

DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II

P.O. Box Drawer DD, Artesia, NM 88211-0719

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

Form C-101

Revised February 10, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 6 Copies

Fee Lease - 5 Copies

☐ AMENDED REPORT

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| | | |
|--|--|--|
| ¹ Operator Name and Address TEXACO EXPLORATION & PRODUCTION INC. P.O. Box 3109, Midland Texas 79702 | | ² OGRID Number 022351 |
| ⁴ Property Code 11123 | ⁵ Property Name NORTH VACUUM ABO WEST UNIT | ³ API Number 30-025-33926 ⁶ Well No. 28 |

⁷ Surface Location

| Ul or lot no. | Section | Township | Range | Lot.Idn | Feet From The | North/South Line | Feet From The | East/West Line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| I | 28 | 17-S | 34-E | | 1980 | SOUTH | 760 | EAST | LEA |

⁸ Proposed 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 | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| O | 28 | 17-S | 34-E | | 660 | SOUTH | 1980 | EAST | LEA |

⁹ Proposed Pool 1

VACUUM ABO, NORTH

¹⁰ Proposed Pool 2

| | | | | |
|-----------------------------------|--|--|------------------------------------|---|
| ¹¹ Work Type Code N | ¹² WellType Code O | ¹³ Rotary or C.T. ROTARY | ¹⁴ Lease Type Code S | ¹⁵ Ground Level Elevation 4033' |
| ¹⁶ Multiple No | ¹⁷ Proposed Depth 10730 MD | ¹⁸ Formation ABO | ¹⁹ Contractor NABORS | ²⁰ Spud Date 4/15/97 |

²¹ Proposed Casing and Cement Program

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | SACKS OF CEMENT | EST. TOP |
|--------------|----------------|-----------------|---------------|-----------------|----------|
| 11 | 8 5/8 | 24# | 1630' | 600 SACKS | SURFACE |
| 7 7/8 | 5 1/2 | 17# | 8910' | 1400 SACKS | SURFACE |
| | | | | | |
| | | | | | |

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

CEMENTING PROGRAM:

SURFACE CASING: 450 SACKS CLASS C w/ 4% GEL, 2% CC (13.5 PPG, 1.74 CF/S, 9.1 GW/S). F/B 150 SACKS CLASS C w/ 2% CC (14.8 PPG, 1.34 CF/S, 6.3 GW/S).

PRODUCTION CASING: 1300 SACKS 35/65 POZ H w/ 6% GEL, 5% SALT, 1/4# FC (12.4 PPG, 2.14 CF/S, 11.9 GW/S). F/B 100 SACKS CLASS H (15.6 PPG, 1.18 CF/S, 5.2 GW/S).

THERE ARE NO OTHER OPERATORS IN THIS QUARTER QUARTER SECTION.

Permit Expires 1 Year From Approval
Date Unless Drilling Underway

HORIZONTAL WELL, NON-STANDARD PRORATION UNIT EXCEPTION HAS BEEN APPLIED FOR. (COPY ATTACHED).
TOTAL DEPTH: 8910' TVD, 10730' MD.

²³ I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature

C. Wade Howard

Printed Name

C. Wade Howard

Title Eng. Assistant

Date 4/1/97

Telephone 688-4606

OIL CONSERVATION DIVISION

Approved By:

Orig. Signed by
Paul Kautz
Geologist

Title:

Approval Date APR 18 1997

Expiration Date:

Conditions of Approval:
Attached ☐

Approval for vertical drilling only--
CANNOT proceed with horizontal drilling
until Santa Fe approves Administrative order.

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

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P. O. Drawer DD, Artesia, NM 88210

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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

