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. 9, 1985

for the Tenneco Florance #31 A-12-29N-8W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. Chavez

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

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

Attention: Gilbert Quintana

RE: Florance 31
890' FNL, 890' FEL
Sec. 12, T29N, 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

PAD

Paul Doyle
Division Production Engineer

SMc:st

Enclosures

cc: Mr. Jerry Hertzler
Mr. Frank Weiss

MW

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

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

Attention: Don Reed

RE: Florance 31
890' FNL, 890' FEL
Sec. 12, T29N, 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

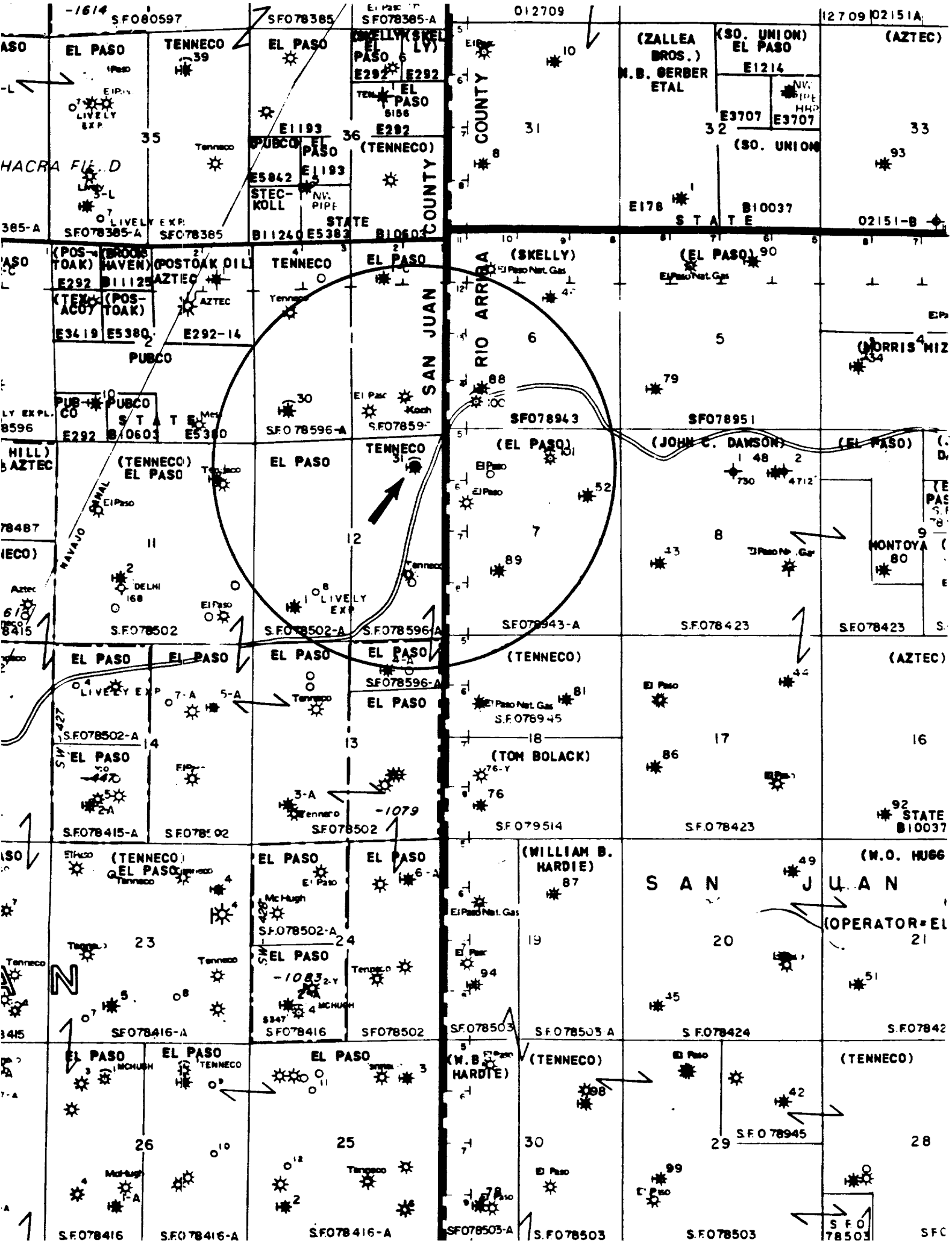
SMc:st

WAIVER

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

Name: _____ Title: _____

Date: _____


SAN JUAN COUNTY
RIO ARRIBA COUNTY
HACRA FIELD
NAVAJO
EL PASO
TENNECO
(TENNECO)
(SKELLY)
(EL PASO)
(ZALLEA BROS.)
N.B. BERBER ETAL
(SO. UNION) EL PASO
(SO. UNION)
(AZTEC)
(POSTOAK)
(BROOKHAVEN)
(POSTOAK OIL)
AZTEC
PUBCO
STEC-KOLL
STATE
(JOHN C. DAWSON)
(TOM BOLACK)
(WILLIAM B. HARDIE)
(W.B. HARDIE)
(W.O. HUGG
(OPERATOR=EL
MONTOYA
MORRIS
SAN JUAN
SF078943
SF078951
SF078423
SF078502
SF078596-A
SF078415-A
SF078416
SF078503
SF078424
SF078945
SF079514
SF078416-A
SF078503-A
SF078503

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 31 was completed as a Mesaverde-Dakota dual in November of 1964 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 868 psig at 7255' after 8 days of shut in. This Dakota pressure corrected to a datum of 5000' was 828 psig. A pressure bomb could not be run for the Mesaverde since this zone produces up the annulus.

