



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE Sept 24, 1985

RE: Proposed MC _____
Proposed DHC ✓ _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated Sept. 6, 1985
for the Tenneco Florence 36 H³ 8-81-30A-8W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Referred for hearing

Yours truly,

[Signature]

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

July 31, 1985

RECEIVED

SEP 06 1985

OIL CON. DIV.
DIST. 3

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Gilbert Quintana

RE: Florance 36
1850' FNL, 1990' FEL
Sec. 31, T30N, R8W
San Juan County, New Mexico

Gentlemen:

We have enclosed all necessary data for administrative approval to commingle production in the referenced well.

Questions concerning this request can be directed to Mr. Frank Weiss (303) 740-4836.

Very truly yours,

TENNECO OIL COMPANY

Paul Doyle
Division Production Engineer

SMc:st

Enclosures

cc: Mr. Jerry Hertzler
Mr. Frank Weiss

MV

MVNM

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

August 1, 1985

RECEIVED

SEP 06 1985

OIL CON. DIV.
DIST. 3

El Paso Natural Gas
Post Office Box 4990
Farmington, NM 87499

Attention: Don Reed

RE: Florance 36
1850' FNL, 1990' FEL
Sec. 31, T30N, R8W
San Juan County, New Mexico

Gentlemen:

Tenneco has applied for administrative approval to commingle production from the Mesaverde and Dakota zones in the above referenced well. If you as an offset operator have no objection to the proposed commingling, please sign the waiver at the bottom of this page and forward to:

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Gilbert Quintana

We would appreciate your returning one copy to the undersigned.

Very truly yours,

TENNECO OIL COMPANY

Paul Doyle
Division Production Engineer

SMc:st

WAIVER

We hereby waive any objections to Tenneco Oil Company's application to commingle production as set forth above.

Name: _____ Title: _____

Date: _____

Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

August 1, 1985

Amoco Production Company
1670 Broadway
Denver, CO 80202

Attention: R. C. Burke, Jr.

RE: Florance 36
1850' FNL, 1990' FEL
Sec. 31, T30N, R8W
San Juan County, New Mexico

Gentlemen:

Tenneco has applied for administrative approval to commingle production from the Mesaverde and Dakota zones in the above referenced well. If you as an offset operator have no objection to the proposed commingling, please sign the waiver at the bottom of this page and forward to:

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Gilbert Quintana

We would appreciate your returning one copy to the undersigned.

Very truly yours,

TENNECO OIL COMPANY

A handwritten signature in dark ink, appearing to read "Paul Doyle".