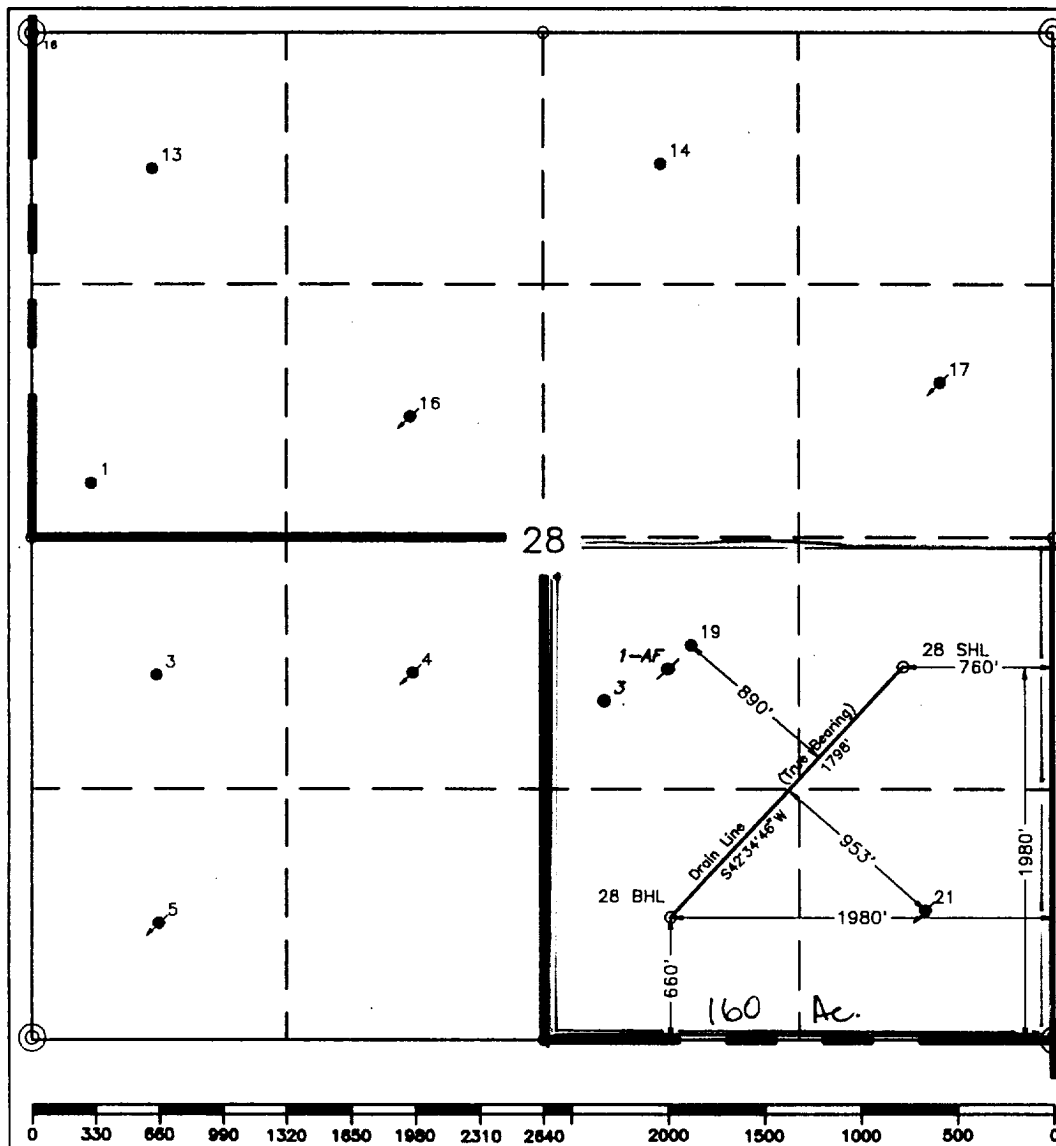
Fee Lease-3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | | | | | | | |
|--|----------------------|--|----------------------|--|-------------------------------|--|-------------------------------|-------------------------------|-----------------------------------|
| ¹ API Number 30-D25-33926 | | 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 28 | | | |
| ⁷ GRID No. 22351 | | ⁸ Operator Name TEXACO EXPLORATION & PRODUCTION, INC. | | | | ⁹ Elevation 4033' | | | |
| ¹⁰ Surface Location | | | | | | | | | |
| UL or lot no. 1 | Section 28 | Township 17-S | Range 34-E | Lot Idn 1980' | Feet from the 1980' | North/South line South | Feet from the 760' | East/West line East | ⁷ County Lea |
| ¹¹ Bottom Hole Location If Different From Surface | | | | | | | | | |
| UL or lot no. 0 | Section 28 | Township 17-S | Range 34-E | Lot Idn 1980' | Feet from the 660' | North/South line South | Feet from the 1980' | East/West line East | ⁷ County Lea |
| ¹² Dedicated Acres 160 | | 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.



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

February 24, 1997

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

February 21, 1997

Signature & Seal of Professional Surveyor

John S. Piper

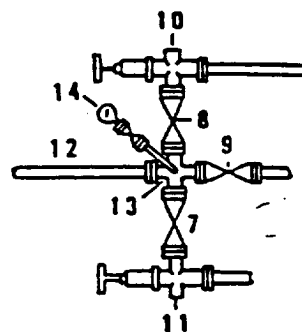
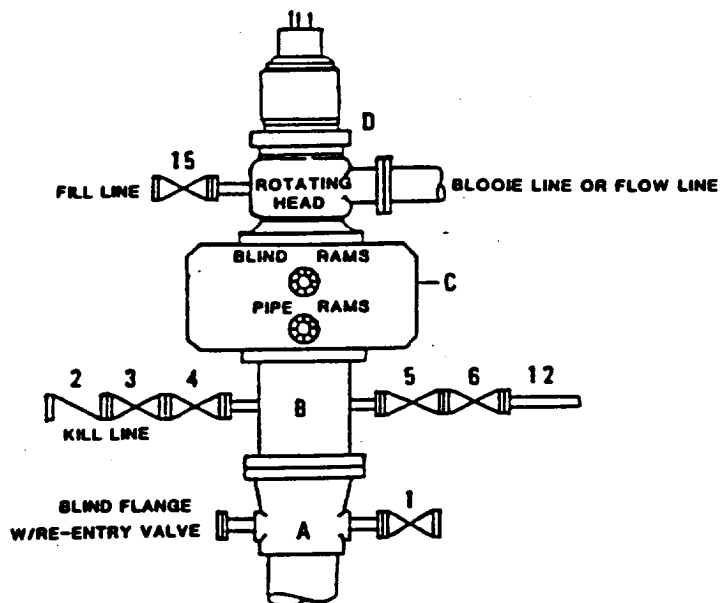
Certificate No.