A dead weight surface pressure of 505 psig was recorded for the Mesaverde after 8 days of shut in. The fluid level was found at 4681'. The bottom-hole pressure for the Mesaverde was then calculated to be 717 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 both the Dakota and Mesaverde. 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 this 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 a strict percentage basis with 67% assigned to the Mesaverde and 33% assigned to the Dakota.

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

Frank G. Weiss III JAH
Frank G. Weiss III
Senior Production Engineer - WRMD

MESAVERDE

FLORANCE 31 MV/DK
MESAVERDE DAKOTA COMMINGLING
2-3/8X4-1/2 ANNULUS

DATE: 07/10/85
FILE: FILE102
PROJ: 0

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	0.703	CRITICAL TEMPERATURE	391.
BOTTOM HOLE TEMPERATURE	150.	CRITICAL PRESSURE	666.
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.	505.	572.*	AT 4681. FEET (MEAS)	FLUID LEVEL	
			717.*	AT 5000. FEET (MEAS)	(WTR)	

B & R SERVICE, INC.

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

Company TENNECO OIL COMPANY Lease FLORANCE Well 31

County SAN JUAN State NEW MEXICO Date 5-16-85

Shut-In Zero Point G.L. Tbg. Pressure 736

Casing Pressure PACKER Tbg. Depth Casing Perf.

Max. Temp. Fluid Level

DEPTH	PSIG	GRADIENT
0	736	----
1000	756	.020
2000	774	.018
3000	793	.019
4000	811	.018
5000	828	.017
6000	847	.019
7000	864	.017
7255	868	.016

MESAVERDE

8 DAY SHUT IN PRESSURE TEST

DEAD WEIGHT SURFACE PRESSURE TEST 505 PSIG

ANNULUS FLUID LEVEL 4681 FT

SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: TENNECO OIL CO (846)

REF: FLORANCE 31
4056
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 7/12/83
DATE OF LAST TEST: 5/08/81
TEST FREQUENCY: 12

