VACUUM AREA COOPERATIVE LEASE LINE AGREEMENT

THIS AGREEMENT, is entered into as of the 1st day of March, 1996, between Texaco

Exploration and Production Inc. ("TEPI") as Operator and sole working interest owner in the

Vacuum Grayburg San Andres Unit, and Texaco Exploration and Production Inc. as Operator

and on behalf of all working interest owners in the Central Vacuum Unit.

WITNESSETH:

WHEREAS, TEPI represents that the Vacuum Grayburg San Andres Unit and the Central

Vacuum Unit, as shown on Exhibit "A" attached hereto and made a part hereof, are currently

producing oil and gas from the Grayburg and San Andres formations in Lea County, New

Mexico; and

WHEREAS, in the interest of more properly producing and conserving the oil and gas

from the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit, the parties hereto

desire to enter into and operate a cooperative program in order to obtain the maximum economic

recovery of oil and gas from the Grayburg and San Andres formations.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and

agreements hereinafter contained, the parties hereto agree as follows:

I.

TEPI will drill and equip the well listed below for the purpose of production of oil and gas from

the Grayburg and San Andres formations:

Vacuum Grayburg San Andres Unit Well No. 159, at a surface location of 907 feet from

the North line and 350 feet from the East line of Section 1, T18S, R34E, with a bottom

hole location of 572 feet from the North line and 78 feet from the East line of Section 1,

T18S, R34E.

The above well is located in Lea County, New Mexico as shown on Exhibit "A" attached hereto.

Π.

Except as otherwise provided herein, all operations hereunder will be governed by the applicable

terms of the Operating Agreement for the Central Vacuum Unit, which is incorporated herein by

⊏xaminer_

Case No

EXHIBIT NO.

reference. All costs to drill, equip, operate, plug and abandon the well and all production therefrom will be allocated and the well will be owned as follows:

Vacuum Grayburg San Andres Unit 50%
Central Vacuum Unit 50%

Ш..

Royalties, overriding royalties, production payments and similar burdens for the well set forth in Article II shall be borne by the owner of the lease within each unit to which the production is allocated pursuant to Article II.

IV.

This agreement is effective March 1, 1996 and shall remain in full force and effect for as long as there is production from the well provided for in Article I.

V.

The parties hereto agree that the drilling of the above described well will facilitate protection of their correlative rights and increase the ultimate recovery of oil and gas from the properties.

VI.

The terms and provisions of this agreement shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of March 1, 1996.

TEXACO EXPLORATION AND PRODUCTION INC. Operator of the Vacuum Grayburg San Andres Unit

Attorney-in-Fact

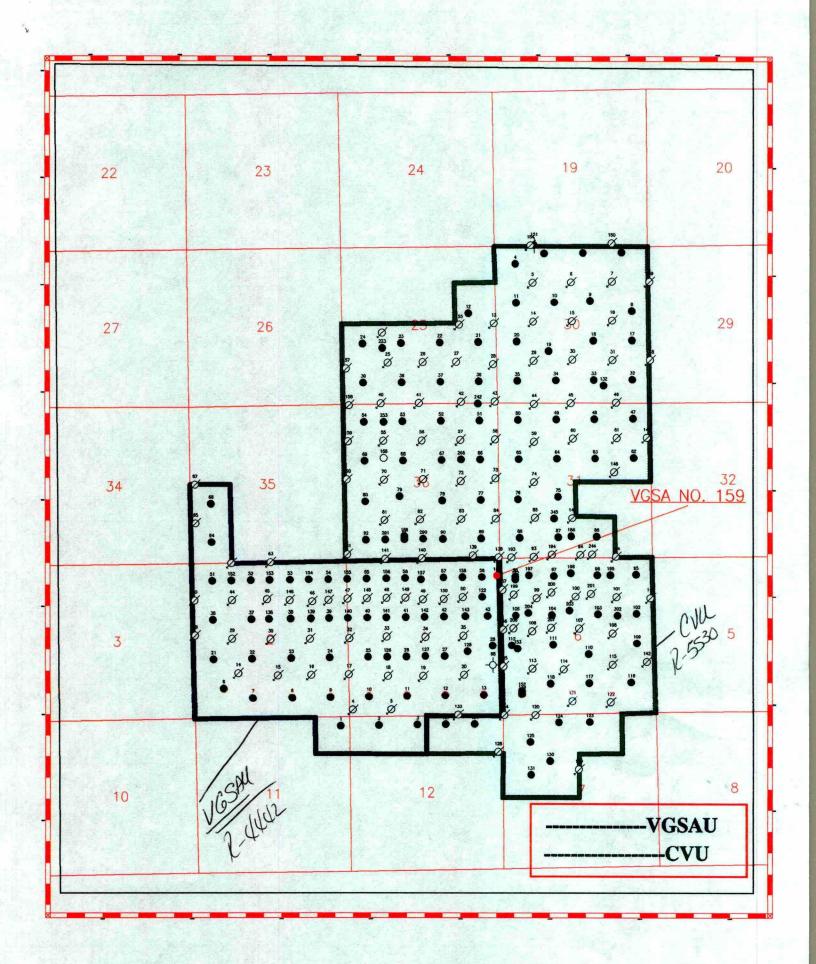
TEXACO EXPLORATION AND PRODUCTION INC.

