

*Release Oct 23, 1985
Received District Approval*

**Tenneco Oil
Exploration and Production**
A Tenneco Company

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

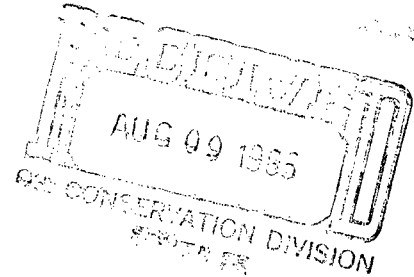


Western Rocky Mountain Division

July 31, 1985

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

Attention: Gilbert Quintana



RE: Moore 1
990' FSL, 1650' FWL
Sec. 8, 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

PAgs

Paul Doyle
Division Production Engineer

SMc:st

Enclosures

cc: Mr. Jerry Hertzler
Mr. Frank Weiss

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: Moore 1
990' FSL, 1650' FWL
Sec. 8, 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 "PAO" followed by a stylized flourish.

Paul Doyle
Division Production Engineer

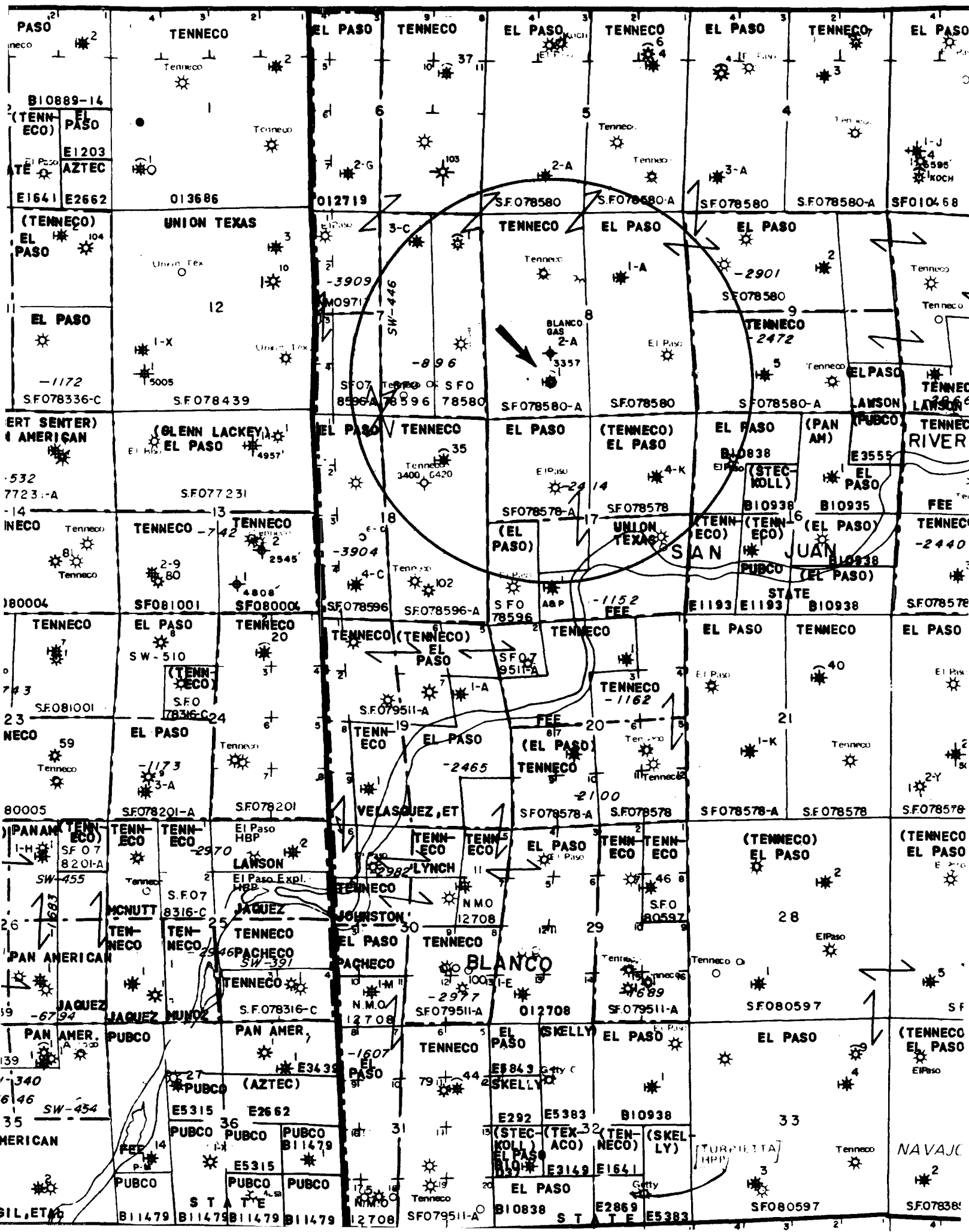
SMc:st

WAIVER

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

Name: _____ Title: _____

Date: _____





Western Rocky Mountain Division

The Moore #1 was completed as a Mesaverde-Dakota dual in May 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 838 psig at 7684' after 8 days of shut-in. This Dakota pressure corrected to a datum of 5000' was 773 psig. A pressure bomb could not be run for the Mesaverde since this zone produces up the annulus.

A dead weight surface pressure of 432 psig was recorded for the Mesaverde after 8 days of shut-in. The fluid level was found at 4836'. The bottom-hole pressure for the Mesaverde was then calculated to be 561 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 Dakota water and Mesaverde water from the offsets Moore #6E and Moore # 1A respectively. 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 93% assigned to the Mesaverde and 7% 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

MOORE 1 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	0.658	CRITICAL TEMPERATURE	377.
