

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

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Form C-101

Revised February 10, 1994

Instructions on back

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☐ AMENDED REPORT

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

<sup>1</sup> Operator Name and Address TEXACO EXPLORATION & PRODUCTION INC. 205 E. Bender, HOBBS, NM 88240		<sup>2</sup> OGRID Number 022351
<sup>4</sup> Property Code 11125	<sup>5</sup> Property Name VACUUM GLORIETA WEST UNIT	<sup>6</sup> Well No. 86

<sup>7</sup> Surface Location

UI or lot no.	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
K	36	17S	34E		2310	SOUTH	2310	WEST	LEA

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UI or lot no.	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
N	36	17S	34E		1319	FSL	2055	FWL	Lea

<sup>9</sup> Proposed Pool 1

Vacuum Glorieta (Same Pool)

<sup>10</sup> Proposed Pool 2

<sup>11</sup> Work Type Code D	<sup>12</sup> WellType Code 0	<sup>13</sup> Rotary or C.T. Rotary	<sup>14</sup> Lease Type Code S	<sup>15</sup> Ground Level Elevation 4009' DF
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 6890'	<sup>18</sup> Formation Glorieta	<sup>19</sup> Contractor Dawson	<sup>20</sup> Spud Date 7/1/97

<sup>21</sup> Proposed Casing and Cement Program

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24	1538'		Circulated
7-7/8"	5-1/2"	15.5	6850'		TOC @ 2610'

<sup>22</sup> 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.

Please see the attached procedure.

Approval is for drilling only; No production until Directional Drilling order is approved.

<sup>23</sup> 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

Printed Name Darrell J. Carriger

Title Prod. Engineer

Date 6/10/97

Telephone 397-0426

OIL CONSERVATION DIVISION

Approved By: ORIGINAL SIGNED BY CLARENCE  
DISTRICT I SUPERVISOR

Title:

Approval Date: JUL 14 1997

Expiration Date:

Conditions of Approval:  
Attached ☐

# VGWU #86 Horizontal Lateral Procedure

1. MIRU pulling unit. TOH with rods and pump. Install BOP. TOH with 2-7/8" production tubing. RIH with bit. Clean out casing to 5930'. TOH with drill bit and tubing. Rig down pulling unit.
2. Rig up Schlumberger logging services. Run cement bond log from 5600' to 5930'. Rig down Schlumberger.
3. Rig up wireline company. Set CIBP @ approximately 5870' and cap CIBP with 30' cement (depth of CIBP may change depending on cement bond log. The new PBTD needs to be 5' above the casing collar in a 38' casing joint). Load casing and pressure test casing to 500 psi.
4. MIRU (drilling) pulling unit with substructure and mud equipment. Commence 24 hour operation.
5. Pick up 4-3/4" window mill, scraper, and smooth watermelon mill. Clean out wellbore to PBTD. Tag PBTD. Set 15,000# on PBTD to ensure stability.

## Trip #1

6. Measure and caliper all mills to be used. Pick up a single joint of the drill pipe and place it in the mouse hole. Pick up orienting sub and make-up on top of the joint of drill pipe.
7. TIH (slowly - about the speed of running a packer) with 4-1/2" 1-1/2° Concave Face Retrievable "WhipBack" whipstock, 4-3/4" starting mill, 1 joint drill pipe, orientation sub, 12 3-1/2" drill collars on 2-7/8" drill pipe.
8. Rig up and TIH with surface readout gyro (SRG). Survey wellbore on the fly to determine bottomhole location. Orient whipstock face to an azimuth of 14.4301° West of due South. Lower whipstock and tag PBTD. Confirm Gyro reading. Slack to shear lower assembly and set whipstock slips. TOH with gyro.
9. Commence milling operation with starting mill (pump rate of ~ 150 GPM). Pump a sweep and circulate well out.
10. TOH with BHA and visually inspect starting mill for bright space on mill, a ring and wear on blades, and a bevel on the outside of the blades. Lay down orienting sub.



**Trip #2 (Window cutting trip)**

11. Pick up and TIH with 4-3/4" Window mill, and 4-3/4" rough OD watermelon mill, bit sub, 1 joint drillpipe, and drill collars on drillpipe.
12. Drill/ream window section and approximately 5' of rathole to KOP. TOH with bottom hole assembly.
13. TIH with 4-3/4" window mill, 4-3/4" rough OD watermelon mill, and a 4-3/4" smooth OD string mill on drill collars and drillpipe. Make final cleanup run until drillstring passes through window with no rotation with minimal drag. Circulate hole with VGWU produced water. TOH with BHA.
14. Rig up mudloggers.
15. TIH with curve building assembly and drill 100' (long radius) radius curvature section as per attached Phoenix recommendation
16. Circulate hole clean.
17. Drill ahead following attached well path in accordance to Phoenix attached recommendations. Circulate hole clean.

