

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, 1999
Instructions on back
Submit to Appropriate District Office
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 TEXACO EXPLORATION & PRODUCTION INC. 205 E. Bender, HOBBS, NM 88240		² OGRID Number 022351
⁴ Property Code 011125	⁵ Property Name VACUUM GLORIETA WEST UNIT	³ API Number 30-025-32338 ⁶ Well No. 133

⁷ Surface Location									
UI or lot no	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
O	36	17S	34E		355	SOUTH	1875	EAST	LEA

⁸ 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
B	1	18S	34E		600	NORTH	1400	EAST	LEA
⁹ Proposed Pool 1 VACUUM GLORIETA					¹⁰ Proposed Pool 2				

¹¹ Work Type Code P	¹² WellType Code O	¹³ Rotary or C.T. ROTARY	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation
¹⁶ Multiple No	¹⁷ Proposed Depth 5935'TVD	¹⁸ Formation GLORIETA	¹⁹ Contractor	²⁰ Spud Date 1/15/00

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 zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

TEXACO INTENDS TO DRILL A 1000' LATERAL FROM THE EXISTING WELLBORE. THE OVERVIEW AND INTENDED PROCEDURE ARE ATTACHED.

Handwritten: Lateral

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 12/20/99

Telephone 397-0405

OIL CONSERVATION DIVISION

Approved By:

Title:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

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, 1999

Instructions on back

Submit to Appropriate District Office

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
	30-025-32338		62160		VACUUM GLORIETA
4	Property Code	5	Property Name	6	Well No.
	011125		VACUUM GLORIETA WEST UNIT		133
7	OGRID Number	8	Operator Name	9	Elevation
	022351		TEXACO EXPLORATION & PRODUCTION INC.		