RESULTS: SPECIFIC GRAVITY: 0.7029
BTU/CF @ 14.73/60F/DRY: 1221.6

	MOL %	G.P.M.
CARBON DIOXIDE	0.877	0.0000
NITROGEN	0.188	0.0000
METHANE	82.330	0.0000
ETHANE	9.450	2.5290
PROPANE	4.203	1.1580
ISOBUTANE	0.698	0.2280
N-BUTANE	1.118	0.3520
ISOPENTANE	0.363	0.1330
N-PENTANE	0.269	0.0970
HEXANE +	0.523	0.2300
TOTAL	100.019	4.7270

- TENNECO WELL HISTORY -

Well Name Florance 31 Unit A Sec 12 T 29 R 8
TD 7565 PBTD 7538 County San Juan State New Mex WI 50 RI 34.5
Drlg Cost _____ Comp Cost _____ Comp Date 9-11-55 Trn On Date _____
MV-1955 IP _____ BOPD 5447 MCFD _____ BWPD _____ Hours 1030 SIWHP
_____ IP _____ BOPD _____ MCFD _____ BWPD _____ Hours _____ SIWHP

- TUBULAR RECORD -

Size	Weight	Grade	Depth	Cement	Top Cement	Hole Size	Remarks
10-3/4			181	190			
7			4720	150			
4-1/2	10.5&11.6	J-55	7555	100/175/	6800&	6-1/4	DV's @ 4470' &
				270	1850		& 5454'.
2-3/8	4.7	J-55	7275				

Packer? Yes X No ___ Type Model D Depth 7275
Anchor? Yes ___ No X Type _____ Depth _____
Pump Type _____

- COMPLETION & WORKOVER RECORD -

Zone #1 - Formation MV Date 8-31-55 Perfs w/JSPF Open hole 4720-4900

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type _____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type 12,300 diesel, Sand: 10,000 # _____ Mesh
Frac Rate 7.6 BPM Frac Pressure 1000-1500 PSI ISIP _____ PSI
Comments Pkr set @ 4650 for frac

Zone # 2 - Formation MV Date 9-4-55 Perfs w/JSPF Open hole 4720-5350

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type _____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type 123 00 diesel, Sand: 10,000 # _____ Mesh
Frac Rate 10.5 BPM Frac Pressure 1200-1500 PSI ISIP _____ PSI
Comments Open hole fr 5213-5350 was frac'd under an open hole retainer.

Zone # 3 - Formation Dakota Date 11-23-64 Perfs w/JSPF 4 JSPF @ 7327, 32 7404, 07, 36, 37, 57, 84, 7515; 36

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type _____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type 78,000 gal, Sand: 75,000 # _____ Mesh
Frac Rate 40 BPM Frac Pressure 3300 PSI ISIP _____ PSI
Comments 13 balls in frac. Screened out on flush.

- CASING REPAIR RECORD -

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

Comments Drilled out to 7565 and ran 4-1/2 csg in 1964. Bowen casing patch used to repair casing @ 261'. 2-3/8" tbg has 1.85 "F" nipple & sliding sleeve.

Prepared By: JWC Date: _____ Verified By: _____ Date: _____
J.W. Cook
PAO

Well Name Florance 31 Unit A Sec 12 T 29 R 8

- COMPLETION & WORKOVER RECORD -

Zone #4 - Formation MV Date 11-26-64 Perfs w/JSPF 4 JSPF @
5143, 5214, 26, 35, 45, 58, 75, 94, 5327; 41

Press Tstd Yes PSI, Spot Acid - Type 7-1/2% HCl Gallons ____ BDISIP ____
Acid: Vol. & Type ____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type 100,000 SW, Sand: 100,000# 10/20 Mesh
Frac Rate 70 BPM Frac Pressure 2200 PSI ISIP ____ PSI
Comments Dropped 15 balls in frac. 20 gal/1000 gal of 15% HCl in frac.

