Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

September 11, 1996

GOV - STATE AND LOCAL GOVERNMENTS
Directional Drilling - Horizontal
Non-Standard Proration Unit
North Vacuum Abo West Unit Well No. 26
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 111.D and Rule 104.D, is requested to directionally drill a horizontal well in a non-standard eighty-acre proration unit in the Abo formation.

The North Vacuum Abo West Unit is a candidate for a horizontal well due to the heterogeneous nature of the reservoir. Vertical segregation is common, with a productive interval consisting of 4 to 7 (10' to 40' thick) porous zones, which are often subdivided by low porosity lenses. Porosity quality varies laterally from well to well within a single lithologic unit. Additionally, porosity development cross cuts stratigraphic boundaries. Application of this particular version of horizontal technology to this reservoir will allow for drainage from laterally discontinuous lenses which would otherwise not be tapped without dense vertical well spacing. The proposed Northeast - Southwest direction of the horizontal sections are dictated by the current injection patterns on the North Vacuum Abo West Unit and the adjacent North Vacuum Abo Unit which is operated by Mobil. As per our conversation this day, if this well is successful Texaco plans to make this Unit a "Project Area" for horizontal drilling.

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

The "affected" offset operators to this well have been notified of this request (see attached offset operator's list and certified mail receipts). Texaco grants itself a waiver to this request.

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

Yours very truly,

C. Wade Howard

C. W. Howard
Engineer's 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	[3] Pool Name
		Vacuum Abo, North

[4] Property Code	[5] Property Name	[6] Well Number
11123	North Vacuum Abo West Unit	26

[7] OGRID No.	[8] Operator Name	[9] Elevation
22351	TEXACO EXPLORATION & PRODUCTION, INC.	4042'

[10] Surface Location

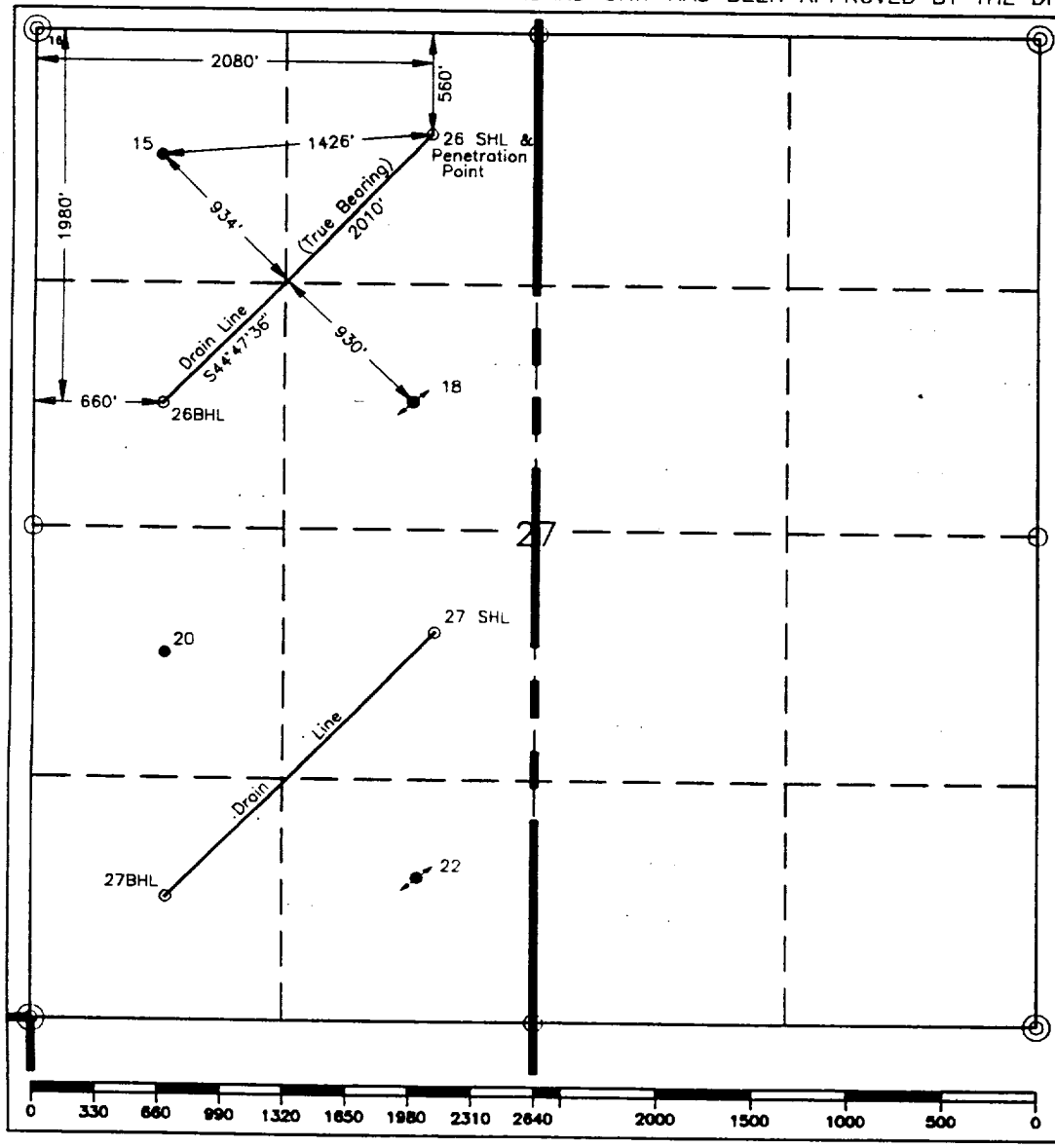
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	[7] County
C	27	17-S	34-E		560'	North	2080'	West	Lea