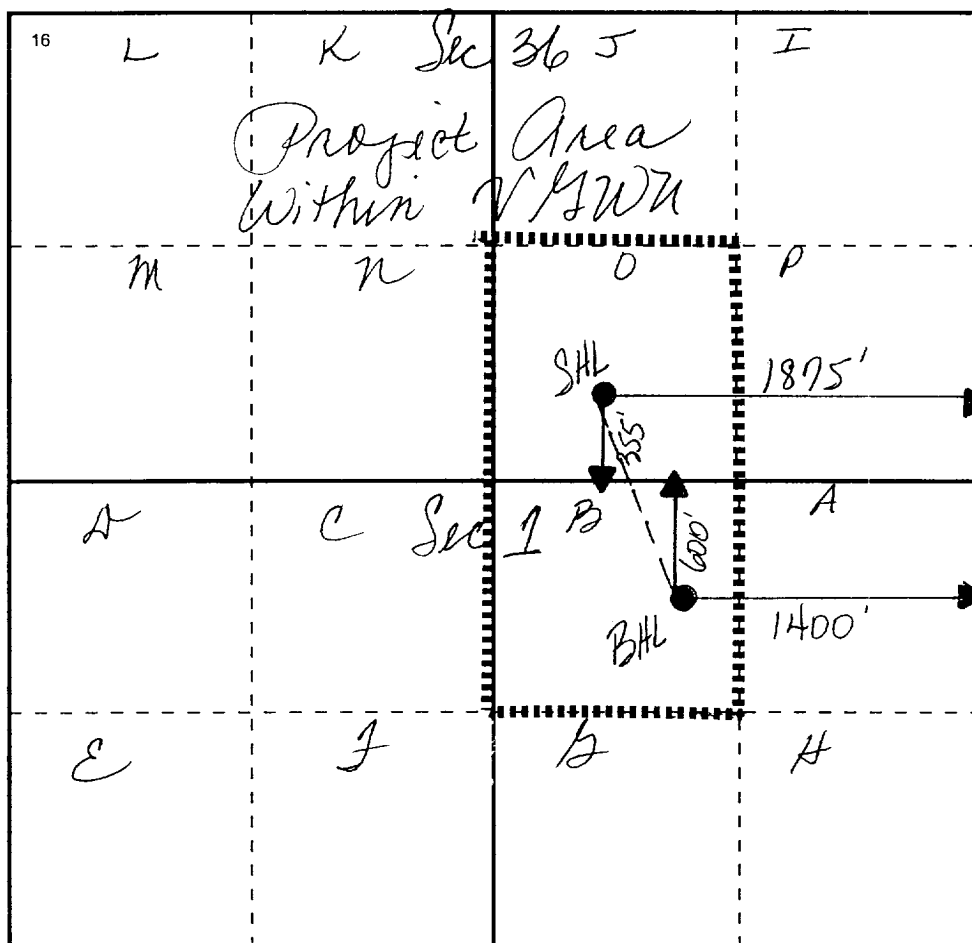
¹⁰ Surface Location

Ul or lot no	Section	Township	Range	Lot.Idn	Feet From The	North/South Line	Feet From The	East/West Line	County
O	36	17S	34E		355	SOUTH	1875	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

12	Dedicated Acre 80	13	Joint or Infill No	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. Denise Lake

Printed Name

J. Denise Leake

Positio

Engineering Assistant

Date _____

12/20/99

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.

OVERVIEW

The Vacuum Glorieta West Unit #133 well (formerly the New Mexico "O" State #35) is currently producing 36 BOPD and 263 BWPD in the Glorieta formation. The well is perforated from 5920'-6050'. This well was drilled in 1994 and recompleted in 1999. It has 5-1/2" 15.5# and 17# casing. It is proposed to drill a +/-1000 foot lateral at 154 degrees in the Glorieta formation. The basic well plan is as follows:

- a) TOOH with the pump and tubing. Run a casing scraper to 5900'. Set a 5-1/2" cement retainer at +/-5784'. Squeeze existing perforations, cap with 5' of cement and pressure test to 800 psi. TIH with a 3 degree bottom trip whipstock (casing collar at +/-5788', top of window +/-5765', bottom of window +/-5771'). Attached is a correlation log.
- b) Drill a short radius curve using a 4-3/4" bit to a measured depth of +/-6025' (TVD +/-5935') with a 154 degree azimuth. The final angle will be 88.28 degrees from vertical. Drill +/-839' horizontal section. The end point will be +/-6864' MD, +/-5960' TVD and +/-1000' vertical section.
- 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. TIH with casing scraper to 5900'. Set a 5-1/2" cement retainer at 5784'. Establish injection rate. Squeeze Glorieta perforations 5920'–6050' 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 +5779'. Pressure test the squeeze to 1000 psi. TOOH. Correlate the casing collars with the production logs (casing collar at 5788' & 5745'). 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 154 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	5935'
Measured Depth	6025'
Final Angle	88.28 degrees
Target Azimuth	154 degrees
Build Rate	34.5 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" PDC bit, 3-3/4" articulated motor, float sub/orienter combo, 2 - flexible monel collars and 2-7/8" AOH drill pipe.
4. Drill +/-839' 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 5-1/2" casing at +/- 5700'. 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. 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.

MUD PROGRAM:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Remarks</u>
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 5767'- 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

	<u>DEPTH</u>	<u>BURST Rated (75%)</u>	<u>COLLAPSE Rated (75%)</u>	<u>TEST PRESSURE</u>
5-1/2",15.5#,WC50	0-6227'	4400	3300	3810 2857 1000
5-1/2",17#,WC50	6227'-8100'	4900	3675	4590 3442 1000

Current PBTD is 6315'.

Scientific Drilling Planning Report

Company: Teneco E & P, Inc.	Date: 11/29/1999	Plan: 146634	Page: 1
Field: Vacuum Gloriosa West Unit	Geographic Reference: Lea County, New Mexico, Grid North	Vertical (VD) Reference: SITE 0.0 above Mean Sea Level	
Site: V-100E #133	Section (VS) Reference: SITE 0.0 DE 0.0m 154.92m	Plan: Plan #1	
Wellpath: OH Original hole			