7254 John S. Piper

Sheet

**DRILLING CONTROL
CONDITION II-B 3000 WP
FOR AIR DRILLING OR
WHERE NITROGEN OR AIR BLOWS ARE EXPECTED**

H₂S TRIM REQUIRED
YES _____ NO _____



**DRILLING CONTROL
MATERIAL LIST - CONDITION II - B**

- | | |
|----------------|--|
| A | Texaco Wellhead |
| B | 3000# W.P. drilling spool with a 2" minimum flanged outlet for kill line and 3" minimum flanged outlet for choke line. |
| C | 3000# W.P. Dual ram type preventer, hydraulic operated with 1" steel, 3000# W.P. control lines (where substructure height is adequate, 2 - 3000# W.P. single ram type preventers may be utilized). |
| D | Rotating Head with fill up outlet and extended Blooe Line. |
| 1,3,4, 7,8, | 2" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 2 | 2" minimum 3000# W.P. back pressure valve. |
| 5,6,9 | 3" minimum 3000# W.P. flanged full opening steel gate valve, or Halliburton Lo Torc Plug valve. |
| 12 | 3" minimum schedule 80, Grade "B", seamless line pipe. |
| 13 | 2" minimum x 3" minimum 3000# W.P. flanged cross. |
| 10,11 | 2" minimum 3000# W.P. adjustable choke bodies. |
| 14 | Cameron Mud Gauge or equivalent (location optional in choke line). |
| 15 | 2" minimum 3000# W.P. flanged or threaded full opening steel gate valve, or Halliburton Lo Torc Plug valve. |



TEXACO, INC.
MIDLAND DIVISION
MIDLAND, TEXAS



| SCALE | DATE | EST NO | DRG NO |
|-------------|------|--------|--------|
| DRAWN BY | | | |
| CHECKED BY | | | |
| APPROVED BY | | | |

EXHIBIT C

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

3/4/97
 Date



Texaco Exploration
and Production Inc

500 North Loraine
Midland TX 79701

P O Box 3109
Midland TX 79702

February 27, 1997

GOV - STATE AND LOCAL GOVERNMENTS
Directional Drilling - Horizontal
Non-Standard Proration Unit
North Vacuum Abo West Unit Well No. 28
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 drilling a 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's Assistant

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

received
Hobbs
OCD

Received
Hobbs
OCD

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

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1000 Rio Brazos Rd., Aztec, NM 87410

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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

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Revised February 10, 1994

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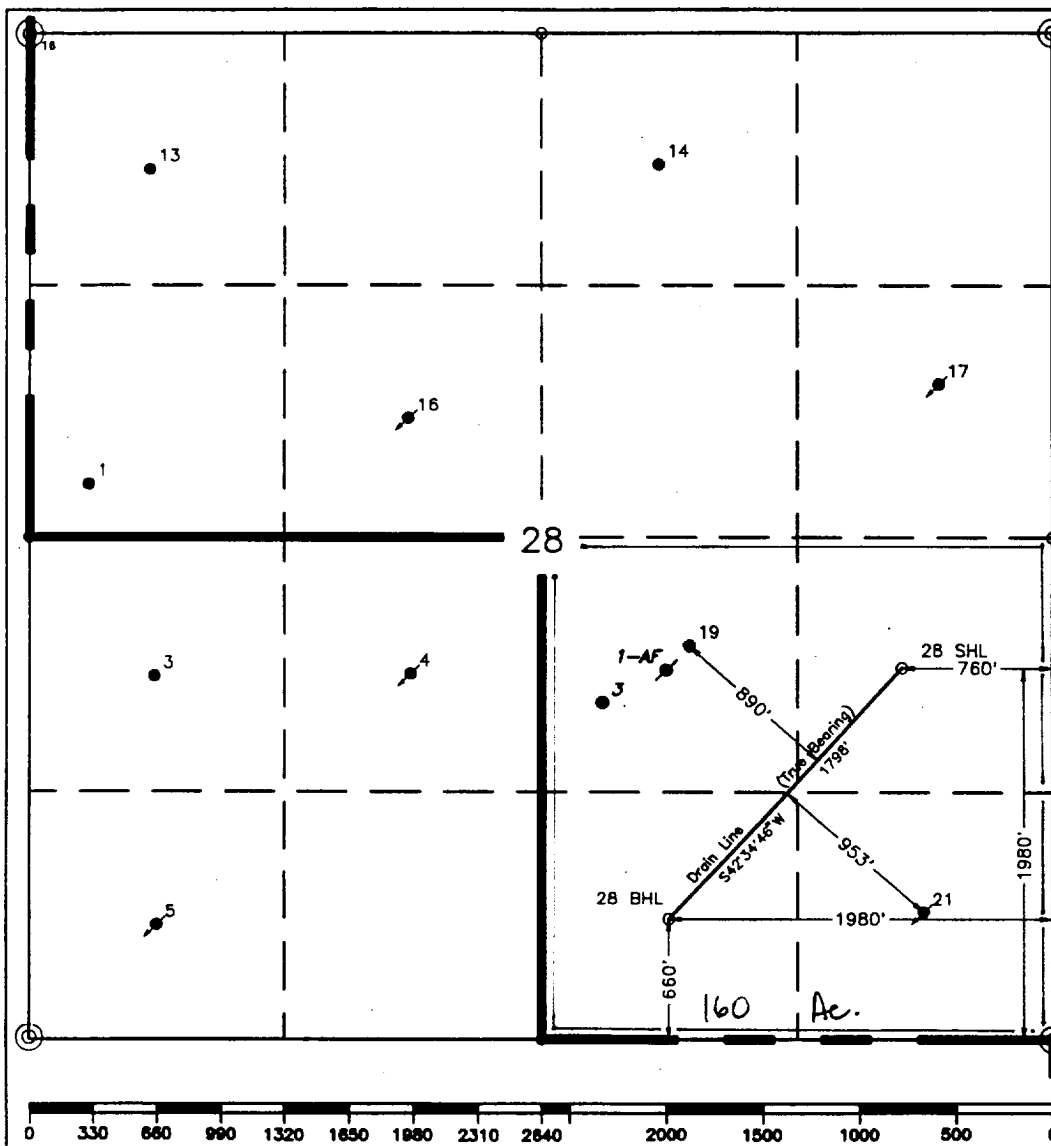
State Lease-4 copies
Fee Lease-3 copies

