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-10
Revised February 10,199
Instructions on back
Submit to Appropriate District Offic
State Lease - 6 Copie
Fee Lease - 5 Copie
☐ 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 30-025-20270

4 Property Code	5 Property Name	6 Well No.
011125	VACUUM GLORIETA WEST UNIT	90

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
L	31	17S	35E		2130	SOUTH	660	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
I	36	17S	34E		2130	SOUTH	690	EAST	LEA

9 Proposed Pool 1	10 Proposed Pool 2
VACUUM GLORIETA	

11 Work Type Code	12 WellType Code	13 Rotary or C.T.	14 Lease Type Code	15 Ground Level Elevation
E P	O	ROTARY	S	3982' GR
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
No	6104 MD	GLORIETA		5/1/00

21 Proposed Casing and Cement Program

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
	7"	23#	2751'		

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 HORIZONTAL RE-ENTRY IN THE SUBJECT WELL. THE PROPOSED WORK IS ATTACHED.

Permit Expires 1 Year From Approval Date Unless ~~Drilling~~ Plug-Back Underway

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 3/20/00 Telephone 397-0405

OIL CONSERVATION DIVISION

Approved By: ORIGINAL SIGNED BY
GARY WINK
FIELD REP. II

Title:

Approval Date: APR 06 2000 Expiration Date:

Conditions of Approval:
Attached ☐

DeSoto/Nichols 3-94 ver 1.10

OVERVIEW

The Vacuum Glorieta West Unit #90 well (formerly the Santa Fe #87) is currently completed in the Glorieta formation. The well was drilled in 1964 to a TD of 10,500'. The well is perforated from 5966'-6136'. It has 7" 23# casing in the interval of interest. It is proposed to drill a +/-1350 foot lateral at 270 degrees in the Glorieta formation. The basic well plan is as follows:

a) TOOH with the pump and tubing. Run a casing scraper to 6100'. Set a 7" cement retainer at +/-5957'. Squeeze existing perforations, cap with 5' of cement and pressure test to 1000 psi. TIH with a 3 degree bottom trip whipstock (casing collar at +/-???', top of window +/-5933', bottom of window +/-5940'). Attached is a correlation log.

b) Drill a short radius curve using a 4-3/4" bit to a measured depth of +/-6104' (TVD +/-6040') with a 270 degree azimuth. The final angle will be 93.66 degrees from vertical. Drill +/-1243' horizontal section. The end point will be +/-7350' MD, +/-5960' TVD and +/-1350' vertical section.

d) Stimulate using ported subs and 60 gallons/foot 20% 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. TIH with casing scraper to 6100'. Set a 7" cement retainer at 5957'. Establish injection rate. Squeeze Glorieta perforations 5966'–6136' with 150 sacks of Class "H" cement containing 0.3% D156 fluid loss and 0.4% D65 dispersant followed by 100 sacks of Class "H" neat cement (15.6 ppg). Pump at less than 2 BPM, slowing to 0.5 BPM at the end of the job (no hesitation). TOOH. TIH and polish off cement top to ±5952'. Pressure test the squeeze to 1000 psi. TOOH. Correlate the casing collars with the production logs (casing collar at ???' & ???'). TOOH.

2. 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 270 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 4-3/4" insert bit, 3-3/4" PDM, float sub/orienter combo, 2-flexible monel collars and 2-7/8" AOH drill pipe.

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

True Vertical Depth	6040'
Measured Depth	6104'
Final Angle	93.66 degrees
Target Azimuth	270 degrees
Build Rate	57.18 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 4-3/4" insert bit, 3-3/4" articulated motor, float sub/orienter combo, 2 - flexible monel collars and 2-7/8" AOH drill pipe.

4. Drill +/-1243' 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. Set a wireline set, tubing retrievable bridge plug for 7" casing at +/- 5850'. Test plug to 1000 psi.

8. Lay down the drill pipe.

9. 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.

4. Rig up Dowell. Acidize the horizontal lateral. The acid job will be done down 3-1/2" tubing in the vertical portion with a packer set 100' above the window. Below the packer, the string will consist of 2-7/8" PH-6 tubing and ported subs.

5. Flow back immediately. Flow/swab test for 12 hours. TOOH with frac string. TIH with production string.

6. 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.