Field: Vacuum Gloriosa West Unit

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

Map Projection & Zone: US State Plane Coordinate System 1927

Ellipsoid: Clarke - 1886

Local Vertical Reference: Wellpath Datum

Field Datum: Mean Sea Level

Geomagnetic Model: IGRF95

Site: Lea County, New Mexico

Site Centre: 750286.00 ft E 32 47 35.293 N Latitude
653219.00 ft N 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 #133

Originating From: 0.0 ft +N-S Map Easting: 750286.00 ft
0.0 ft +E-W 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: 154.00 deg

Plan: Plan #1

Date Composed: 11/29/1999
Version: 1

Principal: Yes

Locked: No

Plan Section Information

MD	Incl	Azim	TVD	N-S	E-W	VS	Build	Turn	TPO
ft	deg	deg	ft	ft	ft	ft	ft/100ft	ft/100ft	deg
5600.0	0.00	154.00	5600.0	0.0	0.0	0.00	0.00	0.00	0.00
5769.0	0.00	154.00	5769.0	0.0	0.0	0.00	0.00	0.00	0.00
6024.9	88.28	154.00	5935.0	-144.8	70.6	34.50	34.50	0.00	0.00
6025.1	88.28	154.00	5935.0	-145.0	70.7	0.00	0.00	0.00	0.00
6864.1	88.28	154.00	5960.0	-898.7	438.4	0.00	0.00	0.00	0.00 toe - 133

Section 1: Straight MD Part 1 Hold

MD	Incl	Azim	TVD	N-S	E-W	VS	Build	Turn	TPO
ft	deg	deg	ft	ft	ft	ft	ft/100ft	ft/100ft	deg
5600.0	0.00	154.00	5600.0	0.0	0.0	0.0	0.00	0.00	0.00
5700.0	0.00	154.00	5700.0	0.0	0.0	0.0	0.00	0.00	0.00
5769.0	0.00	154.00	5769.0	0.0	0.0	0.0	0.00	0.00	0.00

Section 2: Inc Azi TVD Part 1 Build 34.50

MD	Incl	Azim	TVD	N-S	E-W	VS	Build	Turn	TPO
ft	deg	deg	ft	ft	ft	ft	ft/100ft	ft/100ft	deg
5780.0	3.79	154.00	5780.0	-0.3	0.2	0.4	34.50	34.50	0.00
5790.0	7.24	154.00	5789.9	-1.2	0.6	1.3	34.50	34.50	0.00
5800.0	10.69	154.00	5789.8	-2.6	1.3	2.9	34.50	34.50	0.00
5810.0	14.14	154.00	5809.6	-4.5	2.2	5.0	34.50	34.50	0.00

Scientific Drilling Planning Report

Company: Tornado E-Z Inc	Date: 11/29/1999	Time: 145124	Page: 7
Field: VZGAJN-GHJKA West Unit	Co-ordinator (N):	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-H132	Section (N/S) Reference:	Site: (0.0) (131.15) (0.0)	
Wellpath: OH Original bore	Plan:	Plan: 1	

