



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
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GARY E. JOHNSON
GOVERNOR

JENNIFER A. SALISBURY
CABINET SECRETARY

February 20, 1996

Mr Jerry Hoover
Conoco Inc
10 Desta Dr Ste 100W
Midland TX 79705-4500

Re: Federal #12E L-23-26N-6W30-039-22254

Dear Mr. Hoover:

Your recommended allocation of commingled production to the referenced well is hereby accepted as follows:

<u>Pool</u>	<u>1996</u>		<u>1997 on</u>	
	<u>Oil</u>	<u>Gas</u>	<u>Oil</u>	<u>Gas</u>
Blanco Mesaverde	97%	38%	3%	39%
Basin Dakota	3%	62%	97%	61%

Sincerely,

Frank T. Chavez
District Supervisor

FTC\sh

cc: well file

CONFIDENTIAL



Midland Division
Exploration Production

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

February 2, 1996

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FEB - 5 1996

OIL CON. DIV.
DIST. 3

Mr. Frank Chavez
Oil Conservation Division
1000 Rio Brazos Rd.
Aztec NM 87410

**Re: ALLOCATION REVISION for Mesaverde and Dakota Production in the
Previously Approved Downhole Commingled Federal No. 12E, 1620' FSL
& 930' FWL, Sec. 23, T-26N, R-6W, Rio Arriba County, New Mexico**

Dear Mr. Chaves:

By Amended Administrative Order DHC-1103, issued May 15, 1995, the OCD approved the downhole commingling of this well under a temporary allocation formula that was to be re-evaluated early in 1996 after the flush production from the recently completed Mesaverde zone had further declined. It appears that we now have sufficient data to project a final fixed percentage allocation for both Mesaverde and Dakota production in this well.

EXHIBIT A shows a normalized Mesaverde production curve for 20 wells drilled since 1982 in the immediate area of the subject well. It also shows a projected decline curve fit through these normalized data points. The results of this reservoir model predicts the following characteristics for a Mesaverde completion in this area:

- (1) A typical initial rate (Q_i) of 300 MCFGPD
- (2) A typical average 40% rate of decline during the first 12 months
- (3) A typical average 25% rate of decline during the second 12 months
- (4) A final stabilized decline rate of 4.3%

EXHIBIT B shows, on an expanded scale, only the first 36 months of the normalized production curve (diamond symbol) and the projected decline curve fit shown in EXHIBIT A.

The other four production plots, as indicated by various other symbols in the legend of EXHIBIT B, are the first eleven months of production from four recent Mesaverde completions prior to being downhole commingled. The Federal No. 12E is one of these wells. The bold black line through the middle of these plots is a normalized average of these four recent Mesaverde completions and demonstrates that they exhibited the same decline characteristics as the twenty well model they are being compared to. This exercise was done to validate the model with production data from the four recently downhole commingled wells.

EXHIBIT C shows the production history of the Dakota completion (square symbols) in the Federal No. 12E since 1980. Following the irregular producing pattern during most of the 1980's, a reasonable decline projection based on data from the last five years indicates that a steady decline rate of 4.5% can be forecast for the Dakota.

The shaded diamond symbols, beginning in 1994, represent Mesaverde production in this well. The hyperbolic decline through the first two years which is projected to become a steady 4.3% exponential decline early in 1996 is based on the model curves from EXHIBITS A and B. It fits very nicely as a type curve through early producing data for this well and should be a very reliable projection of future decline.

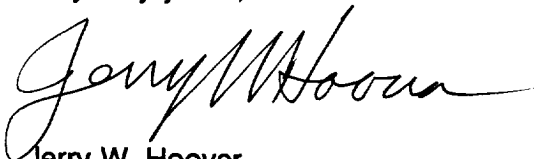
The projected decline rates for the Dakota (4.5%) and the Mesaverde (4.3%) are essentially identical, certainly varying no more than the accuracy of the curve fitting process. Therefore, a permanent fixed percentage allocation should be a reasonably accurate method for allocating production to these commingled zones. As shown at the bottom of EXHIBIT C, the BBL/MCF ratio of oil production from each zone was calculated using cumulative oil production which yielded a .0029 BBL/MCF ratio for the Dakota and a .0646 BBL/MCF ratio for the Mesaverde. These relationships were used to develop weighted percentages for oil production based on the relative gas volumes.