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	[7] County
E	27	17-S	34-E		1980'	North	660'	West	Lea

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			R-8170 812

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.



[17] 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: September 10, 1996

[18] 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: August 30, 1996

Signature & Seal of Professional Surveyor

Certificate No. 7254 John S. Piper

Sheet

Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

September 11, 1996

GOV - STATE AND LOCAL GOVERNMENTS
Directional Drilling - Horizontal
Non-Standard Proration Unit
North Vacuum Abo West Unit Well No. 26
Sec. 27, 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's Assistant

CWH:cwh

File

WAIVER APPROVED:

COMPANY: _____

BY: _____

DATE: _____

OFFSET OPERATOR'S LIST
North Vacuum Abo West Unit Well No. 26
LEA COUNTY, NEW MEXICO

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

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

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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 + PRODUCING
P.O. BOX 633
MIDLAND, TX 79702

4a. Article Number

P 329 313 816

4b. Service Type

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

7. Date of Delivery DEC 12 1996

5. Signature (Addressee)

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

6. Signature (Agent)

Jesse H Reyes

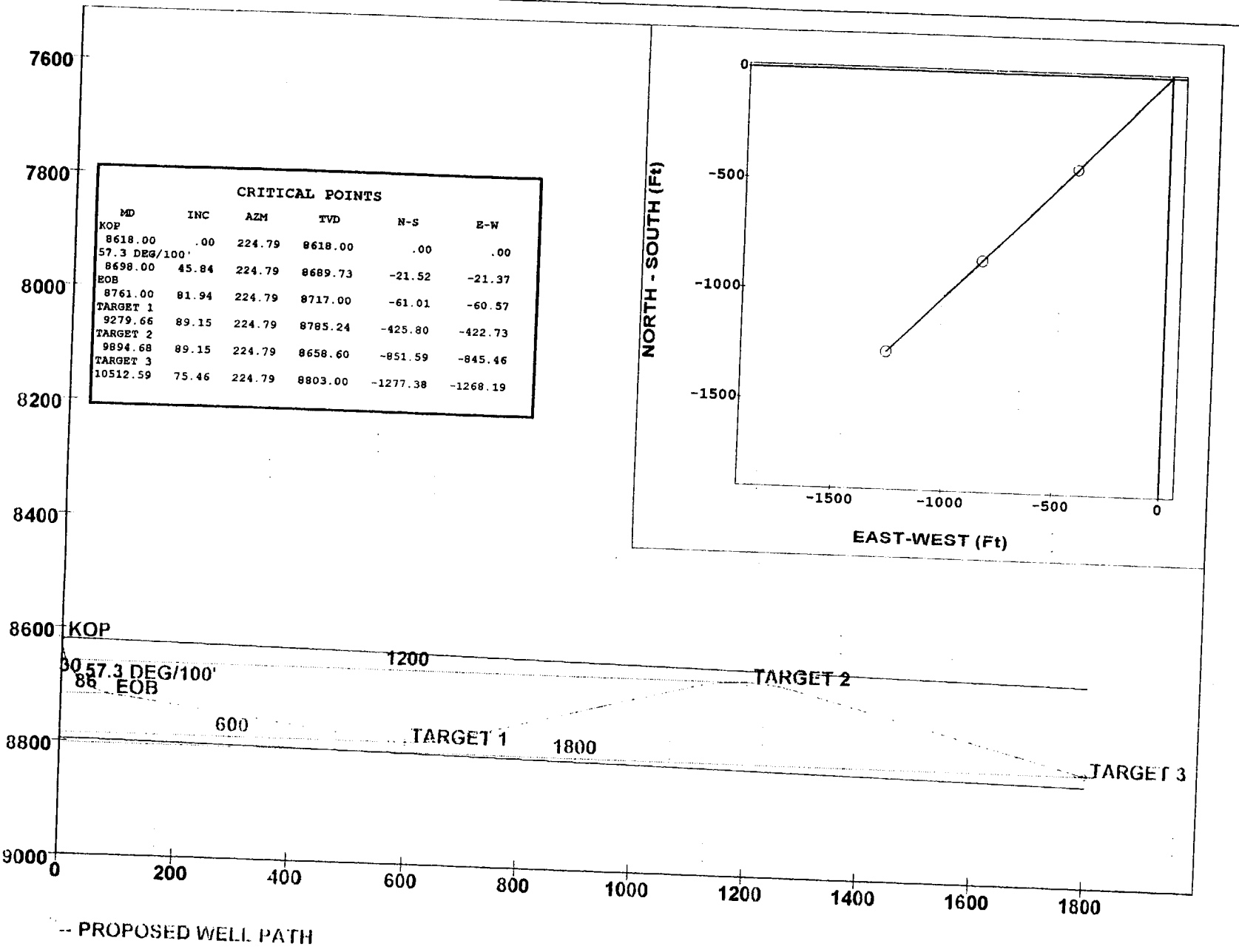
PS Form 3811, December 1991 *U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Company: TEXACO E & P, INC.
Lease/Well: NORTH VACUUM ABO WEST UNIT #26 H
Location: LEA COUNTY, NEW MEXICO
File name: C:\SURVEY\NAVU#27.SVY
Date/Time: Tuesday, September 10, 1996

CRITICAL POINTS

MD	INC	AZM	TVD	N-S	E-W
KOP 8618.00	.00	224.79	8618.00	.00	.00
57.3 DEG/100' 8698.00	45.84	224.79	8689.73	-21.52	-21.37
EOB 8761.00	81.94	224.79	8717.00	-61.01	-60.57
TARGET 1 9279.66	89.15	224.79	8785.24	-425.80	-422.73
TARGET 2 9894.68	89.15	224.79	8658.60	-851.59	-845.46
TARGET 3 10512.59	75.46	224.79	8803.00	-1277.38	-1268.19



Job Number:
Company: TEXACO E & P, INC.
Lease/Well: NORTH VACUUM ABO WEST UNIT #26 H
Location: LEA COUNTY, NEW MEXICO
Rig Name:

State/Country:
Declination:
Grid:
File name: C:\SURVEY\NAVU#26.SVY
Date/Time: Tuesday, September 10, 1996

PHOENIX DRILLING SERVICES, INC.