☐ 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 28 | |
| ⁷ OGRID No. 22351 | | ⁸ Operator Name TEXACO EXPLORATION & PRODUCTION, INC. | | | | | | ⁹ Elevation 4033' | |
| ¹⁰ Surface Location | | | | | | | | | |
| UL or lot no. 1 | Section 28 | Township 17-S | Range 34-E | Lot Idn | Feet from the 1980' | North/South line South | Feet from the 760' | East/West line East | ⁷ County Lea |
| ¹¹ Bottom Hole Location If Different From Surface | | | | | | | | | |
| UL or lot no. 0 | Section 28 | Township 17-S | Range 34-E | Lot Idn | Feet from the 660' | North/South line South | Feet from the 1980' | East/West line East | ⁷ County Lea |
| ¹² Dedicated Acres 160 | | ¹³ Joint or Infill | | ¹⁴ Consolidation Code | | ¹⁵ Order No. | | | |

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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

Printed Name

C. Wade Howard

Position

Engineer's Assistant

Company

Texaco Expl. & Prod. Inc.

Date

February 24, 1997

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

February 21, 1997

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

February 27, 1997

GOV - STATE AND LOCAL GOVERNMENTS

Directional Drilling - Horizontal

Non-Standard Location

North Vacuum Abo West Unit Well No. 28

Sec. 28, 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. 28
LEA COUNTY, NEW MEXICO**

**Oxy USA Inc.
P. O. Box 50250
Midland, Texas 79710**

**Conoco Inc.
10 Desta Dr. West
Midland, Texas 79705**

**Atlantic Richfield Company
P. O. Box 1610
Midland, Texas 79702**

**Collins & Ware, Inc.
508 W. Wall Ave., Suite 1200
Midland, Texas 79701**

**Marathon Oil Company
P. O. Box 552
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, 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:

Collins & Ware, Inc.
508 W. Wall Avenue, Suite 1200
Midland, TX 79701

4a. Article Number

P 497 362 868

4b. Service Type

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

7. Date of Delivery

3-3-97

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:

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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:

Marathon Oil Company
P. O. Box 552
Midland, TX 79702

4a. Article Number

P 497 362 867

4b. Service Type

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

7. Date of Delivery

MAR 03 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

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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:

Oxy USA Inc.
P. O. Box 50250
Midland, TX 79710

4a. Article Number

P 497 362 866

4b. Service Type

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

7. Date of Delivery

MAR 3 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:

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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:

Atlantic Richfield Co.
P. O. Box 1610
Midland, TX 79702

4a. Article Number

P 497 362 869

4b. Service Type

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

7. Date of Delivery

FEB 28 1997

5. Received By: (Print Name)

[Signature]

6. Signature: (Addressee or Agent)

X

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

PS Form 3811, December 1994

Domestic Return Receipt

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SENDER:

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- 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:

Conoco Inc.
10 Desta Drive West
Midland, Tx 79705

4a. Article Number

P 497 362 870

4b. Service Type

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

7. Date of Delivery

2-28-97

5. Received By: (Print Name)

[Signature]

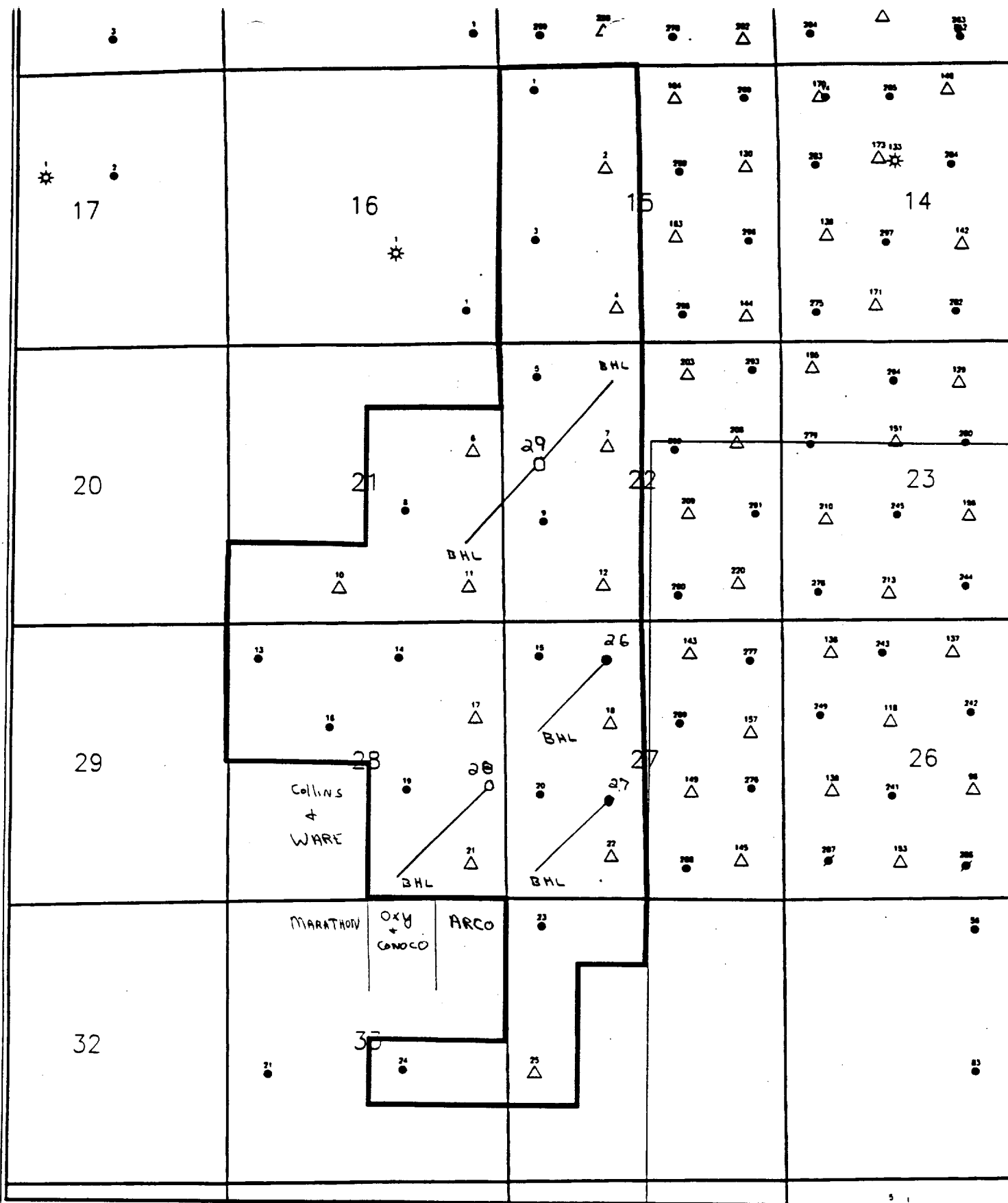
6. Signature: (Addressee or Agent)