**Stimulation:**

18. Rig up coiled tubing unit and acid stimulate horizontal lateral in accordance to the attached stimulation procedure.
19. Swab back load taking samples and recording oil cut. Unichem personnel should be on location recording pH levels in swab samples. When pH level reaches 5.5 or above, proceed with procedure.
20. Scale squeeze horizontal lateral with 330 gallons TH 756 (Unichem - low pH Acetic Phosphonate scale inhibitor) + 23 bbls fresh water using coiled tubing unit. Squeeze treatment as follows:
  - a) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6890'
  - b) Spot 129 gallons inhibitor/water mix
  - c) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6790'
  - d) Spot 129 gallons inhibitor/water mix
  - e) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6690'
  - f) Spot 129 gallons inhibitor/water mix

- g) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6590'
  - h) Spot 129 gallons inhibitor/water mix
  - i) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6490'
  - j) Spot 129 gallons inhibitor/water mix
  - k) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6390'
  - l) Spot 129 gallons inhibitor/water mix
  - m) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6290'
  - n) Spot 129 gallons inhibitor/water mix
  - o) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6190'
  - p) Spot 129 gallons inhibitor/water mix
  - q) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6090'
  - r) Spot 129 gallons inhibitor/water mix
  - s) Run DS 1-1/2" coiled tubing in horizontal lateral to a measured depth setting of ~ 6040'
  - t) Flush coiled tubing fresh water + 100 bbls fresh water
21. Rig down DS coiled tubing unit.
22. TIH with production equipment. Size and type of production equipment will be based on fluid volume estimates from swab runs.
23. Return well to production and place on test.

## **PROPOSED DRILLING PROCEDURE**

**PREPARED BY  
PHOENIX DRILLING SERVICES, INC.  
FOR  
TEXACO EXPLORATION & PRODUCTION, INC.  
WELL: VACUUM GLORIETTA WEST UNIT #86  
4-3/4" HOLE, 5-1/2" CASING RE-ENTRY  
LEA COUNTY, NEW MEXICO  
P97-254R  
JUNE 4, 1997**

1. Set a whipstock or cut a section and prepare the wellbore for KOP at 5830' MD.
2. Circulate hole clean and TOOH.
3. Pick up, orient, and test BHA #1 consisting of:
  - a. 4-3/4" bit
  - b. 3-3/4" short radius motor.
  - c. 3-3/4" orienting/float sub
  - d. Two 3-1/2" Flex Monel Drill Collars.
  - e. 1320' 2-7/8" PH-6 (8.7#/ft) P-105 tubing.
  - f. 2-7/8" AOH (10.4#/ft) drill pipe to surface.
4. Run in hole to KOP. Break circulation at 130 gpm and drill one foot to insure proper operation of motor.
5. Run in hole with surface recording gyro. Survey as per state requirements and seat in mule shoe. Orient toolface to desired azimuth.
6. POOH with gyro.
7. Begin pumping at 130 gpm and drill ahead slowly increasing differential to 200 psi. Drill ahead checking tool face orientation as necessary with the gyro until sufficient inclination has been built to steer from high side toolface reading.
8. PU gamma/steering tool (if gamma option is selected) and run in hole to seat steering tool in mule shoe. RU Wet Connect.
9. Continue drilling at the same flow rate and pressure to complete the build portion at:
  - a. 5992' MD
  - b. 5931' TVD
  - c. 91.54° inclination
  - d. 194.43° azimuth
10. Circulate hole clean.
11. Trip out of hole to Wet Connect and retrieve steering tool.
12. Continue trip out of hole with BHA #1. Lay down same.
13. Pick up, orient, and test BHA #2 (lateral assembly with slightly less bend). TIH to KOP at 5830' MD.
14. PU steering tool and run in hole to seat in mule shoe. RU the Wet Connect. Resume TIH to bottom.
15. Drill ahead following the programmed well path at 130 gpm and 200 psi differential pressure to TD at:
  - a. 6911' MD
  - b. 6920' TVD
  - c. 88.98° inclination
  - d. 194.43° azimuth
  - e. 1023' vertical section
16. Circulate hole clean.
17. Trip out of hole to Wet Connect and retrieve steering tool.
18. Continue trip out of hole with BHA #2
19. Demobilize.

