



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 15, 1998

Texaco Exploration and Production, Inc.
c/o William F. Carr
P. O. Box 2208
Santa Fe, New Mexico 87504-2208

AMENDED Administrative Order DD-172(H)
High Angle/Horizontal

Dear Mr. Carr:

By Division Administrative Order DD-172(H), dated May 15, 1997, authorization was given Texaco Exploration and Production, Inc. ("Texaco") to initiate a high angle/horizontal directional drilling project within a non-standard 160-acre oil spacing and proration unit comprising the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, North Vacuum Abo West Unit Waterflood Project Area, Lea County, New Mexico, by drilling its North Vacuum Abo West Unit Well No. 30 (API No. 30-025-33987) at a standard North Vacuum-Abo Pool surface oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degrees/100 feet), and drill horizontally a lateral distance of approximately 2,000 feet through the Abo formation. Said order further provided for an applicable drilling window or "producing area" for said horizontal wellbore such that no portion of the producing interval of said wellbore is to be no closer than 560 feet from the outer boundary of said 160-acre tract.

Reference is now made to your letter with attachments dated December 23, 1997, whereby an amendment should be issued in this order to change the size of the assigned producing area so that it accurately reflects the North Vacuum Abo Pool's setback requirements.

The Division Director Finds That:

- (1) This application was originally approved under the provisions of Rule 111.D of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11274 on June 13, 1995 (being applicable at that time);
- (2) This amendment has been duly filed under the provisions of the Rule 111.A(9) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10817, issued by the Oil Conservation Commission in Case 11762 on July 14, 1997 (currently in effect), and Rule 4 of the "Special Rules and Regulations for the North Vacuum-Abo (Oil) Pool," as promulgated by Division Order No. R-2421, as amended.

IT IS THEREFORE ORDERED THAT:

(1) Decretory Paragraph No. (4) on page 3 of Division Administrative Order DD-172(H), dated May 15, 1997, is hereby amended to read in its entirety as follows:

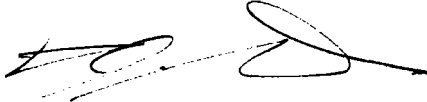
“(3) The "producing area" for said horizontal wellbore shall include that area within the SW/4 of said Section 15 that is no closer than 460 feet from the outer boundary of said quarter section.”

(2) All other provisions of said Order DD-172(H) not in conflict with this change shall remain in full force and effect until further notice.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



KATHLEEN A. GARLAND
Acting Director

SEAL

cc: New Mexico Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe
File: DD-172(H)

DD-172. AMN

Rec: 12-24-97

Susp: ~~12-13-98~~ 9-13-98

Released: 1-15-98

January 15, 1998

Texaco Exploration and Production, Inc.
c/o William F. Carr
P. O. Box 2208
Santa Fe, New Mexico 87504-2208

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Reference is now made to your letter with attachments dated December 23, 1997, whereby an amendment should be issued in this order to change the size of the assigned producing area so that it accurately reflects the North Vacuum Abo Pool's setback requirements.

The Division Director Finds That:

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- (2) This amendment has been duly filed under the provisions of the Rule 111.A(9) of

the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10817, issued by the Oil Conservation Commission in Case 11,762 on July 14, 1997 (currently in effect), and Rule 4 of the "*Special Rules and Regulations for the North Vacuum-Abo (Oil) Pool*", as promulgated by Division Order No. R-2421, as amended.

IT IS THEREFORE ORDERED THAT:

(1) Decretory Paragraph No. (4) on page 3 of Division Administrative Order DD-172(H), dated May 15, 1997, is hereby amended to read in its entirety as follows:

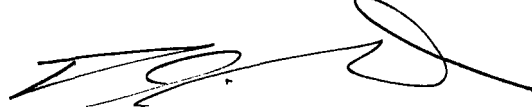
“ (3) The "producing area" for said horizontal wellbore shall include that area within the SW/4 of said Section 15 that is no closer than 460 feet from the outer boundary of said quarter section.”

(2) All other provisions of said Order DD-172(H) not in conflict with this change shall remain in full force and effect until further notice.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



KATHLEEN A. GARLAND
Acting Director

S E A L

cc: New Mexico Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe
File: DD-172(H)

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
MICHAEL H. FELDEWERT
ANTHONY F. MEDEIROS
PAUL R. OWEN

JACK M. CAMPBELL
OF COUNSEL

JEFFERSON PLACE
SUITE 1 - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 968-4421
FACSIMILE: (505) 963-6043
E-MAIL: ccbspa@ix.netcom.com

December 23, 1997

HAND DELIVERED

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 South Pacheco Street
Santa Fe, New Mexico 87505

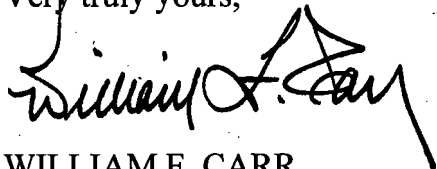
Re: *Application for Amendment of Division Order No. DD-172(H) for Directional Drilling-Horizontal, Non-Standard Spacing or Proration Unit, North Vacuum Abo West Unit Well No. 30, North Vacuum-Abo Pool, Lea County, New Mexico*

Dear Mr. LeMay:

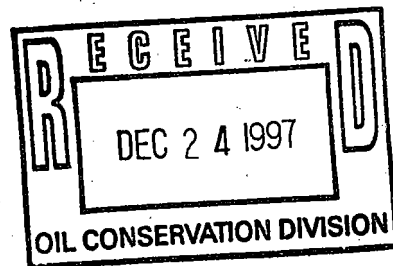
Enclosed in duplicate is the application of Texaco Exploration and Production Inc. for Amendment of Division Order No. DD-172(H) to increase the producing area for the North Vacuum Abo West Unit Well No. 30 to permit the horizontal portion of the wellbore to be no closer than 460 feet from the outer boundary of the project area for this well.

If you need any thing further from Texaco to proceed with your consideration of this application, please advise.

Very truly yours,



WILLIAM F. CARR
Attorney for Texaco Exploration and Production Inc.
cc: Michael E Stogner,
Chief Engineer



Chris Williams, District Supervisor
Oil Conservation Division District I

**CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS**

MICHAEL B. CAMPBELL
WILLIAM F. CARR
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TELEPHONE: (505) 988-4421
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E-MAIL: ccbspa@ix.netcom.com

December 23, 1997

VIA HAND DELIVERY

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 Pacheco Street
Santa Fe, New Mexico 87505

Attention: Michael E. Stogner

Re: ***Application for Amendment of Division Administrative
Order DD-172(H) for Directional Drilling-Horizontal
North Vacuum Abo West Unit Well No. 30
North Vacuum-Abo Pool
Lea County, New Mexico***

Gentlemen:

Texaco Exploration and Production Inc. hereby requests amendment of Division Administrative Order DD-172(H) which was entered on May 15, 1997. This Order authorized the initiation of a high angle/horizontal directional drilling project within a non-standard 160-acre oil spacing and proration unit comprising the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, of the North Vacuum Abo West Unit, North Vacuum Abo West Unit Waterflood Project Area, Lea County, New Mexico, by the drilling of the North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool surface oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degree/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 2

Although the Special Pool Rules for the North Vacuum-Abo Pool provide for wells within 200 feet of the center of a governmental quarter-quarter section (460 foot set backs), Texaco requested and Order DD-172(H) provides for a "producing area" for this horizontal wellbore that shall include that area within the SW/4 of said Section 15 that is no closer than 560 feet from the outer boundary of said quarter section. (Order paragraph 4). While drilling the horizontal portion of this wellbore, the quality of the Abo reservoir improved as Texaco approached the 560 foot set back authorized by Order DD-172(H). Due to the improvement in the geologic characteristics of the reservoir which were discovered after the commencement of the project, Texaco continued drilling to a point 516 feet from the South line and 492 feet from the West line of said Section 15. Although this point is within the project area at a point where a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit of the Special Pool Rules and Regulations for the North Vacuum-Abo Pool (Order No. R-2421), it extends beyond the boundary of the "producing area" approved by Order DD-172 (H).

Texaco therefore makes application for amendment of Order Paragraph 4 of Order DD-172(H) to provide for a producing area that is no closer than 460 feet from the outer boundary of said quarter section.

In support of this application Texaco states:

- A. The surface location of the North Vacuum Abo West Unit Well No. 30 is within the boundaries of the project area which consists of two drilling units, substantially in the form of a square, being a legal subdivision of the U. S. Public Land Survey.
- B. The producing interval in this well will be totally confined to the amended producing area with the measured distance from the North, South, East and West boundaries of the project area inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the North Vacuum-Abo Pool.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 3

- C. The project area includes multiple contiguous drilling units.
- D. The subject well includes a single lateral which will conform to the requirements of this order as amended.

The North Vacuum-Abo West Unit is a candidate for horizontal drilling due to the heterogeneous nature of the reservoir where vertical segregation is common and horizontal wells can drain laterally discontinuous lenses that would not otherwise be exploited without dense vertical well spacing. The Unit was designated a "Project Area" for horizontal drilling in 1996 [see Administrative Orders DD-153(H) and DD-154(H)] and the type log for the pool was presented at that time. Texaco has successfully completed other horizontal wells in this pool.

Attached hereto as Exhibit A is a plat indicating the Section, Township and Range in which this well is located which shows the well's project area (SW/4 of Section 15), the well's surface location, the horizontal plan view for the well, and the producing area for the project well (460 foot set back from the outer boundary of the project area).

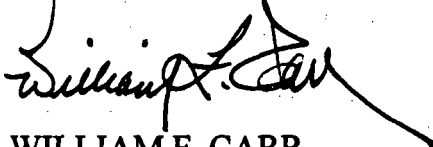
Exhibit B to this administrative application is a plat showing existing wells in the North Vacuum-Abo Pool in the project area, all offset drilling units in the North Vacuum-Abo Pool, the Abo wells located on these offsetting units and the operators thereof. Exhibit C is a vertical plan view for the well (cross-sectional view) which shows all information required by Division Rule 111.D. (2) (c) and (d).

Attached as Exhibit D is a list of all offsetting operators of spacing units in the West Vacuum-Abo Pool. On or before the date this application was submitted to the Division, each of these operators was notified of this application to amend Order DD-172 (H) by submitting a copy of this application to each of them by Certified Mail, Return Receipt Requested. Each was advised that if they have an objection to this application it must be filed with the Division's Santa Fe Office in writing within twenty days of the date of the Certified Letter.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 4

Your attention to this application is appreciated.

Very truly yours,



WILLIAM F. CARR

WFC:mlh
Enclosures

DISTRICT I
P. O. Box 1092, Hobbs, NM 88240

DISTRICT II
P. O. Drawer 60, Aramis, NM 88210

DISTRICT III
1000 Rio Grande Rd., Aramis, NM 87410

DISTRICT IV
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease-4 copies
Fee Lease-3 copies

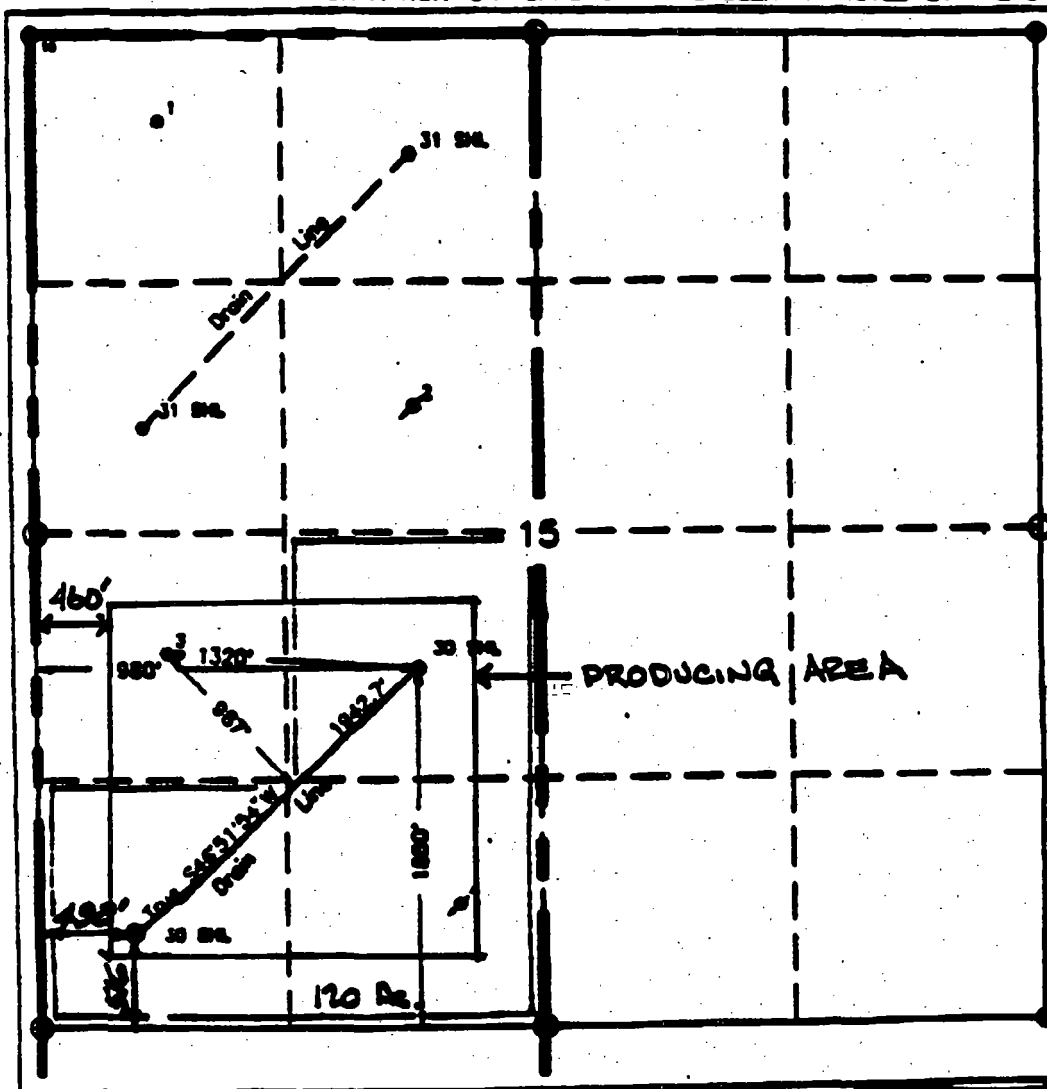
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION FLAT

APN Number 30-025-33987	Well Code 61760	Well Name Vacuum Abu, North
Property Code 11123	Property Name North Vacuum Abu West Unit	Well Number 30
Owner No. 22381	Operator Name TEXACO EXPLORATION & PRODUCTION, INC.	Location 4047

Surface Location									
UL or BL No. K	Section 18	Township 17-S	Range 34-E	Lot No.	Feet from the 1880'	North/South line South	Feet from the 1880'	East/West line West	County Lee
Bottom Hole Location if Different From Surface									
UL or BL No. M	Section 15	Township 17-S	Range 34-E	Lot No.	Feet from the 516	North/South line South	Feet from the 492	East/West line West	County Lee
Dedicated Acres 120		Joint or hold		Connection Code		Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and accurate to the best of my knowledge and belief.

Name
R. Phil Ryan

Position
R. Phil Ryan

Position
Commission Coordinator

Company
Texaco Expl. & Prod. Inc.

Date
Nov 22, 1997

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was located from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

April 2, 1997

Signature & Seal of
Professional Surveyor

John S. Piper

Certificate No.