Operator of the Central Vacuum Unit

Attorney-in-Fact

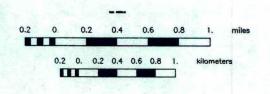
STATE OF TEXAS	§ .
COUNTY OF MIDLAND	§ .
The foregoing instrum	nent was acknowledged before me this/3 day of March,
1996 by M. A. CARRELI	Attorney-in-Fact for Texaco Exploration and
Production Inc., a Delaware	corporation. May J. Donelson
MARY F. DOI Notary Public, Sta My commission expir	NELSON }

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TEXACO EX	PLORATION & PRODU	UCTION, INC.
	VACUUM AREA EXHIBIT "A"	
Taylor, Sharon		3/12/96





500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

February 2, 1996

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

To: Working Interest Owners

Case No. __11527_ Exhibit No. __2_

NM255100 - Central Vacuum Unit

Lea County, New Mexico

Submitted by: <u>Texaco Exploration and Production Inc.</u>

Hearing Date: May 16, 1996

Gentlemen:

Texaco is finalizing plans to drill the Vacuum Grayburg San Andres Unit No. 159 as a lease line producer between the Central Vacuum Unit and the Vacuum Grayburg San Andres Unit. It will be at a bottom hole location of 572' FNL and 78' FEL of Section 1, T18S, R34E. Each unit will bear one half of the costs for the well and production will be allocated equally to each unit. Since the Vacuum Grayburg San Andres Unit is a 100% Texaco property, operations will be governed by the Central Vacuum Unit Operating Agreement. The well will be proposed to you later this year as part of an eight well package for the Central Vacuum Unit.

Article 38 of the Central Vacuum Unit Agreement provides for Border Agreements. We anticipate that it will take several months to obtain approval for this well from you, the royalty owners, the Commissioner of Public Lands, and the NMOCD. Please grant your approval in the space provided below for Texaco, as Operator of the Central Vacuum Unit, to enter into an agreement providing for the drilling of this lease line producer and return one original of this letter to me at your earliest convenience.

MAIL

Very truly yours,

Ronald W. Lanning 915-688-4445

APPROVED THIS	7th DAY OF	Fel	, 1996.
By:	1 model	tin	
Company:	H.M. 13.	ETTIS,	INC
Title:	PRES.		



and Production Inc

500 North Loraine Midiand TX 79701 P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit Lea County, New Mexico

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Very truly yours,

Renald M. Lanning

915-688-4445

APPROVED T	, 1996	
By:	272 Beyle	
Company: _	W. T. Boyle & Co.	
Title:	President	



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Kanal & Janney

Ronald W. Lanning
915-688-4445

APPROVED THIS	7 DAY OF January	, 1996.
ву: <u>Ма</u>	ad Elon Brackhow	
Company:		
Title:		



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Kenal M. Lanning

Ronald W. Lanning

915-688-4445

APPROVED THIS 9 DAY OF FEBRUARY 1996.

By: Butch Smith

Company: HAWKINS O'IL & GAS, INC.

Title: VICE-PRESIDENT



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Ronald W. Lanning 915-688-4445

APPROVED THIS SHADAY OF February, 1996.