Paul Doyle
Division Production Engineer

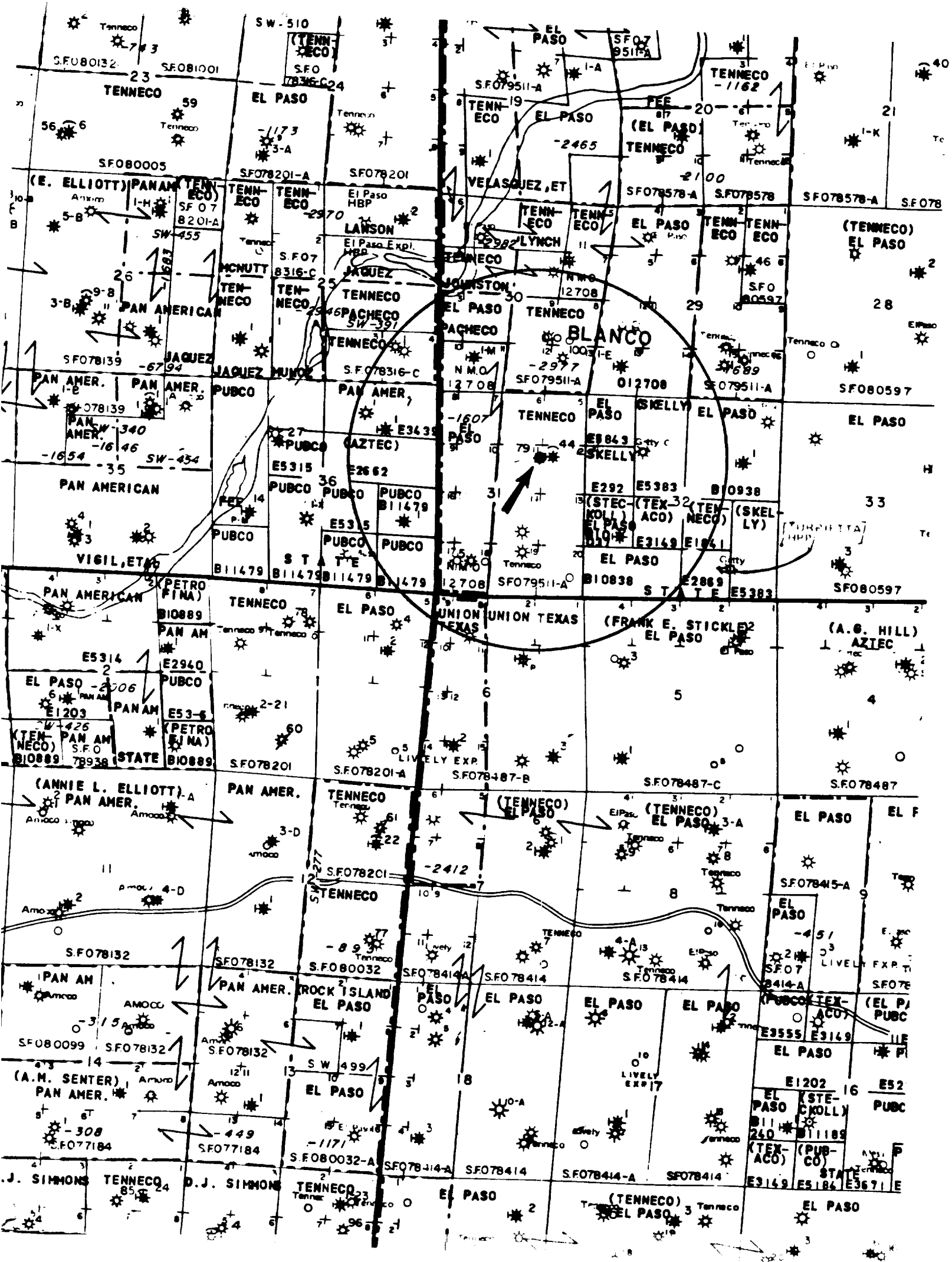
SMc:st

WAIVER

We hereby waive any objections to Tenneco Oil Company's application to commingle production as set forth above.

Name: _____ Title: _____

Date: _____



Tenneco Oil
Exploration and Production
A Tenneco Company

6162 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
(303) 740-4800



Western Rocky Mountain Division

The Florance 36 was completed as a Mesaverde-Dakota dual in October of 1965 with 4-1/2" casing and one string of 2-3/8" tubing. The Dakota produces up the tubing and the Mesaverde flows up the casing-tubing annulus. Because of the large flow area in the annulus, the Mesaverde is experiencing liquid loading problems which are restricting the production from that zone.

Enclosed are decline curves for both the Mesaverde and Dakota zones.

The bottom-hole pressure of the Dakota was measured with a pressure bomb and found to be 938 psig at 7495' after 8 days of shut in. This Dakota pressure corrected to a datum of 5000' was 895 psig. A pressure bomb could not be run for the Mesaverde since this zone produces up the annulus.

A dead weight surface pressure of 423 psig was recorded for the Mesaverde after 8 days of shut in. The fluid level could not be established. The bottom-hole pressure for the Mesaverde was then calculated to be 479 psig at a datum of 5000'. The requirement that the lower pressured zone have a pressure that is greater than 50% of the pressure of the higher pressured zone corrected to a common datum is; therefore, satisfied.

Compatibility tests were conducted using formation water from the Mesaverde and Dakota. The testing indicates that no scale or precipitate problems should result from the commingling of produced waters from these formations. In addition, the salinities of the two zones are similar enough that no formation damage should occur in either zone.

The intent of commingling these two zones is to increase the total production from the well. This will be accomplished by increasing the flow velocity by flowing both zones up the tubing. The cross-sectional area of the tubing is 3.13 square inches, as opposed to 11.27 square inches for the tubing and annulus. Even if no production increase were realized, a 3.6 fold increase in average flow velocity would result from commingling. This velocity increase will enable the well to unload produced fluids and will result in increased gas production from each zone. This greater production rate will increase the velocity in the tubing, yielding even more liquid lifting capacity.