7234 John S. Piper

NVAWU Study Area

HARVEY E. YATES
COMPANY
North Vacuum Abo West Unit

CHASE

MACK ENERGY

CHEVRON

MOBIL

MOBIL

MOBIL

MOBIL

8

9

10

11

17

16

15

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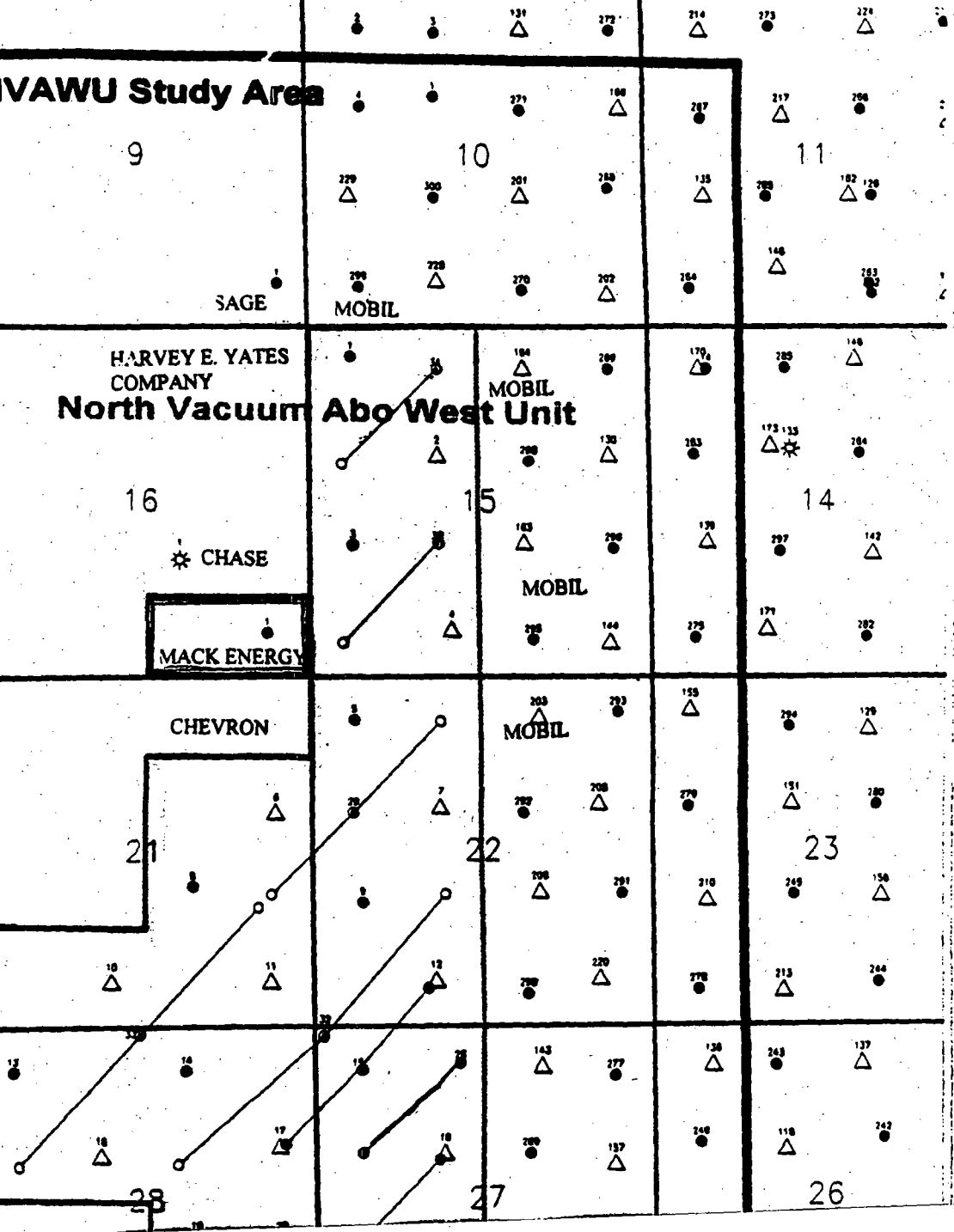
29

28

27

26

N



Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #30
 Location: LEA CO., NEW MEXICO
 Declination:
 File name: C:\WINSERVE\NVAWU30.SVY
 Date/Time: 15-Apr-97 / 16:59

TRUE VERTICAL DEPTH (Ft)

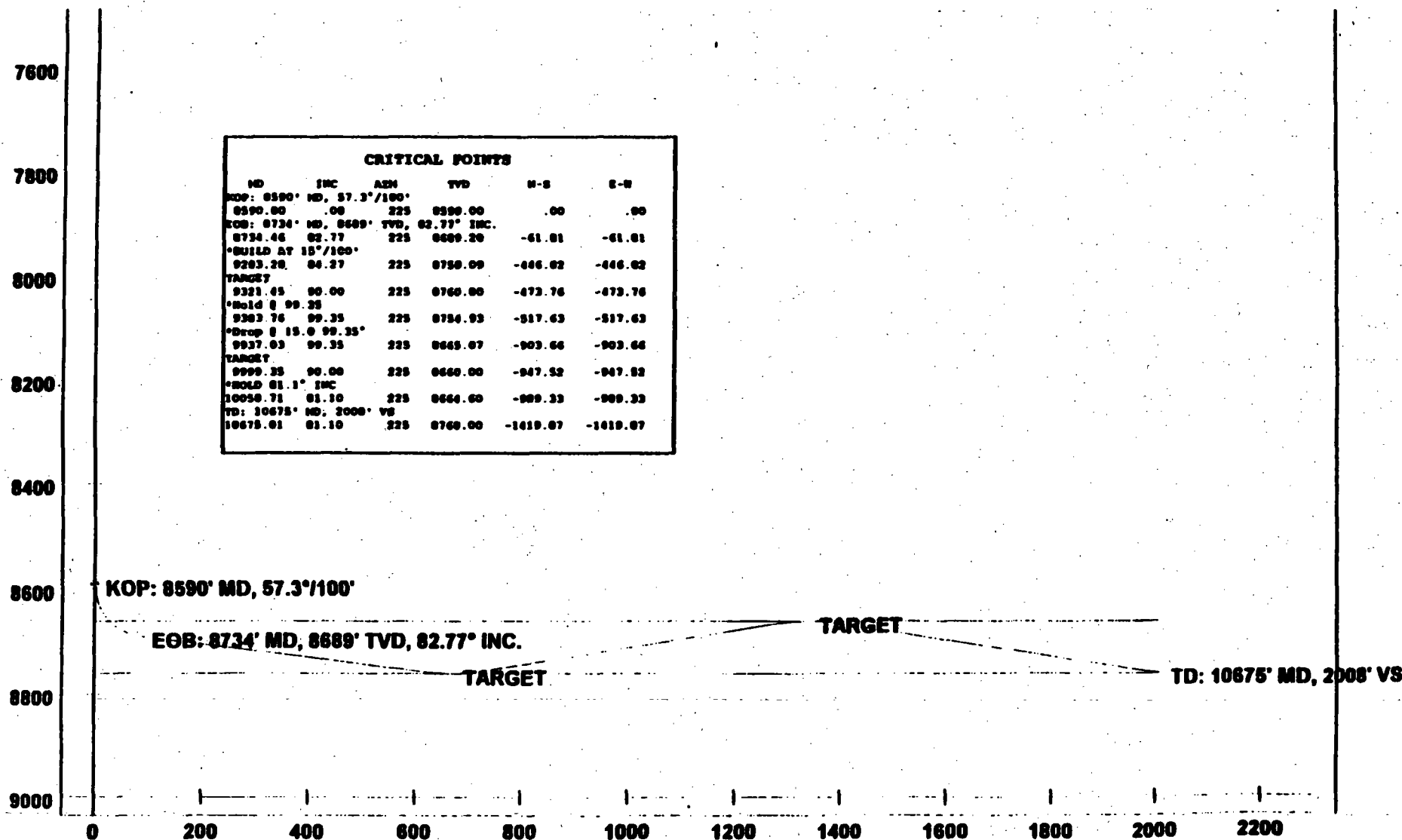


EXHIBIT C

OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 30
LEA COUNTY, NEW MEXICO

Mobil Exploration and Producing US Inc.
Post Office Box 633
Midland, TX 79702

Mack Energy Corporation
Post Office Box 1767
Artesia, NM 88211

Chevron USA Inc.
Post Office Box 1150
Midland, TX 79702

Mack C. Chase &
Chase Oil Corporation
Post Office Box 1767
Artesia, NM 88211

Harvey E. Yates Company
Post Office Box 1933
Roswell, NM 88202

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

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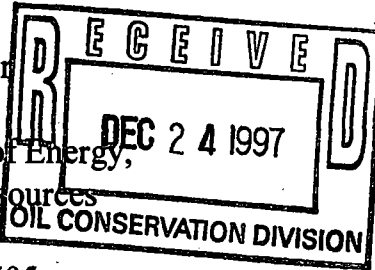
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December 23, 1997

HAND DELIVERED

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 South Pacheco Street
Santa Fe, New Mexico 87505



Re: *Application for Amendment of Division Order No. DD-172(H) for Directional Drilling-Horizontal, Non-Standard Spacing or Proration Unit, North Vacuum Abo West Unit Well No. 30, North Vacuum-Abo Pool, Lea County, New Mexico*

Dear Mr. LeMay:

Enclosed in duplicate is the application of Texaco Exploration and Production Inc. for Amendment of Division Order No. DD-172(H) to increase the producing area for the North Vacuum Abo West Unit Well No. 30 to permit the horizontal portion of the wellbore to be no closer than 460 feet from the outer boundary of the project area for this well.

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Very truly yours,

WILLIAM F. CARR
Attorney for Texaco Exploration and Production Inc.
cc: ✓ Michael E Stogner,
Chief Engineer

Chris Williams, District Supervisor
Oil Conservation Division District I

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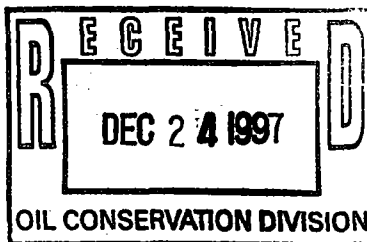
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December 23, 1997

VIA HAND DELIVERY

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Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 Pacheco Street
Santa Fe, New Mexico 87505



Attention: Michael E. Stogner

Re: *Application for Amendment of Division Administrative
Order DD-172(H) for Directional Drilling-Horizontal
North Vacuum Abo West Unit Well No. 30
North Vacuum-Abo Pool
Lea County, New Mexico*

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Texaco therefore makes application for amendment of Order Paragraph 4 of Order DD-172(H) to provide for a producing area that is no closer than 460 feet from the outer boundary of said quarter section.

In support of this application Texaco states:

- A. The surface location of the North Vacuum Abo West Unit Well No. 30 is within the boundaries of the project area which consists of two drilling units, substantially in the form of a square, being a legal subdivision of the U. S. Public Land Survey.
- B. The producing interval in this well will be totally confined to the amended producing area with the measured distance from the North, South, East and West boundaries of the project area inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the North Vacuum-Abo Pool.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 3

- C. The project area includes multiple contiguous drilling units.
- D. The subject well includes a single lateral which will conform to the requirements of this order as amended.

The North Vacuum-Abo West Unit is a candidate for horizontal drilling due to the heterogeneous nature of the reservoir where vertical segregation is common and horizontal wells can drain laterally discontinuous lenses that would not otherwise be exploited without dense vertical well spacing. The Unit was designated a "Project Area" for horizontal drilling in 1996 [see Administrative Orders DD-153(H) and DD-154(H)] and the type log for the pool was presented at that time. Texaco has successfully completed other horizontal wells in this pool.

Attached hereto as Exhibit A is a plat indicating the Section, Township and Range in which this well is located which shows the well's project area (SW/4 of Section 15), the well's surface location, the horizontal plan view for the well, and the producing area for the project well (460 foot set back from the outer boundary of the project area).

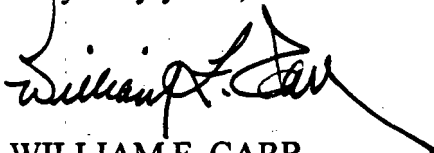
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William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 4

Your attention to this application is appreciated.

Very truly yours,



WILLIAM F. CARR

WFC:mlh
Enclosures

DISTRICT I
P. O. Box 1000, Hobbs, NM 88240

DISTRICT II
P. O. Drawer 60, Artesia, NM 88200

DISTRICT III
1000 Rio Grande St., Alameda, NM 87410

DISTRICT IV
P. O. Box 2000, Santa Fe, NM 87504-2000

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1984

Instructions on back

Submit to Appropriate District Office

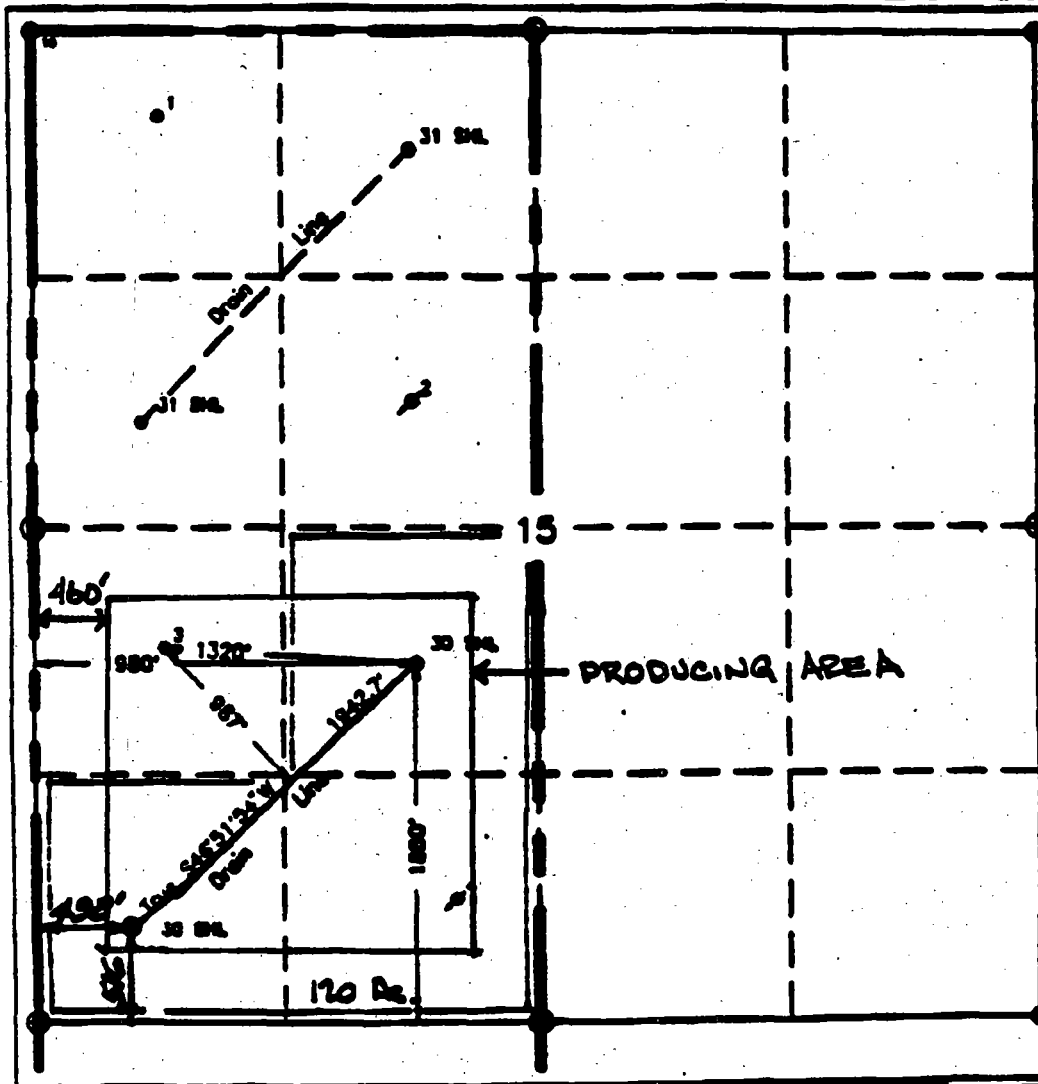
State Lease-4 copies
Fee Lease-3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APN Number 30-025-33987		Well Code 61760		Well Name Vacuum Abn, North				
Property Code 11123		Property Name North Vacuum Abn West Unit		Well Number 30				
County No. 22351		Operator Name TEXACO EXPLORATION & PRODUCTION, INC.		Location 4047				
Surface Location								
UL or BL No. K	Section 15	Township 17-S	Range 34-E	Lot No. 1889	Foot from the North/South line South	Foot from the East/West line 1880	East/West line West	County Lee
Bottom Hole Location if Different From Surface								
UL or BL No. M	Section 15	Township 17-S	Range 34-E	Lot No. 516	Foot from the North/South line South	Foot from the East/West line 432	East/West line West	County Lee
Dedicated Acres 120		Total or Unit		Conservation Code		Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and accurate to the best of my knowledge and belief.

Signature
A. Phil Ryan

Printed Name
A. Phil Ryan

Position
Commission Coordinator

Company
Texaco Expl. & Prod. Inc.