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	WH TEMP	WELLHEAD	BOTTOMHOLE	P/Z	CONDENSATE	WATER
M/D-----	DEG F--	PSIG-----	PSIG-----	PSIG-----	STB/MMCF--	BW/MMCF--
0.	60.	432.	486.♦	AT	4836. FEET (MEAS)	FLUID LEVEL
			561.♦	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 MOORE Well #1
County SAN JUAN State NEW MEXICO Date 5-16-85
Shut-In _____ Zero Point G.L. Tbg. Pressure 691
Casing Pressure PACKER Tbg. Depth _____ Casing Perf. _____
Max. Temp. _____ Fluid Level _____

<u>DEPTH</u>	<u>PSIG</u>	<u>GRADIENT</u>
0	691	----
1000	708	.017
2000	725	.017
3000	742	.017
4000	757	.015
5000	773	.016
6000	788	.015
7000	804	.016
7684	838	.050

MESAVERDE

8 DAY SHUT IN PRESSURE TEST
DEAD WEIGHT SURFACE PRESSURE TEST 432 psig
ANNULUS FLUID LEVEL 4836 FT.

SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: TENNECO OIL CO (846)

REF: MOORE 1
4146
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 8/02/84
DATE OF LAST TEST: 7/08/83
TEST FREQUENCY: NOT SPECIFIED

RESULTS: SPECIFIC GRAVITY: 0.6585
BTU/CF @ 14.73/60F/DRY: 1145.8

	MOL %	G. P. M.
CARBON DIOXIDE	1.072	0.0000
NITROGEN	0.157	0.0000
METHANE	87.400	0.0000
ETHANE	6.850	1.8320
PROPANE	2.666	0.7340
ISOBUTANE	0.497	0.1620
N-BUTANE	0.677	0.2130
ISOPENTANE	0.248	0.0900
N-PENTANE	0.176	0.0630
HEXANE +	0.299	0.1220
	-----	-----
TOTAL	100.042	3.2160



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



Loren L. Biede
District Engineer

LLD/kr

Company: TENNECO
Address:
Attention: FRANK WEISS
Date Sampled:

Report No:
Date: 6-3-65
County:
Field:
Formation: MESA VERDE
Lease: MOORE
Well: #1A

WATER ANALYSIS

Specific Grav:	1.000	oil:	7.00
Chloride:	220 mg/l	Calcium:	40 mg/l
Bicarbonate:	n d	Magnesium:	49 mg/l
Sulfate:	0	Total Iron:	20
Sulfide:	0	Sodium:	n d
Total Hardness		Total Dissolved	
(as CaCO ₃):	300 mg/l	Solids:	289 mg/l
Resistivity:	6.00	Onm meters @:	50 F
Potassium:	0	Carbonate:	120 mg/l