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 224.79

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	CLOSURE Direction Deg	Dogleg Severity Deg/100
KOP										
8618.00	.00	224.79	8618.00	4560.00	.00	.00	.00	.00	.00	.00
8628.00	5.73	224.79	8627.98	4569.98	-.35	-.35	.50	.50	224.79	57.30
8638.00	11.46	224.79	8637.87	4579.87	-1.41	-1.40	1.99	1.99	224.79	57.30
8648.00	17.19	224.79	8647.55	4589.55	-3.17	-3.15	4.47	4.47	224.79	57.30
8658.00	22.92	224.79	8656.94	4598.94	-5.60	-5.56	7.89	7.89	224.79	57.30
8668.00	28.65	224.79	8665.94	4607.94	-8.69	-8.63	12.24	12.24	224.79	57.30
8678.00	34.38	224.79	8674.46	4616.46	-12.40	-12.31	17.47	17.47	224.79	57.30
8688.00	40.11	224.79	8682.42	4624.42	-16.69	-16.57	23.52	23.52	224.79	57.30
57.3 DEG/100'										
8698.00	45.84	224.79	8689.73	4631.73	-21.52	-21.37	30.33	30.33	224.79	57.30
8708.00	51.57	224.79	8696.33	4638.33	-26.85	-26.66	37.84	37.84	224.79	57.30
8718.00	57.30	224.79	8702.14	4644.14	-32.62	-32.39	45.97	45.97	224.79	57.30
8728.00	63.03	224.79	8707.12	4649.12	-38.78	-38.50	54.64	54.64	224.79	57.30
8738.00	68.76	224.79	8711.20	4653.20	-45.25	-44.93	63.77	63.77	224.79	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	CLOSURE Direction Deg	Dogleg Severity Deg/100
8748.00	74.49	224.79	8714.35	4656.35	-51.99	-51.61	73.25	73.25	224.79	57.30
8758.00	80.22	224.79	8716.54	4658.54	-58.91	-58.48	83.01	83.01	224.79	57.30
EOB										
8761.00	81.94	224.79	8717.00	4659.00	-61.01	-60.57	85.97	85.97	224.79	57.30
8763.51	82.32	224.79	8717.35	4659.35	-62.77	-62.32	88.46	88.46	224.79	15.00
8764.13	82.22	224.79	8717.43	4659.43	-63.21	-62.75	89.07	89.07	224.79	15.00
8764.56	82.16	224.79	8717.49	4659.49	-63.52	-63.06	89.50	89.50	224.79	15.00
8764.81	82.12	224.79	8717.52	4659.52	-63.69	-63.23	89.74	89.74	224.79	15.00
8864.81	82.12	224.79	8731.23	4673.23	-133.98	-133.02	188.80	188.80	224.79	.00
8964.81	82.12	224.79	8744.94	4686.94	-204.28	-202.81	287.86	287.86	224.79	.00
9064.81	82.12	224.79	8758.65	4700.65	-274.57	-272.60	386.91	386.91	224.79	.00
9164.81	82.12	224.79	8772.36	4714.36	-344.87	-342.39	485.97	485.97	224.79	.00
9232.71	82.11	224.79	8781.67	4723.67	-392.60	-389.78	553.23	553.23	224.79	.01
9239.66	83.15	224.79	8782.56	4724.56	-397.49	-394.63	560.12	560.12	224.79	15.00
9249.66	84.65	224.79	8783.62	4725.62	-404.55	-401.63	570.06	570.06	224.79	15.00
9259.66	86.15	224.79	8784.42	4726.42	-411.62	-408.66	580.03	580.03	224.79	15.00
9269.66	87.65	224.79	8784.96	4726.96	-418.71	-415.69	590.01	590.01	224.79	15.00
TARGET 1										
9279.66	89.15	224.79	8785.24	4727.24	-425.80	-422.73	600.01	600.01	224.79	15.00
9289.66	90.65	224.79	8785.26	4727.26	-432.90	-429.78	610.01	610.01	224.79	15.00
9299.66	92.15	224.79	8785.01	4727.01	-439.99	-436.82	620.00	620.00	224.79	15.00
9309.66	93.65	224.79	8784.51	4726.51	-447.08	-443.86	629.99	629.99	224.79	15.00
9319.66	95.15	224.79	8783.74	4725.74	-454.15	-450.88	639.96	639.96	224.79	15.00
9329.66	96.65	224.79	8782.71	4724.71	-461.21	-457.89	649.91	649.91	224.79	15.00
9339.66	98.15	224.79	8781.42	4723.42	-468.25	-464.88	659.82	659.82	224.79	15.00
9349.66	99.65	224.79	8779.87	4721.87	-475.26	-471.84	669.70	669.70	224.79	15.00
