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
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

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

1 Operator Name and Address	2 OGRID Number
TEXACO EXPLORATION & PRODUCTION INC. 205 E. Bender, HOBBS, NM 88240	022351
	3 API Number 3002520753

4 Property Code	5 Property Name	6 Well No.
11125	VACUUM GLORIETA WEST UNIT	116

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
D	6	18S	35E		330	NORTH	560	WEST	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
B	6	18S	35E		500	NORTH	2470	EAST	LEA

9 Proposed Pool 1	10 Proposed Pool 2
GLORIETA	

11 Work Type Code	12 WellType Code	13 Rotary or C.T.	14 Lease Type Code	15 Ground Level Elevation
~~E~~ P	O	R	S	
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
No	6005 TVD	GLORIETA		09/15/1999

21 Proposed Casing and Cement Program

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
NO CHANGE					

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

Texaco intends to drill a 2250' lateral at 90 deg in the Glorieta formation. The intended procedure is attached:

Permit Expires 1 Year From Approval Date Unless ~~Drilling~~ Underway

Plugback Horizontal

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 J. Denise Leake

Printed Name J. Denise Leake

Title Engineering Assistant

Date 08/31/1999 Telephone 397-0405

OIL CONSERVATION DIVISION

Approved By: ORIGINAL SIGNED BY [illegible]

Title:

Approval Date: OCT 01 1999 Expiration Date:

Conditions of Approval:
Attached ☐

DeSoto/Nichols 3-94 ver 1.10

405

OVERVIEW

The Vacuum Glorieta West Unit # 116 well was drilled in 1964 and potentialed for 240 BOPD, 0 BWPD and 0 MCFD in the Glorieta formation. The well was perforated from 5996'-6007' and 6021'-6142'. This well has 4-1/2" casing of unknown weight which will require drilling a 3-7/8" hole. One successful horizontal lateral has been drilled at the VGWU using a 3-7/8" bit inside 4-1/2" casing. It is proposed to employ this technology on the subject well and drill a +/-2250 foot lateral at 90 degrees in the Glorieta formation. The basic well plan is as follows:

a) TOOH with the pump and tubing. Run a casing inspection log to check weight of 4-1/2" casing. Run a casing scraper to 6050'. Set a 4-1/2" cement retainer at +/-5980'. Squeeze existing perforations and pressure test to 800 psi. Set a 4-1/2" RBP +/-5911'. TIH with a 3 degree bottom trip whipstock (casing collar at +/-5887', top of window +/-5898', bottom of window +/-5904'). Attached is a correlation log.

b) Drill a short radius curve using a 3-7/8" bit to a measured depth of +/-6059' (TVD +/-6005') with a 99.8 degree azimuth. The final angle will be 88 degrees from vertical. Drill +/-2169' horizontal section (azimuth varying from 100.96 degrees to 89.99 degrees according to attached directional plan). The end point will be +/-8228' MD, +/-6020' TVD and +/-2250' vertical section.

c) Retrieve the whipstock and RBP.

d) Foam/acid wash horizontal lateral using a coiled tubing unit and 20 gallons/foot 15% HCl. Place well on production.

50% LOST IN HOLE INSURANCE FOR THE DOWNHOLE MOTOR AND MWD IS INCLUDED WITH THE DAILY RATE FROM SCIENTIFIC DRILLING.

PROPOSED WORK

PRODUCTION HOLE:

1. TOOH with pump and tubing. Run a casing inspection log to check weight of 4-1/2""casing. TIH with casing scraper to 6050'. Set a 4-1/2" cement retainer at 5980'. Cement squeeze existing perforations with 100 sacks cement. Pressure test casing and squeeze to 800 psi. TIH with a 4-1/2" RBP on wire line and set at +/-5911'. Correlate the casing collars with the production logs (casing collar at 5887' & 5921'). TOOH.

2. TIH and tag the RBP. Strap the pipe going in the hole. This measurement will be used when setting the whipstock. Accuracy is very important. Check the strap with the wire line measurement. TOOH.