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.



Texaco Exploration & Production, Inc.

WELL No. 28
North Vacuum Abo West Unit
Base Map, Wells > 8,000' TD

07/68

Scale 1:30000

Scale 1:30000.

0.2 0.2 0.4 0.6 0.8 1. miles

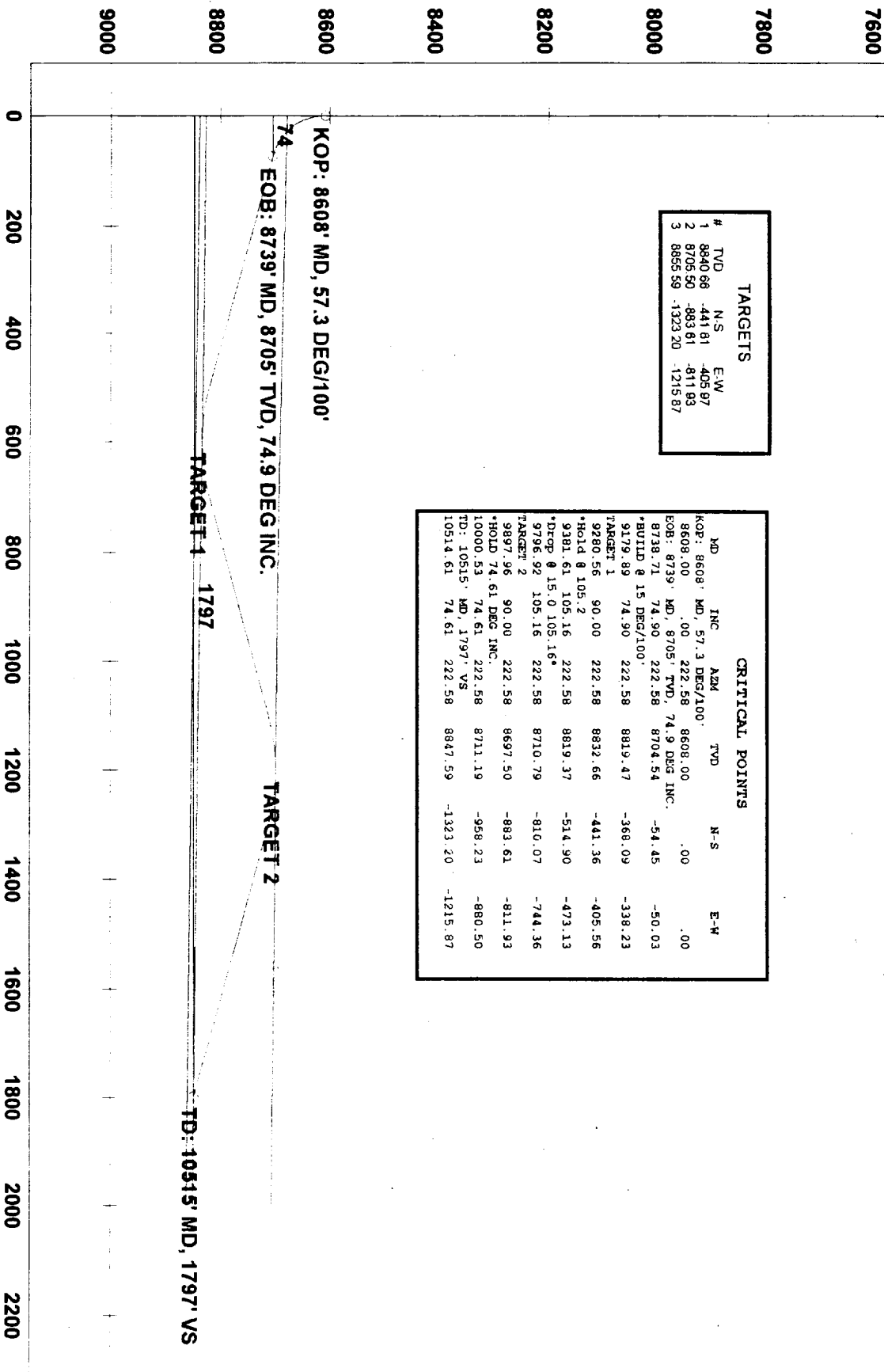


0.2 0.2 0.4 0.6 0.8 1. kilometers



Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #28H
 Location: LEA COUNTY, NEW MEXICO
 Declination: 9.11 DEG EAST
 File name: C:\WINSERVE\NVAWU28.SVY
 Date/Time: Thursday, February 27, 1997

TRUE VERTICAL DEPTH (Ft)





Job Number: P97-101
 Company: TEXACO E & P, INC.
 Lease/Well: NVAWU #28H
 Location: LEA COUNTY, NEW MEXICO
 Rig Name:

State/Country:
 Declination: 9.11 DEG EAST
 Grd:
 File name: C:\WINSERVE\NVAWU28.SVY
 Date/Time: 27-Feb-97 / 15:49
 Curve Name: PROPOSED WELL PATH

Phoenix Drilling Services, Inc.

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method
 Vertical Section Plane 222.58