MUD PROGRAM:

Interval	Type	Weight	Viscosity	Remarks
Curve	Fresh Water	8.4 ppg	35	Raise visc. with starch and gel
Horizontal	Fresh Water	8.4-9.0 ppg	28-29	Circulate reserve

EVALUATION PROGRAM

Coring:

No cores are anticipated.

Mud Loggers:

A mud logger will be rigged from the start of the curve to total depth. Contact Kevin Hickey at (915) 688-2950 for the name of the mud logger.

Open Hole Logs:

The following open hole logs will be run in the vertical section of the well:

Run 1: Gyro from 5950'- surface for determination of bottom hole location (Scientific Drilling responsibility).

The guidance system in the curve and horizontal sections of the hole will consist of a MWD system.

Horizontal Hole Logs:

No logs are anticipated.

CASING PROPERTIES

	DEPTH	BURST Rated	BURST (70%)	COLLAPSE Rated	COLLAPSE (70%)	TEST PRESSURE
7", 23#, N-80	0-2751'	6340	4438	3830	2681	1000
7", 23#, J-55	2751'-7653'	4360	3052	3270	2289	1000

Current PBTD is 6340'.

Scientific Drilling
Planning Report

Company:	Texaco E & P, Inc.	**Date:**	01/25/2000	**Time:** 11:17:08	**Page:** 1
Field:	Vacuum Glorieta West Unit	**Co-ordinate(NE) Reference:**	Site: Lea County, New Mexico, Grid North		
Site:	Lea County, New Mexico	**Vertical (TVD) Reference:**	SITE 0.0 above Mean Sea Level		
Well:	VGWU #90	**Section (VS) Reference:**	Site (0.0E,0.0N,270.0Azi)		
Wellpath:	OH Original hole	**Plan:**	Plan #1		

Field: Vacuum Glorieta West Unit

Map Projection & Zone: US State Plane Coordinate System 1927 New Mexico, Eastern 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: Grid

Local Vertical Reference: Wellpath Datum

Geomagnetic Model: IGRF95

Site: Lea County, New Mexico

Site Centre: 750286.00 ft E, 653219.00 ft N
32 47 35.293 N **Latitude**
103 31 7.940 W **Longitude**

Site Water Depth: 0.0 ft

Magnetic Declination: 8.99 deg
Grid Convergence: 0.44 deg

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

Well: VGWU #90

Originating From: 0.0 ft +N/-S, 0.0 ft +E/-W
Map Easting : 750286.00 ft
Map Northing: 653219.00 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: 270.00 deg

Plan: Plan #1

Date Composed: 01/25/2000
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
5940.0	0.00	270.00	5940.0	0.0	0.0	0.00	0.00	0.00	0.00	
6103.8	93.66	270.00	6040.0	0.0	-106.6	57.18	57.18	0.00	0.00	
6104.2	93.68	270.00	6040.0	0.0	-107.0	6.00	6.00	0.00	0.01	
7349.8	93.68	270.00	5960.0	0.0	-1350.0	0.00	0.00	0.00	0.00	90-1350

Section 1 : Inc Azi TVD Part 1 Build 57.18

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
5940.0	0.00	270.00	5940.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5950.0	5.72	270.00	5950.0	0.0	-0.5	0.5	57.18	57.18	0.00	0.00
5960.0	11.44	270.00	5959.9	0.0	-2.0	2.0	57.18	57.18	0.00	0.00
5970.0	17.15	270.00	5969.6	0.0	-4.5	4.5	57.18	57.18	0.00	0.00
5980.0	22.87	270.00	5978.9	0.0	-7.9	7.9	57.18	57.18	0.00	0.00
5990.0	28.59	270.00	5988.0	0.0	-12.2	12.2	57.18	57.18	0.00	0.00
6000.0	34.31	270.00	5996.5	0.0	-17.4	17.4	57.18	57.18	0.00	0.00
6010.0	40.03	270.00	6004.4	0.0	-23.5	23.5	57.18	57.18	0.00	0.00
6020.0	45.74	270.00	6011.8	0.0	-30.3	30.3	57.18	57.18	0.00	0.00
6030.0	51.46	270.00	6018.4	0.0	-37.8	37.8	57.18	57.18	0.00	0.00
6040.0	57.18	270.00	6024.2	0.0	-45.9	45.9	57.18	57.18	0.00	0.00
6050.0	62.90	270.00	6029.2	0.0	-54.6	54.6	57.18	57.18	0.00	0.00
6060.0	68.61	270.00	6033.3	0.0	-63.7	63.7	57.18	57.18	0.00	0.00