3. TIH with bottom set retrievable whipstock, starting mill, orientation sub and drill pipe. Stop at a point 5-10' above the RBP and run a gyro. Take a gyro reading to determine the direction of the whipstock face. Rotate the pipe as needed to achieve the required direction (azimuth 99.8 degrees). Lower the pipe to within one foot of the RBP and take another gyro reading. Rotate pipe again, if necessary, to obtain the required direction. This step may need to be made several times until confident the whipstock is oriented in the proper direction. Pull the gyro to surface, recording the orientation of the wellbore.

4. Lower the drill pipe to set the whipstock. The weight indicator will jump indicating the plunger shear pin is sheared and the whipstock is set. Continue setting down to shear the starting mill bolt. The weight indicator will jump, indicating the bolt is sheared.

5. Pick up the power swivel and begin circulating. Pick up the drill pipe until the starting mill has cleared the whipstock and start rotation. Lower the drill pipe slowly until the torque gauge suggest the starting mill is contacting the casing. Adjust weight and speed until satisfied with the penetration rate. Mill to a predetermined depth that will assure the setting lug is completely removed and a cut out in the casing has been initiated. TOOH.

6. TIH with the metal muncher window mill, string mill and the watermelon mill. Resume milling operations and mill until the complete assembly has cleared the casing. Pick up and lower the string several times without rotation to assure a good clean window has been obtained. Circulate the hole clean. TOOH.

7. Inspect the mill on the surface. If extreme wear is evident, consideration should be given to repeating the above step.

HORIZONTAL PRODUCTION HOLE:

1. Rig up Scientific Drilling Company. Adjust plan to target as necessary. Trip in the hole with Scientific Drilling's curve building assembly. This will be a 3-7/8" insert bit, 2-7/8" PDM, float sub/orienter combo, 2-flexible monel collars and 2-7/8" drill pipe.

   Drill pipe to consist of 2-7/8", X-95, 10.4 ppf (vertical) and 2-7/8", S-135, 10.4 ppf (horizontal).
   Connections to consist of 2-3/8" HTSLH90 with 1.85" drift

2. Build curve to estimated target depths and angles as follows:

   True Vertical Depth ..... 6005'
   Measured Depth ..... 6059'
   Final Angle ..... 88 degrees
   Target Azimuth ..... 99.8 degrees
   Build Rate ..... 57.26 degrees/100'

   Drill the curve sliding as necessary to stay on target. It is recommended that after each slide, the bit be pulled back and washed through the slide. Once the curve is built, rotate through the curve section noting tight spots and fill. Make at least one short trip prior to tripping out of the hole.

3. Trip in the hole with Scientific Drilling's lateral assembly. This will be a 3-7/8" bit, 2-7/8" articulated motor, float sub/orienter combo, 2 - flexible monel collars and 2-7/8" drill pipe.

4. Drill +/-2170' of horizontal hole per the attached Scientific well plan.

5. Continue drilling the horizontal section per the Texaco Engineer (Kevin Hickey 915-688-2950, home 915-684-8136) recommendations.

6. Trip out of the hole with the drilling assembly.

7. TIH and retrieve the whipstock and RBP.

8. Set a wireline set, tubing retrievable bridge plug for 4-1/2" casing at +/- 5500'. Test plug to 1000 psi.

9. Lay down the drill pipe.

10. Nipple down the BOP stack. Install a manual 3000 psig BOP equipped with blind rams and 2-7/8" pipe rams. Release the rig. Rig down and move out rotary tools.

COMPLETION PROCEDURE:

1. Back drag the location and set pulling unit anchors.

2. Move in and rig up a pulling unit.

3. Trip in the hole with a retrieving head on 2-7/8" tubing. Retrieve the plug. Trip out of the hole and lay down the plug. TIH with coiled tubing and foam/acid wash the lateral. Use a bent joint to orient into the lateral.

4. Flow back immediately.

5. Place on production.

POTENTIAL PROBLEMS:

Horizontal Production hole:

a) Loss circulation material and/or other plugging agents are not to be used in this portion of the hole.

b) The horizontal lateral will be drilled with fresh water from the Vacuum fresh water supply well.

c) No hydrogen sulfide is expected, but H2S detection equipment is to be installed.