| Measured Depth FT | Incl Angle Deg | Drift Direction Deg | True Depth | Subsea TVD FT | N-S FT | E-W FT | Vertical Section FT | CLOSURE Distance FT | CLOSURE Direction Deg | Dogleg Severity Deg/100 |
|-------------------------------------|----------------------|---------------------------|---------------|---------------------|-----------|-----------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| KOP: 8608' MD, 57.3 DEG/100' | | | | | | | | | | |
| 8608.00 | .00 | 222.58 | 8608.00 | 4558.00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8618.00 | 5.73 | 222.58 | 8617.98 | 4567.98 | -.37 | -.34 | .50 | .50 | 222.58 | 57.30 |
| 8628.00 | 11.46 | 222.58 | 8627.87 | 4577.87 | -1.47 | -1.35 | 1.99 | 1.99 | 222.58 | 57.30 |
| 8638.00 | 17.19 | 222.58 | 8637.55 | 4587.55 | -3.29 | -3.02 | 4.47 | 4.47 | 222.58 | 57.30 |
| 8648.00 | 22.92 | 222.58 | 8646.94 | 4596.94 | -5.81 | -5.34 | 7.89 | 7.89 | 222.58 | 57.30 |
| 8658.00 | 28.65 | 222.58 | 8655.94 | 4605.94 | -9.01 | -8.28 | 12.24 | 12.24 | 222.58 | 57.30 |
| 8668.00 | 34.38 | 222.58 | 8664.46 | 4614.46 | -12.86 | -11.82 | 17.47 | 17.47 | 222.58 | 57.30 |
| 8678.00 | 40.11 | 222.58 | 8672.42 | 4622.42 | -17.32 | -15.91 | 23.52 | 23.52 | 222.58 | 57.30 |
| 8686.53 | 45.00 | 222.58 | 8678.70 | 4628.70 | -21.56 | -19.82 | 29.29 | 29.29 | 222.58 | 57.30 |
| 8696.53 | 50.73 | 222.58 | 8685.41 | 4635.41 | -27.02 | -24.83 | 36.70 | 36.70 | 222.58 | 57.30 |
| 8706.53 | 56.46 | 222.58 | 8691.34 | 4641.34 | -32.95 | -30.27 | 44.74 | 44.74 | 222.58 | 57.30 |
| 8716.53 | 62.19 | 222.58 | 8696.44 | 4646.44 | -39.28 | -36.09 | 53.34 | 53.34 | 222.58 | 57.30 |
| 8726.53 | 67.92 | 222.58 | 8700.66 | 4650.66 | -45.95 | -42.22 | 62.40 | 62.40 | 222.58 | 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 |
|--|----------------------|---------------------------|---------------------------|---------------------|-----------|-----------|---------------------------|---------------------------|------------------|-------------------------------|
| 8736.53 | 73.65 | 222.58 | 8703.95 | 4653.95 | -52.90 | -48.61 | 71.84 | 71.84 | 222.58 | 57.30 |
| EOB: 8739' MD, 8705' TVD, 74.9 DEG INC. | | | | | | | | | | |
| 8738.71 | 74.90 | 222.58 | 8704.54 | 4654.54 | -54.45 | -50.03 | 73.94 | 73.94 | 222.58 | 57.30 |
| 8838.71 | 74.90 | 222.58 | 8730.59 | 4680.59 | -125.54 | -115.36 | 170.49 | 170.49 | 222.58 | .00 |
| 8938.71 | 74.90 | 222.58 | 8756.64 | 4706.64 | -196.63 | -180.68 | 267.04 | 267.04 | 222.58 | .00 |
| 9038.71 | 74.90 | 222.58 | 8782.69 | 4732.69 | -267.72 | -246.01 | 363.58 | 363.58 | 222.58 | .00 |
| 9138.71 | 74.90 | 222.58 | 8808.74 | 4758.74 | -338.81 | -311.33 | 460.13 | 460.13 | 222.58 | .00 |
| 9172.00 | 74.90 | 222.58 | 8817.42 | 4767.42 | -362.48 | -333.08 | 492.27 | 492.27 | 222.58 | .00 |
| BUILD @ 15 DEG/100' | | | | | | | | | | |
| 9179.89 | 74.90 | 222.58 | 8819.47 | 4769.47 | -368.09 | -338.23 | 499.89 | 499.89 | 222.58 | .00 |
| 9189.89 | 76.40 | 222.58 | 8821.95 | 4771.95 | -375.22 | -344.79 | 509.58 | 509.58 | 222.58 | 15.00 |
| 9199.89 | 77.90 | 222.58 | 8824.17 | 4774.17 | -382.40 | -351.38 | 519.33 | 519.33 | 222.58 | 15.00 |
| 9209.89 | 79.40 | 222.58 | 8826.14 | 4776.14 | -389.62 | -358.02 | 529.13 | 529.13 | 222.58 | 15.00 |