9359.66	101.15	224.79	8778.07	4720.07	-482.24	-478.77	679.54	679.54	224.79	15.00
9369.66	102.65	224.79	8776.00	4718.00	-489.18	-485.66	689.32	689.32	224.79	15.00
9379.66	104.15	224.79	8773.69	4715.69	-496.09	-492.51	699.05	699.05	224.79	15.00
9381.60	104.45	224.79	8773.21	4715.21	-497.42	-493.84	700.94	700.94	224.79	15.00
9481.60	104.45	224.79	8748.26	4690.26	-566.15	-562.07	797.77	797.77	224.79	.00
9581.60	104.45	224.79	8723.31	4665.31	-634.87	-630.30	894.61	894.61	224.79	.00
9681.60	104.45	224.79	8698.36	4640.36	-703.59	-698.52	991.45	991.45	224.79	.00
9781.60	104.45	224.79	8673.41	4615.41	-772.31	-766.75	1088.29	1088.29	224.79	.00
9792.74	104.45	224.79	8670.64	4612.64	-779.96	-774.35	1099.07	1099.07	224.79	.00
9792.74	104.45	224.79	8670.63	4612.63	-779.97	-774.35	1099.08	1099.08	224.79	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	CLOSURE Direction Deg	Dogleg Severity Deg/100
9794.68	104.15	224.79	8670.16	4612.16	-781.30	-775.68	1100.96	1100.96	224.79	15.00
9804.68	102.65	224.79	8667.84	4609.84	-788.20	-782.53	1110.68	1110.68	224.79	15.00
9814.68	101.15	224.79	8665.77	4607.77	-795.15	-789.42	1120.47	1120.47	224.79	15.00
9824.68	99.65	224.79	8663.97	4605.97	-802.13	-796.35	1130.30	1130.30	224.79	15.00
9834.68	98.15	224.79	8662.42	4604.42	-809.14	-803.31	1140.18	1140.18	224.79	15.00
9844.68	96.65	224.79	8661.13	4603.13	-816.18	-810.30	1150.10	1150.10	224.79	15.00
9854.68	95.15	224.79	8660.10	4602.10	-823.23	-817.31	1160.05	1160.05	224.79	15.00
9864.68	93.65	224.79	8659.33	4601.33	-830.31	-824.33	1170.02	1170.02	224.79	15.00
9874.68	92.15	224.79	8658.83	4600.83	-837.40	-831.37	1180.00	1180.00	224.79	15.00
9884.68	90.65	224.79	8658.58	4600.58	-844.49	-838.41	1190.00	1190.00	224.79	15.00
TARGET 2										
9894.68	89.15	224.79	8658.60	4600.60	-851.59	-845.46	1200.00	1200.00	224.79	15.00
9904.68	87.65	224.79	8658.88	4600.88	-858.68	-852.50	1210.00	1210.00	224.79	15.00
9914.68	86.15	224.79	8659.42	4601.42	-865.77	-859.53	1219.98	1219.98	224.79	15.00
9924.68	84.65	224.79	8660.22	4602.22	-872.84	-866.56	1229.95	1229.95	224.79	15.00
9934.68	83.15	224.79	8661.28	4603.28	-879.90	-873.56	1239.89	1239.89	224.79	15.00
9944.68	81.65	224.79	8662.60	4604.60	-886.93	-880.55	1249.80	1249.80	224.79	15.00
9954.68	80.15	224.79	8664.18	4606.18	-893.94	-887.50	1259.68	1259.68	224.79	15.00
9964.68	78.65	224.79	8666.02	4608.02	-900.91	-894.43	1269.51	1269.51	224.79	15.00
9974.68	77.15	224.79	8668.12	4610.12	-907.85	-901.32	1279.28	1279.28	224.79	15.00
9984.68	75.65	224.79	8670.47	4612.47	-914.75	-908.16	1289.00	1289.00	224.79	15.00
9985.98	75.46	224.79	8670.79	4612.79	-915.64	-909.05	1290.26	1290.26	224.79	15.00
10085.98	75.46	224.79	8695.90	4637.90	-984.34	-977.25	1387.06	1387.06	224.79	.00
10185.98	75.46	224.79	8721.00	4663.00	-1053.03	-1045.45	1483.86	1483.86	224.79	.00
10285.98	75.46	224.79	8746.11	4688.11	-1121.72	-1113.65	1580.66	1580.66	224.79	.00
10385.98	75.46	224.79	8771.22	4713.22	-1190.42	-1181.85	1677.45	1677.45	224.79	.00
10485.98	75.46	224.79	8796.32	4738.32	-1259.11	-1250.04	1774.25	1774.25	224.79	.00
TARGET 3										
10512.59	75.46	224.79	8803.00	4745.00	-1277.38	-1268.19	1800.00	1800.00	224.79	.00