Zone # 5 - Formation MV Date 11-26-64 Perfs w/JSPF 4 JSPF @
4750, 65, 4778, 97, 4817, 50, 4919; 35, 86, 5006

Press Tstd Yes PSI, Spot Acid - Type 7-1/2% HCl Gallons 504 BDISIP ____
Acid: Vol. & Type ____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type 100,000 SW, Sand: 100,000# 10/20 Mesh
Frac Rate 55 BPM Frac Pressure 2900 PSI ISIP ____ PSI
Comments Dropped 15 balls in frac. 20 gal/1000 gal of 15% HCl in frac.

Zone # 6 - Formation ____ Date ____ Perfs w/JSPF ____

Press Tstd ____ PSI, Spot Acid - Type ____ Gallons ____ BDISIP ____
Acid: Vol. & Type ____, # balls ___, Rate ___ BPM, Press. ___ PSI
Frac: Fluid Volume & Type ____, Sand: ____ # ____ Mesh
rac Rate ____ BPM Frac Pressure ____ PSI ISIP ____ PSI
Comments ____

Comments ____

Prepared By: J. W. Cook Date: Verified By: Date:

SMITH ENERGY SERVICES
Divison 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

Loren L. Diede
District Engineer

LLD/kr

ILLEGIBLE

ILLEGIBLE

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator: Tenneco Oil Company
Pool: Mesaverde
County: San Juan
Address: P.O. Box 3249, Englewood, CO 80155
TYPE OF TEST - (X): Scheduled [XX] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	LOCATION S	LOCATION T	LOCATION R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	PROD. DURING TEST GRAV. OIL	PROD. DURING TEST OIL BBLS.	PROD. DURING TEST GAS M.C.F.	GAS - OI RATIO CU.FT/BI
Florance	31	A	12	29	8	5/22/85	F	N/A	430		24	0*	52.6	0	290	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 informati is true and complete to the best of my kno ledge and belief.

Venita Sugraue
(Signature)

Administrative Supervisor
(Title)

(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
Tenneco Oil Company	Dakota	San Juan

Address: P.O. Box 3249, Englewood, CO 80155

TYPE OF TEST - (X): Scheduled [X] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	LOCATION S	LOCATION T	LOCATION R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	PROD. DURING TEST GRAV. OIL	PROD. DURING TEST OIL BBLS.	PROD. DURING TEST GAS M.C.F.	GAS - O RATI CU.FT/B
Florance	31	A	12	29	8	5/22/85	F	N/A	340		24	0	59.0	0	65.14	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 informat is true and complete to the best of my kn ledge and belief.

Venito Sutwade
(Signature)

Administrative Supervisor
(Title)

(Date)