| 9219.89 | 80.90 | 222.58 | 8827.85 | 4777.85 | -396.87 | -364.68 | 538.98 | 538.98 | 222.58 | 15.00 |
| 9229.89 | 82.40 | 222.58 | 8829.30 | 4779.30 | -404.16 | -371.38 | 548.88 | 548.88 | 222.58 | 15.00 |
| 9239.89 | 83.90 | 222.58 | 8830.50 | 4780.50 | -411.47 | -378.09 | 558.81 | 558.81 | 222.58 | 15.00 |
| 9249.89 | 85.40 | 222.58 | 8831.43 | 4781.43 | -418.80 | -384.83 | 568.76 | 568.76 | 222.58 | 15.00 |
| 9259.89 | 86.90 | 222.58 | 8832.10 | 4782.10 | -426.15 | -391.58 | 578.74 | 578.74 | 222.58 | 15.00 |
| 9269.89 | 88.40 | 222.58 | 8832.51 | 4782.51 | -433.51 | -398.34 | 588.73 | 588.73 | 222.58 | 15.00 |
| 9279.89 | 89.90 | 222.58 | 8832.66 | 4782.66 | -440.87 | -405.11 | 598.73 | 598.73 | 222.58 | 15.00 |
| TARGET 1 | | | | | | | | | | |
| 9280.56 | 90.00 | 222.58 | 8832.66 | 4782.66 | -441.36 | -405.56 | 599.40 | 599.40 | 222.58 | 15.00 |
| 9290.56 | 91.50 | 222.58 | 8832.53 | 4782.53 | -448.72 | -412.32 | 609.40 | 609.40 | 222.58 | 15.00 |
| 9300.56 | 93.00 | 222.58 | 8832.14 | 4782.14 | -456.08 | -419.09 | 619.39 | 619.39 | 222.58 | 15.00 |
| 9310.56 | 94.50 | 222.58 | 8831.48 | 4781.48 | -463.43 | -425.84 | 629.37 | 629.37 | 222.58 | 15.00 |
| 9320.56 | 96.00 | 222.58 | 8830.57 | 4780.57 | -470.76 | -432.57 | 639.32 | 639.32 | 222.58 | 15.00 |
| 9330.56 | 97.50 | 222.58 | 8829.39 | 4779.39 | -478.07 | -439.29 | 649.25 | 649.25 | 222.58 | 15.00 |
| 9340.56 | 99.00 | 222.58 | 8827.96 | 4777.96 | -485.36 | -445.99 | 659.15 | 659.15 | 222.58 | 15.00 |
| 9350.56 | 100.50 | 222.58 | 8826.26 | 4776.26 | -492.62 | -452.66 | 669.01 | 669.01 | 222.58 | 15.00 |
| 9360.56 | 102.00 | 222.58 | 8824.31 | 4774.31 | -499.84 | -459.29 | 678.81 | 678.81 | 222.58 | 15.00 |
| 9370.56 | 103.50 | 222.58 | 8822.11 | 4772.11 | -507.02 | -465.89 | 688.57 | 688.57 | 222.58 | 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 |
|----------------------------|----------------------|---------------------------|---------------------------|---------------------|-----------|-----------|---------------------------|---------------------------|------------------|-------------------------------|
| 9380.56 | 105.00 | 222.58 | 8819.64 | 4769.64 | -514.16 | -472.45 | 698.26 | 698.26 | 222.58 | 15.00 |
| Hold @ 105.2 | | | | | | | | | | |
| 9381.61 | 105.16 | 222.58 | 8819.37 | 4769.37 | -514.90 | -473.13 | 699.27 | 699.27 | 222.58 | 15.00 |
| 9481.61 | 105.16 | 222.58 | 8793.23 | 4743.23 | -585.97 | -538.44 | 795.79 | 795.79 | 222.58 | .00 |
| 9581.61 | 105.16 | 222.58 | 8767.08 | 4717.08 | -657.04 | -603.75 | 892.31 | 892.31 | 222.58 | .00 |
| 9681.61 | 105.16 | 222.58 | 8740.94 | 4690.94 | -728.12 | -669.05 | 988.83 | 988.83 | 222.58 | .00 |
| 9781.61 | 105.16 | 222.58 | 8714.79 | 4664.79 | -799.19 | -734.36 | 1085.35 | 1085.35 | 222.58 | .00 |
| Drop @ 15.0 105.16° | | | | | | | | | | |
| 9796.92 | 105.16 | 222.58 | 8710.79 | 4660.79 | -810.07 | -744.36 | 1100.13 | 1100.13 | 222.58 | .00 |
| 9797.96 | 105.00 | 222.58 | 8710.52 | 4660.52 | -810.81 | -745.04 | 1101.14 | 1101.14 | 222.58 | 15.00 |
| 9807.96 | 103.50 | 222.58 | 8708.05 | 4658.05 | -817.95 | -751.60 | 1110.83 | 1110.83 | 222.58 | 15.00 |
