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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Box Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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-105
Revised 1-1-89

WELL API NO.

5. Indicate Type of Lease STATE ☒ FEE ☐

6. State Oil / Gas Lea

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well:
OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER

b. Type of Completion:
NEW WELL ☒ WORKOVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF RES. ☐ OTHER

7. Lease Name or Unit Agreement Name
NORTH VACUUM ABO WEST UNIT

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION INC.

8. Well No. 32

3. Address of Operator
205 E. Bender, HOBBS, NM 88240

9. Pool Name or Wildcat
VACUUM ABO NORTH

4. Well Location
Unit Letter D : 130 Feet From The NORTH Line and 130 Feet From The WEST Line
Section 27 Township 17-S Range 34-E NMPM LEA COUNTY

10. Date Spudded	11. Date T.D. Reached	12. Date Compl. (Ready to Prod.)	13. Elevations (DF & RKB, RT, GR, etc.)	14. Elev. Csghead
3/6/98	5/19/98	5/20/98	4050'	

15. Total Depth	16. Plug Back T.D.	17. If Mult. Compl. How Many Zones?	18. Intervals Drilled By	Rotary Tools	Cable Tools
11842'					

19. Producing Interval(s), of this completion - Top, Bottom, Name
8560-11842 SW ABO, 8646-11420' NE ABO

20. Was Directional Survey Made
yes

21. Type Electric and Other Logs Run
GR/CCL

22. Was Well Cored
NO

23. CASING RECORD (Report all Strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENT RECORD	AMOUNT PULLED
8 5/8	24#	1630'	11	600 SACKS	
5 1/2	17#	8950'	7 7/8	1400 SACKS	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 7/8"	8675'	

26. Perforation record (interval, size, and number)
8560-11842'

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
8560-11842'	140,000 GALS 15% NEFE
8646-11420'	100,000 GALS 15% NEFE

28. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping - size and type pump)	Well Status (Prod. or Shut-in)
6/19/98	PUMPING 2 1/2"X1 3/4"X30'	PROD

Date of Test	Hours tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
6-23-98	24 hrs			187	165	263	

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API -(Corr.)
						882

29. Disposition of Gas (Sold, used for fuel, vented, etc.)
SOLD

Test Witnessed By

30. List Attachment

31. I hereby certify that the information on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNATURE J. Denise Leake TITLE Engineering Assistant DATE 7/7/98

TYPE OR PRINT NAME J. Denise Leake Telephone No. 397-0405

DeSoto/Nichols 12-93 ver 1.0

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true verticle depths shall be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico			Northwestern New Mexico	
T. Anhy	1590	T. Canyon	T. Ojo Alamo	T. Penn "B"
T. Salt	1727	T. Strawn	T. Kirtland-Fruitland	T. Penn "C"
B. Salt		T. Atoka	T. Pictured Cliffs	T. Penn "D"
T. Yates	2865	T. Miss	T. Cliff House	T. Leadville
T. 7 Rivers		T. Devonian	T. Menefee	T. Madison
T. Queen	3839	T. Silurian	T. Point Lookout	T. Elbert
T. Grayburg		T. Montoya	T. Mancos	T. McCracken
T. San Andres	4627	T. Simpson	T. Gallup	T. Ignacio Otzte
T. Glorieta	6124	T. McKee	T. Base Greenhorn	T. Granite
T. Paddock	6211	T. Ellenburger	T. Dakota	T.
T. Blinebry		T. Gr. Wash	T. Morrison	T.
T. Tubb	7540	T. Delaware Sand	T. Todilto	T.
T. Drinkard		T. Bone Springs	T. Entrada	T.
T. Abo	8264	T.	T. Wingate	T.
T. Wolfcamp		T.	T. Chinle	T.
T. Penn		T.	T. Permian	T.
T. Cisco (Bough C)		T.	T. Penn "A"	T.