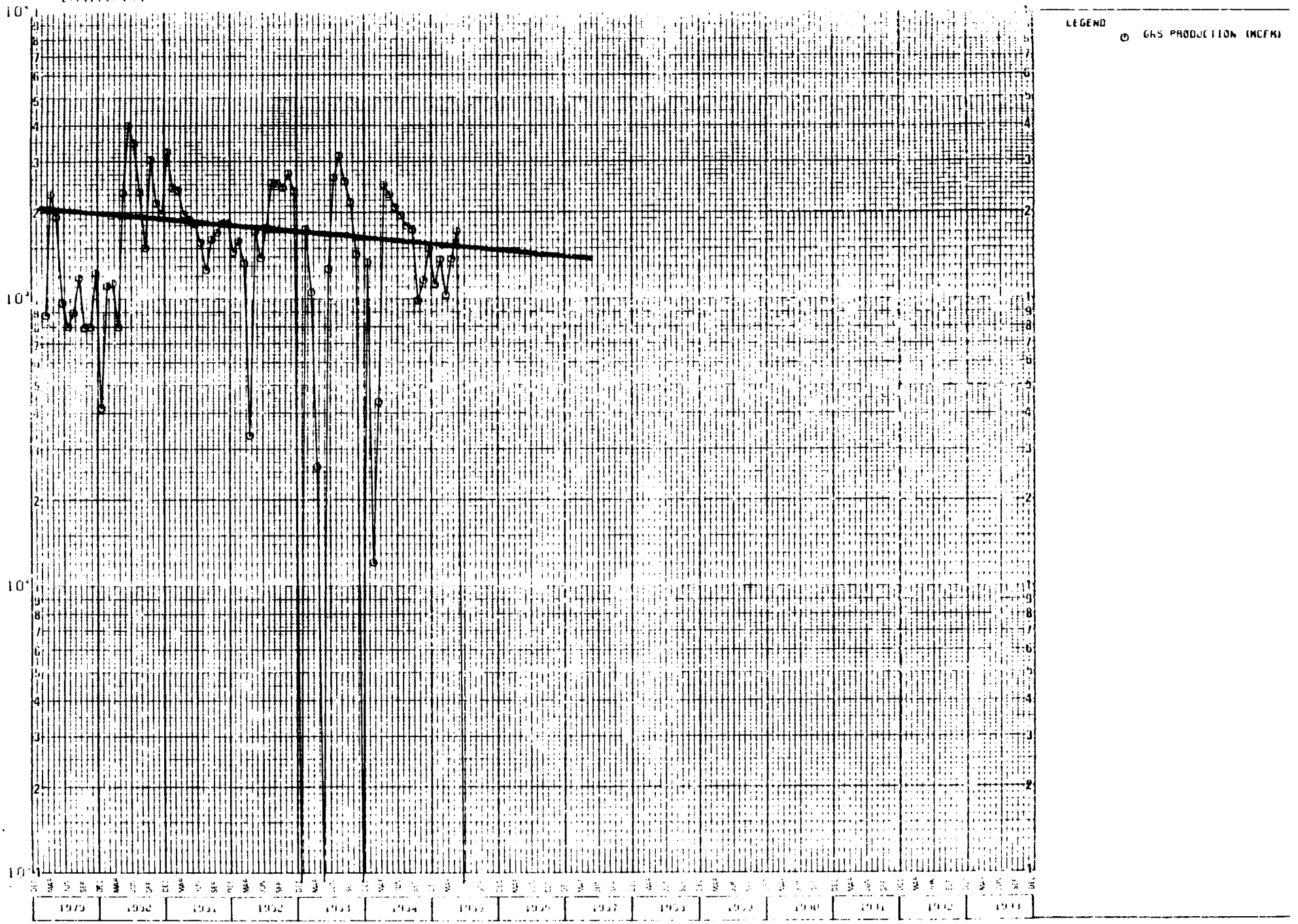
FLORANCE 31

DETERMINATION OF ALLOCATION PERCENTAGES