By:

Company:

Title:

Policy Server Engeneer



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Renold Wien	, neng
Ronald W. Lanning 915-688-4445	0

Very truly yours

APPROVED THIS 8th DAY OF February	, 1996
By: Dill'and Coat	
Company: Martha Leonard Trunt	
Title: VP	



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Ronald W. Lanning
915-688-4445

APPROVED THIS DAY OF February, 199

By: Millian . Cal.

Company: Mary Jeonard Children's Trust

Title:



and Production Inc.

500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Kenald M. Lanning

915-688-4445

APPROVED THIS 8th DAY OF February, 1996.

By: William O. Oak

Company: Wiranda Leonard Trust

Title: VP



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very trul	y yours,	
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Gena	ESLANTS.	nneg
Ronald V	V. Lanning	
915-688-	4445	

APPROVED	THIS 22" DAY OF Febr	, 1996.
Ву:	Joseph Modm	
Company:	MARATHON OIL CO.	
Title:	c) attatest Source	Marathon Oil Company

Reference Marathon's letter of February 22, 1996.

FEB 07 1996



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Ronald W. Lanning

915-688-4445

APPROVED .	IHIS <u>21st</u> DAY (JF <u>Feburary</u>	1996
By:	Li J. L	D.Jr.	
Company:	Michael A. McBee, The McBee Company		
Title:	Operations		



P O Box 3109 Midland TX 79702

1996.

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Ronald W. Lanning

915-688-4445

APPROVED THIS DAY OF LEBRUARY

By: Stag Stage Control of Modulation and Company:

Title: STAFF RES. ENGR



P O Box 3109 Midland TX 79702

February 2, 1996

PARTNETSHIP OPERATIONS

To: Working Interest Owners

:EU 0 **19**93

CONTROLLERS

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Very truly yours,

Ronald W. Lanning

915-688-4445

APPROVED THIS DAY OF MUCH 1996

By: X DAY OF MUCH 1996

Company: Phillips Petrolum Company

CENTRAL ASSET TEAM LEADER

Title:



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

Lea County, New Mexico

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Kanald M Jan	neng
Ronald W. Lanning	0
915-688-4445	

Very truly yours.

APPROVED	THIS //	DAY OF	ili-	, 1	996.
Ву:	Marina	A. Anal	G,		
Company:					
Title:					



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

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Very truly yours,

Kanald M. Lanning
915-688-4445

APPROVED THIS 8 1 DAY OF Feb 1996.

By: About A Mulh

Company: 5. B. Street & Co.

Title: Pres.



P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

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Very truly yours,

Renald Manning

Ronald W. Lanning 915-688-4445

APPROVED THIS SUBDAY OF FOR	, 1996
By: tell RI	
Company: Tonomore Long Bollec.	
Title: The root	



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

February 2, 1996

To: Working Interest Owners

NM255100 - Central Vacuum Unit

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Very truly yours,

Renald M. Lanning
915-688-4445

APPROVED	THIS	প্ত	_DAY OF _	February		, 1996
Ву:	Way	n Cl	mish_	. '		
Company:	Tura	ره ۱۸	<i>د</i> .			
Title:	Pre	sident	-			



State of New Mexico Commissioner of Public Cands

RAY POWELL, M.S., D.V.M. COMMISSIONER

310 OLD SANTA FE TRAIL P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148 (505) 827-5760 FAX (505) 827-5766

PERMANNERS BUSINESS UNT NORTH BOOKS AGENT TIME

AP 4-15-96

April 11, 1996

Texaco Exploration and Production Inc. Post Office Box 3109
Midland, Texas 79702

Attn: Mr. Ronald W. Lanning

Re: Vacuum Grayburg San Andres Unit

Central Vacuum Unit 1996 Plan of Development Lea County, New Mexico

Dear Mr. Lanning:

We received your letter of March 18, 1996 wherein you requested our approval of plans to drill a lease line producer between the above captioned units. We understand that the VGSAU Well No. 159 will be drilled 572' FNL, 78' FEL of Section 1-18S-34E.

The Commissioner of Public Lands has this date approved the above mentioned plan.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.