Based upon the decline curves and reserve estimates for these zones, I recommend that the production be allocated on strict percentage basis with 88% assigned to the Mesaverde and 12% assigned to the Dakota.

If you need any additional information, feel free to call me at (303) 740-4836.


Frank G. Weiss III
Senior Production Engineer - WRMD

MESAVERDE

FLORANCE 36 MV/DK
MESAVERDE DAKOTA COMMINGLING
2-3/8X4-1/2 ANNULUS

DATE: 7/10/85
FILE: FILE102
PROJ: O

G A S W E L L P R E S S U R E S

MEASURED DEPTH, FEET	5000.	FLOW STREAM ID, INCHES	2.375
TRUE VERTICAL DEPTH, FEET	5000.	FLOW STREAM OD, INCHES	6.456
GAS GRAVITY	0.670	CRITICAL TEMPERATURE	380.
BOTTOM HOLE TEMPERATURE	150.	CRITICAL PRESSURE	667.
NITROGEN, MOL %	0.	CONDENSATE GRAVITY, DEG API	50.0
CARBON DIOXIDE, MOL %	0.	WATER GRAVITY	1.047
HYDROGEN SULFIDE, MOL %	0.	PIPE ROUGHNESS, INCHES	0.00060

GAS RATE M/D	WH TEMP DEG F	WELLHEAD PSIG	BOTTOMHOLE PSIG	P/Z PSIG	CONDENSATE STB/MMCF	WATER BW/MMCF
0.	60.	423	479 AT 5000 FEET	(MEAS)	FLUID LEVEL	
			479 AT 5000 FEET	(MEAS)		(WTR)

0350

B & R SERVICE, INC.

P. O. Box 1048
Farmington, New Mexico 87401
(505) 325-2393

Company TENNECO OIL COMPANY Lease FLORANCE Well 36
County SAN JUAN State NEW MEXICO Date 5-16-85
Shut-In _____ Zero Point G.L. Tbg. Pressure 794
Casing Pressure PACKER Tbg. Depth _____ Casing Perf. _____
Max. Temp. _____ Fluid Level _____

<u>DEPTH</u>	<u>PSIG</u>	<u>GRADIENT</u>
0	794	----
1000	818	.024
2000	839	.021
3000	858	.019
4000	876	.018
5000	895	.019
6000	912	.017
7000	929	.017
7395	936	.018
7495	938	.020

MESAVERDE

8 DAY SHUT IN PRESSURE TEST

DEAD WEIGHT SURFACE PRESSURE TEST 423 PSIG

SMITH ENERGY SERVICES

Division of Smith International, Inc.

2198 East Bloomfield Highway
Farmington, New Mexico 87401
Phone (505) 327-7281

June 5, 1985

Tenneco Oil Co.
Western Rocky Mtn. Div.
P.O. Box 3249
Englewood, Co. 80155
ATTN: Frank Weiss

Dear Mr. Weiss:

Water analysis and compatibility studies were conducted using the following formation water samples:

1. Dawson A#1 Mesa Verde formation water
 Dawson A#1 Dakota formation water
 (Mesa Verde sample may show scaling tendency, but no incompatibility was
 seen between the two samples.)
2. Florance #19A Mesa Verde formation water
 Florance #19 Dakota formation water
3. Riddle A #1 Mesa Verde formation water
 Riddle A #1 Dakota formation water
4. Moore #1A Mesa Verde formation water
 Moore #6E Dakota formation water
5. State Com #1A Mesa Verde formation water
 State Com #1 Dakota formation water
6. Florance #31 Mesa Verde formation water
 Florance #31 Dakota formation water
7. Florance #7A Mesa Verde formation water
 Florance #6 Dakota formation water
8. Florance #36 Mesa Verde formation water
 Florance #36 Dakota formation water

A small amount of reddish orange precipitate formed but this is to be expected when oxygen is admitted to a water sample containing even a trace of iron.