OIL OR GAS SANDS OR ZONES

No. 1, from	to	No. 3, from	to
No. 2, from	to	No. 4, from	to

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in the hole.

No. 1, from	to	feet
No. 2, from	to	feet
No. 3, from	to	feet

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness in Feet	Lithology	From	To	Thickness in Feet	Lithology
0	1590	1590	ANHYDRITE				
1590	1727	137	SALT				
1727	2865	1138	SANDSTONE/DOLOMITE				
2865	3839	974	SANDSTONE				
3839	4627	788	DOLOMITE				
4627	6124	1497	SANDSTONE/DOLOMITE				
6124	6211	87	DOLOMITE				
6211	7540	1329	SANDSTONE/DOLOMITE				
7540	8264	724	DOLOMITE/LIMESTONE				

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR: TEXACO E & P, INC.
WELL: NVAWU # 32
LOCATION: LEA COUNTY, NEW MEXICO
JOB NO: 9819416016

4/8/98
4/8/98
CURVE

DIP1 = 13.80 deg = 103.80 deg
TARGET1 = 8,680 ft TVD
VS1 = 2,934 ft

DIP2 = 13.80 deg = 103.80 deg
TARGET2 = 8,680 ft TVD
VS2 = 2,934 ft

DATE: 4/26/98
TIME: 4:58 AM
DIRECTION 41.13

MAG DECLINATION 9.11 EAST

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
TIE	8600	1.6	108.8	8595.8	192.9	0.3	757.5	153.2	44.5	242.3
1	8646	4.1	63.9	8641.7	194.7	6.9	711.1	154.4	45.1	244.4
2	8661	8.4	63.9	8656.6	196.2	28.7	695.9	155.1	45.8	245.8
3	8676	14.5	64.0	8671.3	198.9	40.7	680.5	156.2	47.1	248.5
4	8691	20.9	61.9	8685.6	203.2	42.9	665.2	157.9	49.2	252.6
5	8706	28.0	59.5	8699.2	209.0	47.8	650.1	160.0	52.2	258.0
6	8721	35.3	56.6	8712.0	216.5	49.7	635.5	162.2	56.4	264.6
7	8736	42.3	44.8	8723.7	225.8	67.7	621.5	163.7	62.4	271.8
8	8751	49.8	44.3	8734.1	236.6	50.1	608.5	164.4	70.1	279.4
9	8766	57.8	42.6	8742.9	248.6	54.1	596.6	164.8	78.9	287.7