Scientific Drilling
Planning Report

Company:	Texaco E & P, Inc.	**Date:**	01/25/2000	**Time:** 11:30:20	**Page:** 2
Field:	Vacuum Glorieta West Unit	**Co-ordinate(NE) Reference:**	Site: Lea County, New Mexico, Grid North		
Site:	Lea County, New Mexico	**Vertical (TVD) Reference:**	SITE 0.0 above Mean Sea Level		
Well:	VGWU #90	**Section (VS) Reference:**	Site (0.0E,0.0N,270.0Azi)		
Wellpath:	OH Original hole	**Plan:**	Plan #1		

Section 1 : Inc Azi TVD Part 1 Build 57.18

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
6070.0	74.33	270.00	6036.5	0.0	-73.1	73.1	57.18	57.18	0.00	0.00
6080.0	80.05	270.00	6038.7	0.0	-82.9	82.9	57.18	57.18	0.00	0.00
6090.0	85.77	270.00	6039.9	0.0	-92.8	92.8	57.18	57.18	0.00	0.00
6100.0	91.49	270.00	6040.2	0.0	-102.8	102.8	57.18	57.18	0.00	0.00
6103.8	93.66	270.00	6040.0	0.0	-106.6	106.6	57.18	57.18	0.00	0.00

Section 2 : DT5 CH Tang Part 1 Build 6.00

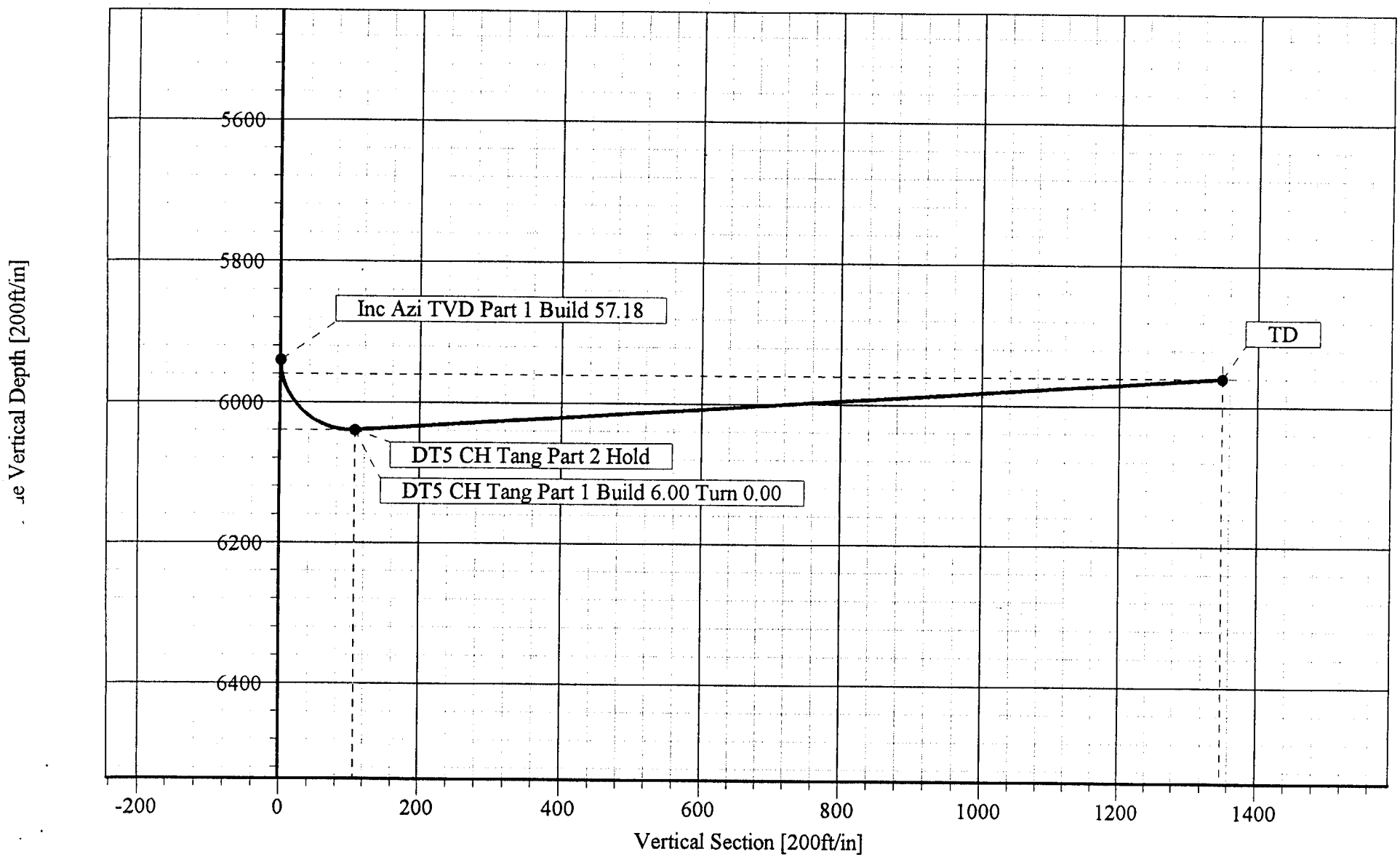
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS d/100ft	Build d/100ft	Turn d/100ft	TFO deg
6104.2	93.68	270.00	6040.0	0.0	-107.0	107.0	6.00	6.00	0.00	0.01