Date
Nov 22, 1987

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
April 2, 1987

Signature & Seal of Professional Surveyor
John S. Piper

Certificate No.
7234 John S. Piper

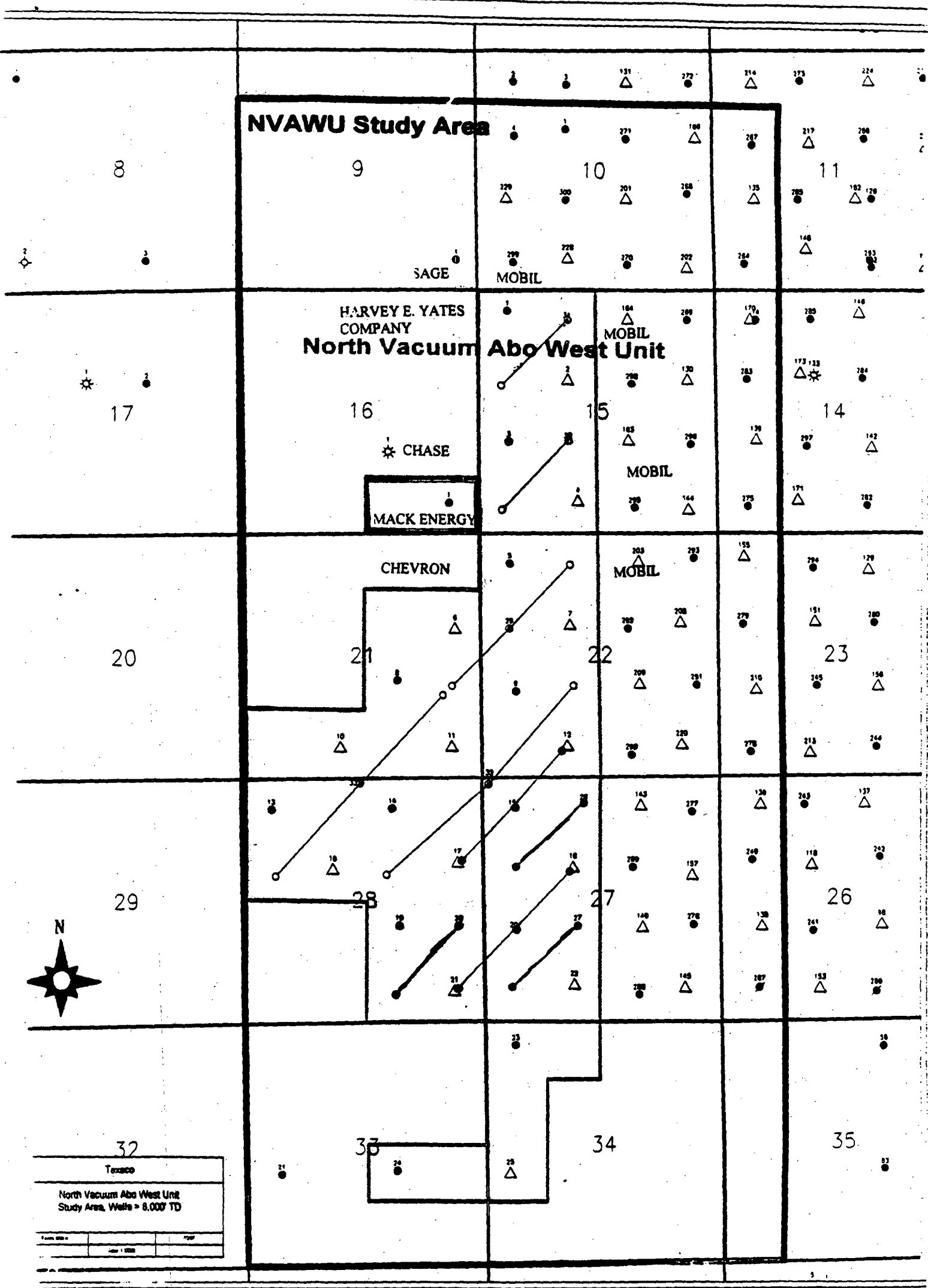


EXHIBIT B

Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #30
 Location: LEA CO., NEW MEXICO
 Declination:
 File name: C:\WINSERVE\NVAWU30.SVY
 Date/Time: 15-Apr-97 / 16:59

TRUE VERTICAL DEPTH (Ft)

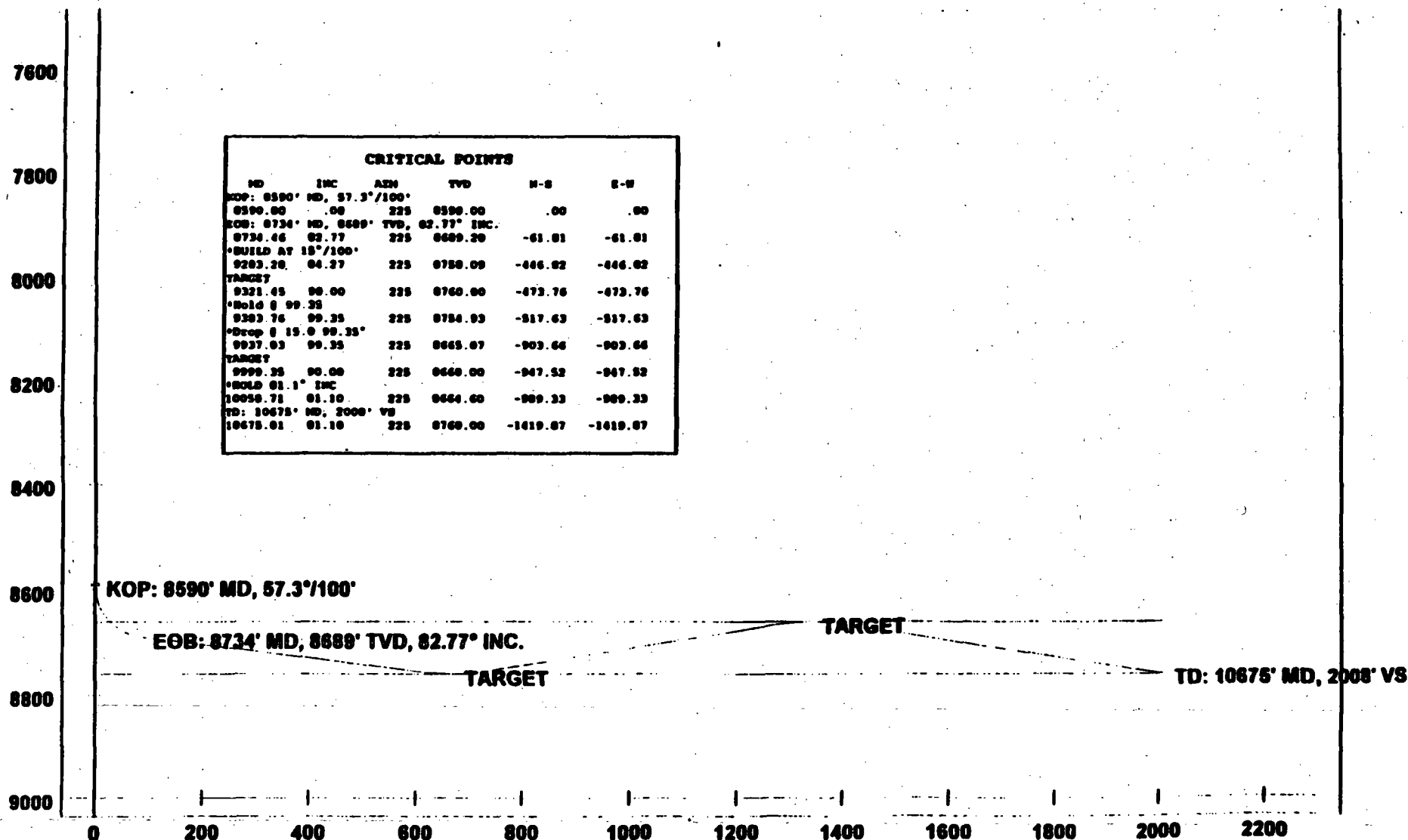


EXHIBIT C

**OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 30
LEA COUNTY, NEW MEXICO**

**Mobil Exploration and Producing US Inc.
Post Office Box 633
Midland, TX 79702**

**Mack Energy Corporation
Post Office Box 1767
Artesia, NM 88211**

**Chevron USA Inc.
Post Office Box 1150
Midland, TX 79702**

**Mack C. Chase &
Chase Oil Corporation
Post Office Box 1767
Artesia, NM 88211**

**Harvey E. Yates Company
Post Office Box 1933
Roswell, NM 88202**

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
MICHAEL H. FELDEWERT
ANTHONY F. MEDEIROS
PAUL R. OWEN

JACK M. CAMPBELL
OF COUNSEL

JEFFERSON PLACE
SUITE 1 - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
FACSIMILE: (505) 983-6043
E-MAIL: ccbspa@ix.netcom.com

December 23, 1997

VIA HAND DELIVERY

William J. LeMay, Director
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
2040 Pacheco Street
Santa Fe, New Mexico 87505

Attention: Michael E. Stogner

Re: *Application for Amendment of Division Administrative
Order DD-172(H) for Directional Drilling-Horizontal
North Vacuum Abo West Unit Well No. 30
North Vacuum-Abo Pool
Lea County, New Mexico*

Gentlemen:

Texaco Exploration and Production Inc. hereby requests amendment of Division Administrative Order DD-172(H) which was entered on May 15, 1997. This Order authorized the initiation of a high angle/horizontal directional drilling project within a non-standard 160-acre oil spacing and proration unit comprising the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, of the North Vacuum Abo West Unit, North Vacuum Abo West Unit Waterflood Project Area, Lea County, New Mexico, by the drilling of the North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool surface oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degree/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 2

Although the Special Pool Rules for the North Vacuum-Abo Pool provide for wells within 200 feet of the center of a governmental quarter-quarter section (460 foot set backs), Texaco requested and Order DD-172(H) provides for a "producing area" for this horizontal wellbore that shall include that area within the SW/4 of said Section 15 that is no closer than 560 feet from the outer boundary of said quarter section. (Order paragraph 4). While drilling the horizontal portion of this wellbore, the quality of the Abo reservoir improved as Texaco approached the 560 foot set back authorized by Order DD-172(H). Due to the improvement in the geologic characteristics of the reservoir which were discovered after the commencement of the project, Texaco continued drilling to a point 516 feet from the South line and 492 feet from the West line of said Section 15. Although this point is within the project area at a point where a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit of the Special Pool Rules and Regulations for the North Vacuum-Abo Pool (Order No. R-2421), it extends beyond the boundary of the "producing area" approved by Order DD-172 (H).

Texaco therefore makes application for amendment of Order Paragraph 4 of Order DD-172(H) to provide for a producing area that is no closer than 460 feet from the outer boundary of said quarter section.

In support of this application Texaco states:

- A. The surface location of the North Vacuum Abo West Unit Well No. 30 is within the boundaries of the project area which consists of two drilling units, substantially in the form of a square, being a legal subdivision of the U. S. Public Land Survey.
- B. The producing interval in this well will be totally confined to the amended producing area with the measured distance from the North, South, East and West boundaries of the project area inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the North Vacuum-Abo Pool.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 3

- C. The project area includes multiple contiguous drilling units.
- D. The subject well includes a single lateral which will conform to the requirements of this order as amended.

The North Vacuum-Abo West Unit is a candidate for horizontal drilling due to the heterogeneous nature of the reservoir where vertical segregation is common and horizontal wells can drain laterally discontinuous lenses that would not otherwise be exploited without dense vertical well spacing. The Unit was designated a "Project Area" for horizontal drilling in 1996 [see Administrative Orders DD-153(H) and DD-154(H)] and the type log for the pool was presented at that time. Texaco has successfully completed other horizontal wells in this pool.

Attached hereto as Exhibit A is a plat indicating the Section, Township and Range in which this well is located which shows the well's project area (SW/4 of Section 15), the well's surface location, the horizontal plan view for the well, and the producing area for the project well (460 foot set back from the outer boundary of the project area).


Exhibit B to this administrative application is a plat showing existing wells in the North Vacuum-Abo Pool in the project area, all offset drilling units in the North Vacuum-Abo Pool, the Abo wells located on these offsetting units and the operators thereof. Exhibit C is a vertical plan view for the well (cross-sectional view) which shows all information required by Division Rule 111.D. (2) (c) and (d).

Attached as Exhibit D is a list of all offsetting operators of spacing units in the West Vacuum-Abo Pool. On or before the date this application was submitted to the Division, each of these operators was notified of this application to amend Order DD-172 (H) by submitting a copy of this application to each of them by Certified Mail, Return Receipt Requested. Each was advised that if they have an objection to this application it must be filed with the Division's Santa Fe Office in writing within twenty days of the date of the Certified Letter.

William J. LeMay, Director
Oil Conservation Division
December 23, 1997
Page 4

Your attention to this application is appreciated.

Very truly yours,

A handwritten signature in dark ink, appearing to read "William F. Carr", with a long, sweeping horizontal line extending to the right.

WILLIAM F. CARR

WFC:mlh
Enclosures

DISTRICT I
P. O. Box 1000, Hobbs, NM 88240

DISTRICT II
P. O. Drawer 20, Artesia, NM 88210

DISTRICT III
1000 Rio Grande Rd., Artesia, NM 87410

DISTRICT IV
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease-4 copies
Fee Lease-3 copies

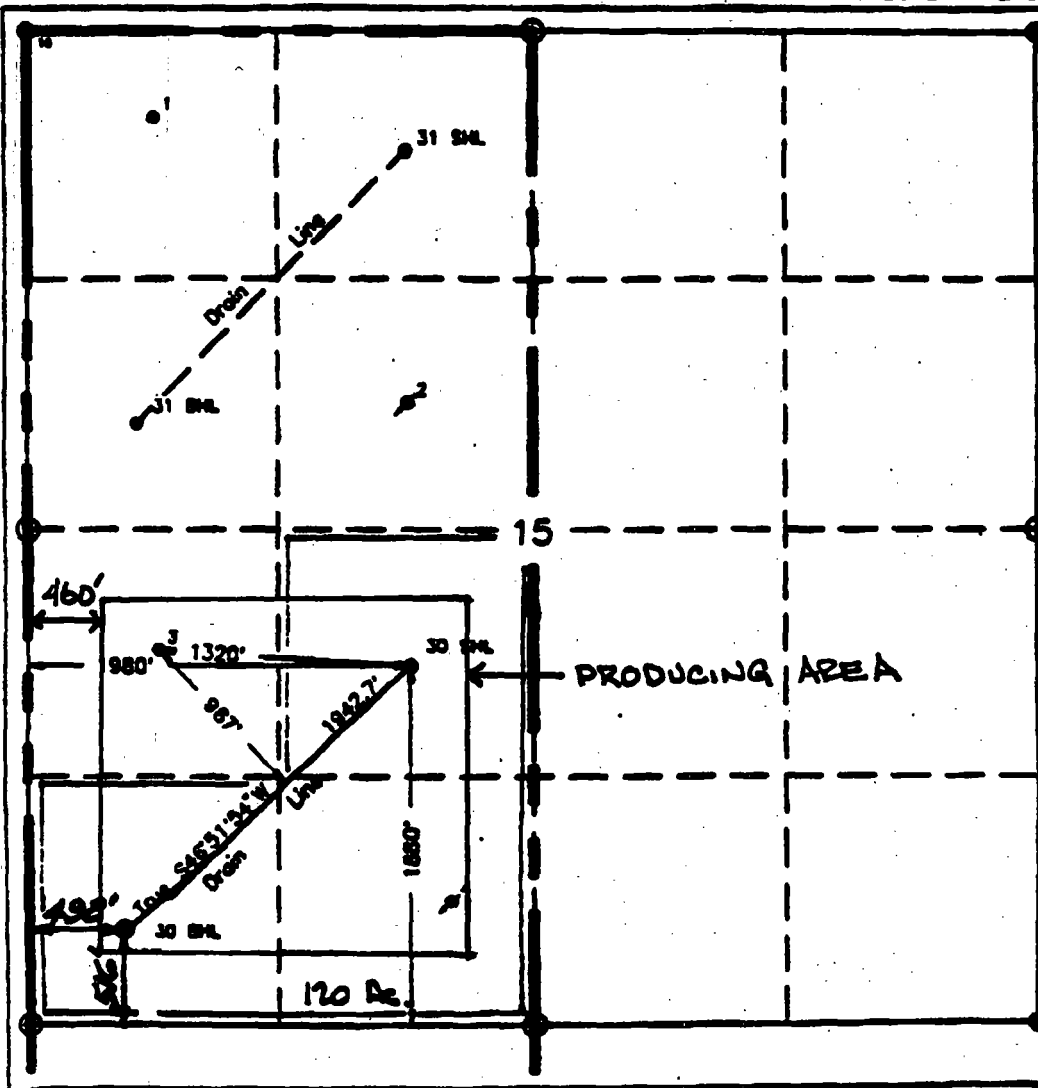
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-33987	Well Code 61760	Well Name Vacuum Abo, North
Property Code 11123	Property Name North Vacuum Abo West Unit	
Order No. 22381	Operator Name TEXACO EXPLORATION & PRODUCTION, INC.	
	Well Number 30	Deviation 4047

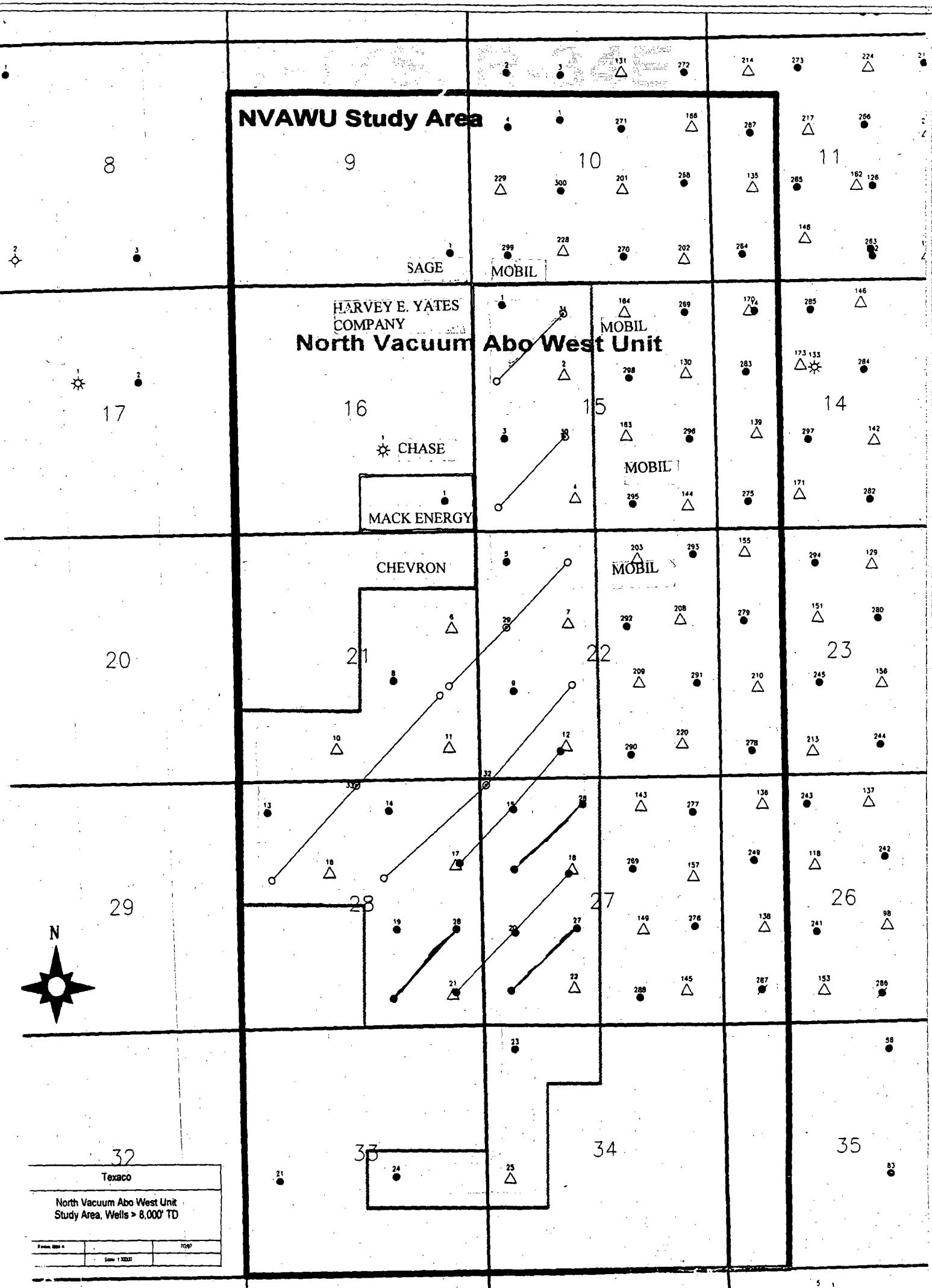
Surface Location									
UL or lot no. K	Section 15	Township 17-S	Range 34-E	Lot no. 	Feet from the 1880'	North/South line South	Feet from the 1880'	East/West line West	County Lee
Bottom Hole Location if Different From Surface									
UL or lot no. M	Section 15	Township 17-S	Range 34-E	Lot no. 	Feet from the 516	North/South line South	Feet from the 492	East/West line West	County Lee
Dedicated Acres 120		Joint or Infill 		Consolidation Code 		Order No. 			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.



OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature <i>D. Phil Ryan</i>	Printed Name R. Phil Ryan
Position Commission Coordinator	
Company Texaco Expl. & Prod. Inc.	
Date Nov 20, 1997	
SURVEYOR CERTIFICATION	
I hereby certify that the well location shown on this plat was plotted from field notes of certain surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief.	
Date Surveyed April 2, 1997	
Signature & Seal of Professional Surveyor <i>John S. Piper</i>	
Certificate No. 7254 John S. Piper	

EXHIBIT A



Scale 1:30000.

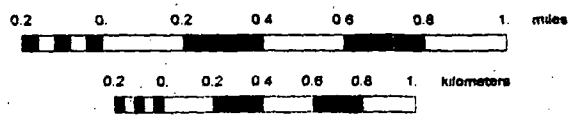


EXHIBIT B

Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #30
 Location: LEA CO., NEW MEXICO
 Declination:
 File name: C:\WINSERVE\NVAWU30.SVY
 Date/Time: 15-Apr-97 / 16:59

TRUE VERTICAL DEPTH (Ft)

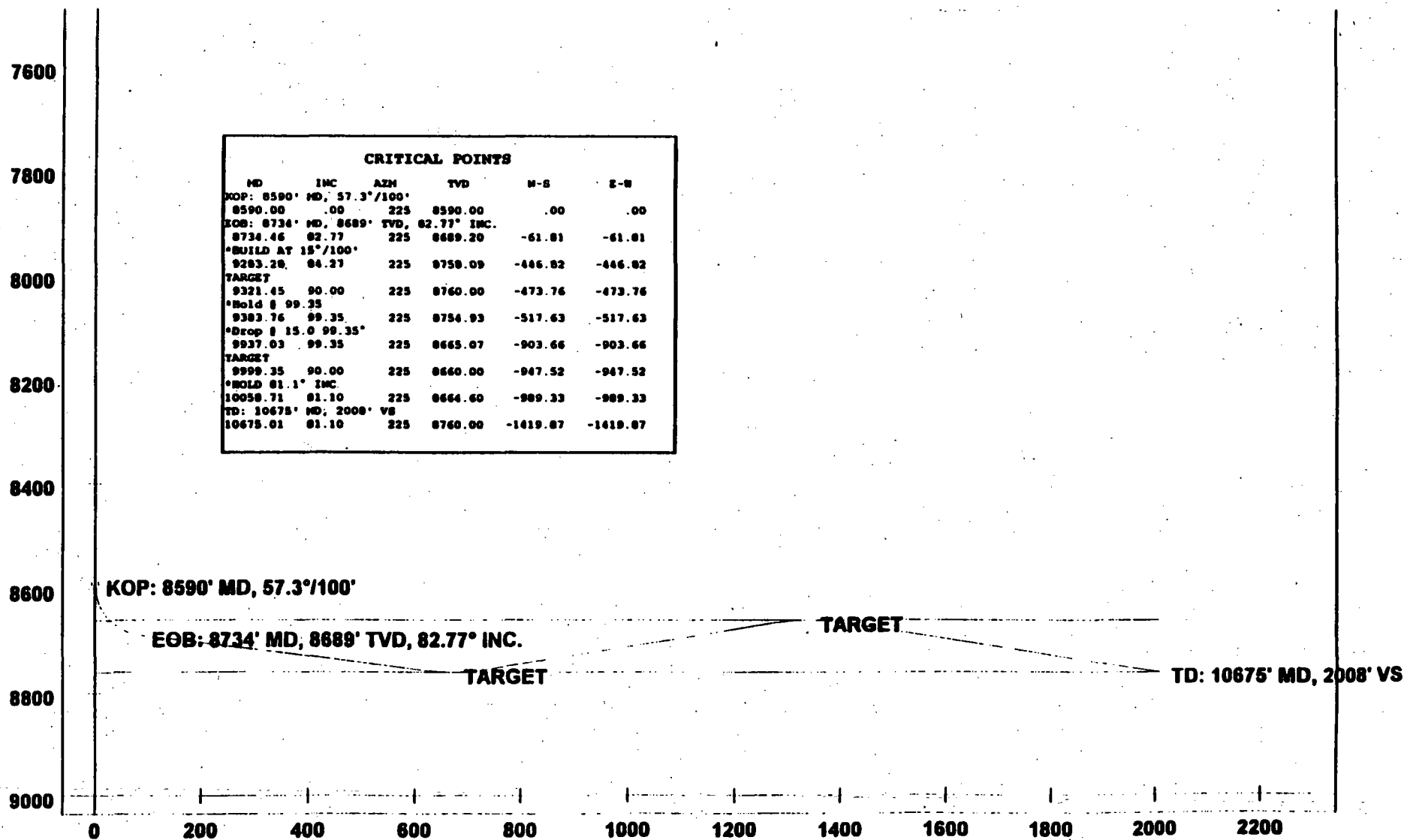


EXHIBIT C

OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 30
LEA COUNTY, NEW MEXICO

Mobil Exploration and Producing US Inc.
Post Office Box 633
Midland, TX 79702

Mack Energy Corporation
Post Office Box 1767
Artesia, NM 88211

Chevron USA Inc.
Post Office Box 1150
Midland, TX 79702

Mack C. Chase &
Chase Oil Corporation
Post Office Box 1767
Artesia, NM 88211

Harvey E. Yates Company
Post Office Box 1933
Roswell, NM 88202



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

May 15, 1997

Texaco Exploration and Production, Inc.
P. O. Box 3109
Midland, Texas 79702
Attention: C. Wade Howard

Administrative Order DD-172(H)
High Angle/Horizontal

Dear Mr. Howard:

Reference is made to your application dated April 17, 1997 for authorization to initiate a high angle/horizontal directionally drilling project within the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, Lea County, New Mexico.

The Division Director Finds That:

- (1) The application of Texaco Exploration and Production, Inc. ("Texaco") as operator of the North Vacuum Abo West Unit (approved by Division Order No. R-6822, dated November 18, 1981) has been duly filed under the provisions of Rule 111.D and E of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
- (2) The proposed high angle/horizontal directionally drilling project is within the applicant's North Vacuum Abo West Unit Waterflood Project Area (established by Division Order No. R-6857, as amended) and as such Division General Rule 701.G(4) applies, which states that wells within waterflood project areas are not subject to an oil allowable;
- (3) All of said Section 15 is within the horizontal limits of the North Vacuum-Abo Pool, said pool is subject to the "*Special Rules and Regulations for the North Vacuum-Abo (Oil) Pool*", as promulgated by Division Order No. R-2421, as amended, which provides for 80-acre oil spacing and proration units, or drilling units, and requires that wells be located within a 200 foot radius of the center of

a governmental quarter-quarter section or lot, provided that the first well on the 80-acre unit is located in either the NW/4 or SE/4 of a governmental quarter section;

- (4) Texaco is seeking to initiate a high angle/horizontal directional drilling project within this portion of the North Vacuum-Abo Pool, which is a heterogeneous reservoir where vertical segregation is common, in an attempt to drain laterally discontinuous lenses that would not otherwise be exploited without dense vertical well spacing [see files for Division Administrative Orders DD-153(H), DD-154(H), DD-167(H), and DD-168(H)];
- (5) Texaco is currently developing the North Vacuum-Abo Pool within the SW/4 of said Section 15 with water injection into its North Vacuum Abo West Unit Well No. 4 (API No. 30-025-23735), located at a standard Abo well location 660 feet from the South line and 2180 feet from the West line (Unit N) of said Section 15 and producing from its North Vacuum Abo West Unit Well No. 3 (API No. 30-025-24495), located within a standard 80-acre oil spacing and proration unit comprising the N/2 SW/4 of said Section 15 at a standard oil well location 1980 feet from the South line and 660 feet from the West line (Unit L) of said Section 15;
- (6) The "project area" proposed by Texaco would consist of an over-sized spacing unit comprising 160 acres (two standard lay-down 80-acre units) underlying the SW/4 of said Section 15;
- (7) It is Texaco's intent to place its North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degrees/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation;
- (8) The applicable drilling window or "producing area" for said wellbore should include that area within the SW/4 of said Section 15 that is no closer than 560 feet to the outer boundary of the 160-acre project area; and,
- (9) It appears the applicant has satisfied all of the appropriate requirements prescribed in said Rule 111.D and E, the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

IT IS THEREFORE ORDERED THAT:

(1) Texaco Exploration and Production, Inc. ("Texaco") is hereby authorized to initiate a high angle/horizontal directional drilling project within a non-standard 160-acre oil spacing and proration unit comprising the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, North Vacuum Abo West Unit Waterflood Project Area, Lea County, New Mexico, by drilling its North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool surface oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degrees/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation;

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of said directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Hobbs District office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Hobbs offices of the Division upon completion.

(3) The "project area" for said horizontal well shall consist of an oversized 160-acre non-standard oil spacing and proration unit for said pool comprising the SW/4 of said Section 15.

(4) The "producing area" for said horizontal wellbore shall include that area within the SW/4 of said Section 15 that is no closer than 560 feet from the outer boundary of said quarter section.

(5) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F.

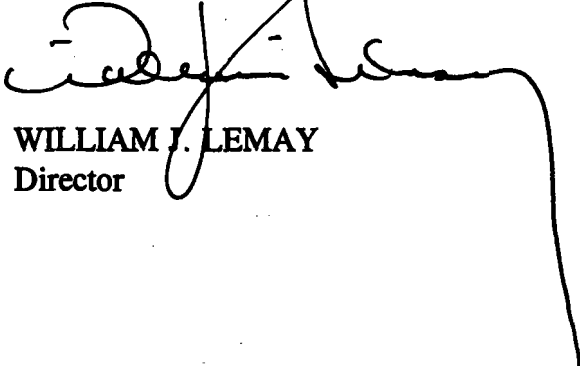
(6) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth (TVD) in addition to measured depths (MVD).

Administrative Order DD-172(H)
Texaco Exploration & Production, Inc.
May 15, 1997
Page 4

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

SEAL

cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe

DD-TEX. H7

May 15, 1997

Rec: 4-23-97

Susy: 5-13-97

Released: 5-15-97

**Texaco Exploration and Production, Inc.
P. O. Box 3109
Midland, Texas 79702**

Attention: C. Wade Howard

172

**Administrative Order DD-*(H)
High Angle/Horizontal**

Dear Mr. Howard:

Reference is made to your application dated April 17, 1997 for authorization to initiate a high angle/horizontal directionally drilling project within the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, Lea County, New Mexico.

The Division Director Finds That:

- (1) The application of Texaco Exploration and Production, Inc. ("Texaco") as operator of the North Vacuum Abo West Unit (approved by Division Order No. R-6822, dated November 18, 1981) has been duly filed under the provisions of Rule 111.D and E of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995;
- (2) The proposed high angle/horizontal directionally drilling project is within the applicant's North Vacuum Abo West Unit Waterflood Project Area (established by Division Order No. R-6857, as amended) and as such Division General Rule 701.G(4) applies, which states that wells within waterflood project areas are not subject to an oil allowable;
- (3) All of said Section 15 is within the horizontal limits of the North Vacuum-Abo Pool, said pool is subject to the "*Special Rules and Regulations for the North Vacuum-Abo (Oil) Pool*", as promulgated by Division Order No. R-2421, as amended, which provides for 80-acre oil spacing and proration units, or drilling units, and requires that wells be located within a 200 foot radius of the center of a governmental quarter-quarter section or lot, provided that the first well on the 80-acre unit is located in either the NW/4 or SE/4 of a governmental quarter

section;

- (4) Texaco is seeking to initiate a high angle/horizontal directional drilling project within this portion of the North Vacuum-Abo Pool, which is a heterogeneous reservoir where vertical segregation is common, in an attempt to drain laterally discontinuous lenses that would not otherwise be exploited without dense vertical well spacing [see files for Division Administrative Orders DD-153(H), DD-154(H), DD-167(H), and DD-168(H)];
- (5) Texaco is currently developing the North Vacuum-Abo Pool within the SW/4 of said Section 15 with water injection into its North Vacuum Abo West Unit Well No. 4 (API No. 30-025-23735), located at a standard Abo well location 660 feet from the South line and 2180 feet from the West line (Unit N) of said Section 15 and producing from its North Vacuum Abo West Unit Well No. 3 (API No. 30-025-24495), located within a standard 80-acre oil spacing and proration unit comprising the N/2 SW/4 of said Section 15 at a standard oil well location 1980 feet from the South line and 660 feet from the West line (Unit L) of said Section 15;
- (6) The "project area" proposed by Texaco would consist of an over-sized spacing unit comprising 160 acres (two standard lay-down 80-acre units) underlying the SW/4 of said Section 15;
- (7) It is Texaco's intent to place its North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degrees/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation;
- (8) The applicable drilling window or "producing area" for said wellbore should include that area within the SW/4 of said Section 15 that is no closer than 560 feet to the outer boundary of the 160-acre project area; and,
- (9) It appears the applicant has satisfied all of the appropriate requirements prescribed in said Rule 111.D and E, the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rule 111.

IT IS THEREFORE ORDERED THAT:

- (1) Texaco Exploration and Production, Inc. ("Texaco") is hereby authorized to initiate a high angle/horizontal directional drilling project within a non-standard 160-acre oil

spacing and proration unit comprising the SW/4 of Section 15, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, North Vacuum Abo West Unit, North Vacuum Abo West Unit Waterflood Project Area, Lea County, New Mexico, by drilling its North Vacuum Abo West Unit Well No. 30 at a standard North Vacuum-Abo Pool surface oil well location 1880 feet from the South line and 1980 feet from the West line (Unit K) of said Section 15, drill vertically to an approximate depth of 8,600 feet, kick-off in a southwesterly direction with a short radius wellbore (57.3 degrees/100 feet), and drill in a somewhat horizontal fashion a lateral distance of approximately 2,000 feet through the Abo formation;

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of said directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottomhole location, as well as the wellbore's true depth and course, may be determined.

(2) The applicant shall notify the supervisor of the Hobbs District office of the Division of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Hobbs offices of the Division upon completion.

(3) The "project area" for said horizontal well shall consist of an oversized 160-acre non-standard oil spacing and proration unit for said pool comprising the SW/4 of said Section 15.

(4) The "producing area" for said horizontal wellbore shall include that area within the SW/4 of said Section 15 that is no closer than 560 feet from the outer boundary of said quarter section.

(5) The operator shall comply with all requirements and conditions set forth in Division General Rule 111.E(2) and any applicable requirements in 111.D and F.

(6) Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth (TVD) in addition to measured depths (MVD).

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe

4/23/97 | 5/13/97 | MS | KN | DD

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling

☐ NSL ☒ NSP ☒ DD ☐ SD

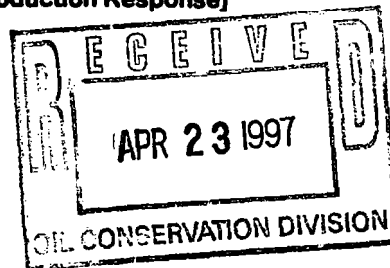
Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR



[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO

U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

C. WADE HOWARD
Print or Type Name

C. Wade Howard
Signature

ENGINEER ASSISTANT
Title

4/21/97
Date



Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

April 17, 1997

GOV - STATE AND LOCAL GOVERNMENTS

Directional Drilling - Horizontal
Non-Standard Proration Unit
North Vacuum Abo West Unit Well No. 30
Vacuum Abo, North Field
Lea County, New Mexico

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Michael E. Stogner

Gentlemen:

Administrative approval, Rule 104.D, and Rule 111.D, is requested to directionally drill a horizontal well in a non-standard proration unit in the Abo formation.