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

October 11, 1996

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

Administrative Order DD-153(H)
High Angle/Horizontal

Dear Mr. Howard:

Reference is made to your application dated September 11, 1996 for authorization to initiate a high angle/horizontal directionally drilling project within the in the NW/4 of Section 27, Township 17 South, Range 34 East, NMPM, North Vacuum-Abo Pool, 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) The entire W/2 of said Section 27 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;

(5) Texaco is currently developing the North Vacuum-Abo Pool within the NW/4 of said Section 27 with water injection into its North Vacuum Abo West Unit Well No. 18 (**API No. 30-025-23887**), located at a standard Abo well location 1980 feet from the North and West lines (Unit F) of said Section 27 and producing from its North Vacuum Abo West Unit Well No. 15 (**API No. 30-025-23905**), located within a standard 80-acre oil spacing and proration unit comprising the W/2 NW/4 of said Section 27 at a standard oil well location 660 feet from the North and West lines (Unit D) of said Section 27;

(6) The "project area" proposed by Texaco would consist of an over-sized spacing unit comprising 160 acres (two standard stand-up 80-acre units) underlying the NW/4 of said Section 27;

(7) It is Texaco's intent to place its North Vacuum Abo West Unit Well No. 26 at a standard North Vacuum-Abo Pool oil well location 560 feet from the North line and 2080 feet from the West line (Unit C) of said Section 27, 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 1,800 feet through the Abo formation;

(8) The applicable drilling window or "producing area" for said wellbore should include that area within the NW/4 of said Section 27 that is no closer than 460 feet to the outer boundary of the subject 160-acre non-standard oil spacing and proration unit that is the NW/4 of said Section 27; 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.