10	8779	64.1	42.2	8749.2	260.0	48.5	587.5	165.1	87.2	295.4
11	8802	74.3	40.8	8757.4	281.5	44.7	574.1	165.2	103.3	309.6
12	8833	80.5	38.1	8764.2	311.7	21.7	559.8	164.3	126.7	328.8
13	8865	82.5	37.6	8768.9	343.3	6.4	547.4	162.5	151.7	348.2
14	8896	83.7	38.1	8772.6	374.0	4.2	536.2	160.8	176.0	367.1
15	8928	83.5	38.0	8776.2	405.8	0.7	524.8	159.0	201.0	386.7
16	8959	83.3	37.9	8779.8	436.5	0.7	513.7	157.3	225.3	405.6
17	8991	82.8	38.2	8783.6	468.2	1.8	502.0	155.6	250.3	425.2
18	9023	82.4	37.8	8787.7	499.9	1.8	490.1	153.9	275.3	444.7
19	9054	82.2	37.6	8791.9	530.6	0.9	478.4	152.1	299.6	463.5
20	9086	82.0	37.8	8796.3	562.2	0.9	466.3	150.2	324.7	482.9
21	9117	81.5	37.4	8800.7	592.8	2.1	454.3	148.3	349.0	501.6
22	9149	81.0	36.7	8805.6	624.4	2.7	441.7	146.0	374.3	520.7
23	9181	80.5	37.2	8810.8	655.9	2.2	428.8	143.7	399.5	539.7
24	9212	82.2	37.6	8815.4	686.5	5.6	416.6	141.7	423.8	558.3
25	9243	81.6	36.6	8819.8	717.1	3.7	404.7	139.6	448.3	576.8
26	9275	80.8	35.9	8824.7	748.8	3.3	392.1	136.9	473.8	595.5
27	9306	81.8	36.2	8829.4	779.1	3.4	379.9	134.2	498.6	613.5
28	9337	81.4	36.4	8833.9	809.7	1.4	367.9	131.6	523.3	631.7
29	9369	84.8	37.3	8837.7	841.3	11.0	356.3	129.2	548.7	650.7
30	9401	90.6	37.3	8839.0	873.2	18.8	347.2	127.1	574.1	670.1
31	9432	95.8	38.2	8837.2	904.1	16.4	341.4	125.3	598.6	689.1
32	9464	100.2	37.2	8832.7	935.7	14.1	338.1	123.4	623.7	708.4
33	9495	104.6	36.4	8826.1	965.9	14.4	337.3	121.1	647.9	726.6
34	9527	104.3	36.9	8818.1	996.8	1.8	337.7	118.7	672.8	745.1
35	9557	104.1	36.4	8810.7	1025.8	1.7	338.0	116.4	696.1	762.4
36	9587	103.8	37.1	8803.5	1054.8	2.5	338.1	114.2	719.4	779.8
37	9618	103.4	37.4	8796.2	1084.9	1.6	338.0	112.1	743.4	798.1