The North Vacuum Abo West Unit is a candidate for horizontal wells due to the heterogeneous nature of the reservoir. This Unit was designated a "Project Area" for horizontal drilling in 1996 (see Administrative Orders DD-153H and DD-154H). We have completed one successful horizontal well in this Unit (Well No. 26) and are currently completing second horizontal well (No. 27).

Attached for your information is a copy of our directional plans, a type log section, and Form C-102.

The "affected" offset operator to this well has been notified of this request. (See attached offset operator's list and certified mail receipts.)

Any questions concerning this request should be directed to me at (915) 688-4606.

Yours very truly,

C. W. Howard
Engineer Assistant

CWH:
CC: NMOCD, P. O. Box 1980, Hobbs, NM 88240
Attachments

DISTRICT I
P. O. Box 1980, Hobbs, NM 88240

DISTRICT II
P. O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

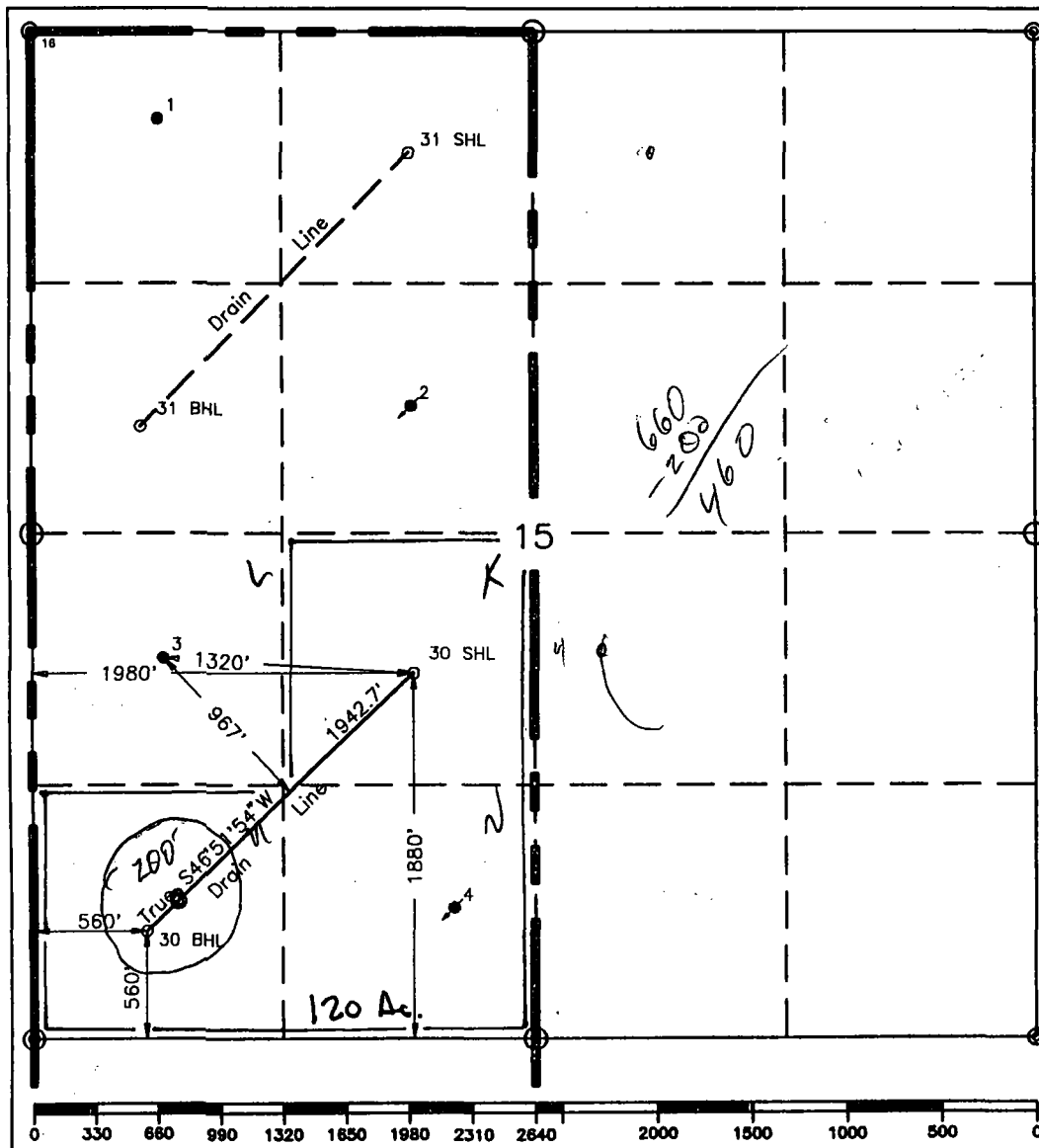
State Lease-4 copies
Fee Lease-3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 61760		³ Pool Name Vacuum Abo, North					
⁴ Property Code 11123		⁵ Property Name North Vacuum Abo West Unit						⁶ Well Number 30	
⁷ OGRID No. 22351		⁸ Operator Name TEXACO EXPLORATION & PRODUCTION, INC.						⁹ Elevation 4047'	
¹⁰ Surface Location									
UL or lot no. K	Section 15	Township 17-S	Range 34-E	Lot Idn	Feet from the 1880'	North/South line South	Feet from the 1980'	East/West line West	⁷ County Lea
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. M	Section 15	Township 17-S	Range 34-E	Lot Idn	Feet from the 560'	North/South line South	Feet from the 560'	East/West line West	⁷ County Lea
¹² Dedicated Acres 120		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.



¹ OPERATOR CERTIFICATION

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

Signature

C. Wade Howard

Printed Name

C. Wade Howard

Position

Engineer's Assistant

Company

Texaco Expl. & Prod. Inc.

Date

April 7, 1997

¹⁶ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

April 2, 1997

Signature & Seal of
Professional Surveyor

John S. Piper

Certificate No.

7254 John S. Piper

Sheet

○ = Staked Location ● = Producing Well ◆ = Injection Well ○ = Water Supply Well ◆ = Plugged & Abandon Well



Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

April 17, 1997

GOV - STATE AND LOCAL GOVERNMENTS
Directional Drilling - Horizontal
Non-Standard Location
North Vacuum Abo West Unit Well No. 30
Sec. 15, T-17-S, R-34-E
Lea County, New Mexico

TO THE OFFSET OPERATORS:

Gentlemen:

As an offset operator to the captioned unit, you are being furnished with a copy of our Application to directionally drill a horizontal well. If you have no objection, please sign the waiver at the bottom of this letter and return in the enclosed envelope.

Any questions concerning this request should be directed to me at (915) 688-4606.

Yours very truly,

C. Wade Howard

C. W. Howard
Engineer Assistant

CWH:cwh

File

WAIVER APPROVED:

COMPANY: _____

BY: _____

DATE: _____

OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 30
LEA COUNTY, NEW MEXICO

Mobil Exploration and Producing US Inc.
P. O. Box 633
Midland, Texas 79702

Mack Energy Corporation
P. O. Box 1767
Artesia, NM 88211

Chevron USA Inc.
P. O. Box 1150
Midland, Texas 79702

Mack C. Chase &
Chase Oil Corporation
P. O. Box 1767
Artesia, New Mexico 88211

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mobil Exploration and
Producing US Inc.
P. O. Box 633
Midland, TX 79702

4a. Article Number

P 497 363 312

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

APR 13 1997

5. Received By: (Print Name)

6. Signature (Addressee or Agent)

[Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mack Energy Corporation
P. O. Box 1767
Artesia, NM 88211

4a. Article Number

P 497 362 859

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

4-18-97

5. Received By: (Print Name)

6. Signature (Addressee or Agent)

[Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mack C. Chase &
Chase Oil Corporation
P. O. Box 1767
Artesia, NM 88211

4a. Article Number
P 497 362 884

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
4-18-97

5. Received By: (Print Name)
Sylvia Henisley

6. Signature: (Addressee or Agent)
X *Sylvia Henisley*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994 Domestic Return Receipt

Thank you for using Return Receipt Service

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Chevron USA Inc.
P. O. Box 1150
Midland, TX 79702

4a. Article Number
P 497 362 883

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
APR 18 1997

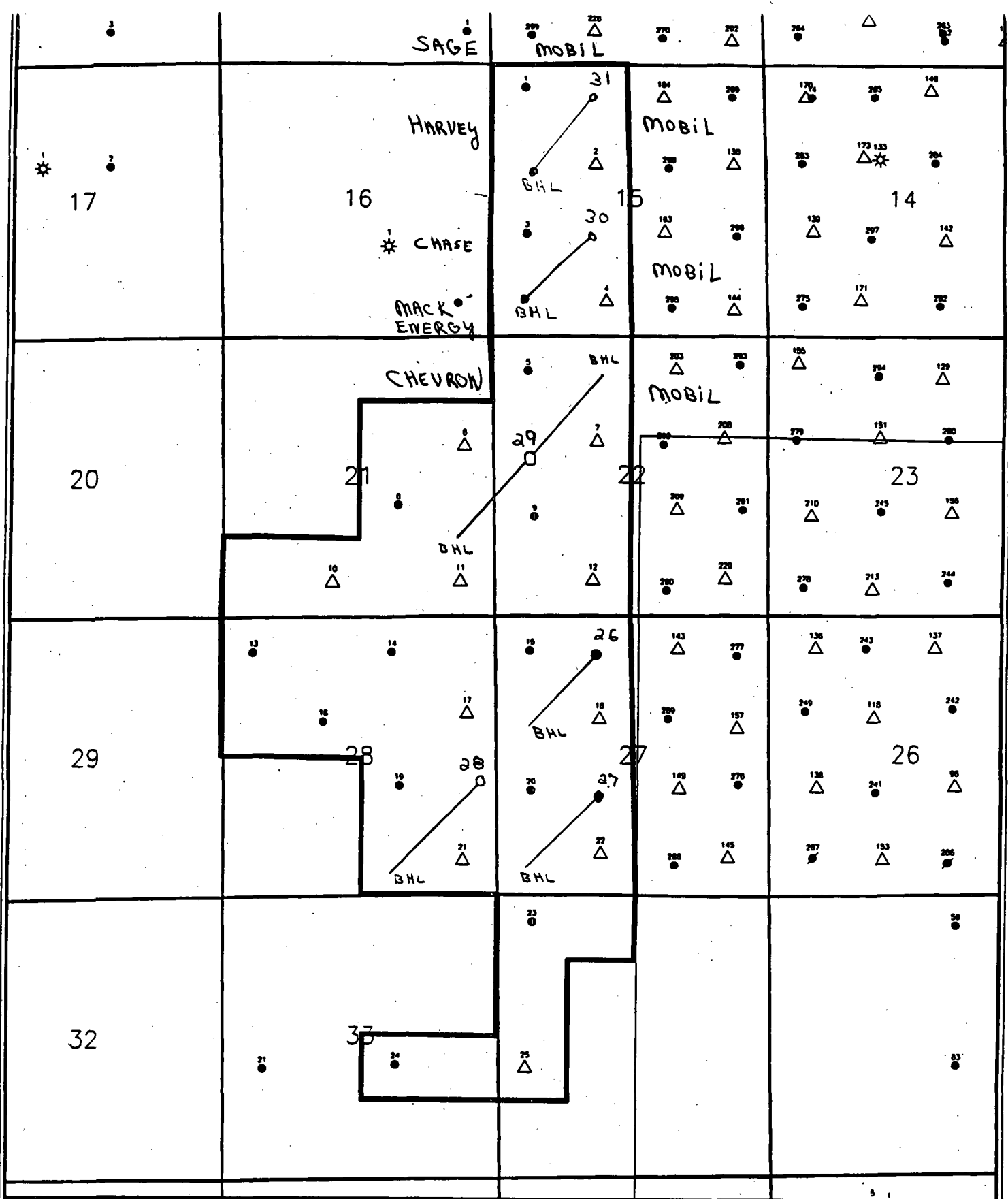
5. Received By: (Print Name)
BOB Bohl

6. Signature: (Addressee or Agent)
X *Bob Bohl*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994 Domestic Return Receipt

Thank you for using Return Receipt Service



Scale 1:30000.

0.2 0. 0.2 0.4 0.6 0.8 1. miles



0.2 0. 0.2 0.4 0.6 0.8 1. kilometers



Texaco Exploration & Production, Inc.

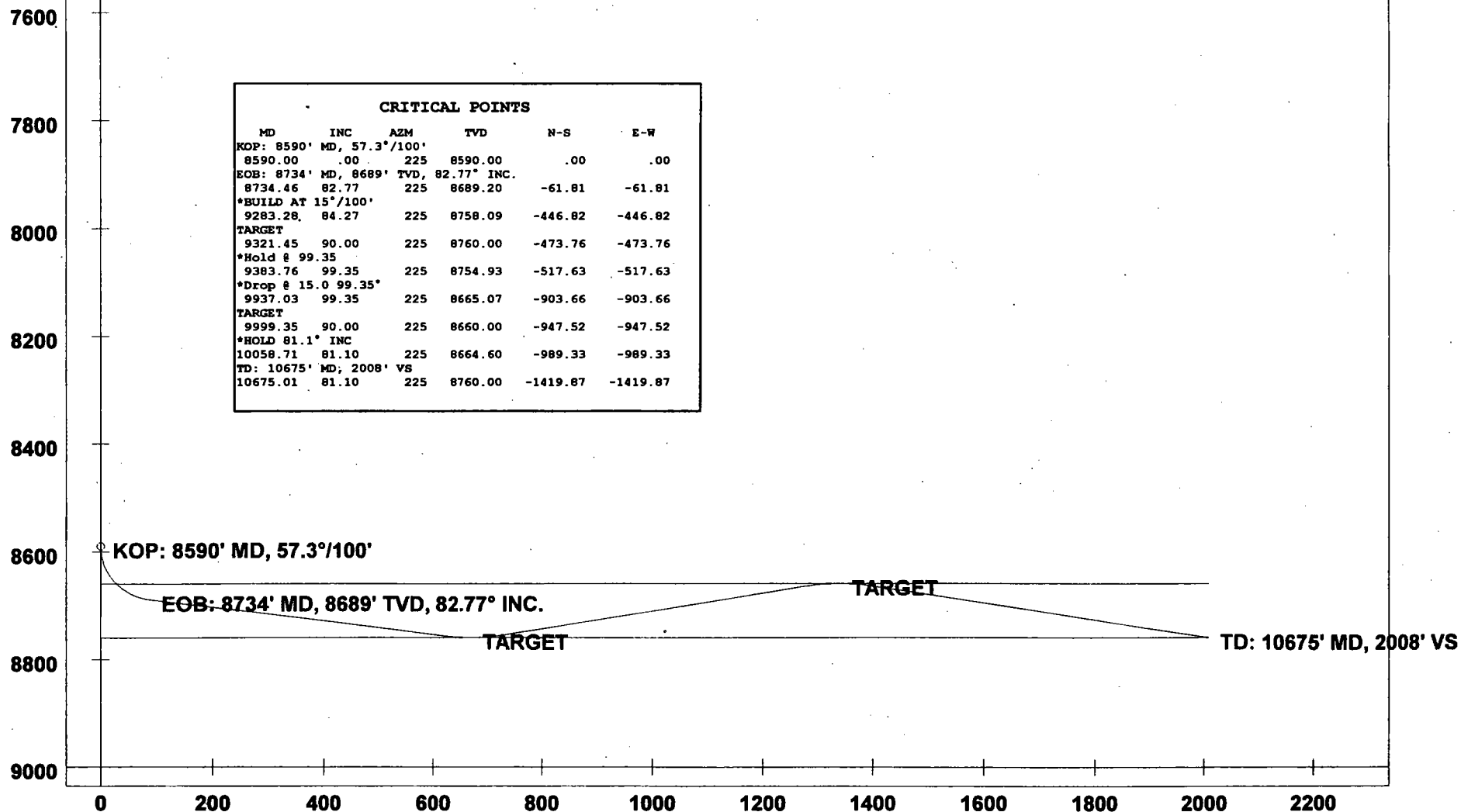
North Vacuum Abo West Unit
Base Map, Wells > 8,000' TD

07/80

Scale 1:30000.

Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #30
 Location: LEA CO., NEW MEXICO
 Declination:
 File name: C:\WINSERVE\NVAWU30.SVY
 Date/Time: 15-Apr-97 / 16:59

TRUE VERTICAL DEPTH (Ft)



-- PRELIMINARY WELL PLAN

VERTICAL SECTION (Ft) @ 225.00°



Job Number:
Company: TEXACO E & P, INC.
Lease/Well: NVAWU #30
Location: LEA CO., NEW MEXICO
Rig Name:
RKB:
G.L. or M.S.L.:

State/Country:
Declination:
Grid:
File name: C:\WINSERVE\NVAWU30.SVY
Date/Time: 15-Apr-97 / 16:59
Curve Name: PRELIMINARY WELL PLAN

PHOENIX DRILLING SERVICES, INC.