Sample Source:

Remarks:

Analyst: LOREN L. DIEDER
Smith Representative:

Company: TENNECO
Address:

Attention: FRANK WEISS
Date Sampled:

Report No:
Date: 6-3-85
County:
Field:
Formation: DAKOTA
Lease: MOORE
Well: #5E

WATER ANALYSIS

Specific Grav:	1.000	or:	7.00
Chloride:	4.199 mg/l	Calcium:	441 mg/l
Bicarbonate:	244 mg/l	Magnesium:	n d
Sulfate:	0	Total Iron:	20
Sulfide:	0	Sodium:	2.308 mg/l
Total Hardness		Total Dissolved	
(as CaCO ₃):	1.001 mg/l	Solids:	7.192 mg/l
Resistivity:	1.30	Ohm Meters @:	60 F
Potassium:	0	Carbonate:	n d

Sample Source:

Remarks:

Analyst: LOREN L. DIEDE
Smith Representative:

- T E N N E C O W E L L H I S T O R Y -

2591/5

Well Name Moore #1 (MV/Dak) Unit N Sec 8 T 30 R 8
 TD 7780 PBTD 7740 County San Juan State NM WI 50% RI 34.1%
 Drlg Cost ? Comp Cost ? Comp Date '51, '65 Trn On Date 12-30-65
 (Dak Only)
 1965-Dak-AOF IP: BOPD 1236 MCFD BWPD 4 Hours SIWHP
 1965-MV-AOF IP: BOPD 967 MCFD BWPD 4 Hours SIWHP

- T U B U L A R R E C O R D -

Size	Weight	Grade	Depth	Cement	Top Cement	Hole Size	Remarks
10-3/4	32.75	?	247	199	surface	12-1/4	
7	20.23	J-55	5400	100/100	Temp sur.	8-3/4	DV @ 4883
4220							
4-1/2	10.56	11.6 J-55	7755	400/225	?	6-1/4	4-29-65
2-3/8			7541				
Packer? Yes <u>X</u> No <u> </u> Type <u>Model P</u> Depth <u>7541</u>							
Anchor? Yes <u> </u> No <u>X</u> Type <u> </u> Depth <u> </u>							
Pump Type <u> </u>							

- C O M P L E T I O N & W O R K O V E R R E C O R D -

Zone #1 - Formation MV Date 2-8-51 Perfs w/JSPF open hole, shot w/600 qts Nitro.

Press Tstd PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type , # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type , Sand: # Mesh
 Frac Rate BPM Frac Pressure PSI ISIP PSI
 Comments Nitro frac Tops: CH (4935), Menefee (5040), PL (5435)

Zone # 2 - Formation P.L. Date 1955 Perfs w/JSPF Open hole

Press Tstd PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type , # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type 25,000 g water, Sand: 22,500 # 20/40 Mesh
 Frac Rate 48 BPM Frac Pressure 750 PSI ISIP PSI
 Comments

Zone # 3 - Formation MV Date 1955 Perfs w/JSPF 5301-5392 w/total of 102 shots

Press Tstd PSI, Spot Acid - Type Gallons BDISIP
 Acid: Vol. & Type , # balls , Rate BPM, Press. PSI
 Frac: Fluid Volume & Type 20,000 g water, Sand: 20,000 # ? Mesh
 Frac Rate 36 BPM Frac Pressure 500 PSI ISIP PSI
 Comments

- C A S I N G R E P A I R R E C O R D -

1. 3250 1.1 1. 150
 Depth of Leak 2. 1129, # of squeezes required 2.1, # of sx used 2. 150
 Cathodic Protection? Yes No Date Installed

Comments Loc: 990' FSL, 1650 FWL

1965: Squeezed all perfs and open hole. Whipstocked well @ 4763'.
Drill deviated hole to 7780' KB.