COMMISSIONER OF PUBLIC LANDS

LARRY KEHOE, Director

Oil, Gas and Minerals Division

(505) 827-5744

RP/LK/pm

cc: Reader File Commissioner's File

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Case No. <u>11527</u> Exhibit No. <u>3</u>

Submitted by: Texaco Exploration and Production Inc.

Hearing Date: May 16, 1996

OCD TRD BLM



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

March 19, 1996

Royalty Owners Central Vacuum Unit (See Attached List)

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

Ladies and Gentlemen:

Sincerely,

Texaco Exploration and Production Inc. ("Texaco") is the Operator of the captioned units. We are planning to drill our Vacuum Grayburg San Andres Unit Well No. 159 as a lease line producer between the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit. Each unit will share equally in the production from this well.

We estimate that this well will produce from 109,000 to 231,000 barrels of oil. As a royalty owner under the Central Vacuum Unit, you would receive your proportionate part of any royalties from the production allocated to the Central Vacuum Unit.

We will be appearing before the New Mexico Oil Conservation Division in the near future seeking approval for this well. Please give your approval, as a royalty owner in the Central Vacuum Unit, for the drilling of this well by signing in the space provided below and returning an original to me as soon as possible.

Transld M. Jenney
Ronald W. Lanning
RWL:
APPROVED, this 27th day of 1//acch, 1996
Signature:
Printed Name: Norman R. G-1055



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

March 19, 1996

Royalty Owners Central Vacuum Unit (See Attached List)

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

Ladies and Gentlemen:

Texaco Exploration and Production Inc. ("Texaco") is the Operator of the captioned units. We are planning to drill our Vacuum Grayburg San Andres Unit Well No. 159 as a lease line producer between the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit. Each unit will share equally in the production from this well.

We estimate that this well will produce from 109,000 to 231,000 barrels of oil. As a royalty owner under the Central Vacuum Unit, you would receive your proportionate part of any royalties from the production allocated to the Central Vacuum Unit.

We will be appearing before the New Mexico Oil Conservation Division in the near future seeking approval for this well. Please give your approval, as a royalty owner in the Central Vacuum Unit, for the drilling of this well by signing in the space provided below and returning an original to me as soon as possible.

Give me a call at (915) 688-4445 if you have any questions.

Sincerely,

Ronald W. Lanning

RWL:

APPROVED, this

day of

1996

Signature:

Printed Name:

3 C. Burn



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

March 19, 1996

Royalty Owners
Central Vacuum Unit
(See Attached List)

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

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Translated Jenney	
Ronald W. Lanning	
RWL:	
APPROVED, this 200 day of Tilarch	, 1996
Signature: Earl & Waters	
Printed Name: EARL J. WATERS	



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

March 19, 1996

Royalty Owners Central Vacuum Unit (See Attached List)

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

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Transld M Jenning		
Ronald W. Lanning		
RWL:		
APPROVED, this 2/	day ofMOReid	1996
Signature: Nount	· · · · · · · · · · · · · · · · · · ·	
Printed Name: Revolo C. K	ROBBINS	



500 North Loraine Midland TX 79701

PERMIAN WEST BUSINESS UNIT
NORTH HOBBS ASSET TEAM

APR 08 1996

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Royalty Owners

March 19, 1996

Central Vacuum Unit (See Attached List)

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

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Sincerely,
Transled Jenning
Ronald W. Lanning
RWL:
APPROVED, this first day of april, 1996
Signature: Christine & Campos
Printed Name: Christine E. CAMPOS



500 North Loraine Midland TX 79701

PERMIAN WEST BUSINESS UNIT NORTH HOBBS ASSET TEAM

APR 08 1996

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Royalty Owners Central Vacuum Unit (See Attached List)

March 19, 1996

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Transled Jenney	
Ronald W. Lanning	
RWL:	
APPROVED, this day of, 1	996
Signature: Stephane C.R. aldemin	
Printed Name: Stephanie C.R. Aldemir	



500 North Loraine Midland TX 79701 P O Box 3109 Midland TX 79702

March 18, 1996

Mr. Larry Kehoe, Director
Oil, Gas & Minerals Division
New Mexico State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

NM254770 - Vacuum Grayburg San Andres Unit NM255100 - Central Vacuum Unit Lea County, New Mexico

Dear Mr. Kehoe:

The State of New Mexico is the owner of all royalty interests under the Vacuum Grayburg San Andres Unit and 98.8409% of the royalty interests under the Central Vacuum Unit. The purpose of this letter is to seek your approval, as a royalty owner, of our plans to drill a lease line producer between these two units.