Section 2: Inc Azi TVD Part 1 Build 34.50

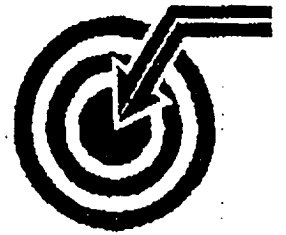
MD ft	Incl deg	Azimuth deg	TVD ft	N/S ft	E/W ft	VS ft	D/S ft/100ft	Build ft/100ft	Tenr ft/100ft	TPO deg
5820.0	17.59	154.00	5819.2	-7.0	3.4	7.8	34.50	34.50	0.00	0.00
5830.0	21.04	154.00	5828.6	-10.0	4.9	11.1	34.50	34.50	0.00	0.00
5840.0	24.49	154.00	5837.9	-13.4	6.6	14.9	34.50	34.50	0.00	0.00
5850.0	27.94	154.00	5846.8	-17.4	8.5	19.4	34.50	34.50	0.00	0.00
5860.0	31.39	154.00	5855.5	-21.9	10.7	24.3	34.50	34.50	0.00	0.00
5870.0	34.84	154.00	5863.9	-26.8	13.1	29.8	34.50	34.50	0.00	0.00
5880.0	38.29	154.00	5871.9	-32.1	15.7	35.7	34.50	34.50	0.00	0.00
5890.0	41.74	154.00	5879.6	-37.9	18.5	42.2	34.50	34.50	0.00	0.00
5900.0	45.19	154.00	5886.8	-44.1	21.5	49.0	34.50	34.50	0.00	0.00
5910.0	48.64	154.00	5893.7	-50.6	24.7	56.3	34.50	34.50	0.00	0.00
5920.0	52.09	154.00	5900.0	-57.6	28.1	64.0	34.50	34.50	0.00	0.00
5930.0	55.54	154.00	5905.9	-64.8	31.6	72.1	34.50	34.50	0.00	0.00
5940.0	58.99	154.00	5911.3	-72.4	35.3	80.5	34.50	34.50	0.00	0.00
5950.0	62.44	154.00	5916.2	-80.2	39.1	89.2	34.50	34.50	0.00	0.00
5960.0	65.89	154.00	5920.6	-88.3	43.1	98.2	34.50	34.50	0.00	0.00
5970.0	69.34	154.00	5924.4	-95.6	47.1	107.5	34.50	34.50	0.00	0.00
5980.0	72.79	154.00	5927.6	-105.1	51.3	117.0	34.50	34.50	0.00	0.00
5990.0	76.24	154.00	5930.3	-113.8	55.5	126.6	34.50	34.50	0.00	0.00
6000.0	79.69	154.00	5932.4	-122.6	59.8	136.4	34.50	34.50	0.00	0.00
6010.0	83.14	154.00	5933.9	-131.5	64.1	146.3	34.50	34.50	0.00	0.00
6020.0	86.59	154.00	5934.8	-140.4	68.5	156.2	34.50	34.50	0.00	0.00
6024.8	88.28	154.00	5935.0	-144.8	70.6	161.1	34.50	34.50	0.00	0.00

Section 3: DT5 CH Tang Part 1 Hold

MD ft	Incl deg	Azimuth deg	TVD ft	N/S ft	E/W ft	VS ft	D/S ft/100ft	Build ft/100ft	Tenr ft/100ft	TPO deg
6025.1	88.28	154.00	5935.0	-145.0	70.7	161.3	0.00	0.00	0.00	180.00

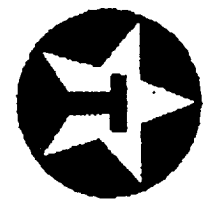
Section 4: DT5 CH Tang Part 2 Hold

MD ft	Incl deg	Azimuth deg	TVD ft	N/S ft	E/W ft	VS ft	D/S ft/100ft	Build ft/100ft	Tenr ft/100ft	TPO deg
6100.0	88.28	154.00	5937.3	-212.3	103.5	236.2	0.00	0.00	0.00	180.00
6200.0	88.28	154.00	5940.3	-302.1	147.3	336.1	0.00	0.00	0.00	180.00
6300.0	88.28	154.00	5943.3	-391.9	191.2	436.1	0.00	0.00	0.00	180.00
6400.0	88.28	154.00	5946.3	-481.8	235.0	536.0	0.00	0.00	0.00	180.00
6500.0	88.28	154.00	5949.3	-571.6	278.8	636.0	0.00	0.00	0.00	180.00
6600.0	88.28	154.00	5952.3	-661.5	322.6	735.9	0.00	0.00	0.00	180.00
6700.0	88.28	154.00	5955.3	-751.3	366.4	835.9	0.00	0.00	0.00	180.00
6800.0	88.28	154.00	5958.3	-841.1	410.3	935.9	0.00	0.00	0.00	180.00
6864.1	88.28	154.00	5960.0	-896.7	438.4	999.9	0.00	0.00	0.00	180.00