Prepared By: amm Date: 2-22-84 Verified By: Date:

A.M. McLean
PAC

- TENNECO WELL HISTORY -

2591/6

-2-

Well Name Moore #1 (MV/Dak) Unit N Sec 8 T 30 R 8

- COMPLETION & WORKOVER RECORD -

Zone #4 - Formation C.H. Date 1955 Perfs w/JSPF 4920-5020
w/200 bullets

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
Frac: Fluid Volume & Type 27,000 G water, Sand: 25,000 # ? Mesh
Frac Rate 54 BPM Frac Pressure 700 PSI ISIP _____ PSI
Comments _____

Zone # 5 - Formation Dakota Date 5-12-65 Perfs w/JSPF 7601-02, 05-06,
12-13, 15-16, 37-38, 66-67, 72-73, 77-78, 80-81, 7712-15 w/ 2 SPF

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type 900 g acid, # balls 20, Rate 10 BPM, Press. 2000 PSI
Frac: Fluid Volume & Type 74,340 g water, Sand: 55,000 # 20/40 Mesh
Frac Rate 43 BPM Frac Pressure 3500 PSI ISIP 1850 PSI
Comments _____

Zone # 6 - Formation Pt. LO Date 5-13-65 Perfs w/JSPF 5403-07,
34-64, 86-90, 5501-06, w/ 2 SPF

Press Tstd _____ PSI, Spot Acid - Type Acid Gallons 500 BDISIP _____
Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
Frac: Fluid Volume & Type 80,000 g water, Sand: 75,000 # 10-20/8-12 Mesh
rac Rate _____ BPM Frac Pressure _____ PSI ISIP _____ PSI
Comments _____

Comments _____

Prepared By: A.M.M. Date: 2-22-64 Verified By: _____ Date: _____

A.M. McLean

- TENNECO WELL HISTORY -

2591/7

-3-

Well Name Moore #1 (MV/Dak) Unit N Sec 8 T 30 R 8

- COMPLETION & WORKOVER RECORD -

Zone # 7 - Formation Clfhse Date 5-13-65 Perfs w/JSPF 4929-45, 4993-95, 5000-10, 18-30, 43-47, 62-68, 5194-5200, 5212-26, 2 SPF, 84 holes

Press Tstd _____ PSI, Spot Acid - Type _____ Gallons _____ BDISIP _____
Acid: Vol. & Type _____, # balls _____, Rate _____ BPM, Press. _____ PSI
Frac: Fluid Volume & Type 92,820 g water, Sand: 75,000 # 10-20/8-12 Mesh
Frac Rate 67 BPM Frac Pressure 2200 PSI ISIP -0- PSI
Comments _____

Zone # - 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
Frac Rate _____ BPM Frac Pressure _____ PSI ISIP _____ PSI
Comments _____

Zone # - 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: Amn Date: 2-22-67 Verified By: _____ Date: _____

A. M. McLean

**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 ☐ Special ☐										
LEASE NAME Moore	WELL NO. 1	LOCATION			DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT./BBL.
		U	S	T							R	WATER BBLs.	GRAV. OIL BBLs.	
	N	8	30	8		S								

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.

Leslie J. Cook
(Signature)
Administrative Supervisor
(Title)

(Date)

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
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) ☒ Scheduled ☐ Special ☐	Completion ☐										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT./BBL
		U	S	T							R	WATER BBL'S.	GRAV. OIL	OIL BBL'S.	
MOORE	1	N	8	30	8	5/28/85	F	N/A		24	0.	62.0	0	7.13	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.

W. A. Dugan
(Signature)
Administrative Supervisor

(Date)