Scientific Drilling
Planning Report

Company:	Texaco E & P, Inc.	**Date:** 7/19/1999	**Time:** 13:22:19 **Page:** 1
Field:	Vacuum Glorieta West Unit	**Co-ordinate(NE) Reference:**	Site: Lea County, New Mexico, True North
Site:	Lea County, New Mexico	**Vertical (TVD) Reference:**	SITE 0.0 above Mean Sea Level
Well:	VGWU #116	**Section (VS) Reference:**	Site (0.0E,0.0N,90.0Azi)
Wellpath:	OH Original hole	**Plan:**	Plan #1

Field: Vacuum Glorieta West Unit

Map Projection & Zone: US State Plane Coordinate System 1927 Texas, Central Zone

Ellipsoid: Clarke - 1866

Field Datum: Mean Sea Level

Local Coordinate Reference: Site Centre
Location of Field Centre: N/A
Field Centre Map Easting: ft
Field Centre Map Northing: ft
Direction of Local North: True

Local Vertical Reference: Wellpath Datum

Geomagnetic Model: IGRF95

Site: Lea County, New Mexico

Site Centre: ft E, ft N

Latitude
Longitude

Site Water Depth: 0.0 ft

Magnetic Declination: 0.00 deg
Grid Convergence: 0.00 deg

Measured Depths Referenced To: SITE 0.0 ft above Mean Sea Level

Well: VGWU #116

Originating From: 0.0 ft +N/-S, 0.0 ft +E/-W

Map Easting : 0.00 ft
Map Northing: 0.00 ft

Wellpath: OH Original hole

Origin of Vertical Section: Site Centre 0.0 ft +N/-S, 0.0 ft +E/-W

Direction of Vertical Section: 90.00 deg

Plan: Plan #1

Date Composed: 7/19/1999
Version: 1

Principal: Yes

Locked: No

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg	Target
5500.0	0.00	0.00	5500.0	0.0	0.0	0.00	0.00	0.00	0.00	
5905.0	0.00	0.00	5905.0	0.0	0.0	0.00	0.00	0.00	0.00	
6058.7	88.00	99.80	6005.0	-16.4	95.2	57.26	57.26	64.94	0.00	
6078.2	87.80	100.96	6005.7	-20.0	114.4	6.00	-1.04	5.91	99.96	
6774.7	87.80	100.96	6032.5	-152.2	797.7	0.00	0.00	0.00	0.00	
6963.6	90.68	89.99	6035.0	-170.2	985.4	6.00	1.53	-5.80	-75.39	1 target
8228.3	90.68	89.99	6020.0	-170.0	2250.0	0.00	0.00	0.00	0.00	Toe VGWU 116

Section 1 : Straight MD Part 1 Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
5500.0	0.00	0.00	5500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5600.0	0.00	0.00	5600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5700.0	0.00	0.00	5700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5800.0	0.00	0.00	5800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5905.0	0.00	0.00	5905.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00

Scientific Drilling
Planning Report

Company:	Texaco E & P, Inc.	**Date:** 7/19/1999 **Time:** 13:22:19 **Page:** 2	
Field:	Vacuum Glorieta West Unit	**Co-ordinate(NE) Reference:**	Site: Lea County, New Mexico, True North
Site:	Lea County, New Mexico	**Vertical (TVD) Reference:**	SITE 0.0 above Mean Sea Level
Well:	VGWU #116	**Section (VS) Reference:**	Site (0.0E,0.0N,90.0Azi)
Wellpath:	OH Original hole	**Plan:**	Plan #1

Section 2 : Inc Azi TVD Part 1 Build 57.26

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
5910.0	2.86	99.80	5910.0	0.0	0.1	0.1	57.26	57.26	0.00	0.00
5920.0	8.59	99.80	5919.9	-0.2	1.1	1.1	57.26	57.26	0.00	0.00
5930.0	14.32	99.80	5929.7	-0.5	3.1	3.1	57.26	57.26	0.00	0.00
5940.0	20.04	99.80	5939.3	-1.0	6.0	6.0	57.26	57.26	0.00	0.00
5950.0	25.77	99.80	5948.5	-1.7	9.8	9.8	57.26	57.26	0.00	0.00
5960.0	31.49	99.80	5957.3	-2.5	14.5	14.5	57.26	57.26	0.00	0.00
5970.0	37.22	99.80	5965.5	-3.5	20.1	20.1	57.26	57.26	0.00	0.00
5980.0	42.95	99.80	5973.2	-4.6	26.4	26.4	57.26	57.26	0.00	0.00
5990.0	48.67	99.80	5980.1	-5.8	33.5	33.5	57.26	57.26	0.00	0.00
6000.0	54.40	99.80	5986.4	-7.1	41.2	41.2	57.26	57.26	0.00	0.00
6010.0	60.12	99.80	5991.8	-8.5	49.5	49.5	57.26	57.26	0.00	0.00
6020.0	65.85	99.80	5996.3	-10.1	58.3	58.3	57.26	57.26	0.00	0.00
6030.0	71.58	99.80	5999.9	-11.6	67.4	67.4	57.26	57.26	0.00	0.00
6040.0	77.30	99.80	6002.6	-13.3	76.9	76.9	57.26	57.26	0.00	0.00
6050.0	83.03	99.80	6004.3	-15.0	86.6	86.6	57.26	57.26	0.00	0.00
6058.7	88.00	99.80	6005.0	-16.4	95.2	95.2	57.26	57.26	0.00	0.00