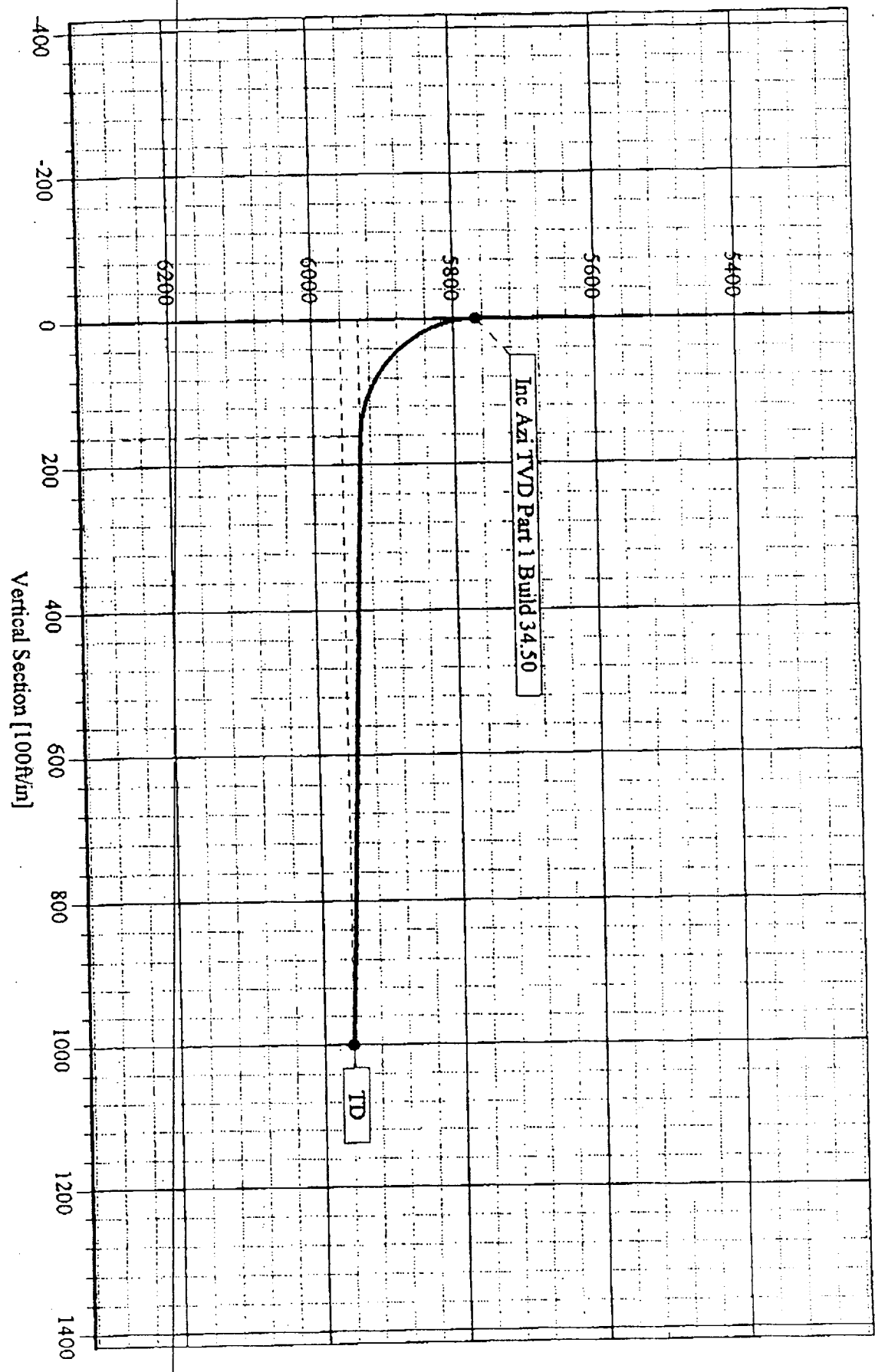


Scientific
Drilling

Texaco E & P, Inc.
Field: Vacuum Glorieta West Unit
Site: Lea County, New Mexico
Well: VGWU #133
Wellpath: OH Original hole
Plan: Plan #1



True Vertical Depth [100ft/in]