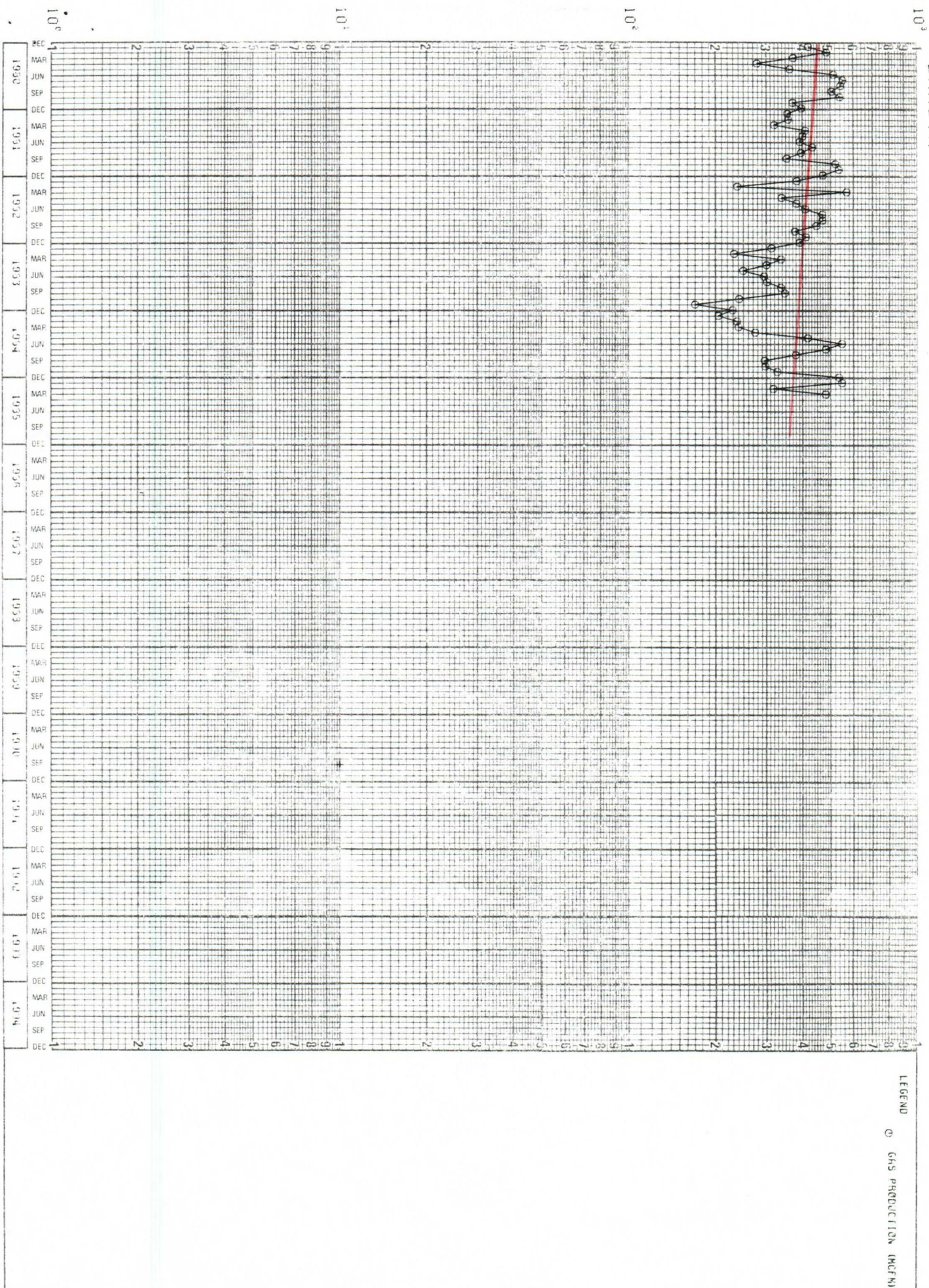
MOORE #1

DETERMINATION OF ALLOCATION PERCENTAGES