It is recommended that based on the foregoing evidence production allocation for this well be revised to the following fixed percentages:

	<u>1996 Percentages</u>		<u>1997-EUR Percentages</u>	
Basin Dakota	Oil - 3%	Gas - 38%	Oil - 3%	Gas - 39%
Blanco Mesaverde	Oil - 97%	Gas - 62%	Oil - 97%	Gas - 61%

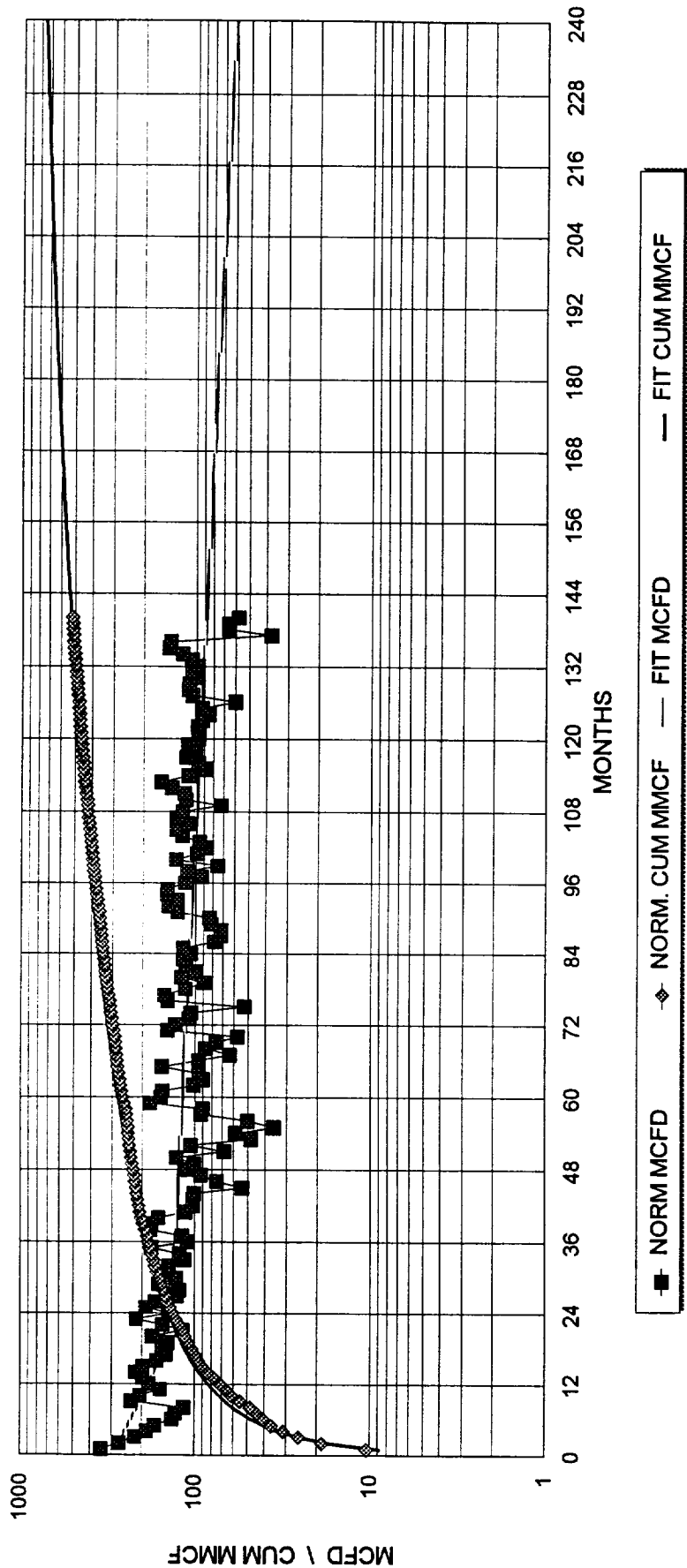
Your approval of this allocation revision is respectfully requested.