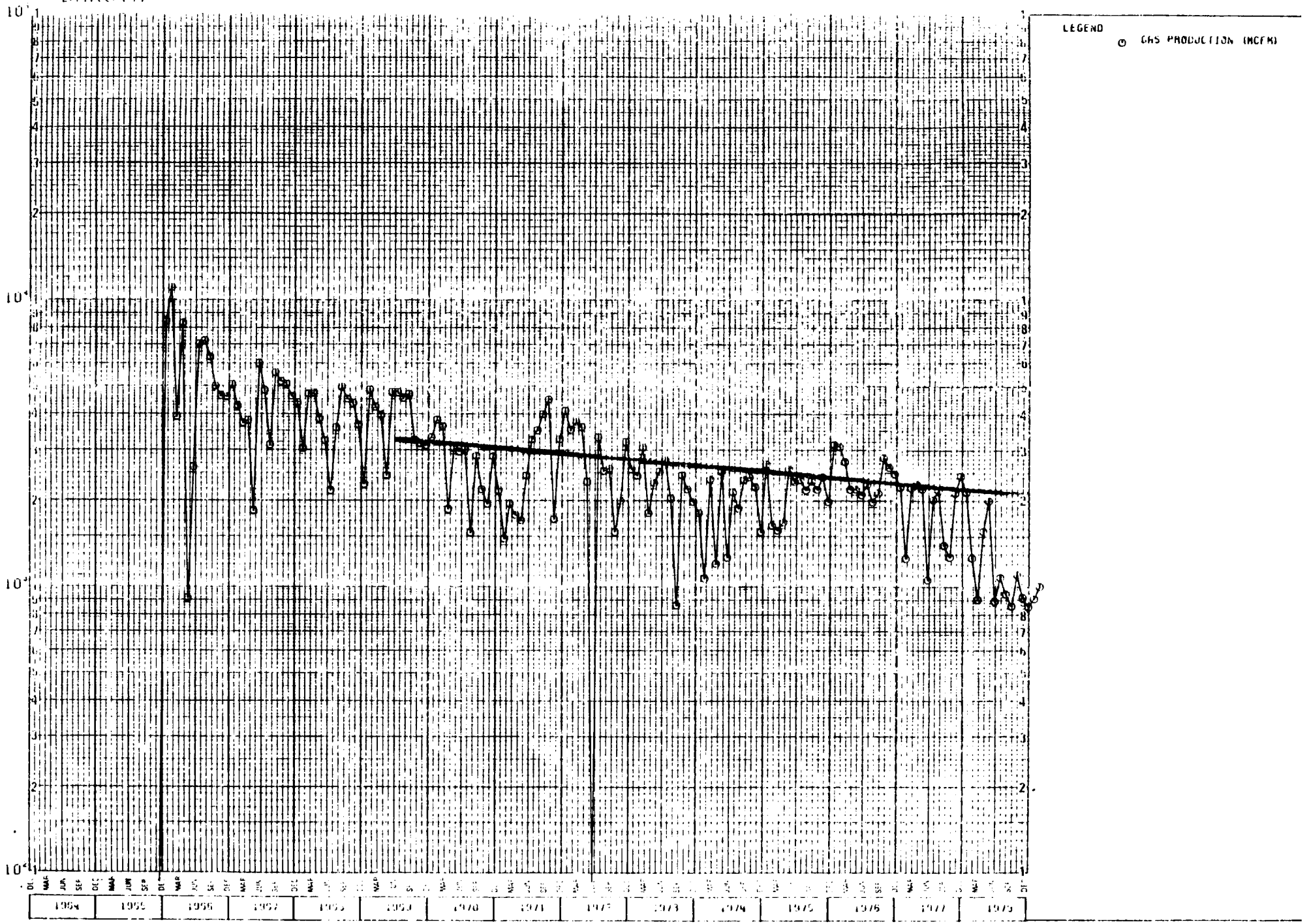
The decline rates and reserve estimate for the Mesaverde and Dakota are indicated below:

	DECLINE PERCENTAGE	REMAINING RESERVES
MESAVERDE	9%	549 MMCF
DAKOTA	6%	271 MMCF

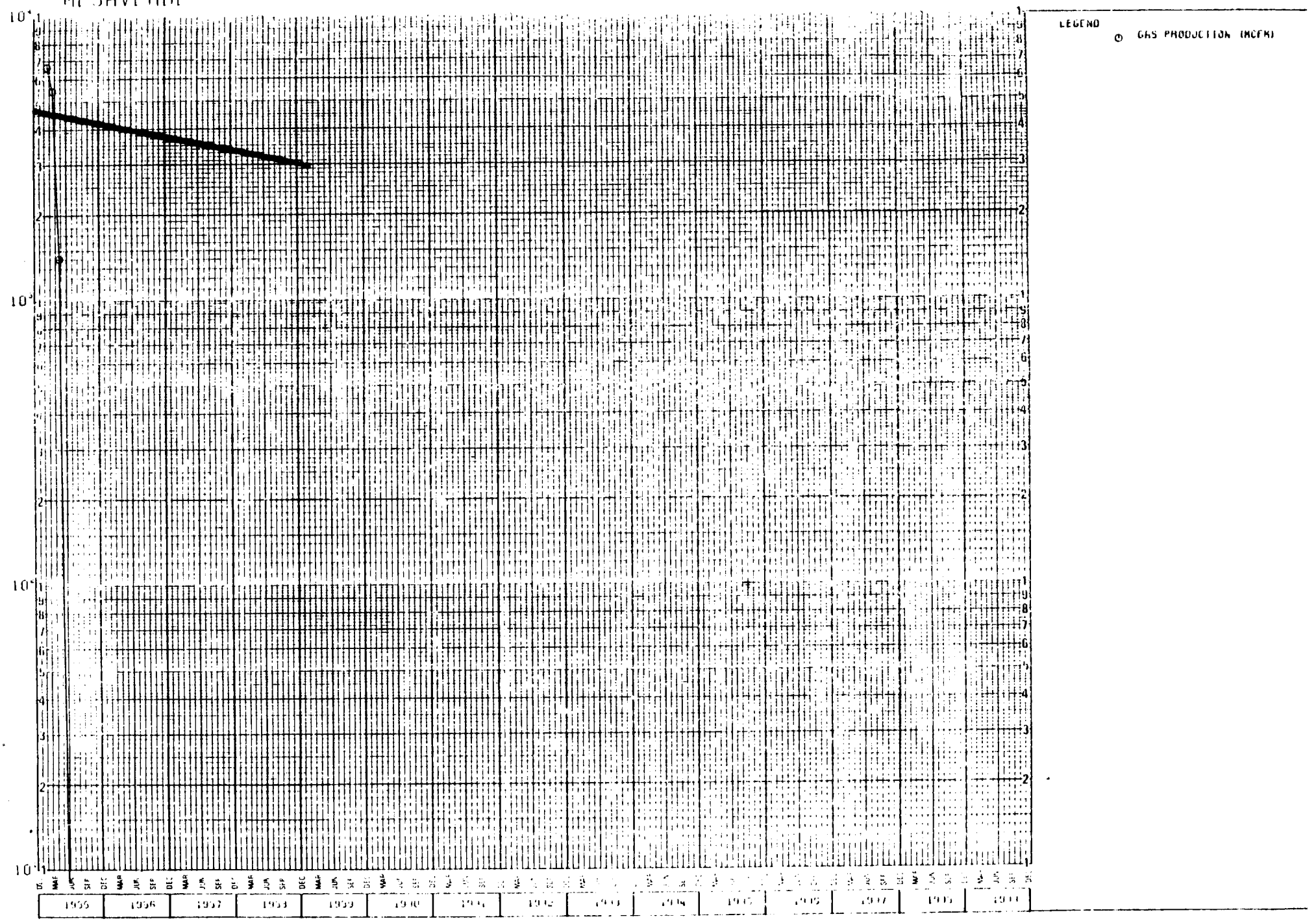
FLORANCE 31
029N008W12A
DAKOTA



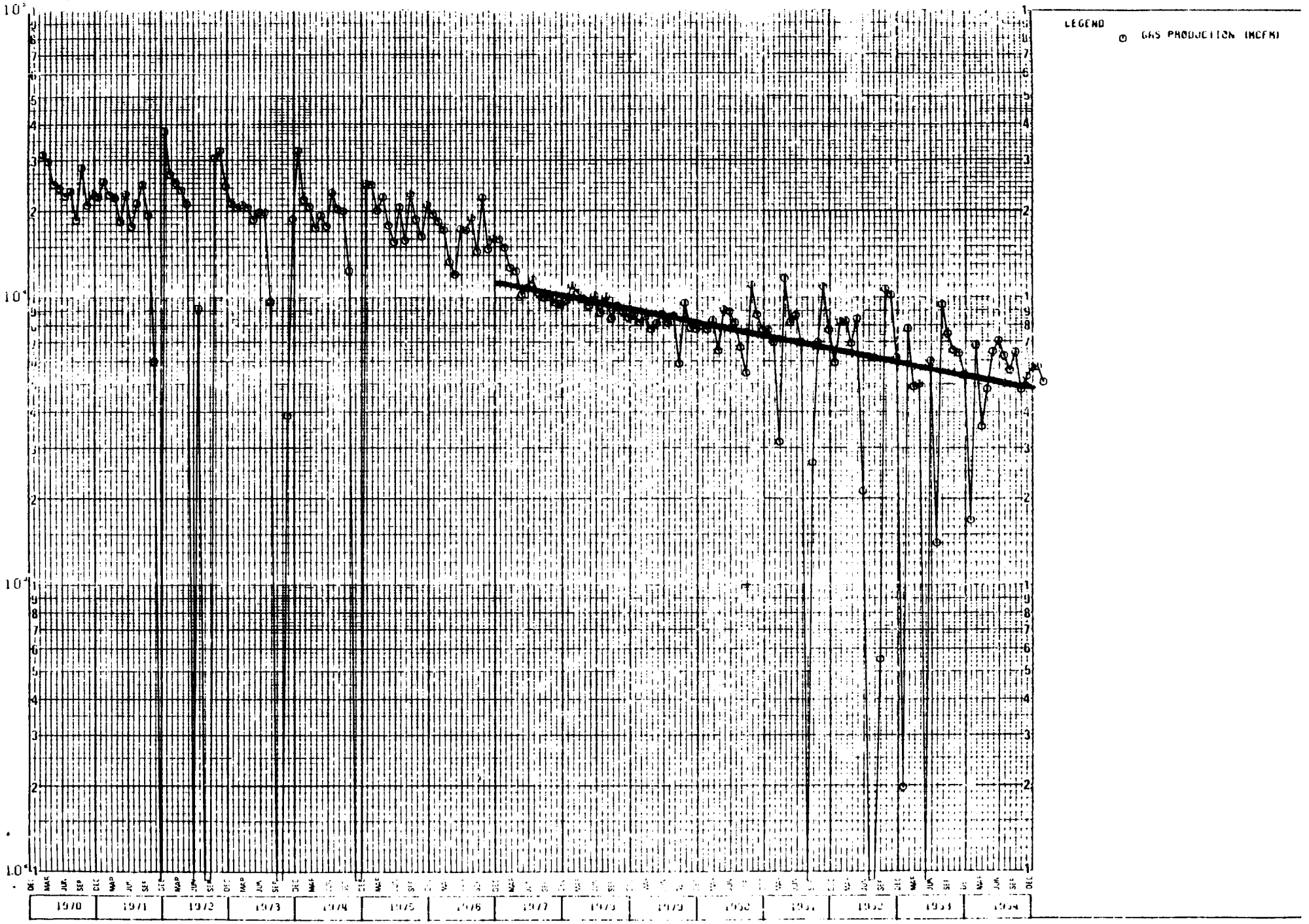
FLORANCE 31
029N008W12A
DAKOTA



FLORANCE 31
029N008W12A
MESAVERDE



FLORANCE 31
029N008W12A
MESAVERDE



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

50 YEARS
1935 - 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

September 27, 1985

Administrative Order No. DHC-566

Tenneco Oil Exploration
and Production
P. O. Box 3249
Englewood, Colorado 80155

Attention: Paul Doyle

Re: Florance No. 31 Well, Unit A,
Sec. 12, T-29-N, R-8-W, NMPM, San Juan County
Basin Dakota and Blanco Mesaverde Pools

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations for the subject dually completed well to permit the removal of the down-hole separation equipment and to commingle the production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the two zones, is hereby placed in abeyance.

In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 50 barrels per day, and total water production from the well shall not exceed 100 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated gas pool as printed in the Oil Conservation Division's San Juan Basin Gas Proration Schedule.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Mesaverde Pool: Condensate 50%, Gas 67%
Dakota Pool: Condensate 50%, Gas 33%

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours,

R. L. STAMETS,
Director