Section 3 : DT5 CH Tang 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
6200.0	93.68	270.00	6033.8	0.0	-202.6	202.6	0.00	0.00	0.00	180.00
6300.0	93.68	270.00	6027.4	0.0	-302.4	302.4	0.00	0.00	0.00	180.00
6400.0	93.68	270.00	6021.0	0.0	-402.2	402.2	0.00	0.00	0.00	180.00
6500.0	93.68	270.00	6014.6	0.0	-502.0	502.0	0.00	0.00	0.00	180.00
6600.0	93.68	270.00	6008.1	0.0	-601.8	601.8	0.00	0.00	0.00	180.00
6700.0	93.68	270.00	6001.7	0.0	-701.6	701.6	0.00	0.00	0.00	180.00
6800.0	93.68	270.00	5995.3	0.0	-801.4	801.4	0.00	0.00	0.00	180.00
6900.0	93.68	270.00	5988.9	0.0	-901.2	901.2	0.00	0.00	0.00	180.00
7000.0	93.68	270.00	5982.5	0.0	-1001.0	1001.0	0.00	0.00	0.00	180.00
7100.0	93.68	270.00	5976.0	0.0	-1100.7	1100.7	0.00	0.00	0.00	180.00
7200.0	93.68	270.00	5969.6	0.0	-1200.5	1200.5	0.00	0.00	0.00	180.00
7300.0	93.68	270.00	5963.2	0.0	-1300.3	1300.3	0.00	0.00	0.00	180.00
7349.8	93.68	270.00	5960.0	0.0	-1350.0	1350.0	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 #90
Wellpath: OH Original hole
Plan: Plan #1