Section 3 : OPT AL DLS Part 1 Drop -1.04 T

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
6078.2	87.80	100.96	6005.7	-20.0	114.4	114.4	6.00	-1.04	5.91	99.96

Section 4 : OPT AL DLS Part 2 Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
6100.0	87.80	100.96	6006.6	-24.1	135.7	135.7	0.00	0.00	0.00	180.00
6200.0	87.80	100.96	6010.4	-43.1	233.8	233.8	0.00	0.00	0.00	180.00
6300.0	87.80	100.96	6014.2	-62.1	331.9	331.9	0.00	0.00	0.00	180.00
6400.0	87.80	100.96	6018.1	-81.1	430.0	430.0	0.00	0.00	0.00	180.00
6500.0	87.80	100.96	6021.9	-100.0	528.2	528.2	0.00	0.00	0.00	180.00
6600.0	87.80	100.96	6025.8	-119.0	626.3	626.3	0.00	0.00	0.00	180.00
6700.0	87.80	100.96	6029.6	-138.0	724.4	724.4	0.00	0.00	0.00	180.00
6774.7	87.80	100.96	6032.5	-152.2	797.7	797.7	0.00	0.00	0.00	180.00

Section 5 : OPT AL DLS Part 3 Build 1.53 T

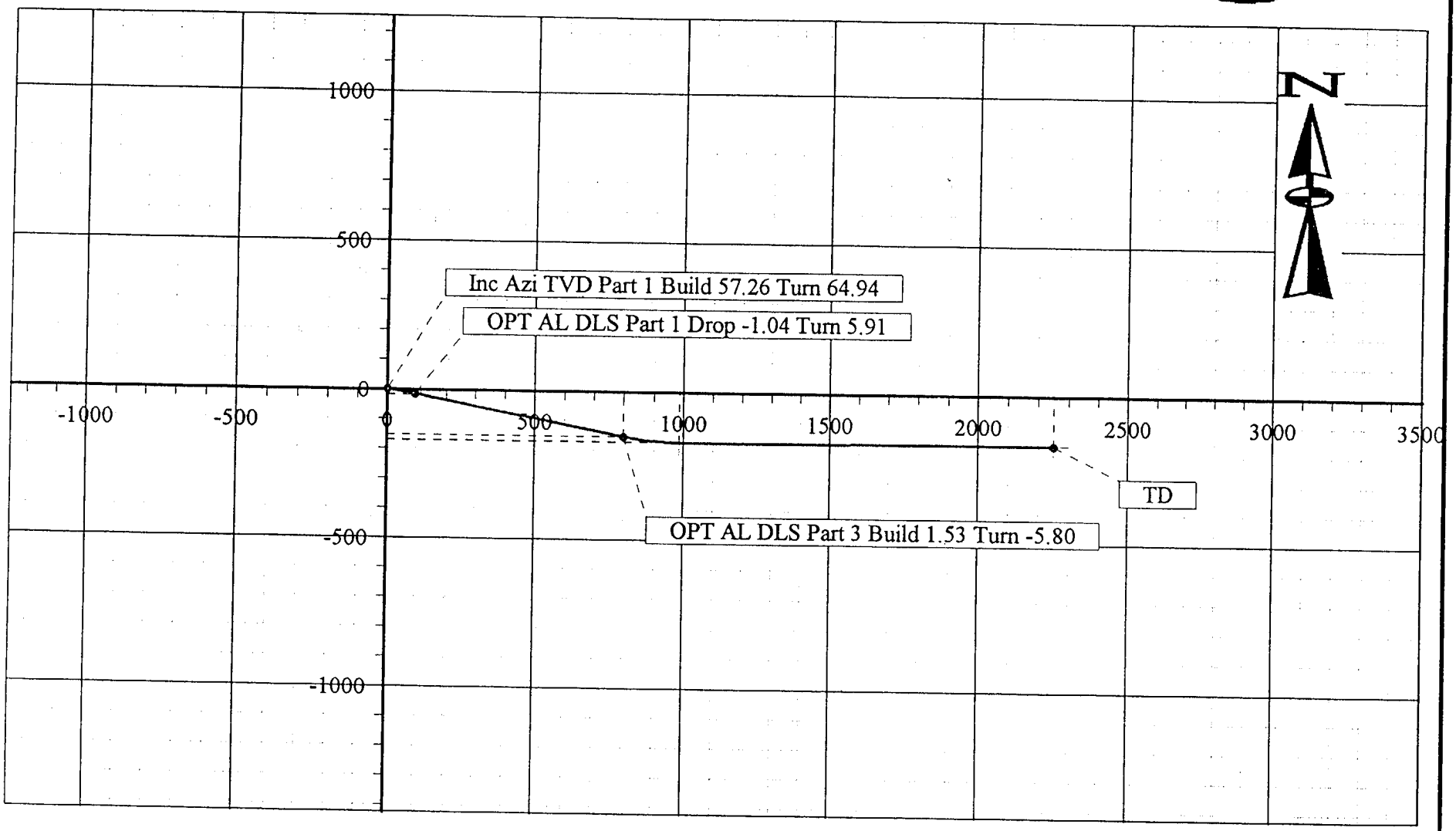
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
6800.0	88.18	99.49	6033.4	-156.7	822.5	822.5	6.00	1.52	-5.81	-75.39
6850.0	88.94	96.58	6034.6	-163.7	872.0	872.0	6.00	1.52	-5.81	-75.34
6900.0	89.71	93.68	6035.2	-168.2	921.8	921.8	6.00	1.53	-5.80	-75.26