| 9817.96 | 102.00 | 222.58 | 8705.85 | 4655.85 | -825.13 | -758.20 | 1120.58 | 1120.58 | 222.58 | 15.00 |
| 9827.96 | 100.50 | 222.58 | 8703.90 | 4653.90 | -832.35 | -764.83 | 1130.39 | 1130.39 | 222.58 | 15.00 |
| 9837.96 | 99.00 | 222.58 | 8702.20 | 4652.20 | -839.61 | -771.50 | 1140.24 | 1140.24 | 222.58 | 15.00 |
| 9847.96 | 97.50 | 222.58 | 8700.77 | 4650.77 | -846.89 | -778.20 | 1150.14 | 1150.14 | 222.58 | 15.00 |
| 9857.96 | 96.00 | 222.58 | 8699.59 | 4649.59 | -854.21 | -784.92 | 1160.07 | 1160.07 | 222.58 | 15.00 |
| 9867.96 | 94.50 | 222.58 | 8698.68 | 4648.68 | -861.54 | -791.66 | 1170.03 | 1170.03 | 222.58 | 15.00 |
| 9877.96 | 93.00 | 222.58 | 8698.02 | 4648.02 | -868.89 | -798.41 | 1180.01 | 1180.01 | 222.58 | 15.00 |
| 9887.96 | 91.50 | 222.58 | 8697.63 | 4647.63 | -876.24 | -805.17 | 1190.00 | 1190.00 | 222.58 | 15.00 |
| TARGET 2 | | | | | | | | | | |
| 9897.96 | 90.00 | 222.58 | 8697.50 | 4647.50 | -883.61 | -811.93 | 1200.00 | 1200.00 | 222.58 | 15.00 |
| 9907.96 | 88.50 | 222.58 | 8697.63 | 4647.63 | -890.97 | -818.70 | 1210.00 | 1210.00 | 222.58 | 15.00 |
| 9917.96 | 87.00 | 222.58 | 8698.02 | 4648.02 | -898.33 | -825.46 | 1219.99 | 1219.99 | 222.58 | 15.00 |
| 9927.96 | 85.50 | 222.58 | 8698.68 | 4648.68 | -905.67 | -832.21 | 1229.97 | 1229.97 | 222.58 | 15.00 |
| 9937.96 | 84.00 | 222.58 | 8699.59 | 4649.59 | -913.01 | -838.95 | 1239.92 | 1239.92 | 222.58 | 15.00 |
| 9947.96 | 82.50 | 222.58 | 8700.77 | 4650.77 | -920.32 | -845.67 | 1249.86 | 1249.86 | 222.58 | 15.00 |
| 9957.96 | 81.00 | 222.58 | 8702.20 | 4652.20 | -927.61 | -852.36 | 1259.75 | 1259.75 | 222.58 | 15.00 |
| 9967.96 | 79.50 | 222.58 | 8703.90 | 4653.90 | -934.86 | -859.03 | 1269.61 | 1269.61 | 222.58 | 15.00 |
| 9977.96 | 78.00 | 222.58 | 8705.85 | 4655.85 | -942.08 | -865.67 | 1279.41 | 1279.41 | 222.58 | 15.00 |
| 9987.96 | 76.50 | 222.58 | 8708.05 | 4658.05 | -949.27 | -872.27 | 1289.17 | 1289.17 | 222.58 | 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 |
|--------------------------------|----------------------|---------------------------|---------------------------|---------------------|-----------|-----------|---------------------------|---------------------------|------------------|-------------------------------|
| 9997.96 | 75.00 | 222.58 | 8710.52 | 4660.52 | -956.40 | -878.82 | 1298.86 | 1298.86 | 222.58 | 15.00 |
| HOLD 74.61 DEG INC. | | | | | | | | | | |
| 10000.53 | 74.61 | 222.58 | 8711.19 | 4661.19 | -958.23 | -880.50 | 1301.34 | 1301.34 | 222.58 | 15.00 |
| 10100.53 | 74.61 | 222.58 | 8737.72 | 4687.72 | -1029.23 | -945.74 | 1397.76 | 1397.76 | 222.58 | .00 |
| 10200.53 | 74.61 | 222.58 | 8764.25 | 4714.25 | -1100.22 | -1010.98 | 1494.18 | 1494.18 | 222.58 | .00 |
| 10300.53 | 74.61 | 222.58 | 8790.79 | 4740.79 | -1171.22 | -1076.21 | 1590.59 | 1590.59 | 222.58 | .00 |
| 10400.53 | 74.61 | 222.58 | 8817.32 | 4767.32 | -1242.21 | -1141.45 | 1687.01 | 1687.01 | 222.58 | .00 |
| 10500.53 | 74.61 | 222.58 | 8843.85 | 4793.85 | -1313.21 | -1206.69 | 1783.42 | 1783.42 | 222.58 | .00 |
| TD: 10515' MD, 1797' VS | | | | | | | | | | |
| 10514.61 | 74.61 | 222.58 | 8847.59 | 4797.59 | -1323.20 | -1215.87 | 1797.00 | 1797.00 | 222.58 | .03 |

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