Tenneco, water analysis con't June 5, 1985

This precipitate should pose no problems in a closed system. No solid precipitates of any other types were noted and these samples should be considered to be compatible for mixing as per the listing above.

Sincerely,

SMITH ENERGY SERVICES

A handwritten signature in cursive script, appearing to read "Loren L. Biede".

Loren L. Biede
District Engineer

LLD/kr

[illegible]

	Age	Gender	Height (cm)	Weight (kg)	BMI (kg/m ²)	Waist circumference (cm)	Hip circumference (cm)	WHR	SBP (mmHg)	DBP (mmHg)	Pulse rate (b/min)	Fasting glucose (mg/dl)	Fasting insulin (μ U/ml)	HOMA-IR	OGTT peak glucose (mg/dl)	OGTT peak insulin (μ U/ml)	OGTT AUC-glucose (mg/dl min)	OGTT AUC-insulin (μ U/ml min)	OGTT slope (mg/dl min)	OGTT slope (μ U/ml min)
1	28	M	170	65	22.6	90	100	0.90	110	70	70	100	10	1.5	140	20	1000	100	10	10
2	30	F	160	55	21.5	85	95	0.89	105	65	65	95	9	1.4	135	18	950	90	9	9
3	32	M	175	70	22.3	92	102	0.90	112	72	72	102	11	1.6	142	22	1020	110	11	11
4	35	F	165	60	21.8	88	98	0.90	108	68	68	98	10	1.5	138	19	980	95	10	10
5	38	M	180	75	23.1	95	105	0.90	115	75	75	105	12	1.7	145	25	1050	120	12	12
6	40	F	170	68	23.5	90	100	0.90	110	70	70	100	11	1.6	140	21	1000	110	11	11
7	42	M	178	72	22.8	93	103	0.90	113	73	73	103	12	1.7	143	23	1030	120	12	12
8	45	F	168	65	23.2	89	99	0.90	109	69	69	99	11	1.6	139	20	990	105	11	11
9	48	M	182	78	23.6	96	106	0.90	116	76	76	106	13	1.8	146	26	1060	130	13	13
10	50	F	172	70	23.8	91	101	0.90	111	71	71	101	12	1.7	141	22	1010	115	12	12

- TENNECO WELL HISTORY -

2537/1

Well Name	Florance 36	Unit	H	Sec	3	T	30	R	8
TD	7830	PBTD	7810	County	San Juan	State	N.M.	WI	50
Drig Cost		Comp Cost		Comp Date	9-2-54	Trn On Date			
MV-52	IP	---	BOPD	5160	MCFD	---	BWPD	3	Hours 1094
DAK-65	IP	---	BOPD	8418	MCFD	---	BWPD	3	Hours 2525

- TUBULAR RECORD -

Size	Weight	Grade	Depth	Cement	Top Cement	Hole Size	Remarks
8-5/8	32	H-40	172	140	Surf.	12-1/4	
6-5/8	18.79		3260	78	1900	7-7/8	Good Circn.
4-1/2	9.5		4895	100	4085	5-7/8	Pulled!!
4-1/2	10.56	11.6 J-55	7830	275/225		5-7/8	DV @ 4504
2-3/8			7510				Seal-Lock

Packer? Yes X No Type Model D Depth 7510
 Anchor? Yes No X Type Depth
 Pump Type

- COMPLETION & WORKOVER RECORD -

Zone #1 - Formation MV Date 8/54 Perfs w/JSPF D/O w/3-3/4"
 bit. Open hole 5066-4895.

Press Tstd PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type , # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type 9918 gal oil, Sand: 4500 # Mesh
 Frac Rate 6.8 BPM Frac Pressure 2200 PSI ISIP PSI
 Comments

Zone # 2 - Formation MV Date 8/54 Perfs w/JSPF DO w/3-3/4"
 bit. Open hole 5428-5600. Pkr @ 5428.

Press Tstd PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type , # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type 8100 gal oil, Sand: 5100 # Mesh
 Frac Rate 5-3/4 BPM Frac Pressure 2000 PSI ISIP PSI
 Comments CO to 5600'. Ran 1.9" tbg to 4916'.