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method
Vertical Section Plane 225.00

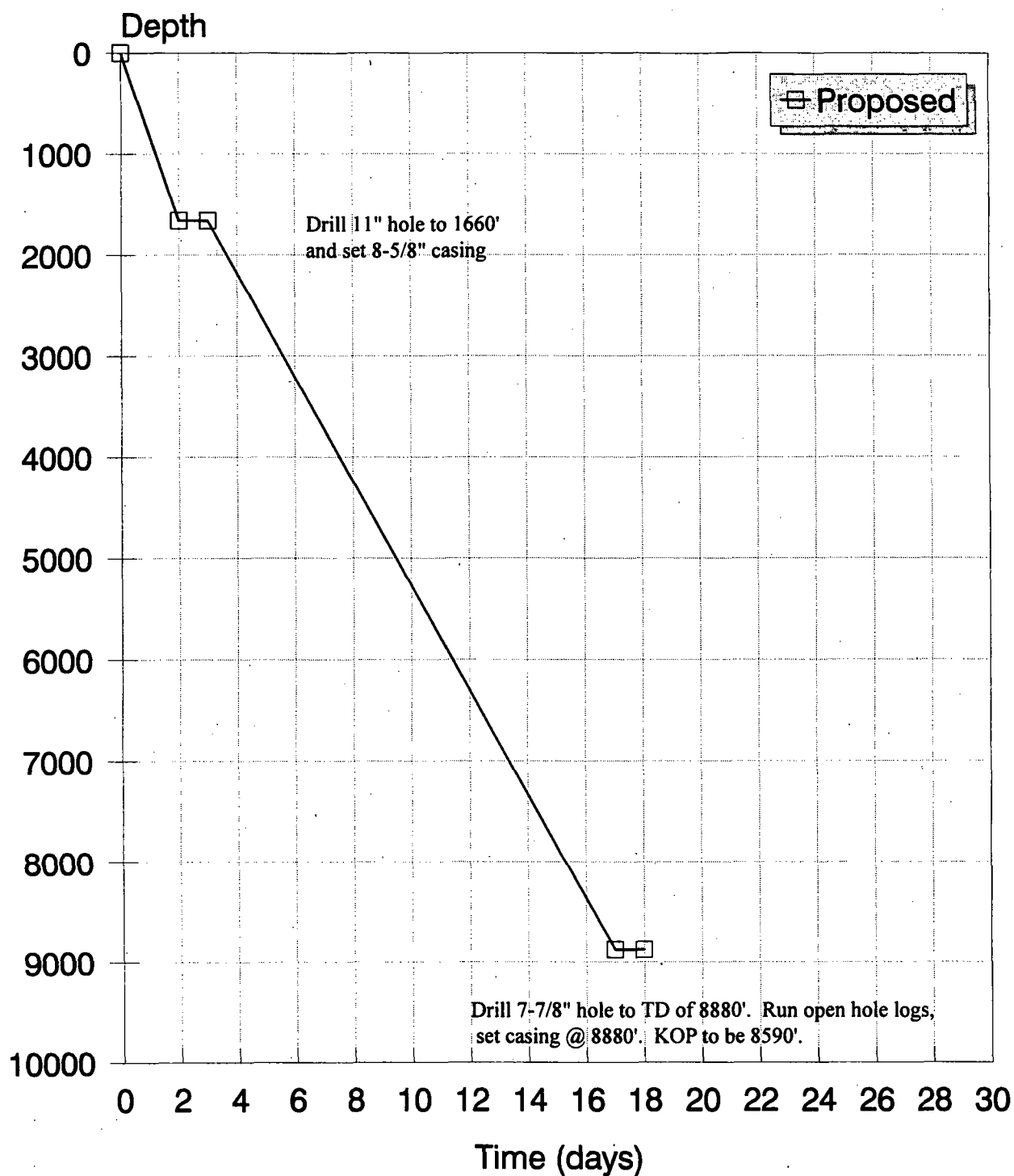
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
KOP: 8590' MD, 57.3°/100'										
8590.00	.00	225.00	8590.00	8590.00	.00	.00	.00	.00	.00	.00
8600.00	5.73	225.00	8599.98	8599.98	-3.35	-3.35	.50	.50	225.00	57.30
8610.00	11.46	225.00	8609.87	8609.87	-1.41	-1.41	1.99	1.99	225.00	57.30
8620.00	17.19	225.00	8619.55	8619.55	-3.16	-3.16	4.47	4.47	225.00	57.30
8630.00	22.92	225.00	8628.94	8628.94	-5.58	-5.58	7.89	7.89	225.00	57.30
8640.00	28.65	225.00	8637.94	8637.94	-8.66	-8.66	12.24	12.24	225.00	57.30
8650.00	34.38	225.00	8646.46	8646.46	-12.35	-12.35	17.47	17.47	225.00	57.30
8660.00	40.11	225.00	8654.42	8654.42	-16.63	-16.63	23.52	23.52	225.00	57.30
8670.00	45.84	225.00	8661.73	8661.73	-21.45	-21.45	30.33	30.33	225.00	57.30
8680.00	51.57	225.00	8668.33	8668.33	-26.76	-26.76	37.84	37.84	225.00	57.30
8690.00	57.30	225.00	8674.14	8674.14	-32.51	-32.51	45.97	45.97	225.00	57.30
8700.00	63.03	225.00	8679.12	8679.12	-38.64	-38.64	54.64	54.64	225.00	57.30

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
								Distance FT	Direction Deg	
8710.00	68.76	225.00	8683.20	8683.20	-45.09	-45.09	63.77	63.77	225.00	57.30
8720.00	74.49	225.00	8686.35	8686.35	-51.80	-51.80	73.25	73.25	225.00	57.30
8730.00	80.22	225.00	8688.54	8688.54	-58.70	-58.70	83.01	83.01	225.00	57.30
EOB: 8734' MD, 8689' TVD, 82.77° INC.										
8734.46	82.77	225.00	8689.20	8689.20	-61.81	-61.81	87.42	87.42	225.00	57.30
9273.28	82.77	225.00	8756.97	8756.97	-439.79	-439.79	621.96	621.96	225.00	.00
BUILD AT 15°/100'										
9283.28	84.27	225.00	8758.09	8758.09	-446.82	-446.82	631.89	631.89	225.00	15.00
9293.28	85.77	225.00	8758.96	8758.96	-453.86	-453.86	641.86	641.86	225.00	15.00
9303.28	87.27	225.00	8759.57	8759.57	-460.92	-460.92	651.84	651.84	225.00	15.00
9313.28	88.77	225.00	8759.91	8759.91	-467.99	-467.99	661.83	661.83	225.00	15.00
TARGET										
9321.45	90.00	225.00	8760.00	8760.00	-473.76	-473.76	670.00	670.00	225.00	15.00
9331.45	91.50	225.00	8759.87	8759.87	-480.83	-480.83	680.00	680.00	225.00	15.00
9341.45	93.00	225.00	8759.48	8759.48	-487.90	-487.90	689.99	689.99	225.00	15.00
9351.45	94.50	225.00	8758.82	8758.82	-494.95	-494.95	699.97	699.97	225.00	15.00
9361.45	96.00	225.00	8757.91	8757.91	-501.99	-501.99	709.93	709.93	225.00	15.00
9371.45	97.50	225.00	8756.73	8756.73	-509.02	-509.02	719.86	719.86	225.00	15.00
9381.45	99.00	225.00	8755.30	8755.30	-516.01	-516.01	729.75	729.75	225.00	15.00
Hold @ 99.35										
9383.76	99.35	225.00	8754.93	8754.93	-517.63	-517.63	732.04	732.04	225.00	15.00
9483.76	99.35	225.00	8738.69	8738.69	-587.40	-587.40	830.71	830.71	225.00	.00
9583.76	99.35	225.00	8722.45	8722.45	-657.17	-657.17	929.38	929.38	225.00	.00
9683.76	99.35	225.00	8706.21	8706.21	-726.94	-726.94	1028.05	1028.05	225.00	.00
9783.76	99.35	225.00	8689.96	8689.96	-796.72	-796.72	1126.73	1126.73	225.00	.00
9883.76	99.35	225.00	8673.72	8673.72	-866.49	-866.49	1225.40	1225.40	225.00	.00
Drop @ 15.0 99.35°										
9937.03	99.35	225.00	8665.07	8665.07	-903.66	-903.66	1277.96	1277.96	225.00	.00
9937.04	99.35	225.00	8665.07	8665.07	-903.66	-903.66	1277.97	1277.97	225.00	15.00
9939.35	99.00	225.00	8664.70	8664.70	-905.27	-905.27	1280.25	1280.25	225.00	15.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
9949.35	97.50	225.00	8663.27	8663.27	-912.27	-912.27	1290.14	1290.14	225.00	15.00
9959.35	96.00	225.00	8662.09	8662.09	-919.29	-919.29	1300.07	1300.07	225.00	15.00
9969.35	94.50	225.00	8661.18	8661.18	-926.33	-926.33	1310.03	1310.03	225.00	15.00
9979.35	93.00	225.00	8660.52	8660.52	-933.39	-933.39	1320.01	1320.01	225.00	15.00
9989.35	91.50	225.00	8660.13	8660.13	-940.45	-940.45	1330.00	1330.00	225.00	15.00
TARGET										
9999.35	90.00	225.00	8660.00	8660.00	-947.52	-947.52	1340.00	1340.00	225.00	15.00
10009.35	88.50	225.00	8660.13	8660.13	-954.59	-954.59	1350.00	1350.00	225.00	15.00
10019.35	87.00	225.00	8660.52	8660.52	-961.66	-961.66	1359.99	1359.99	225.00	15.00
10029.35	85.50	225.00	8661.18	8661.18	-968.71	-968.71	1369.97	1369.97	225.00	15.00
10039.35	84.00	225.00	8662.09	8662.09	-975.76	-975.76	1379.93	1379.93	225.00	15.00
10049.35	82.50	225.00	8663.27	8663.27	-982.78	-982.78	1389.86	1389.86	225.00	15.00
HOLD 81.1° INC										
10058.71	81.10	225.00	8664.60	8664.60	-989.33	-989.33	1399.12	1399.12	225.00	15.00
10158.71	81.10	225.00	8680.08	8680.08	-1059.19	-1059.19	1497.92	1497.92	225.00	.00
10258.71	81.10	225.00	8695.56	8695.56	-1129.05	-1129.05	1596.71	1596.71	225.00	.00
10358.71	81.10	225.00	8711.04	8711.04	-1198.91	-1198.91	1695.51	1695.51	225.00	.00
10458.71	81.10	225.00	8726.52	8726.52	-1268.76	-1268.76	1794.30	1794.30	225.00	.00
10558.71	81.10	225.00	8742.00	8742.00	-1338.62	-1338.62	1893.10	1893.10	225.00	.00
10658.71	81.10	225.00	8757.48	8757.48	-1408.48	-1408.48	1991.89	1991.89	225.00	.00
TD: 10675' MD, 2008' VS										
10675.01	81.10	225.00	8760.00	8760.00	-1419.87	-1419.87	2008.00	2008.00	225.00	.00

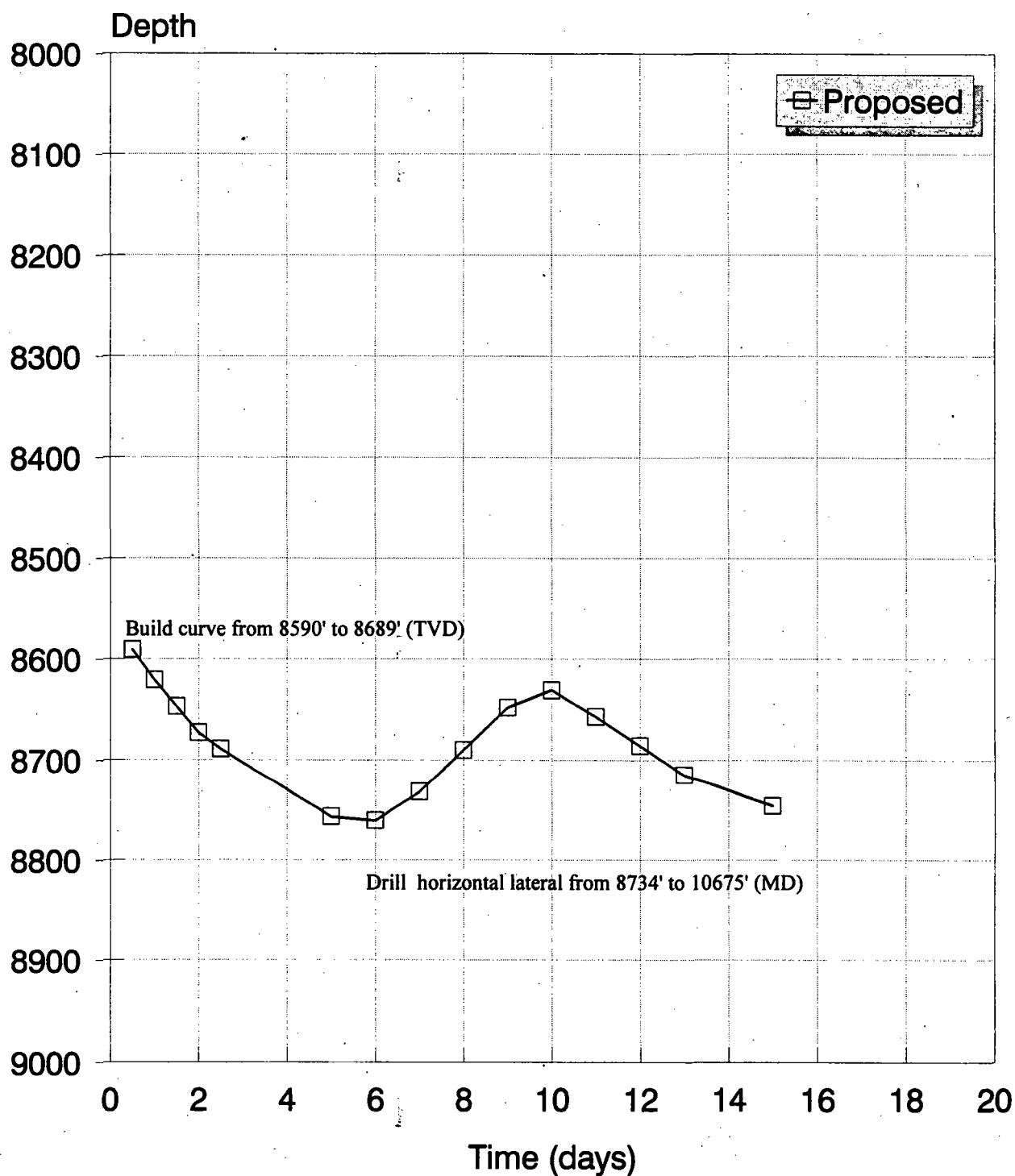
VERTICAL DRILLING CURVE

North Vacuum Abo West Unit # 30H, Lea Co., NM.



HORIZONTAL DRILLING CURVE

North Vacuum Abo West Unit 30H, Lea Co., NM.