Scientific Drilling

Texaco E & P, Inc.
Field: Vacuum Glorieta West Unit
Site: Lea County, New Mexico
Well: VGWU #90
Wellpath: OH Original hole
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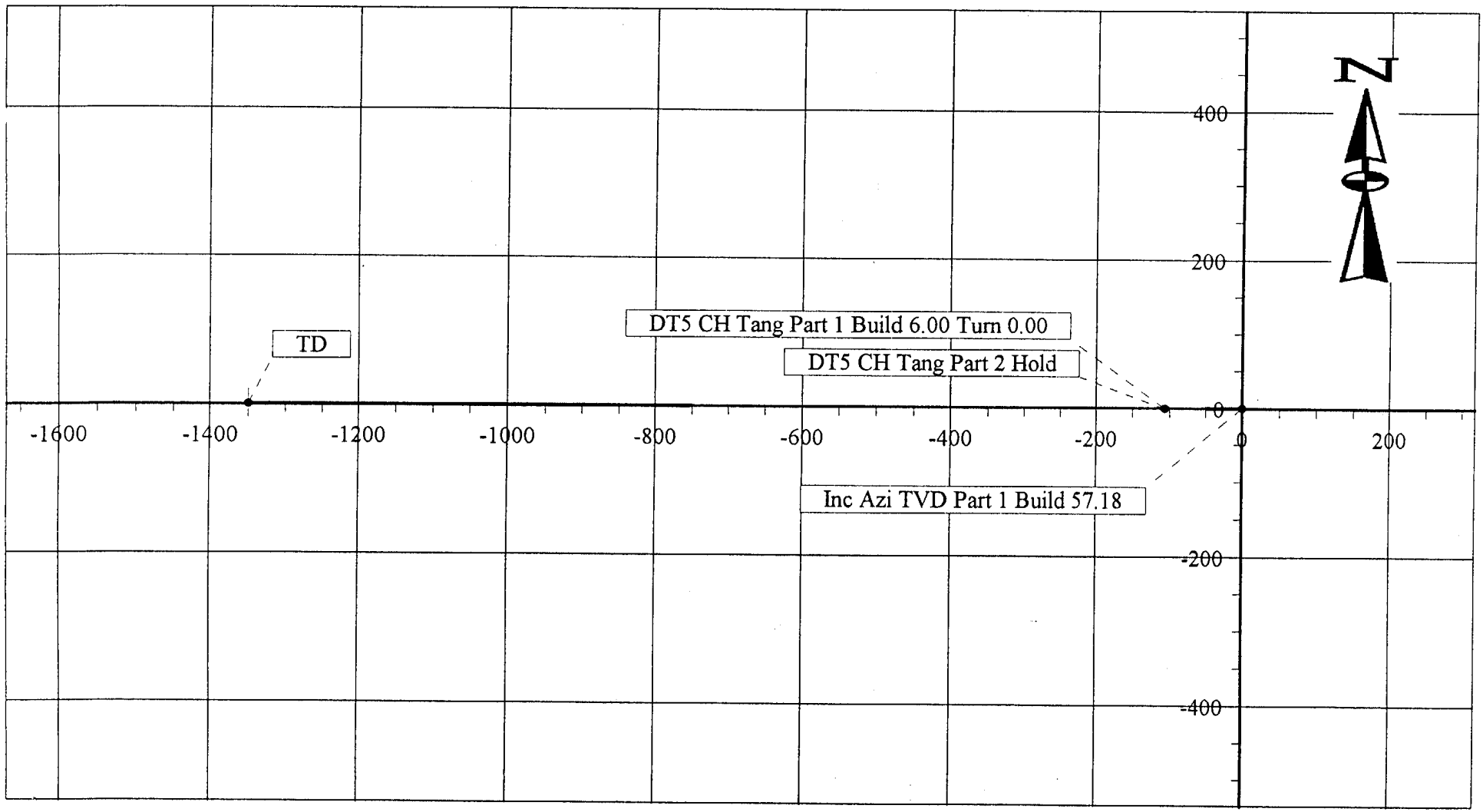
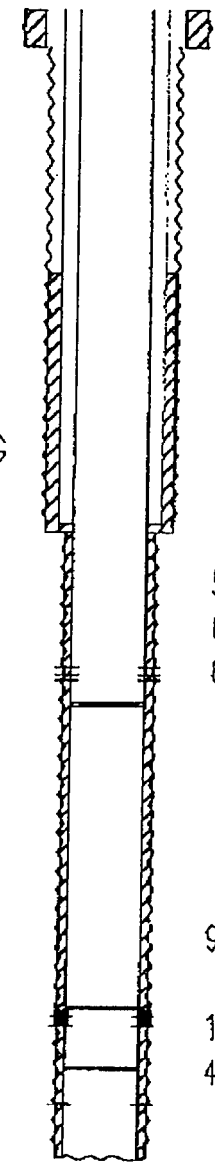
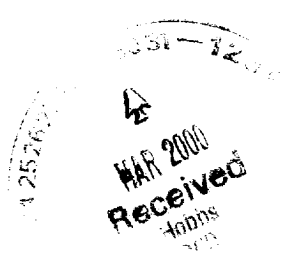


TEXACO E & P
VACUUM GLORIETA WEST UNIT #90
API# 3002520270



0.0 – 337.0' 13.375" OD 48.00#/ft H-40 SURF CSG
0.0 – 337.0' CEMENT
0.0 – 337.0' 17.500" OD HOLE
2400.0 – 4774.0' CEMENT
0.0 – 4774.0' 9.625" OD 36.00#/ft J-55 INT CSG
337.0 – 4774.0' 12.250" OD HOLE
5966.0 – 6014.0' PERFS
6340.0 – 6375.0' CIBP
6028.0 – 6090.0' PERFS
6092.0 – 6136.0' PERFS
4700.0 – 10500.0' CEMENT
9120.0 – 9140.0' CIBP
9162.0 – 9300.0' ABANDONED PERFS
9674.0 – 9694.0' CIBP
10006.0 – 10016.0' ABANDONED PERFS
0.0 – 10500.0' 7.000" OD 20.00#/ft PROD CSG
4774.0 – 10500.0' 8.500" OD HOLE