Zone # 3 - Formation Dakota Date 10/65 Perfs w/JSPF 7722-23, 7724-25,
7736-38, 7743-46, 7751-54, 7720-24, 7742-50, 7674-80, 7687-88, 7693-96

Press Tstd 4000 PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type 3600 - 15%, # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type 92 M gal 1% KCl wtr, Sand: 57M # 40/60 Mesh
 Frac Rate 34 BPM Frac Pressure 4000 PSI ISIP 3800 PSI
 Comments Set BP @ 7650'

- CASING REPAIR RECORD -

Depth of Leak , # of squeezes required , # of sx used
 Cathodic Protection? Yes No Date Installed

Comments 1. 10/65 - Sqzd open hole w/200 sx. Cut & pulled 4-1/2" csg @ 3990'
Set 50 sx plug @ stub. Sqzd leak in 6-5/8" @ 1050 w/150 sxs. Cut
window in 6-5/8" csg.
2. MV produces up annulus.
3. Location - 1850' FNL, 990' FEL.
4. Cost to deepen & drill = \$108,000
5. Dakota IBHP = 2961 psi.

Prepared By: PAD Date: 1/1/84 Verified By: Date:

P. A. Doyle

- TENNECO WELL HISTORY -

-2-

Well Name Florance 36 Unit H Sec 3 T 30 R 8

- COMPLETION & WORKOVER RECORD -

Zone #4 - Formation Dakota Date 10-65 Perfs w/JSPF 2 JSPF: 7574-76, 7578-86, 7623-25, 24 holes

Press Tstd 4000 PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
 Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
 Frac: Fluid Volume & Type 20 M gal 1% KCl wtr, Sand: 12 M # 40/60 Mesh
 Frac Rate _____ BPM Frac Pressure 4000 PSI ISIP _____ PSI
 Comments Screened out. Refrac'd w/16,000 gal 1% KCl & 12,000# 40/60 sd.
Avg press = 4000 psi. Screened out.

Zone # 5 - Formation Dakota Date 10/65 Perfs w/JSPF Reperf w/
2 JSPF 7568-72, 7588-92. Zone 4 perfs included in treatment.

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
 Acid: Vol. & Type 500 - 15%, # balls _____, Rate _____ BPM, Press. _____ PSI
 Frac: Fluid Volume & Type 28M gal 1% KCl wtr, Sand: 14M # 40/60 Mesh
 Frac Rate 32 BPM Frac Pressure 4200 PSI ISIP _____ PSI
 Comments Also acidized w/336 g 33%. Screened out. Set CIBP @ 5565.

Zone # 6 - Formation MV-PLO Date 10/65 Perfs w/JSPF 2 JSPF: 5236, 5247, 5249, 5250, 5307, 5309, 5311, 5355, 5369, 5371, 5373, 5383, 5384, 5389, 5470, 5507, 5508, 5509, 5516, 5517, 40 holes.

Press Tstd 4000 PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
 Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
 Frac: Fluid Volume & Type 102 M gal wtr, Sand: 60 M # 20/40 Mesh
 Frac Rate 72 BPM Frac Pressure 2300 PSI ISIP -0- PSI
 Comments Tailed in w/18,000 # 8/12 sd. Set CIBP @ 5200'.

Zone #7 - Formation MV-CH Date 10/65 Perfs w/JSPF 2 JSPF: 5021, 22, 32, 33, 34, 35, 56, 46, 57, 65, 71, 72, 73, 74, 5110; 12, 14, 19, 20, 21. (40 holes).

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
 Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
 Frac: Fluid Volume & Type 82 M gal 10% KCl wtr, Sand: 60M # 20/40 Mesh
 Frac Rate 75 BPM Frac Pressure 2600 PSI ISIP _____ PSI
 Comments Tailed in w/ 20,000 # 8/12 sd. Screened out.