## DISTRICT I

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## DISTRICT III

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## DISTRICT IV

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Energy, Minerals and Natural Resources Department

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Revised February 10, 1994

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☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-20179		<sup>2</sup> Pool Code 62160		<sup>3</sup> Pool Name VACUUM GLORIETA	
<sup>4</sup> Property Code		<sup>5</sup> Property Name VACUUM GLORIETA WEST UNIT			<sup>6</sup> Well No. 86
<sup>7</sup> OGRID Number 022351		<sup>8</sup> Operator Name TEXACO EXPLORATION & PRODUCTION INC.			<sup>9</sup> Elevation 4009' DF

<sup>10</sup> Surface Location

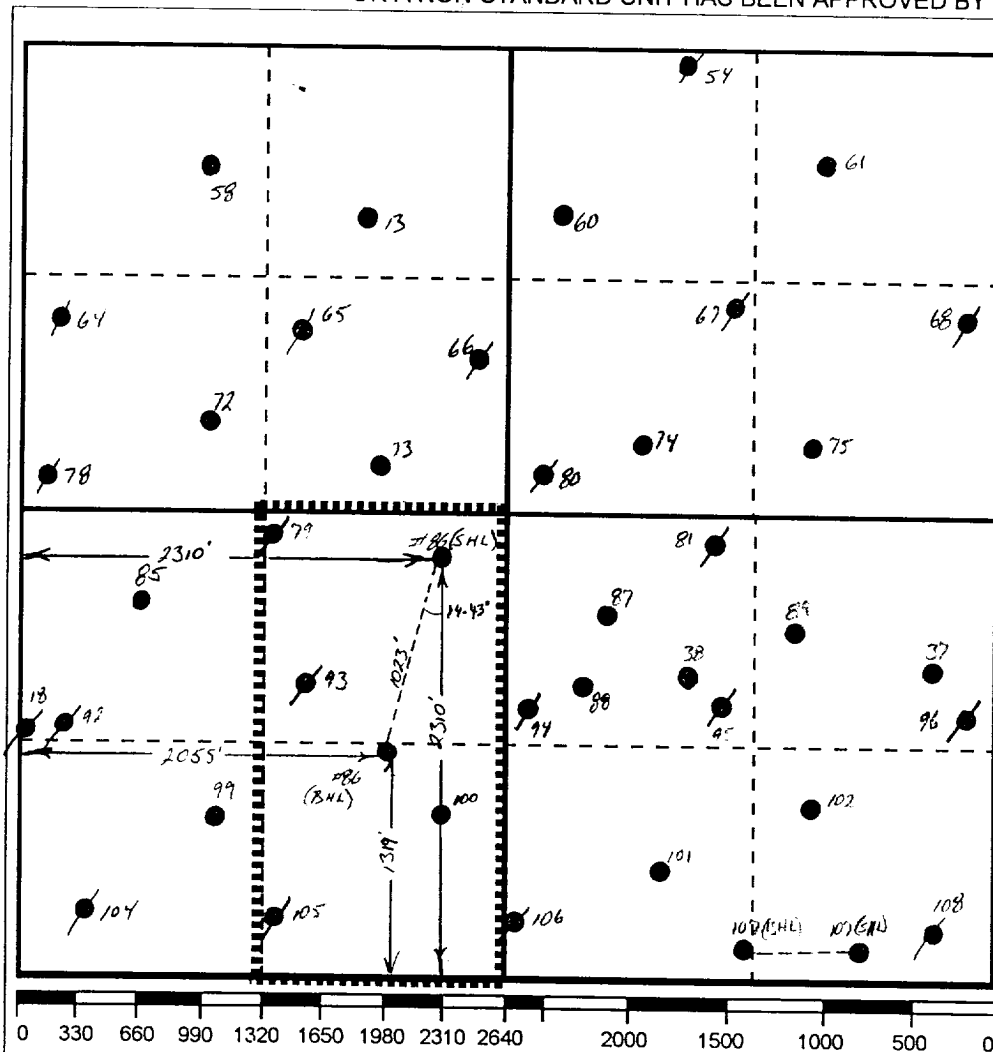
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<sup>11</sup> Bottom Hole Location If Different From Surface

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<sup>12</sup> Dedicated Acres 80	<sup>13</sup> Joint or Infill No	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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

Printed Name

Darrell J. Carriger

Position

Prod. Engineer

Date

6/9/97

## 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

Signature & Seal of  
Professional Surveyor

Certificate No.