Very truly yours,



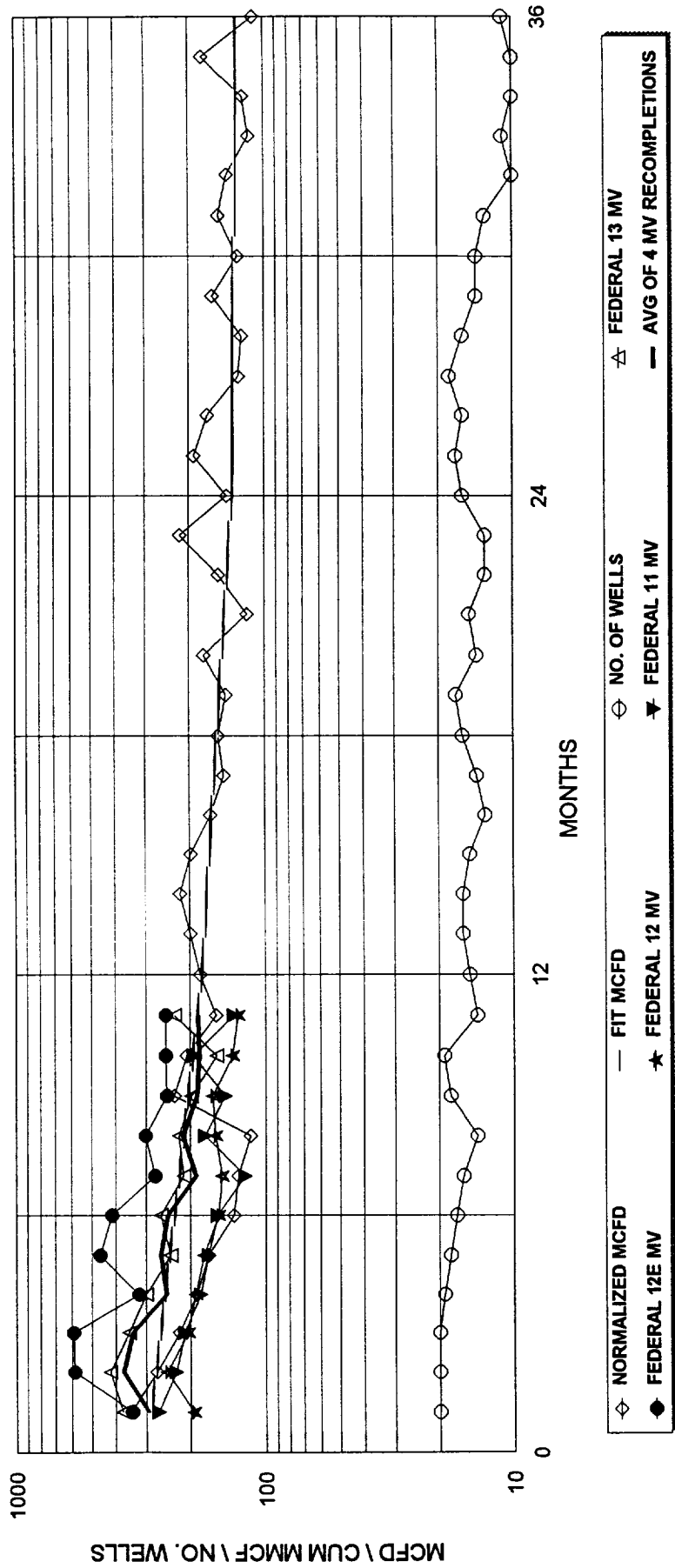
Jerry W. Hoover
Sr. Conservation Coordinator

MESAVERDE NORMALIZED PROD. 26N 6W
20 WELLS DRILLED SINCE 1982; SEC. 13-36



EUR MMCF:	1052	Qi:	300 MCFD
20 YR CUM:	754 MMCF	INITIAL DEC:	40.0% 12 MONTHS
		2ND DEC:	25.0% 12 MONTHS
		FINAL DECL:	4.3% OUT YR DECLINE