KB ELEV: 3994'
PBTD: 6340'
TD: 10500'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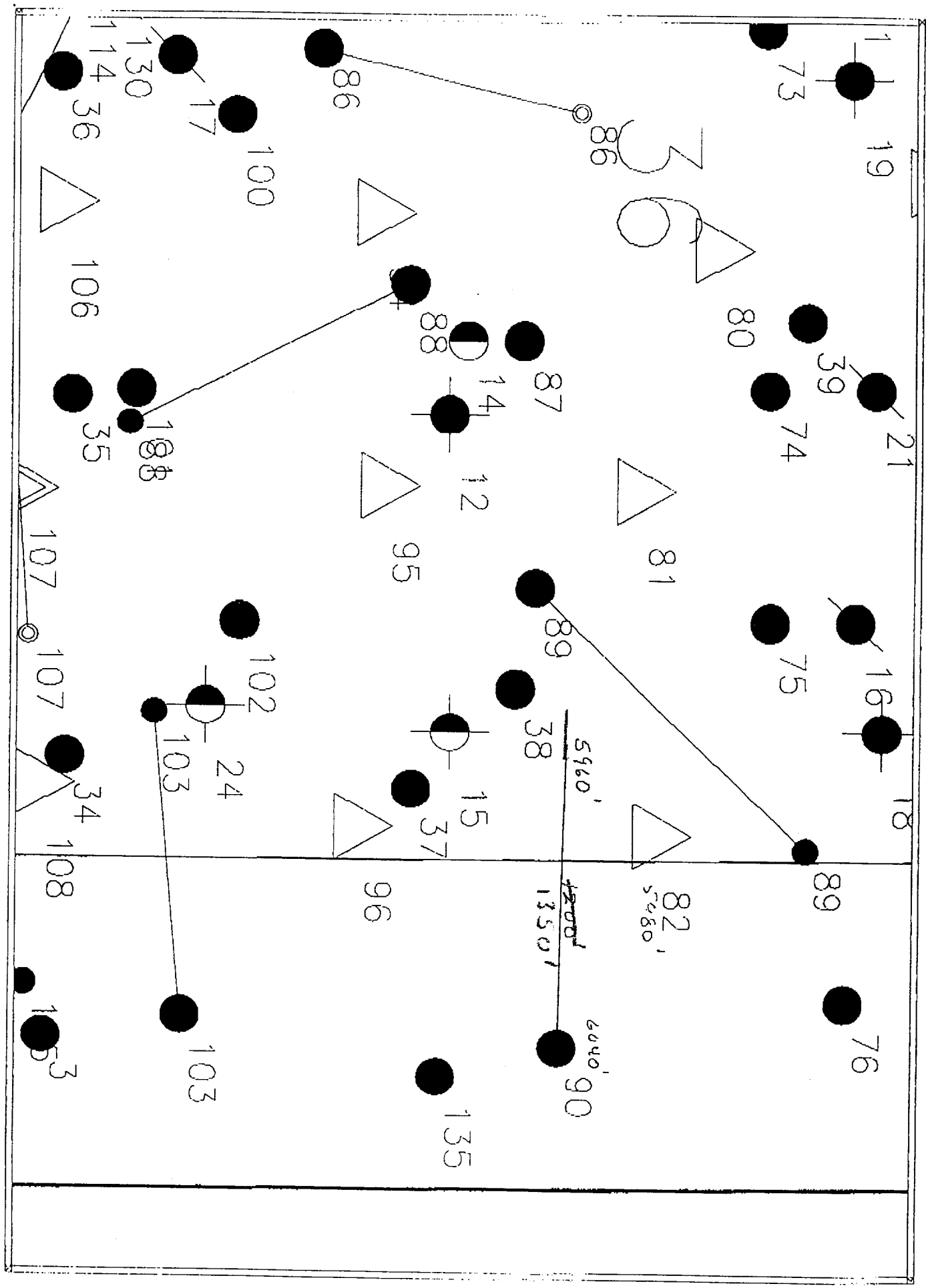
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5960'
1350'
6600'

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

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Form C-10
Revised February 10,199
Instructions on back
Submit to Appropriate District Offic
State Lease - 4 Copie
Fee Lease - 3 Copie
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-20270	62160	VACUUM GLORIETA