The limits of the Vacuum Field were defined and developed on forty acre spacing by the mid-1940's. Enhanced recovery by waterflooding was initiated during the 1970's throughout the field. The majority of the field's well spacing was reduced to twenty acres in the late 1970's and early 1980's. The reduced spacing and waterflooding capital projects were highly successful, adding significant reserves to the properties. Sporadic infill drilling on ten acre spacing occurred in the late 1980's and early 1990's. The ten acre development projects have been modestly profitable and are adding attractive reserves. Some of the more attractive ten acre drilling sites remaining are on the common lease lines between the various unitized waterflood operations.

We undertook a detailed evaluation (Study) of the various Vacuum Field operator's ten acre development experiences in the summer of 1994. Fig. 1 shows the extent of ten acre development as of the summer of 1994. The Study found that recoveries ranged from 3.2% to 6.8% of the Original Oil-In-Place (OOIP). Recoveries were found to be dominated by reservoir quality, with few exceptions. The Study showed that an additional 5,100,000 Stock Tank Barrels (STB) of oil will be recovered through the thirty, then existing, ten acre locations we operated within the field.

Based on the Study's findings, we successfully drilled fourteen new ten acre locations in 1995. These locations are shown in Fig. 2 relative to previously drilled locations. The production plot in Fig. 3 provides a general measure of this latest project's success-production is at a ten year high. There was no interference/acceleration of reserves, and Fig. 4 demonstrates that 1,460,000 STB's of additional recovery can be attributed to this latest development. This is equivalent to 3.3% OOIP that would not otherwise have been recovered.

Examiner_	Catanoch
Case No.	11577
EXHIBIT NO). H

We plan to continue ten acre infill development on a strategic approach rather than blanket infill development. There is clearly acreage that would not be profitable to develop on the greater well density. Based on the earlier Study, and recent successes from the 1995 development program, we have identified eight locations which could be developed in 1996 (Fig. 5). One of the prime locations remaining exists on the common lease line between the Vacuum Grayburg San Andres Unit (VGSAU) and the Central Vacuum Unit (CVU). This lease line location is immediately offset by the 1995 development, and is surrounded by ten acre locations. Based on the 1994 Study, this location should recover between 109,000 and 231,000 STB of additional oil. The remaining lease line locations represent the no flow boundary between existing patterns and have stagnant mobile oil saturations which will not be recovered with the existing waterflood patterns.

We have plans to initiate a miscible CO₂ flood at both of the subject properties. Industry projects forecast additional reserves from 9% to 18% OOIP. This suggests that an additional recovery of 306,000 to 612,000 STB will be bypassed in the near future without the lease line location.

The most favorable site for the wellbore (572' FNL, 78' FEL Sec. 1, T18S, R34E) falls within the VGSAU. Therefore, the well is planned as VGSAU No. 159. Costs for the well will be shared by each unit on an equal basis. Production will be handled through the existing lease gathering system. Individual wells are gathered and tested/metered through a three-phase test separator. Averages of individual monthly tests are used to prorate volumes back to individual wells based on the monthly sales meter volume. Half of all production from the well will be allocated to each unit. Each unit will then allocate its share of production to each of its tracts based on existing tract participation factors and royalties will be paid accordingly.

We have received working interest owner approval for this project. A copy of the Vacuum Area Cooperative Lease Line Agreement is enclosed for your review.

We will soon schedule a hearing with the New Mexico Oil Conservation Division for approval of this well. Based on our previous experience with lease line wells, we would like to have your approval for this project prior to the hearing.