COUNTY Lea

POOL

North Vacuum-Abo

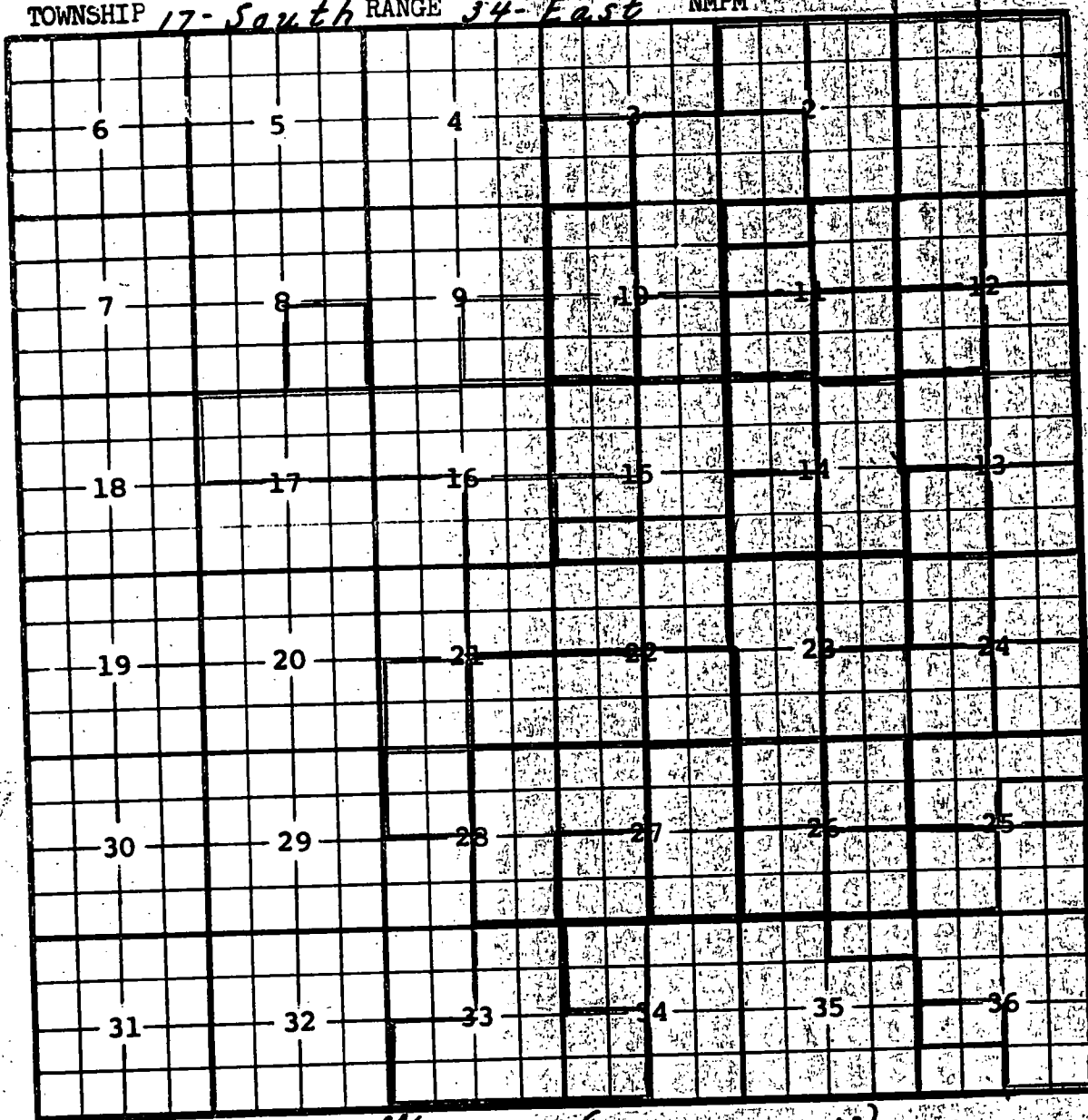
TOWNSHIP

17-South

RANGE

34-East

NMPM



Description: $\frac{1}{4}$ Sec. 26 (R-2421, 2-13-63).
 Ext: $\frac{SW}{4}$ Sec. 25; $\frac{NE}{4}$ Sec. 26 (R-2527, 8-1-63) - $\frac{SE}{4}$ Sec. 25; $\frac{NW}{4}$ Sec. 35;
 $\frac{NW}{4}$ $\frac{E}{2}$ Sec. 36 (R-2569, 10-1-63) - $\frac{NE}{4}$ Sec. 25; $\frac{NW}{4}$ Sec. 36 (R-2771, 10-1-64)
 - $\frac{NE}{4}$ $\frac{NW}{4}$ Sec. 25 (R-2985, 11-1-65) - $\frac{SE}{4}$ Sec. 23; $\frac{SW}{4}$ Sec. 24 (R-3182, 2-1-67)
 - $\frac{NW}{4}$ Sec. 24 (R-3280, 8-1-67) - $\frac{SW}{4}$ Sec. 23; $\frac{NE}{4}$ Sec. 24 (R-3329, 11-1-67) - $\frac{SE}{4}$ Sec. 13;
 $\frac{E}{2}$ Sec. 14 (R-3411, 6-1-68) - $\frac{SE}{4}$ Sec. 11 (R-3530, 11-1-68) - $\frac{NE}{4}$ Sec. 23; $\frac{SE}{4}$ Sec. 24 (R-3681, 3-1-69)
 - $\frac{NE}{4}$ Sec. 11; $\frac{SW}{4}$ Sec. 12; $\frac{NW}{4}$ Sec. 26 (R-3979, 7-1-70) - $\frac{SW}{4}$ Sec. 11; $\frac{SW}{4}$ Sec. 14;
 $\frac{SW}{4}$ Sec. 26 (R-4032, 10-1-70) - $\frac{NW}{4}$ Sec. 14; $\frac{SE}{4}$ Sec. 15; $\frac{E}{2}$ Sec. 27 (R-4063, 12-1-70)
 - $\frac{NW}{4}$ Sec. 3 (R-4086, 2-1-71) - $\frac{SE}{4}$ Sec. 10; $\frac{SW}{4}$ Sec. 11; $\frac{NW}{4}$ Sec. 12;
 $\frac{NE}{4}$ Sec. 22 (R-4132, 5-1-71) - $\frac{NW}{4}$ Sec. 11; $\frac{SE}{4}$ Sec. 12; $\frac{NE}{4}$ Sec. 13; $\frac{SW}{4}$ Sec. 15;
 $\frac{W}{2}$ Sec. 23 (R-4155, 7-1-71) - $\frac{NE}{4}$ Sec. 12; $\frac{SE}{4}$ Sec. 22 (R-4184, 9-1-71) - $\frac{SW}{4}$ Sec. 2; $\frac{SE}{4}$ Sec. 3;
 $\frac{NE}{4}$ Sec. 10 (R-4194, 10-1-71) - $\frac{NE}{4}$ $\frac{SE}{4}$ Sec. 15; $\frac{NW}{4}$ Sec. 27; $\frac{E}{2}$ Sec. 28 (R-4219, 12-1-71)
 - $\frac{SW}{4}$ Sec. 1; $\frac{W}{2}$ Sec. 10; $\frac{NE}{4}$ Sec. 21; $\frac{NW}{4}$ Sec. 22; $\frac{SW}{4}$ Sec. 27 (R-4279, 4-1-72) - $\frac{SE}{4}$ Sec. 21;
 $\frac{SW}{4}$ Sec. 22; $\frac{NW}{4}$ Sec. 28; $\frac{NW}{4}$ Sec. 34 (R-4304, 6-1-72)

Continued Next Page

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
 [DD-Directional Drilling] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
☐ NSL ☒ NSP ☒ DD ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☒ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I further verify that all applicable API Numbers are included. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

C. WADE HOWARD
 Print or Type Name

C. Wade Howard
 Signature

ENGINEER ASSISTANT
 Title

4/21/97
 Date



Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

April 17, 1997

GOV - STATE AND LOCAL GOVERNMENTS

Directional Drilling - Horizontal
Non-Standard Proration Unit
North Vacuum Abo West Unit Well No. 30
Vacuum Abo, North Field
Lea County, New Mexico

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Michael E. Stogner

Gentlemen:

Administrative approval, Rule 104.D, and Rule 111.D, is requested to directionally drill a horizontal well in a non-standard proration unit in the Abo formation.

The North Vacuum Abo West Unit is a candidate for horizontal wells due to the heterogeneous nature of the reservoir. This Unit was designated a "Project Area" for horizontal drilling in 1996 (see Administrative Orders DD-153H and DD-154H). We have completed one successful horizontal well in this Unit (Well No. 26) and are currently completing second horizontal well (No. 27).

Attached for your information is a copy of our directional plans, a type log section, and Form C-102.

The "affected" offset operator to this well has been notified of this request. (See attached offset operator's list and certified mail receipts.)

Any questions concerning this request should be directed to me at (915) 688-4606.

Yours very truly,

C. W. Howard
Engineer Assistant

CWH:
CC: NMOCD, P. O. Box 1980, Hobbs, NM 88240
Attachments

DISTRICT I
P. O. Box 1980, Hobbs, NM 88240

DISTRICT II
P. O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P. O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

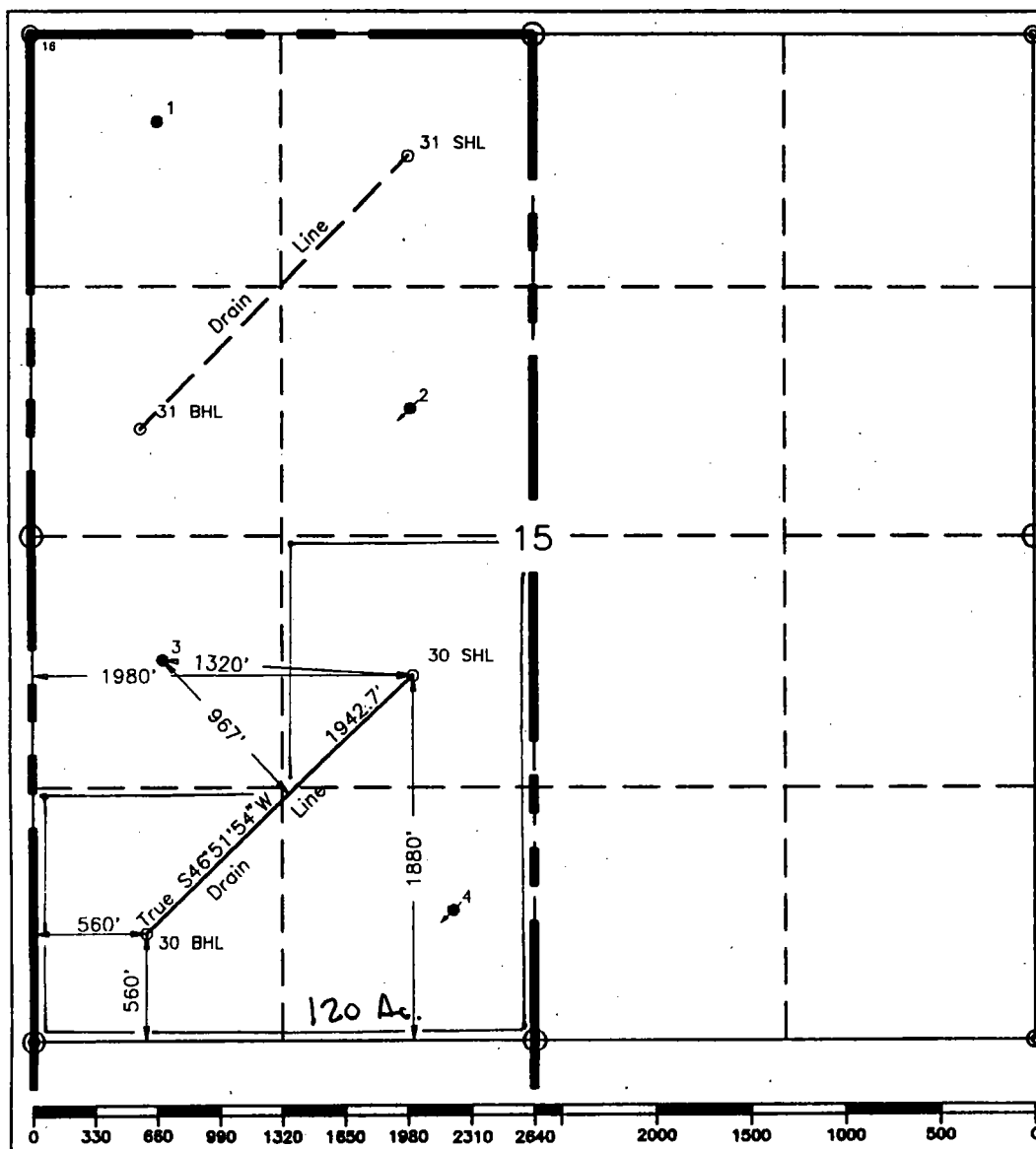
State Lease-4 copies
Fee Lease-3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 61760		³ Pool Name Vacuum Abo, North					
⁴ Property Code 11123		⁵ Property Name North Vacuum Abo West Unit						⁶ Well Number 30	
⁷ OGRID No. 22351		⁸ Operator Name TEXACO EXPLORATION & PRODUCTION, INC.						⁹ Elevation 4047'	
¹⁰ Surface Location									
UL or lot no. K	Section 15	Township 17-S	Range 34-E	Lot Idn	Feet from the 1880'	North/South line South	Feet from the 1980'	East/West line West	⁷ County Lea
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. M	Section 15	Township 17-S	Range 34-E	Lot Idn	Feet from the 560'	North/South line South	Feet from the 560'	East/West line West	⁷ County Lea
¹² Dedicated Acres 120		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION.

	¹⁶ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.
	Signature <i>C. Wade Howard</i>
	Printed Name C. Wade Howard
	Position Engineer's Assistant
	Company Texaco Expl. & Prod. Inc.
	Date April 7, 1997
	¹⁷ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.
	Date Surveyed April 2, 1997
	Signature & Seal of Professional Surveyor <i>John S. Piper</i>
	Certificate No. 7254 John S. Piper

○ = Staked Location ● = Producing Well ◆ = Injection Well ◇ = Water Supply Well * = Plugged & Abandon Well



Texaco Exploration
and Production Inc

501 North Lamar
Midland TX 79701

P.O. Box 3109
Midland TX 79702

April 17, 1997

GOV - STATE AND LOCAL GOVERNMENTS
Directional Drilling - Horizontal
Non-Standard Location
North Vacuum Abo West Unit Well No. 30
Sec. 15, T-17-S, R-34-E
Lea County, New Mexico

TO THE OFFSET OPERATORS:

Gentlemen:

As an offset operator to the captioned unit, you are being furnished with a copy of our Application to directionally drill a horizontal well. If you have no objection, please sign the waiver at the bottom of this letter and return in the enclosed envelope.

Any questions concerning this request should be directed to me at (915) 688-4606.

Yours very truly,

C. Wade Howard

C. W. Howard
Engineer Assistant

CWH:cwh

File

WAIVER APPROVED:

COMPANY: _____

BY: _____

DATE: _____

OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 30
LEA COUNTY, NEW MEXICO

Mobil Exploration and Producing US Inc.
P. O. Box 633
Midland, Texas 79702

Mack Energy Corporation
P. O. Box 1767
Artesia, NM 88211

Chevron USA Inc.
P. O. Box 1150
Midland, Texas 79702

Mack C. Chase &
Chase Oil Corporation
P. O. Box 1767
Artesia, New Mexico 88211

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mobil Exploration and
Producing US Inc.
P. O. Box 633
Midland, TX 79702

4a. Article Number

P 497 363 312

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

APR 18 1997

5. Received By: (Print Name)

6. Signature (Addressee or Agent)

X *Gray Hammond*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mack Energy Corporation
P. O. Box 1767
Artesia, NM 88211

4a. Article Number

P 497 362 859

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

4-18-97

5. Received By: (Print Name)

6. Signature (Addressee or Agent)

X *Shirley Hendrix*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

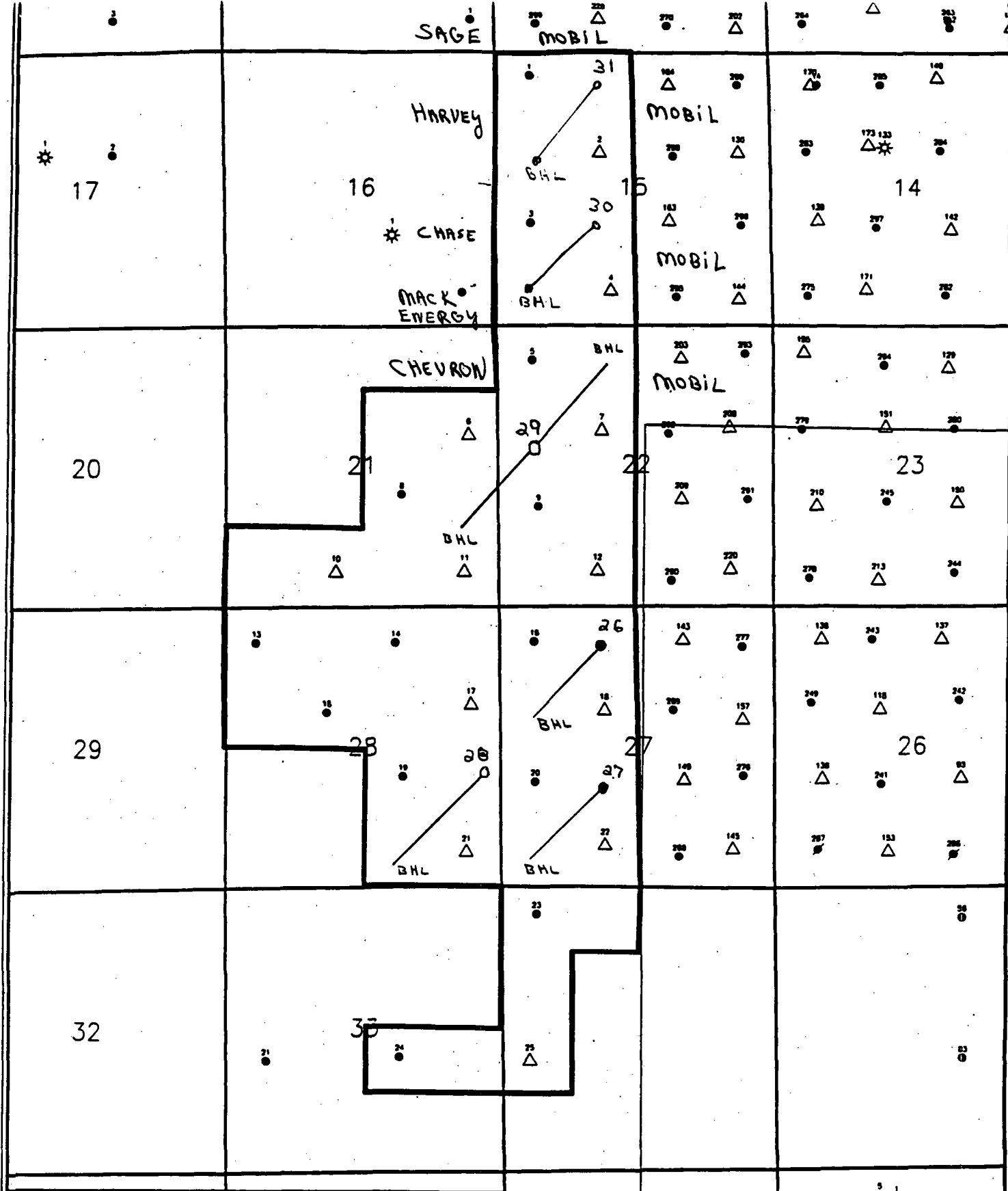
SENDER: ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Mack C. Chase & Chase Oil Corporation P. O. Box 1767 Artesia, NM 88211	4a. Article Number P 497 362 884	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
	7. Date of Delivery 4-18-97	
5. Received By: (Print Name) Sylvia Henisley	8. Addressee's Address (Only if requested and fee is paid)	
6. Signature: (Addressee or Agent) X <i>Sylvia Henisley</i>		
PS Form 3811, December 1984		Domestic Return Receipt

Thank you for using Return Receipt Service.