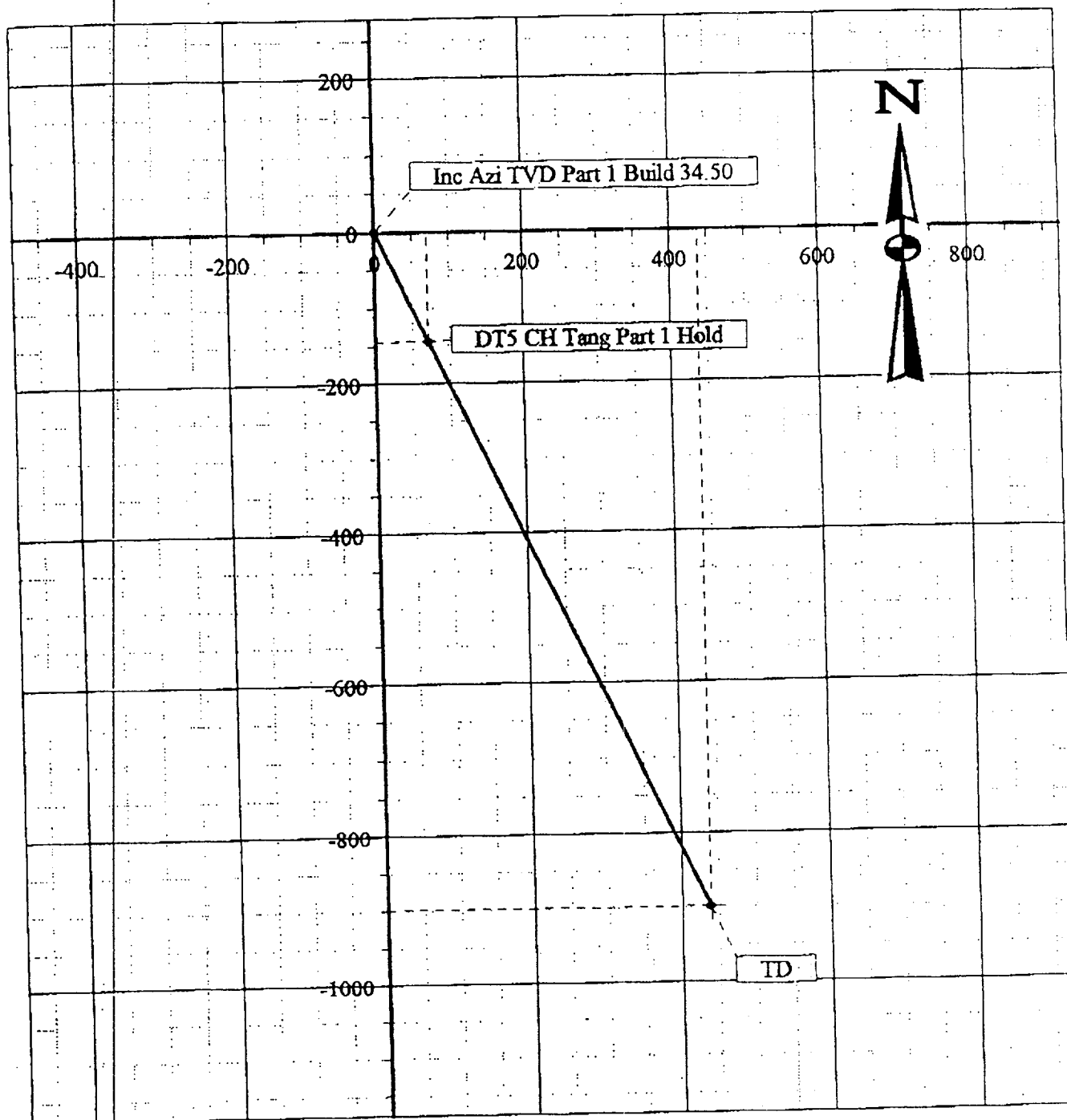


**Scientific
Drilling**

Texaco E & P, Inc.
Field: Vacuum Glorieta West Unit
Site: Lea County, New Mexico
Well: VGWU #133
Wellpath: OH Original hole
Plan: Plan #1

