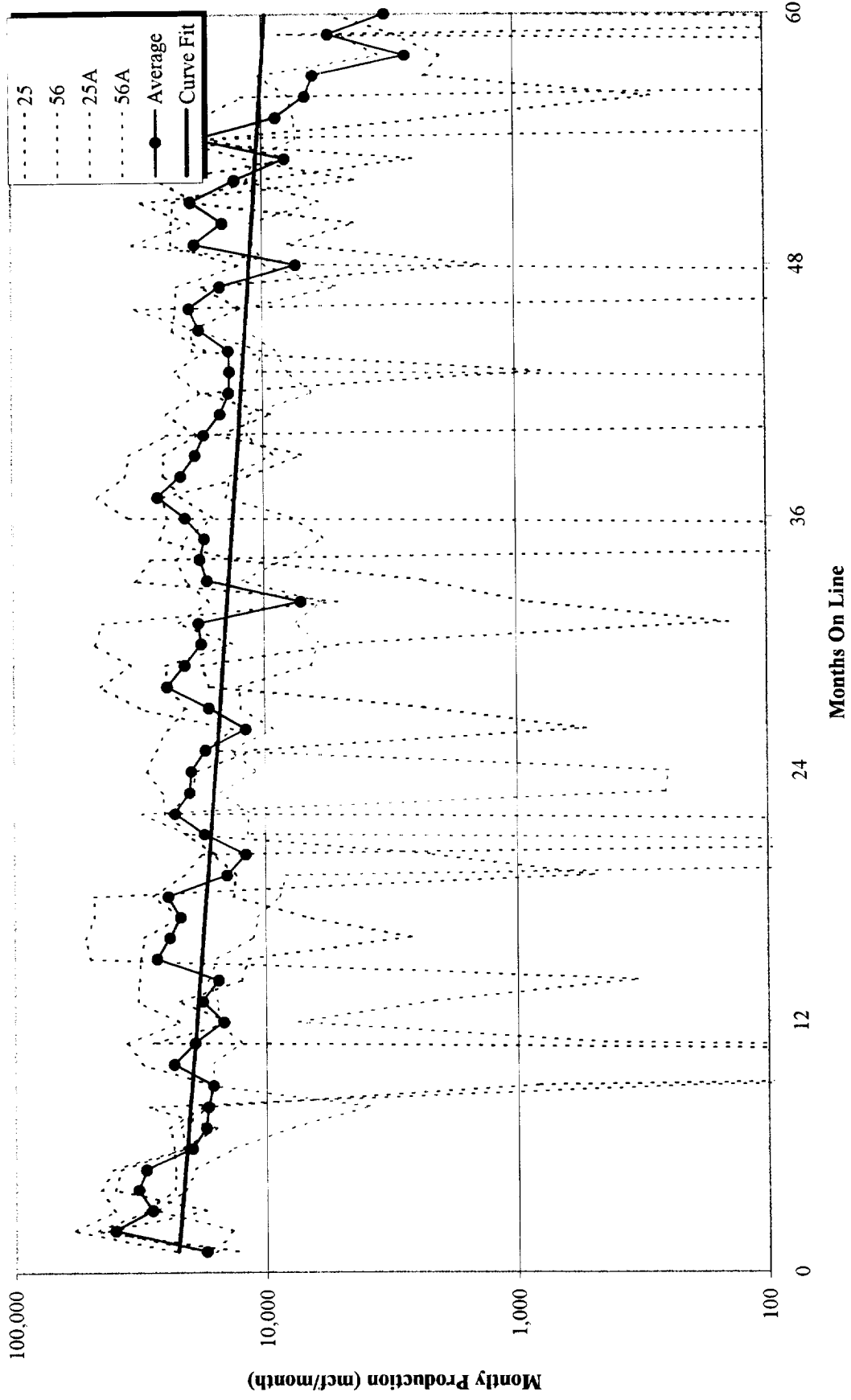
29-6 Unit #88 Dakota Forecast

<i>Initial Production Rate</i>	=	50 MCFD
<i>Hyperbolic Exponent</i>	=	0.33
<i>Decline Rate</i>	=	5 %

	Month	Monthly MCF
1999	Dec	1,547
2000	Jan	1,540
	Feb	1,386
	Mar	1,528
	Apr	1,472
	May	1,515
	Jun	1,460
	Jul	1,503
	Aug	1,496
	Sep	1,442
	Oct	1,484
	Nov	1,430
	Dec	1,472
2001	Jan	1,466
	Feb	1,319
	Mar	1,454
	Apr	1,402
	May	1,442

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

San Juan 29-6 Unit Mesaverde Production Near the 29-6 #88



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

DATE: NOVEMBER 15, 1999

WELL NAME: SAN JUAN 29-6 # 88
FORMATION: DAKOTA

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: 7685'
PERFS: 7550' TO 7646'
TUBING: 2 3/8 TO 7675'
CASING SIZE:
PACKER:
OTHER:
PRESSURED UP @ 08:45

CASING PRESSURE: 1140
TUBING PRESSURE: 550
OIL LEVEL:
WATER LEVEL: 6476'
TEMPERATURE:
ELEMENT NO. 86484
ELEMENT RANGE 0 TO 3000

WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	549	
2000	573	0.012
4000	596	0.011
6000	617	0.010
7198	1089	0.394
7398	1170	0.410
7598	1252	0.415

SLM @ 7642'

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

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