DIAMONDBACK DRILLING SERVICES

HORIZONTAL SURVEY PROGRAM

MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR: TEXACO E & P, INC.
WELL: NVAWU # 32
LOCATION: LEA COUNTY, NEW MEXICO
JOB NO: 9819416015

4/8/98
4/8/98
CURVE

DIP1 = 13.80 deg = 103.80 deg
TARGET1 = 8,680 ft TVD
VS1 = 2,934 ft

DIP2 = 13.80 deg = 103.80 deg
TARGET2 = 8,680 ft TVD
VS2 = 2,934 ft

DATE: 4/26/98
TIME: 4:58 AM
DIRECTION 41.13

MAG DECLINATION
9.11 EAST

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
38	9650	102.9	37.8	8788.9	1116.0	1.7	337.6	110.2	768.1	817.0
39	9681	102.8	37.4	8782.0	1146.2	0.7	337.1	108.2	792.1	835.4
40	9712	104.9	37.2	8774.8	1176.2	6.8	337.1	106.2	816.1	853.7
41	9745	104.5	37.6	8766.2	1208.1	1.7	337.7	104.2	841.4	873.1
42	9776	104.2	37.8	8758.6	1238.0	1.2	338.0	102.4	865.2	891.4
43	9806	103.9	37.6	8751.3	1267.1	1.2	338.2	100.6	888.2	909.2
44	9837	103.4	38.2	8744.0	1297.2	2.5	338.1	98.9	912.0	927.7
45	9868	103.1	37.8	8736.6	1328.3	1.5	337.8	97.2	936.5	946.9
46	9901	103.4	38.3	8729.3	1359.4	1.8	337.5	95.5	961.1	966.1
47	9915	103.7	38.4	8726.0	1373.0	2.3	337.4	94.9	971.7	974.6
48	9947	103.9	38.5	8718.4	1404.0	0.7	337.4	93.4	996.1	993.9
49	9979	103.9	38.2	8710.7	1435.0	0.9	337.5	91.9	1020.4	1013.2
50	10010	100.3	38.4	8704.2	1465.3	11.6	338.6	90.4	1044.2	1031.9
51	10042	95.5	39.8	8699.8	1497.0	15.6	333.2	89.3	1068.8	1051.9
52	10074	90.6	39.8	8698.1	1528.9	15.3	327.0	88.6	1093.3	1072.4
53	10105	86.2	39.8	8699.0	1559.9	14.2	318.6	87.8	1117.1	1092.2
54	10137	82.9	40.2	8702.0	1591.7	10.4	307.7	87.2	1141.5	1112.7
55	10167	82.6	39.9	8705.8	1621.5	1.4	296.6	86.7	1164.3	1131.8
56	10200	79.4	39.4	8710.9	1654.0	9.8	283.4	85.8	1189.4	1152.6
57	10264	77.9	39.8	8723.5	1716.8	2.4	255.4	84.1	1237.8	1192.6
58	10296	76.0	40.0	8730.8	1747.9	6.0	240.6	83.5	1261.7	1212.6
59	10327	75.4	40.1	8738.4	1778.0	2.0	225.5	82.9	1284.7	1231.9
60	10359	77.2	41.1	8746.0	1809.1	6.4	210.3	82.6	1308.3	1252.2
61	10390	77.4	42.3	8752.8	1839.3	3.8	196.1	82.9	1330.9	1272.3
62	10422	77.1	42.8	8759.9	1870.5	1.3	181.3	83.6	1353.9	1293.4
63	10453	76.8	40.0	8766.9	1900.7	8.2	166.9	83.7	1376.6	1313.3
64	10485	77.1	40.5	8774.1	1931.9	1.8	152.0	83.2	1400.4	1333.4
65	10517	77.2	39.9	8781.2	1963.1	1.9	137.3	82.7	1424.2	1353.6
66	10548	77.6	39.3	8788.0	1993.3	2.3	123.1	81.9	1447.5	1372.8
67	10580	77.4	39.3	8794.9	2024.5	0.6	108.5	80.9	1471.7	1392.6
68	10610	77.3	38.5	8801.5	2053.8	2.6	94.7	79.8	1494.5	1411.0
69	10641	77.2	38.7	8808.3	2084.0	0.7	80.5	78.5	1518.1	1429.9
70	10672	76.7	38.6	8815.3	2114.2	1.6	66.0	77.2	1541.7	1448.7
71	10704	76.1	39.1	8822.8	2145.2	2.4	50.9	75.9	1565.9	1468.3
72	10735	80.5	37.3	8829.1	2175.5	15.3	37.2	74.4	1589.7	1487.0
73	10766	84.7	36.3	8833.1	2206.2	13.9	25.6	72.0	1614.4	1505.4
74	10797	88.9	35.8	8834.9	2237.0	13.6	16.3	69.3	1639.4	1523.6
75	10828	93.1	35.3	8834.3	2267.8	13.6	9.3	66.3	1664.6	1541.7

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR: TEXACO E & P, INC.
WELL: NVAWU # 32
LOCATION: LEA COUNTY, NEW MEXICO
JOB NO: 9819416015