6950.0	90.47	90.78	6035.1	-170.1	971.8	971.8	6.00	1.53	-5.80	-75.23
6963.6	90.68	89.99	6035.0	-170.2	985.4	985.4	6.00	1.53	-5.80	-75.24

Section 6 : DT6 Curve Part 1 Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
7000.0	90.68	89.99	6034.6	-170.2	1021.8	1021.8	0.00	0.00	0.00	180.00
7100.0	90.68	89.99	6033.4	-170.2	1121.8	1121.8	0.00	0.00	0.00	180.00
7200.0	90.68	89.99	6032.2	-170.2	1221.7	1221.7	0.00	0.00	0.00	180.00
7300.0	90.68	89.99	6031.0	-170.1	1321.7	1321.7	0.00	0.00	0.00	180.00
7400.0	90.68	89.99	6029.8	-170.1	1421.7	1421.7	0.00	0.00	0.00	180.00
7500.0	90.68	89.99	6028.6	-170.1	1521.7	1521.7	0.00	0.00	0.00	180.00
7600.0	90.68	89.99	6027.5	-170.1	1621.7	1621.7	0.00	0.00	0.00	180.00
7700.0	90.68	89.99	6026.3	-170.1	1721.7	1721.7	0.00	0.00	0.00	180.00
7800.0	90.68	89.99	6025.1	-170.1	1821.7	1821.7	0.00	0.00	0.00	180.00
7900.0	90.68	89.99	6023.9	-170.1	1921.7	1921.7	0.00	0.00	0.00	180.00
8000.0	90.68	89.99	6022.7	-170.0	2021.7	2021.7	0.00	0.00	0.00	180.00
8100.0	90.68	89.99	6021.5	-170.0	2121.7	2121.7	0.00	0.00	0.00	180.00
8200.0	90.68	89.99	6020.3	-170.0	2221.7	2221.7	0.00	0.00	0.00	180.00
8228.3	90.68	89.99	6020.0	-170.0	2250.0	2250.0	0.00	0.00	0.00	180.00