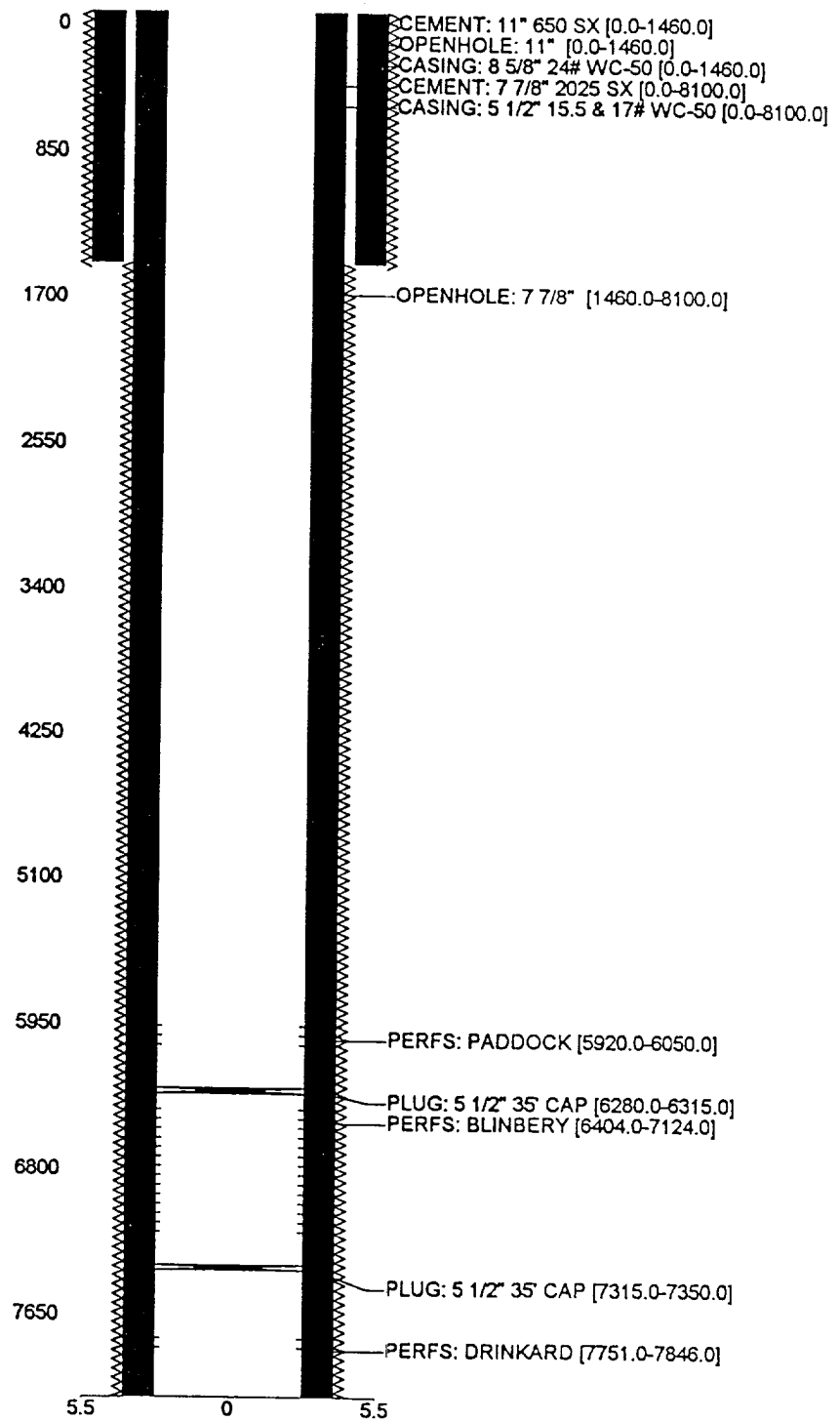


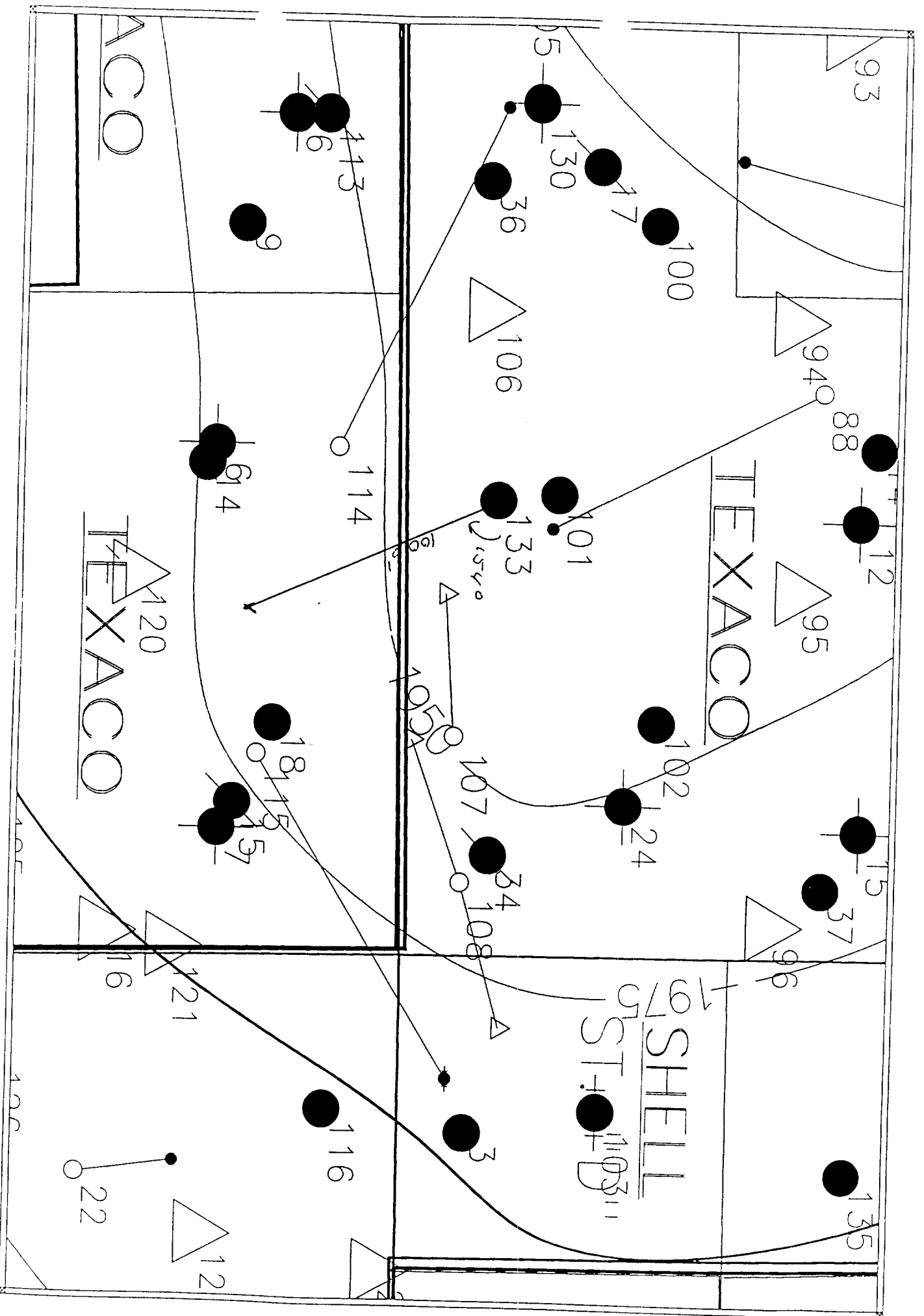
South(-)/North(+) [200ft/in]



West(-)/East(+) [200ft/in]

Name: 133 ID: 3002532338 Type: Oil Date: 11/22/1999





Scale 1:6000.