Comments _____

Prepared By: _____ Date: _____ Verified By: _____ Date: _____

P. A. Doyle

C-116
Revised 1-1-65

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

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-1116
Revised 1-1-65

Operator Tenneco Oil Company		Pool Dakota		County San Juan								
Address P.O. Box 3249, Englewood, CO 80155		TYPE OF TEST - (X)		Completion ☐ Special ☐								
LEASE NAME	WELL NO.	LOCATION	DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.	
								WATER BBL.S.	GRAV. OIL	OIL BBL.S.		
Florence	36	H 3 30 8	5/28/85	F N/A			24	0.	35.2	0	51.57	0

No well will be assigned an allowable greater than the amount of oil produced on the official test.
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.
Report casing pressure in lieu of tubing pressure for any well producing through casing.
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

Armando S. S. S.
(Signature)
Administrative Supervisor
(Title)
(Date)

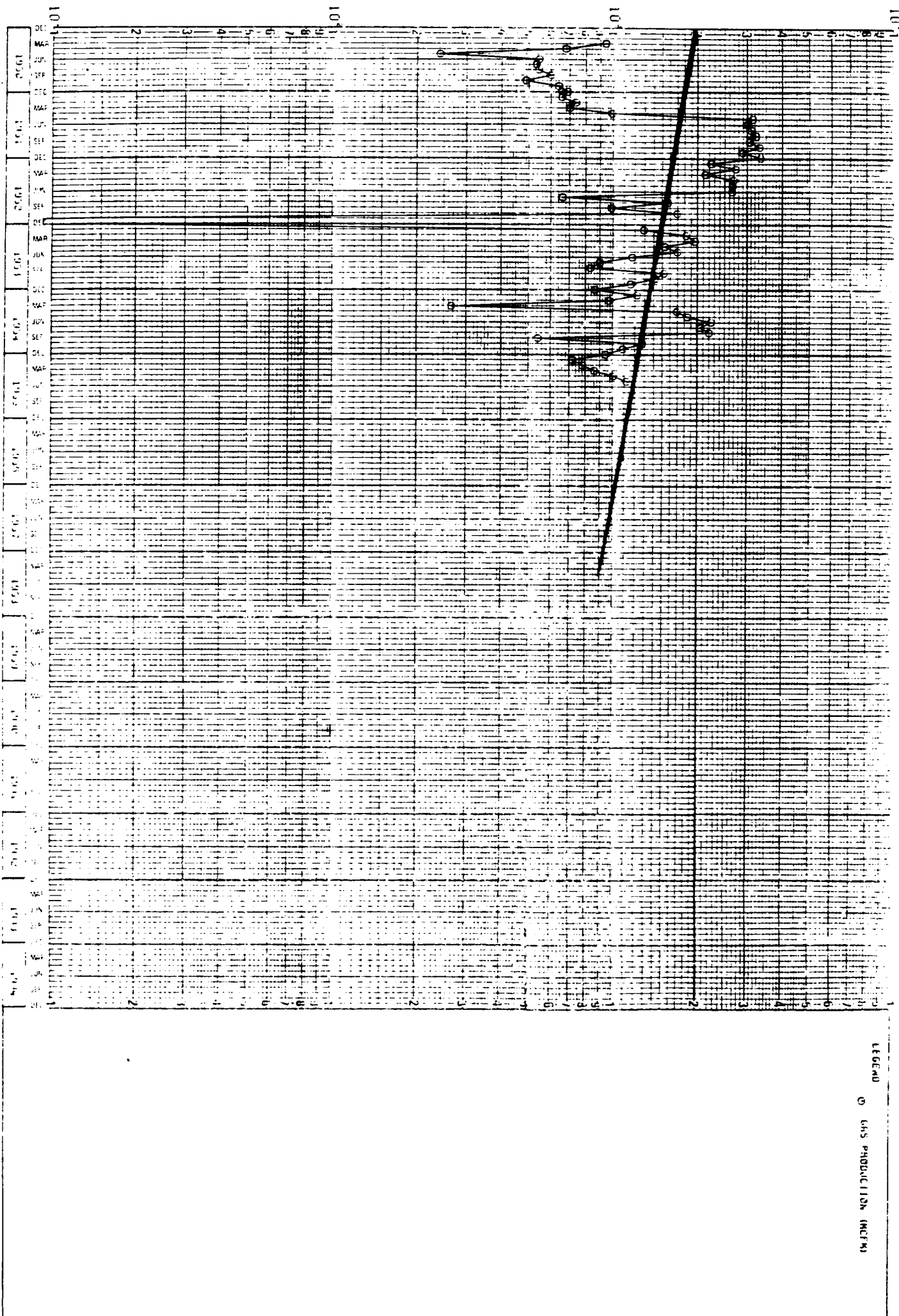
FLORANCE 36

DETERMINATION OF ALLOCATION PERCENTAGES

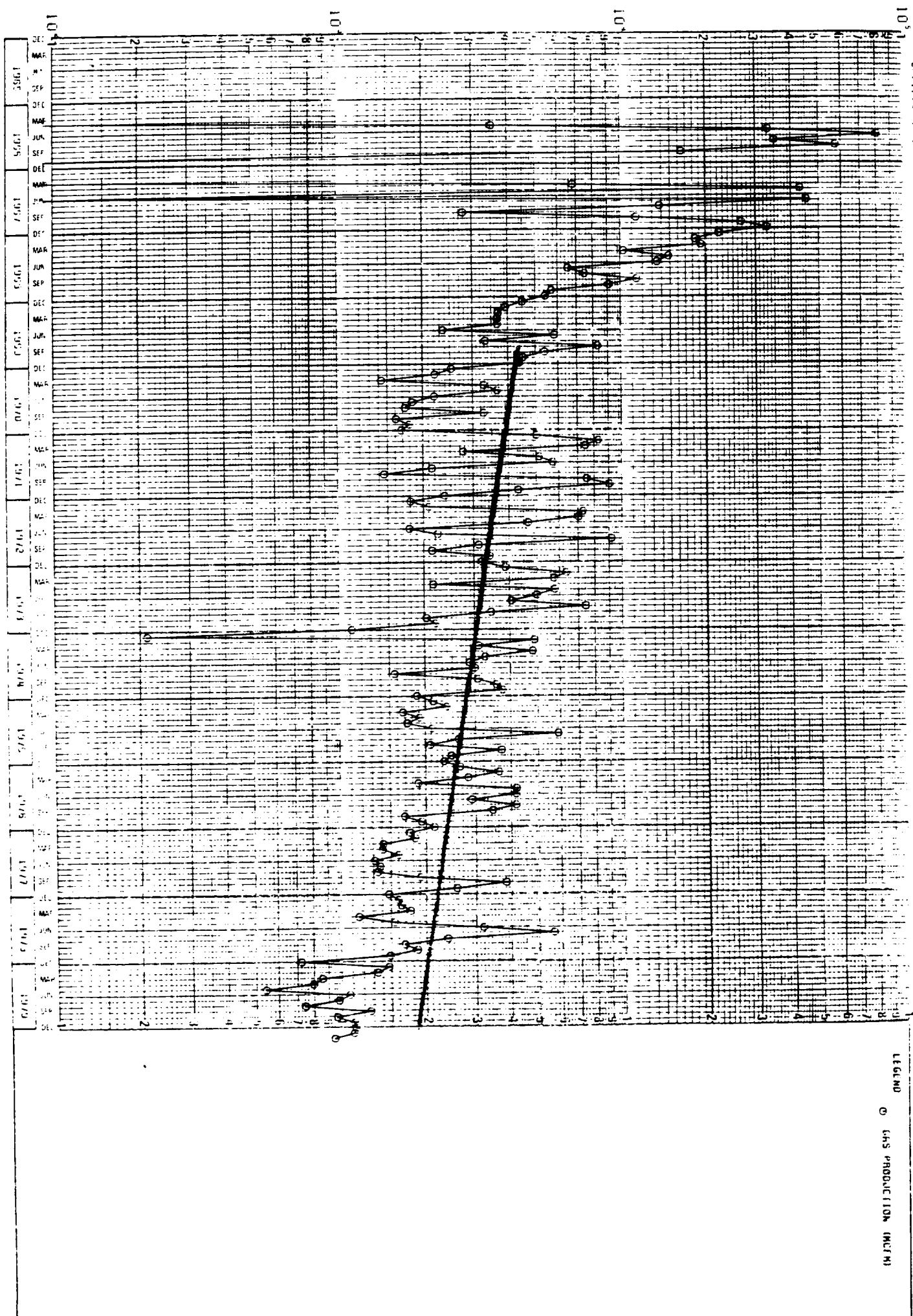
The decline rates and reserve estimate for the Mesaverde and Dakota are indicated below:

	<u>DECLINE PERCENTAGE</u>	<u>REMAINING RESERVES</u>
MESAVERDE	6%	987 MMCF
DAKOTA	9%	140 MMCF

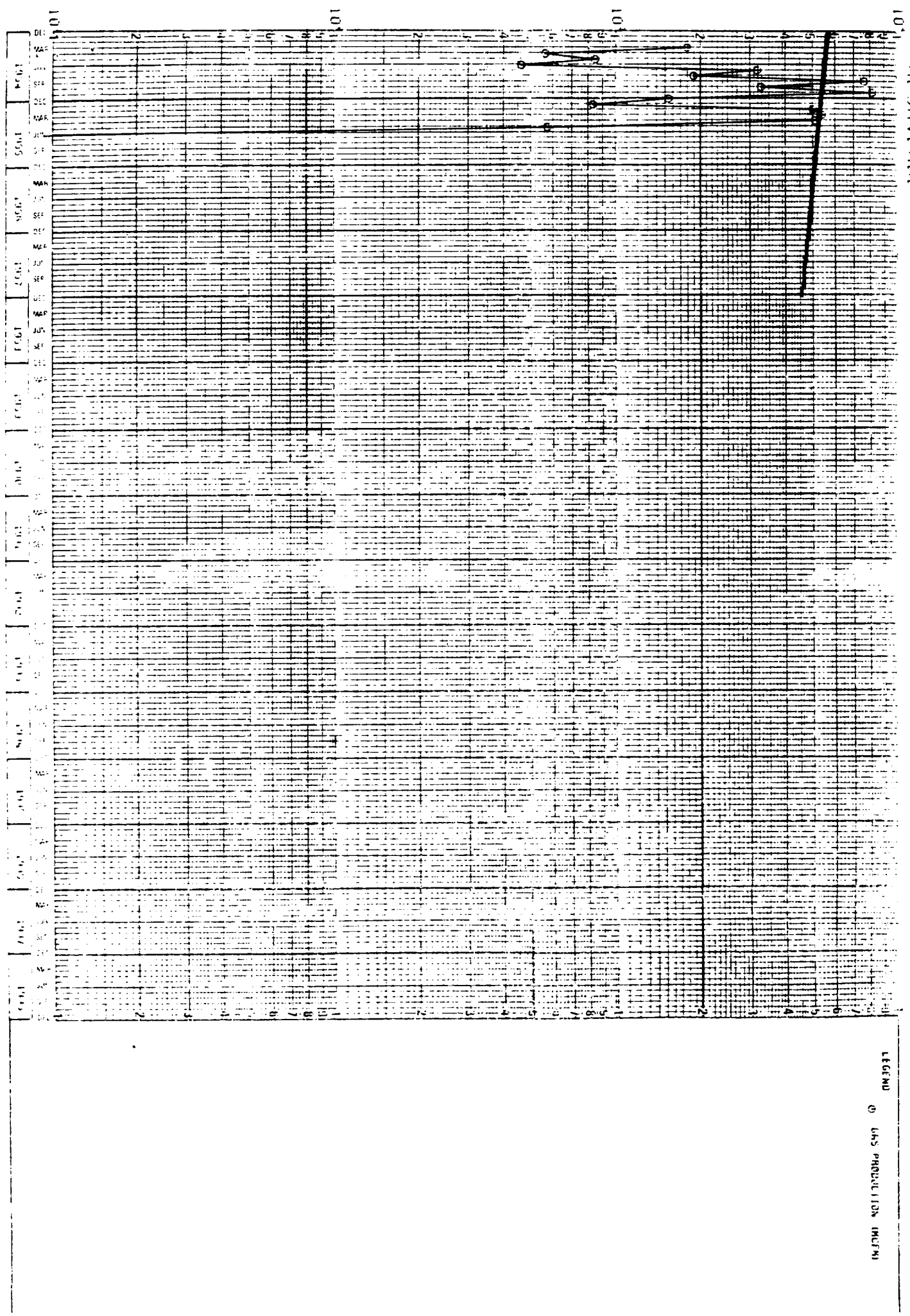
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DIK(14)



ME SHAVE HOF



LEGEND
● GAS PRODUCTION (MCM)