4 Property Code	5 Property Name	6 Well No.
011125	VACUUM GLORIETA WEST UNIT	90

7 OGRID Number	8 Operator Name	9 Elevation
022351	TEXACO EXPLORATION & PRODUCTION INC.	3982' GR

10 Surface Location

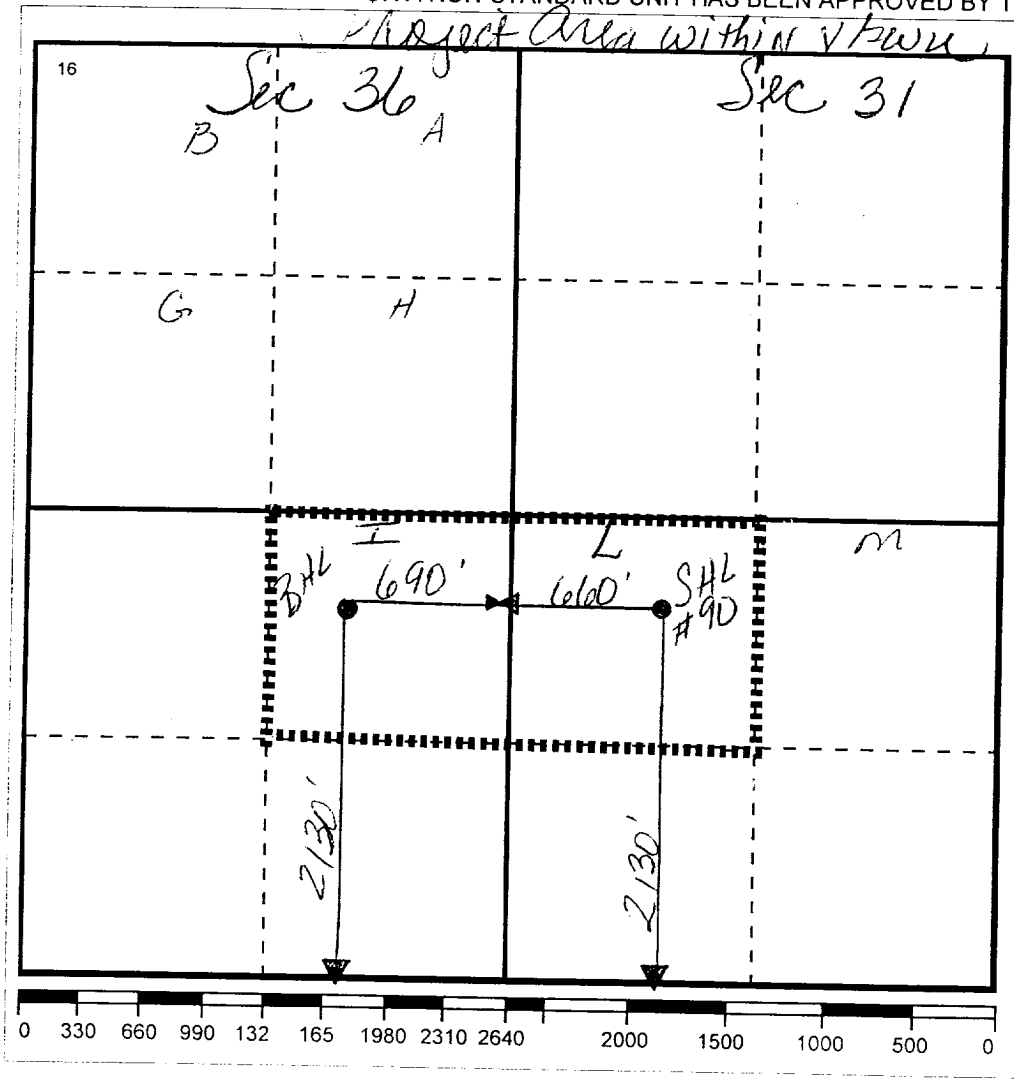
Ul or lot no	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
L	31	17S	35E		2130	SOUTH	660	WEST	LEA

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
I	36	17S	34E		2130	South	690	EAST	LEA

12 Dedicated Acre	13 Joint or Infill	14 Consolidation Code	15 Order No.
80	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: Denise Leake
Printed Name: J. Denise Leake
Positio: Engineering Assistant
Date: 3/20/00

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