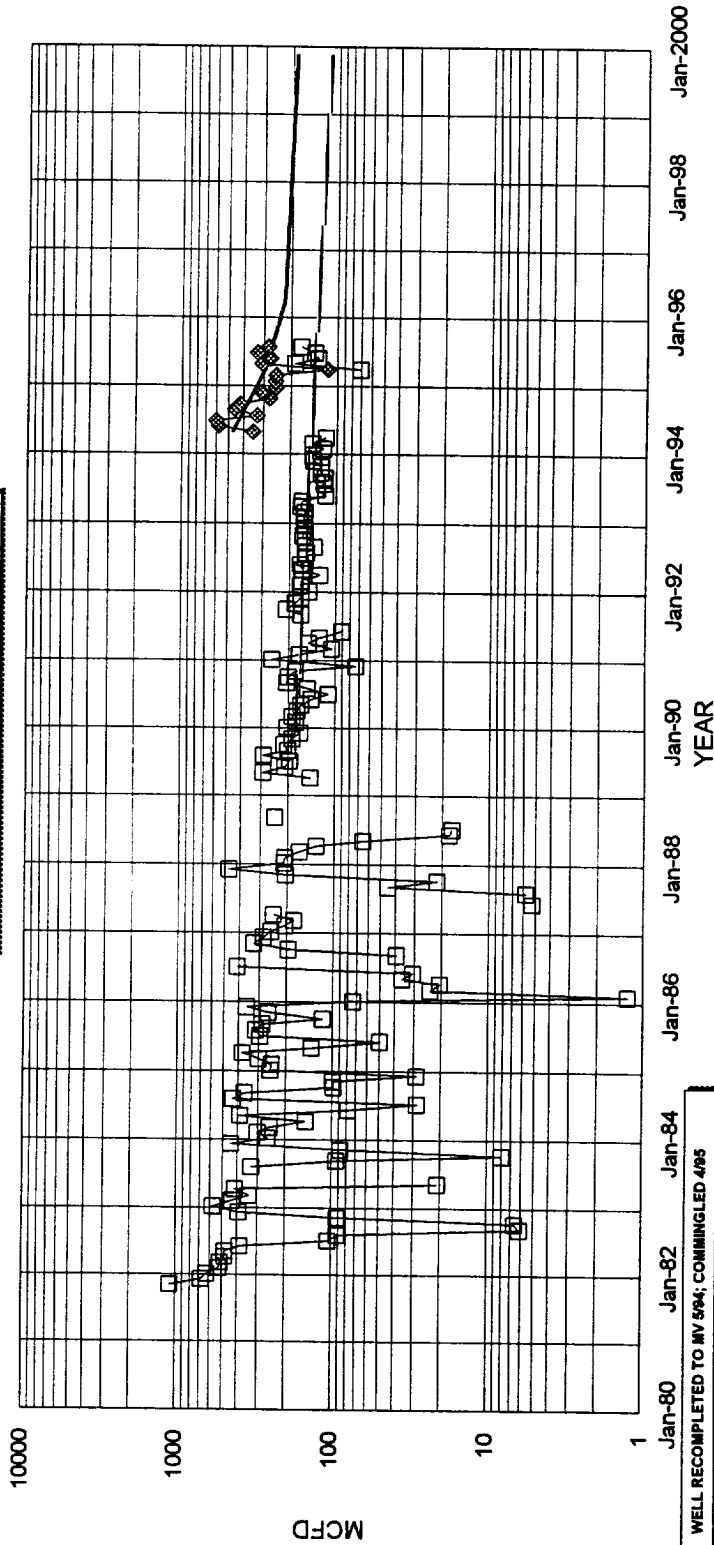
NORMALIZED MESAVERDE PRODUCTION; 26N 06
20 WELLS DRILLED SINCE 1982; SECTIONS 13-36



BLOWUP OF 1ST 36 MONTHS WITH NEW WELL PRODUCTION SHOWN

EUR:	1052 MMCF	Q1:	300 MCFD
15 YR CUM:	627 MMCF	INITIAL DEC:	40.0% 12 MONTHS
		2ND DEC:	25.0% 12 MONTHS
		FINAL DECL:	4.3% OUT YR DECLINE

FEDERAL 12E MESAVERDE/DAKOTA
SECTION 23 T-26N R-6W



☐ DAKOTA ☒ MESAVERDE — FIT DAKOTA — FIT MV

DAKOTA CUM OIL YIELD:	0.0029 BBL/MCF
MESAVERDE CUM OIL YIELD:	0.0646 BBL/MCF
(FROM UN-ALLOCATED PRODUCTION)	
DAKOTA % OIL ALLOCATION:	3%
MESAVERDE % OIL ALLOCATION	97%

1/1/96
DAKOTA Q1: 141 MCFD
DAKOTA DECLINE: 4.5%
MESAVERDE Q1: 237 MCFD
MV DECLINE: 25.0% FOR 1ST 4 MONTHS OF '96;
4.3% REMAINDER OF YEAR/WELL LIFE

	DK AVG. MCFD	MV AVG. MCFD	% DK	% MV
1996	138	221	38%	62%
1997	132	209	39%	61%
1998	126	200	39%	61%
1999	120	192	39%	61%
2000	115	183	39%	61%