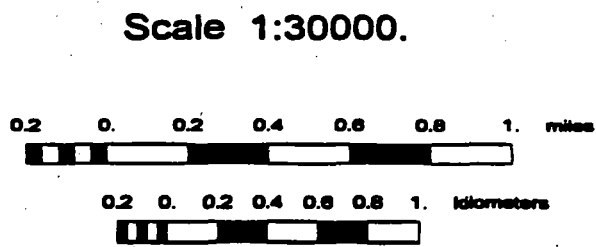
Is your RETURN ADDRESS completed on the reverse side?

SENDER: ■ Complete items 1 and/or 2 for additional services. ■ Complete items 3, 4a, and 4b. ■ Print your name and address on the reverse of this form so that we can return this card to you. ■ Attach this form to the front of the mailpiece, or on the back if space does not permit. ■ Write "Return Receipt Requested" on the mailpiece below the article number. ■ The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Chevron USA Inc. P. O. Box 1150 Midland, TX 79702	4a. Article Number P 497 362 883	4b. Service Type <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> COD
	7. Date of Delivery APR 18 1997	
5. Received By: (Print Name) BOB BENT	8. Addressee's Address (Only if requested and fee is paid)	
6. Signature: (Addressee or Agent) X <i>Bob Bent</i>		
PS Form 3811, December 1984		Domestic Return Receipt

Thank you for using Return Receipt Service.

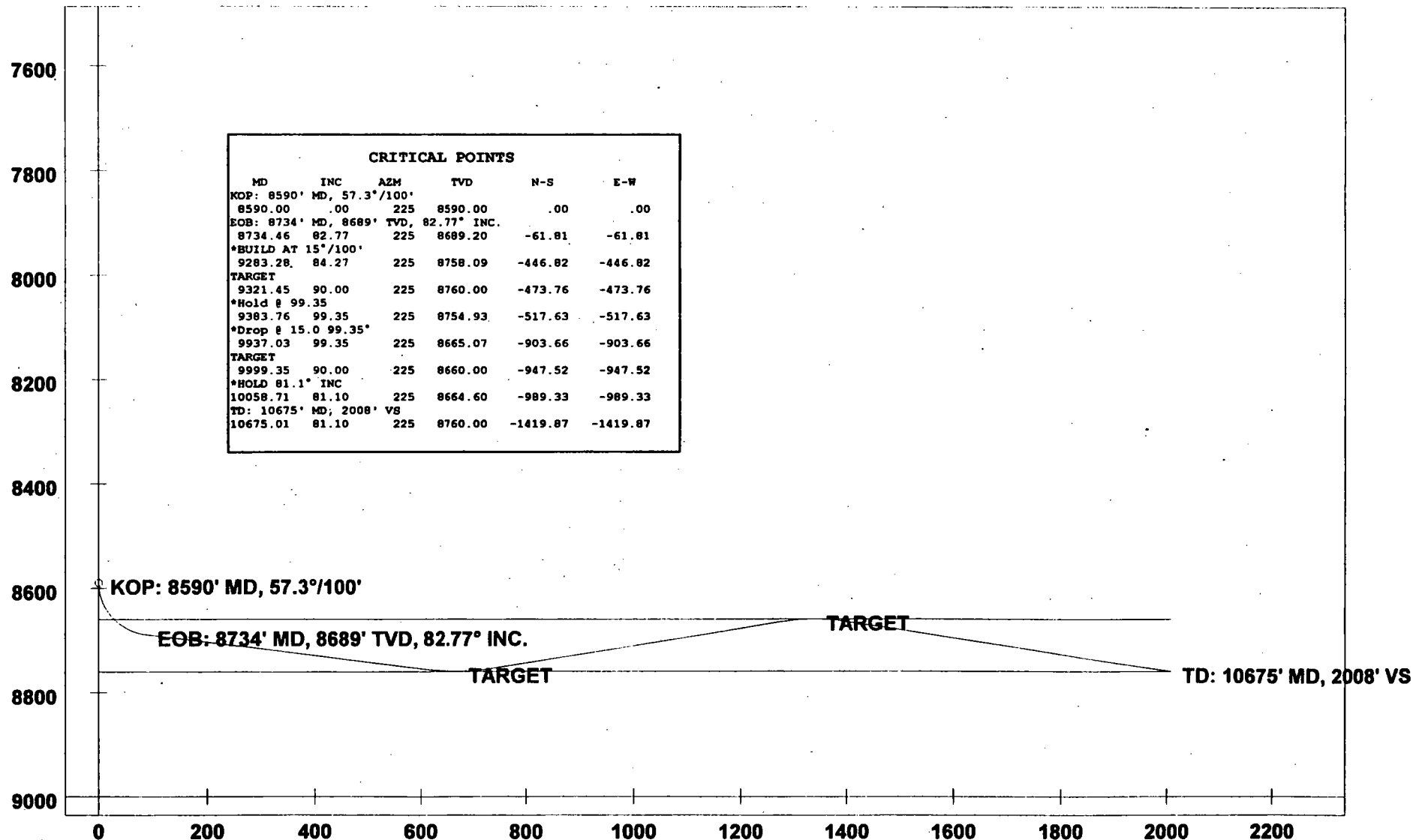


Texaco Exploration & Production, Inc.		
North Vacuum Abo West Unit Base Map, Wells > 8,000' TD		
		07/88
	Scale 1:30,000	



Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #30
 Location: LEA CO., NEW MEXICO
 Declination:
 File name: C:\WINSERVE\NVAWU30.SVY
 Date/Time: 15-Apr-97 / 16:59

TRUE VERTICAL DEPTH (Ft)



-- PRELIMINARY WELL PLAN

VERTICAL SECTION (Ft) @ 225 00°



Job Number:
Company: TEXACO E & P, INC.
Lease/Well: NVAWU #30
Location: LEA CO., NEW MEXICO
Rig Name:
RKB:
G.L. or M.S.L.:

State/Country:
Declination:
Grid:
File name: C:\WINSERVE\NVAWU30.SVY
Date/Time: 15-Apr-97 / 16:59
Curve Name: PRELIMINARY WELL PLAN

PHOENIX DRILLING SERVICES, INC.

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 225.00

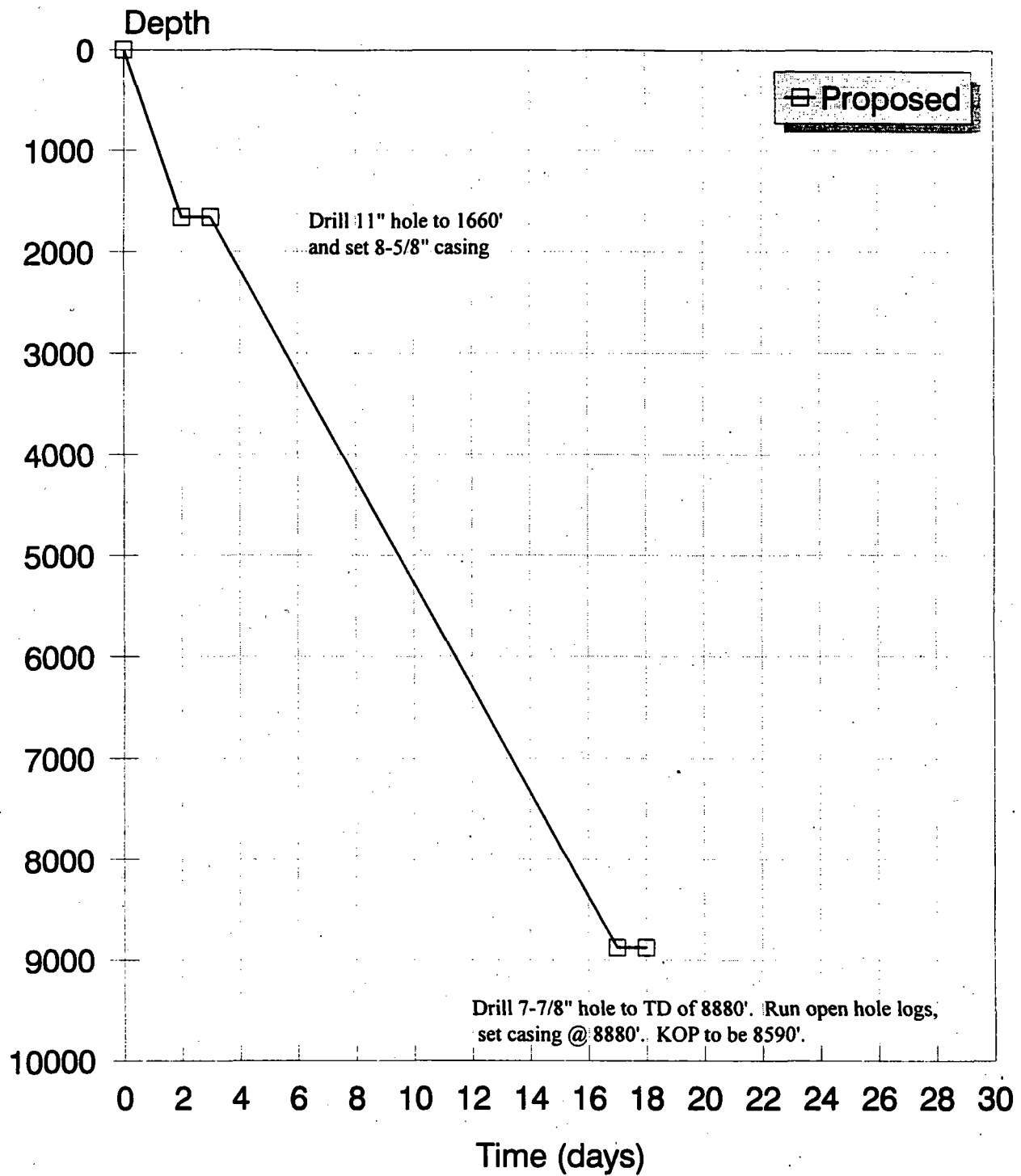
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
KOP: 8590' MD, 57.3°/100'										
8590.00	.00	225.00	8590.00	8590.00	.00	.00	.00	.00	.00	.00
8600.00	5.73	225.00	8599.98	8599.98	-.35	-.35	.50	.50	225.00	57.30
8610.00	11.46	225.00	8609.87	8609.87	-1.41	-1.41	1.99	1.99	225.00	57.30
8620.00	17.19	225.00	8619.55	8619.55	-3.16	-3.16	4.47	4.47	225.00	57.30
8630.00	22.92	225.00	8628.94	8628.94	-5.58	-5.58	7.89	7.89	225.00	57.30
8640.00	28.65	225.00	8637.94	8637.94	-8.66	-8.66	12.24	12.24	225.00	57.30
8650.00	34.38	225.00	8646.46	8646.46	-12.35	-12.35	17.47	17.47	225.00	57.30
8660.00	40.11	225.00	8654.42	8654.42	-16.63	-16.63	23.52	23.52	225.00	57.30
8670.00	45.84	225.00	8661.73	8661.73	-21.45	-21.45	30.33	30.33	225.00	57.30
8680.00	51.57	225.00	8668.33	8668.33	-26.76	-26.76	37.84	37.84	225.00	57.30
8690.00	57.30	225.00	8674.14	8674.14	-32.51	-32.51	45.97	45.97	225.00	57.30
8700.00	63.03	225.00	8679.12	8679.12	-38.64	-38.64	54.64	54.64	225.00	57.30

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
8710.00	68.76	225.00	8683.20	8683.20	-45.09	-45.09	63.77	63.77	225.00	57.30
8720.00	74.49	225.00	8686.35	8686.35	-51.80	-51.80	73.25	73.25	225.00	57.30
8730.00	80.22	225.00	8688.54	8688.54	-58.70	-58.70	83.01	83.01	225.00	57.30
EOB: 8734' MD, 8689' TVD, 82.77° INC.										
8734.46	82.77	225.00	8689.20	8689.20	-61.81	-61.81	87.42	87.42	225.00	57.30
9273.28	82.77	225.00	8756.97	8756.97	-439.79	-439.79	621.96	621.96	225.00	.00
BUILD AT 15°/100'										
9283.28	84.27	225.00	8758.09	8758.09	-446.82	-446.82	631.89	631.89	225.00	15.00
9293.28	85.77	225.00	8758.96	8758.96	-453.86	-453.86	641.86	641.86	225.00	15.00
9303.28	87.27	225.00	8759.57	8759.57	-460.92	-460.92	651.84	651.84	225.00	15.00
9313.28	88.77	225.00	8759.91	8759.91	-467.99	-467.99	661.83	661.83	225.00	15.00
TARGET										
9321.45	90.00	225.00	8760.00	8760.00	-473.76	-473.76	670.00	670.00	225.00	15.00
9331.45	91.50	225.00	8759.87	8759.87	-480.83	-480.83	680.00	680.00	225.00	15.00
9341.45	93.00	225.00	8759.48	8759.48	-487.90	-487.90	689.99	689.99	225.00	15.00
9351.45	94.50	225.00	8758.82	8758.82	-494.95	-494.95	699.97	699.97	225.00	15.00
9361.45	96.00	225.00	8757.91	8757.91	-501.99	-501.99	709.93	709.93	225.00	15.00
9371.45	97.50	225.00	8756.73	8756.73	-509.02	-509.02	719.86	719.86	225.00	15.00
9381.45	99.00	225.00	8755.30	8755.30	-516.01	-516.01	729.75	729.75	225.00	15.00
Hold @ 99.35										
9383.76	99.35	225.00	8754.93	8754.93	-517.63	-517.63	732.04	732.04	225.00	15.00
9483.76	99.35	225.00	8738.69	8738.69	-587.40	-587.40	830.71	830.71	225.00	.00
9583.76	99.35	225.00	8722.45	8722.45	-657.17	-657.17	929.38	929.38	225.00	.00
9683.76	99.35	225.00	8706.21	8706.21	-726.94	-726.94	1028.05	1028.05	225.00	.00
9783.76	99.35	225.00	8689.96	8689.96	-796.72	-796.72	1126.73	1126.73	225.00	.00
9883.76	99.35	225.00	8673.72	8673.72	-866.49	-866.49	1225.40	1225.40	225.00	.00
Drop @ 15.0 99.35°										
9937.03	99.35	225.00	8665.07	8665.07	-903.66	-903.66	1277.96	1277.96	225.00	.00
9937.04	99.35	225.00	8665.07	8665.07	-903.66	-903.66	1277.97	1277.97	225.00	15.00
9939.35	99.00	225.00	8664.70	8664.70	-905.27	-905.27	1280.25	1280.25	225.00	15.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
Distance FT	Direction Deg									
9949.35	97.50	225.00	8663.27	8663.27	-912.27	-912.27	1290.14	1290.14	225.00	15.00
9959.35	96.00	225.00	8662.09	8662.09	-919.29	-919.29	1300.07	1300.07	225.00	15.00
9969.35	94.50	225.00	8661.18	8661.18	-926.33	-926.33	1310.03	1310.03	225.00	15.00
9979.35	93.00	225.00	8660.52	8660.52	-933.39	-933.39	1320.01	1320.01	225.00	15.00
9989.35	91.50	225.00	8660.13	8660.13	-940.45	-940.45	1330.00	1330.00	225.00	15.00
TARGET										
9999.35	90.00	225.00	8660.00	8660.00	-947.52	-947.52	1340.00	1340.00	225.00	15.00
10009.35	88.50	225.00	8660.13	8660.13	-954.59	-954.59	1350.00	1350.00	225.00	15.00
10019.35	87.00	225.00	8660.52	8660.52	-961.66	-961.66	1359.99	1359.99	225.00	15.00
10029.35	85.50	225.00	8661.18	8661.18	-968.71	-968.71	1369.97	1369.97	225.00	15.00
10039.35	84.00	225.00	8662.09	8662.09	-975.76	-975.76	1379.93	1379.93	225.00	15.00
10049.35	82.50	225.00	8663.27	8663.27	-982.78	-982.78	1389.86	1389.86	225.00	15.00
HOLD 81.1° INC										
10058.71	81.10	225.00	8664.60	8664.60	-989.33	-989.33	1399.12	1399.12	225.00	15.00
10158.71	81.10	225.00	8680.08	8680.08	-1059.19	-1059.19	1497.92	1497.92	225.00	.00
10258.71	81.10	225.00	8695.56	8695.56	-1129.05	-1129.05	1596.71	1596.71	225.00	.00
10358.71	81.10	225.00	8711.04	8711.04	-1198.91	-1198.91	1695.51	1695.51	225.00	.00
10458.71	81.10	225.00	8726.52	8726.52	-1268.76	-1268.76	1794.30	1794.30	225.00	.00
10558.71	81.10	225.00	8742.00	8742.00	-1338.62	-1338.62	1893.10	1893.10	225.00	.00
10658.71	81.10	225.00	8757.48	8757.48	-1408.48	-1408.48	1991.89	1991.89	225.00	.00
TD: 10675' MD, 2008' VS										
10675.01	81.10	225.00	8760.00	8760.00	-1419.87	-1419.87	2008.00	2008.00	225.00	.00

VERTICAL DRILLING CURVE

North Vacuum Abo West Unit # 30H, Lea Co., NM.



HORIZONTAL DRILLING CURVE

North Vacuum Abo West Unit 30H, Lea Co., NM.