Scientific Drilling

Texaco E & P, Inc.
Field: Vacuum Glorieta West Unit
Site: Lea County, New Mexico
Well: VGWU #116
Wellpath: OH Original hole
Plan: Plan #1



North(+)/South(-) [500ft/in]

West(-)/East(+) [500ft/in]

Scientific Drilling

Texaco E & P, Inc.
Field: Vacuum Glorieta West Unit
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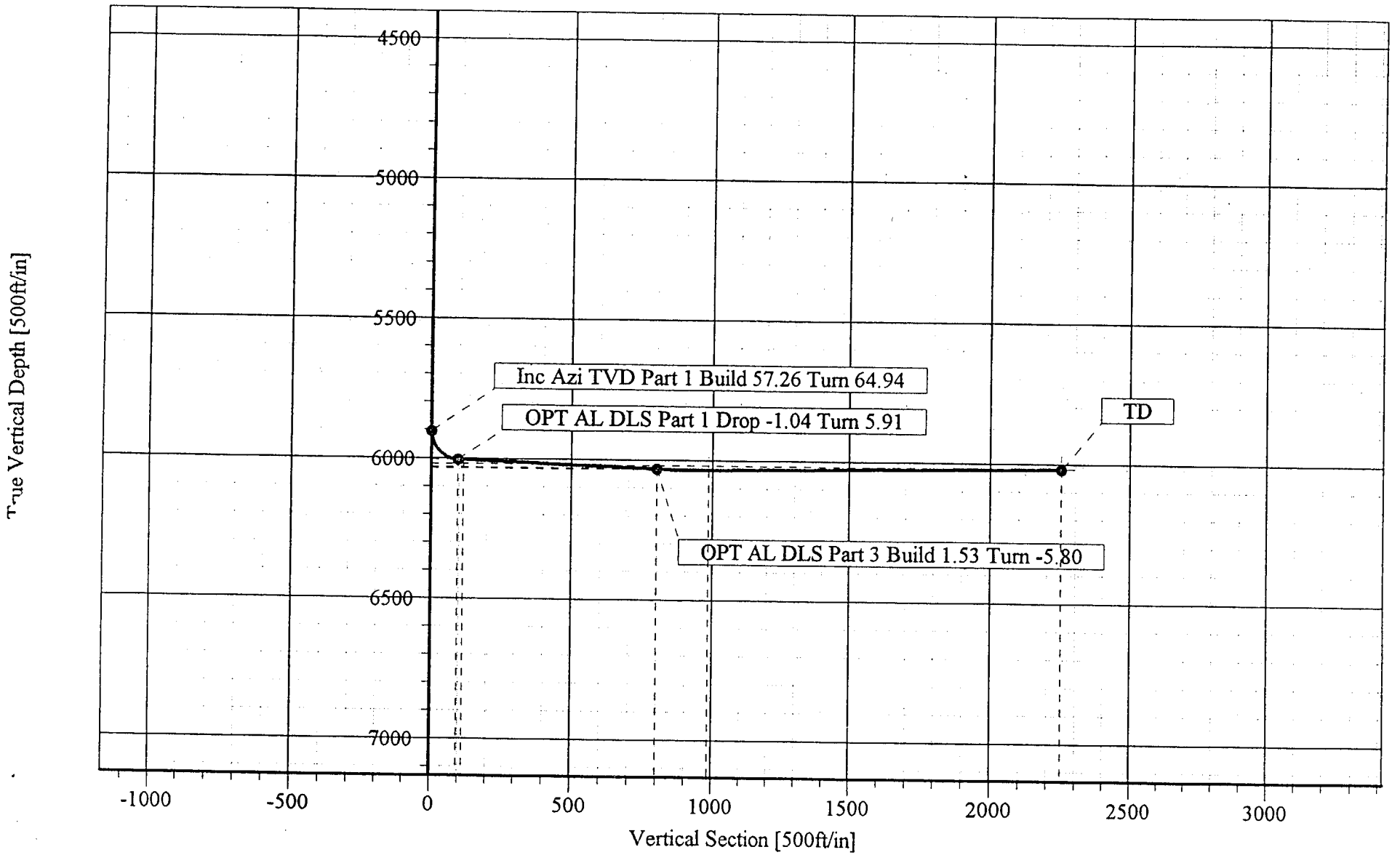


DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
P.O. Box Drawer DD, Artesia, NM 88211-0719
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

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-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
3002520753	62160	VACUUM GLORIETA

4 Property Code	5 Property Name	6 Well No.
11125	VACUUM GLORIETA WEST UNIT	116

7 OGRID Number	8 Operator Name	9 Elevation
022351	TEXACO EXPLORATION & PRODUCTION INC.	

10 Surface Location

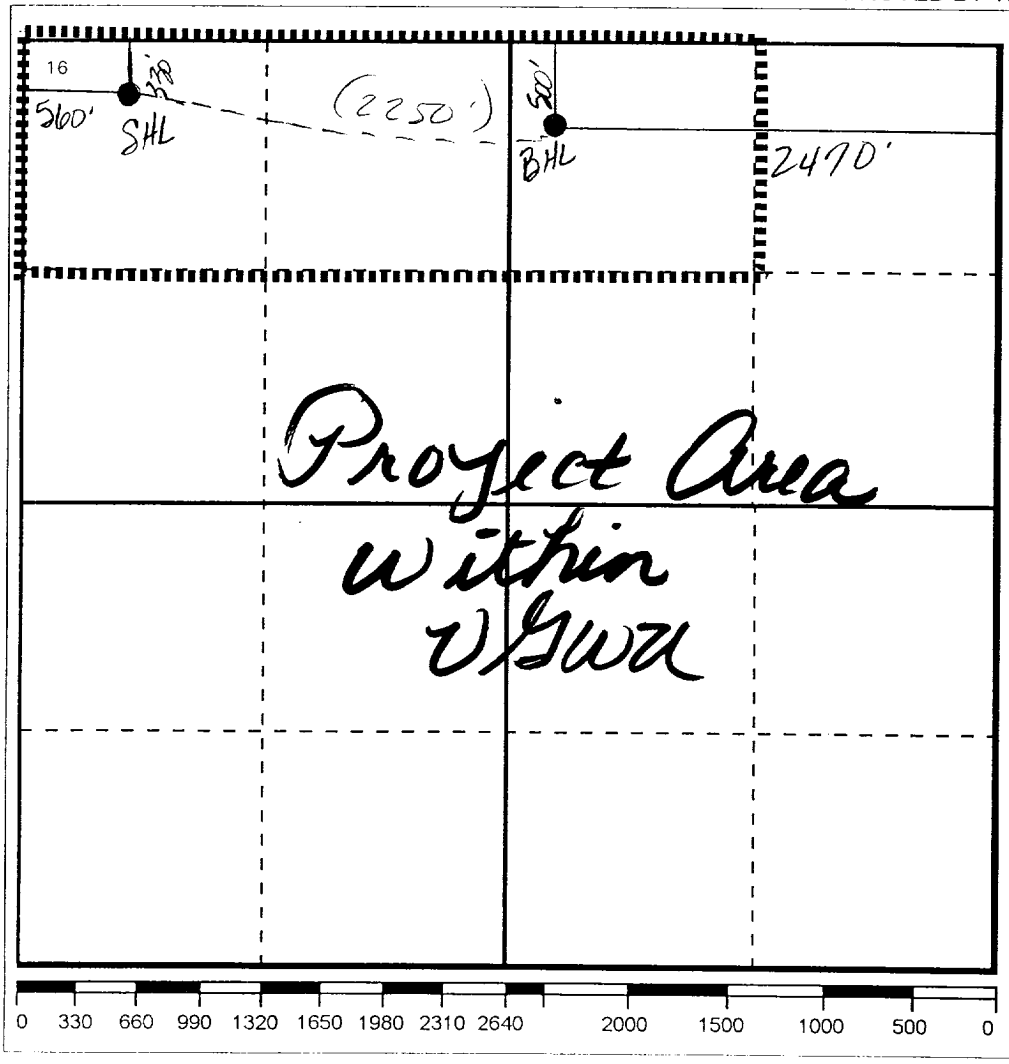
Ul or lot no.	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
D	6	18S	35E		330	NORTH	560	WEST	LEA

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	County
B	6	18S	35E		500	NORTH	2470	EAST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
120	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: J. Denise Leake

Printed Name: J. Denise Leake

Position: Engineering Assistant

Date: 08/31/1999

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.

DeSoto/Nichols 3/94 ver 1.10

5