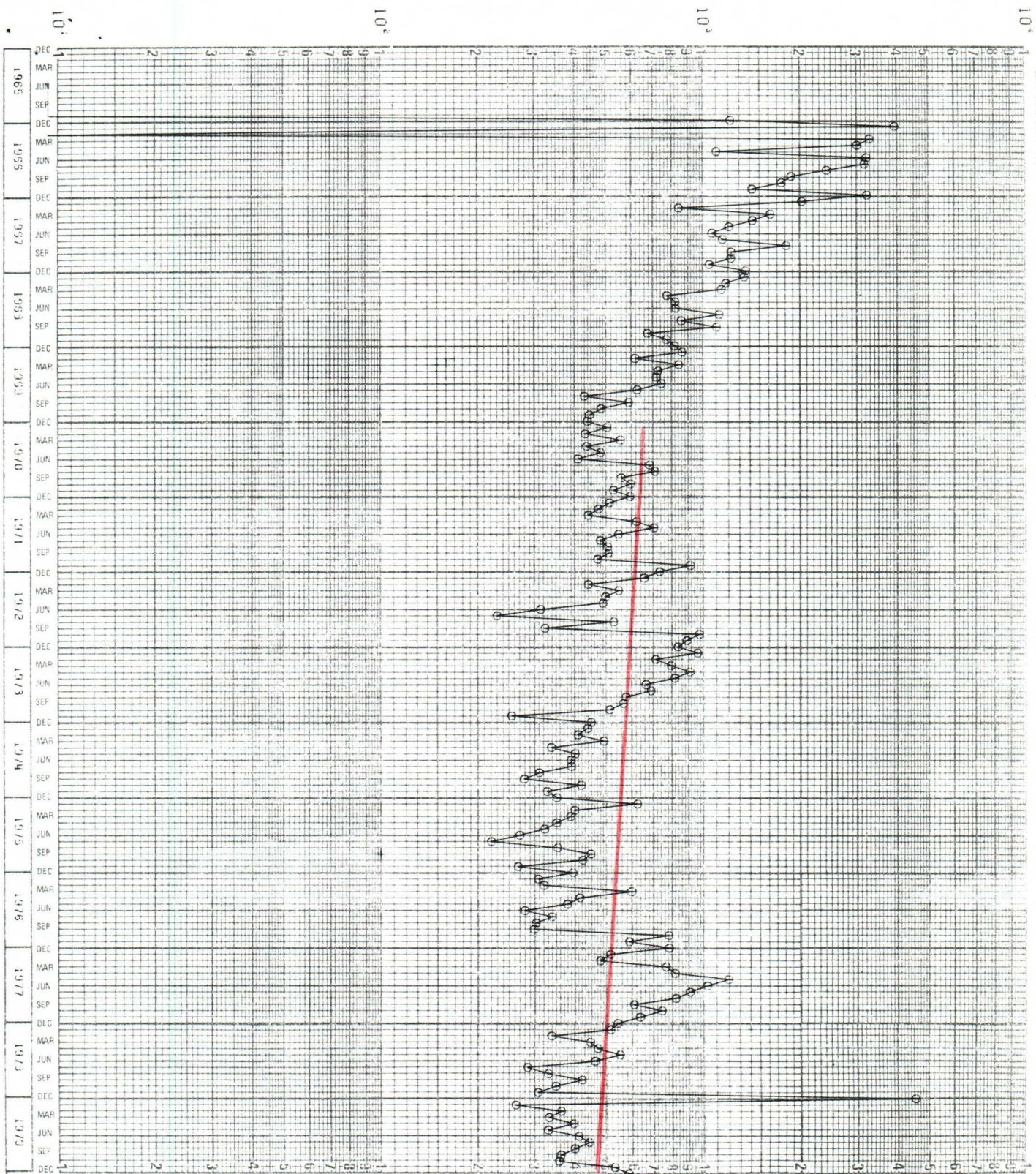
The decline rates and reserve estimate for the Mesaverde and Dakota are indicated below:

	<u>DECLINE PERCENTAGE</u>	<u>REMAINING RESERVES</u>
MESAVERDE	5%	1.32 BCF
DAKOTA	4%	105 MMCF

MOORE 1
030N008W08N
DAKOTA



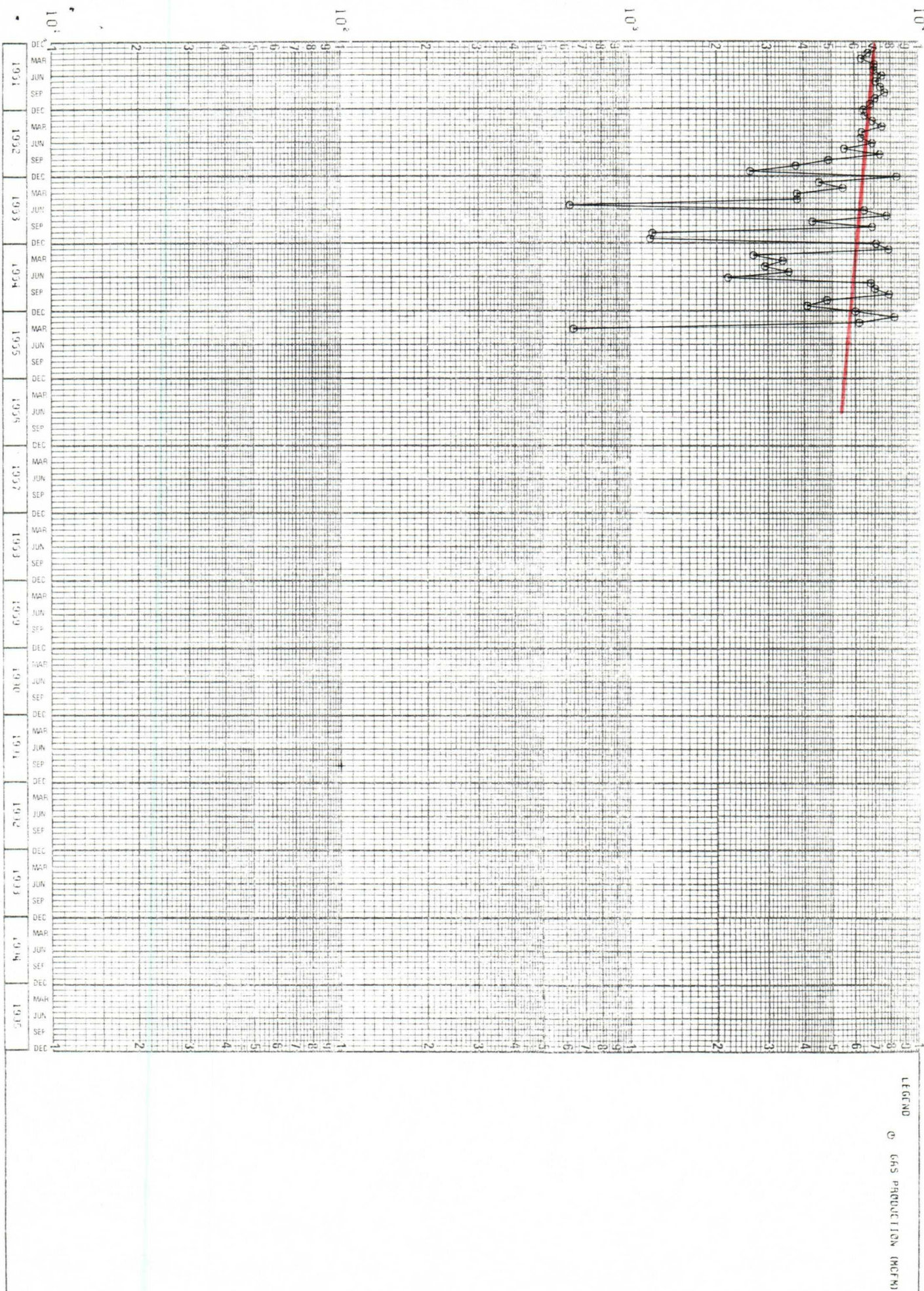
MOORE 1
030N008W08N
DAKOTA



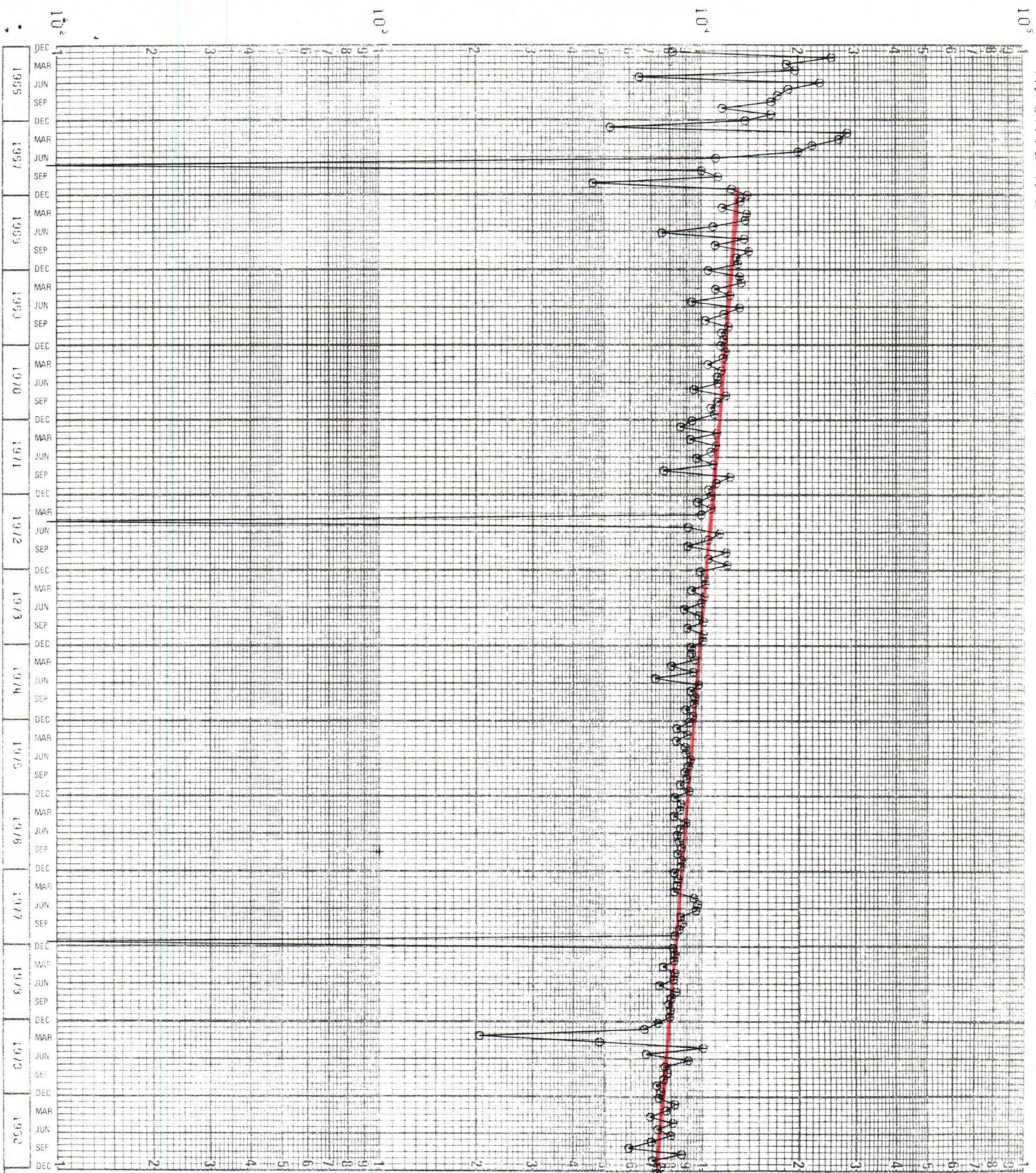
LEGEND

① GAS PRODUCTION (MCFM)

MOORE 1
030N008W08N
MESAVF RDE



MOORE 1
030N008W08N
MESSEVERDE

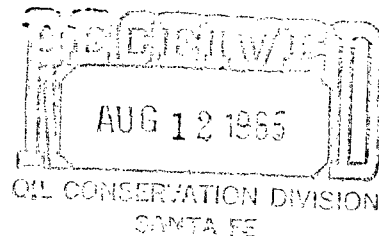


LEGEND
○ GAS PRODUCTION (MCFM)

Tenneco Oil
Exploration and Production
A Tenneco Company

Western Rocky Mountain Division

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



August 1, 1985

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

Attention: Don Reed

RE: Moore 1
990' FSL, 1650' FWL
Sec. 8, 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

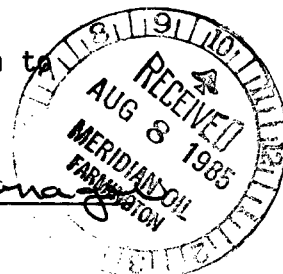
WAIVER

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

Name: Donald R. Reed

Title: District Manager

Date: 8-9-85





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. 27, 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

Jennew

Operator

Moore #1

Lease and Well No.

N-8-30N-8W

Unit, S-T-R

and my recommendations are as follows:

Docket for hearing

Verbal Okay from Frank Chavez 10-22-85

while he was in Santa Fe.

Yours truly,

Frank D. Chavez