Please direct any technical questions to Mr. Scott Wehner at 915-688-2954. I can be reached at 915-688-4445

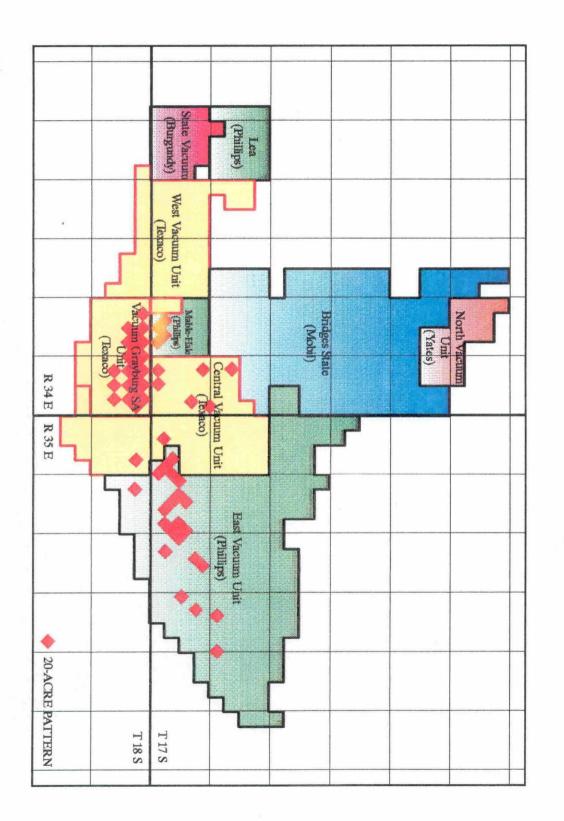
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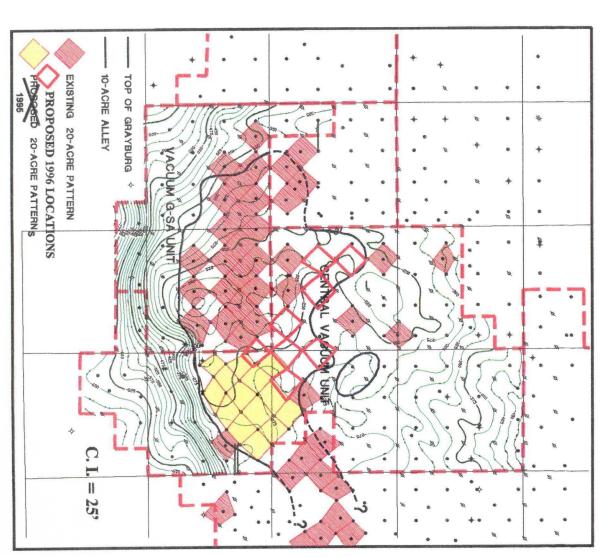
Ronald W. Lanning

RWL:

Enclosures

RELATIVE LOCATIONS OF 10-ACRE DEVELOPMENT VACUUM FIELD, LEA COUNTY, NEW MEXICO





10-A INFILL LOCATIONS

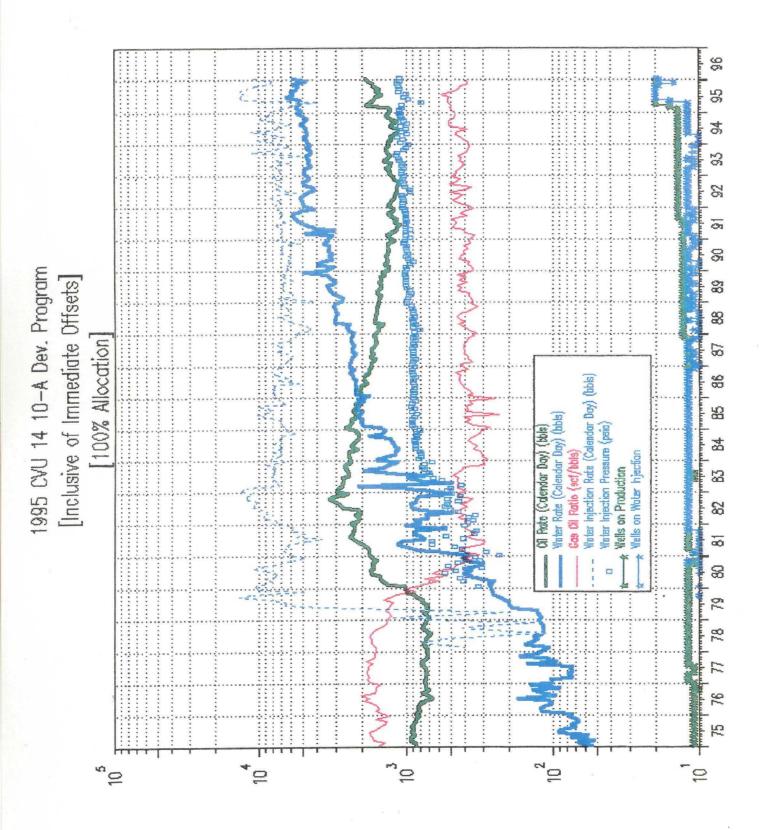
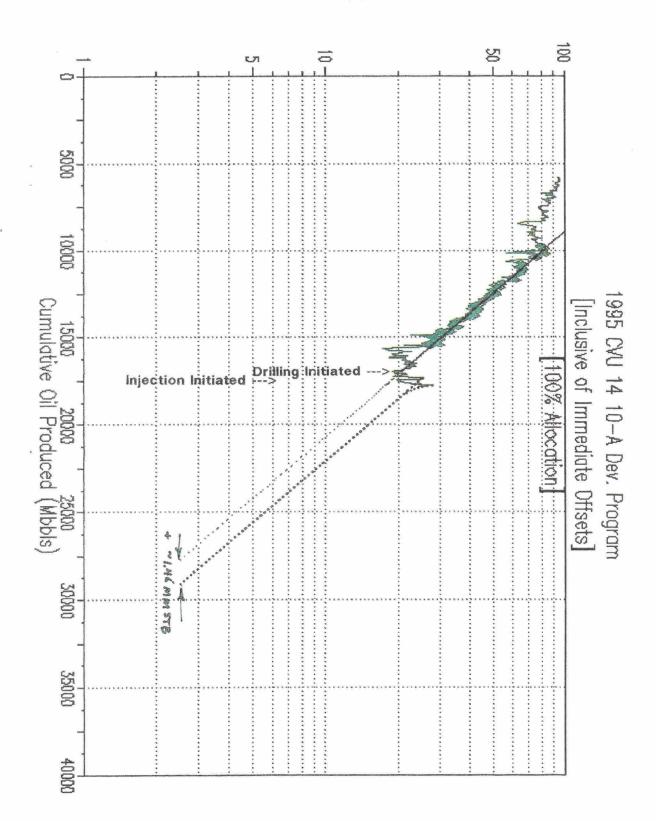
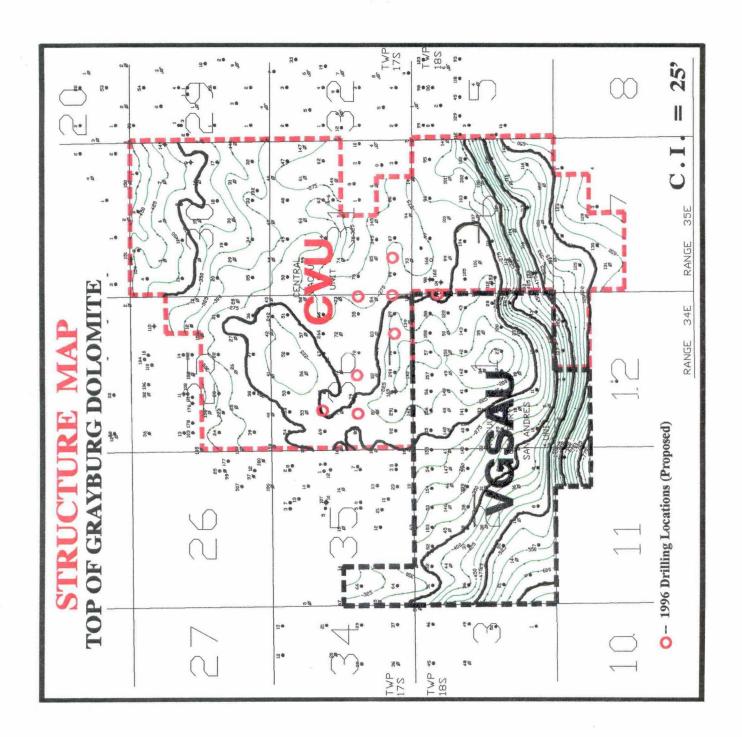


Fig. 3





BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Case No. <u>11527</u> Exhibit No. <u>4</u>

Submitted by: <u>Texaco Exploration and Production Inc.</u>

Hearing Date: May 16, 1996