4/8/98
4/8/98
CURVE

DIP1 = 13.80 deg = 103.80 deg
TARGET1 = 8,680 ft TVD
VS1 = 2,934 ft

DIP2 = 13.80 deg = 103.80 deg
TARGET2 = 8,680 ft TVD
VS2 = 2,934 ft

DATE: 4/26/98
TIME: 4:58 AM
DIRECTION 41.13
MAG DECLINATION 9.11 EAST

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
76	10860	95.8	35.5	8831.8	2289.6	8.5	4.0	63.1	1690.6	1560.1
77	10891	98.6	35.7	8827.7	2330.2	12.3	0.6	60.1	1715.6	1578.0
78	10923	104.0	36.2	8821.1	2361.3	13.8	-0.5	57.3	1740.9	1596.4
79	10955	104.4	36.0	8813.3	2392.3	1.4	-0.2	54.6	1766.0	1614.7
80	10988	104.6	35.5	8805.5	2422.1	1.7	0.2	51.8	1790.3	1632.2
81	11016	105.0	35.7	8797.9	2451.0	1.5	0.8	49.0	1813.9	1649.1
82	11048	105.1	36.0	8789.6	2481.8	1.0	1.5	46.1	1839.0	1667.2
83	11080	104.5	35.6	8781.4	2512.6	2.2	2.1	43.3	1864.1	1685.3
84	11111	103.9	35.6	8773.8	2542.5	1.9	2.4	40.4	1888.5	1702.8
85	11143	102.9	35.3	8766.4	2573.5	3.3	2.2	37.3	1913.9	1720.8
86	11175	102.1	35.5	8759.4	2604.6	2.6	1.5	34.2	1939.3	1738.9
87	11206	103.0	34.9	8752.7	2634.6	3.5	0.8	31.0	1964.0	1756.4
88	11237	102.9	34.7	8745.8	2664.7	0.7	0.4	27.7	1988.9	1773.6
89	11269	102.3	34.5	8738.8	2695.7	2.0	-0.2	24.2	2014.6	1791.4
90	11301	100.9	33.5	8732.3	2726.8	5.3	-1.4	20.3	2040.5	1808.9
91	11332	103.0	33.9	8725.9	2756.9	6.9	-2.4	16.4	2065.8	1825.7
92	11364	103.1	32.3	8718.7	2787.7	4.9	-2.8	12.0	2091.9	1842.7
93	11380	103.1	31.2	8715.1	2803.1	6.7	-2.9	9.5	2105.1	1850.9
TD	11420	103.1	31.2	8706.0	2841.5	0.0	-3.3	2.7	2138.5	1871.1

TO: Scott
TO: Mark
From: Kirby

3 pages

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR:	TEXACO E & P, INC.			START	4/27/98	CURVE	S.W.
WELL:	NVAWU # 32			FINISH	5/18/98		
LOCATION:	LEA COUNTY, NEW MEXICO						
JOB NO:	9819416015				SOUTHWEST LATERAL		
DIP1 =	9.39 deg	=	99.39 deg	DATE:	5/18/98	MAG DECLINATION	
TARGET1 =	8,730 ft TVD						9.11 EAST
VS1 =	2,934 ft			TIME:	5:01 PM		
DIP2 =	9.39 deg	=	99.39 deg				
TARGET2 =	8,730 ft TVD			DIRECTION	228.87		
VS2 =	2,934 ft						

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
TIE	8500	1.6	99.0	8495.0	-210.2	0.3	755.0	-123.6	45.2	238.6
1	8560	3.1	218.6	8555.0	-209.2	6.9	694.8	-124.5	43.8	239.4
2	8575	9.8	215.7	8569.9	-207.5	44.7	679.6	-124.9	42.4	238.4
3	8590	17.7	210.4	8584.4	-204.1	53.3	664.5	-125.9	39.4	236.5
4	8605	25.9	225.6	8598.4	-198.7	66.0	649.7	-126.8	35.2	233.0
5	8620	34.2	213.6	8611.3	-191.3	68.1	635.5	-128.1	29.3	228.3
6	8625	36.9	212.4	8615.4	-188.5	55.8	631.0	-128.9	26.9	226.8
7	8649	49.6	210.2	8632.9	-172.9	53.3	610.9	-133.9	12.9	218.3
8	8681	59.6	209.9	8651.4	-148.2	31.3	588.3	-142.3	-9.7	205.2
9	8712	65.4	210.3	8665.7	-122.2	18.7	569.7	-151.1	-33.5	191.4
)	8744	68.1	212.7	8678.0	-94.0	13.5	552.7	-159.9	-58.6	176.0
11	8776	69.1	214.3	8689.5	-65.2	4.7	536.5	-167.9	-83.5	159.5
12	8807	71.7	217.5	8699.9	-36.8	12.8	521.4	-174.4	-107.2	142.4
13	8839	73.7	219.9	8709.4	-6.7	9.5	506.9	-179.8	-131.0	123.3
14	8870	73.6	220.0	8718.1	22.7	0.4	493.3	-184.4	-153.8	104.2
15	8901	74.2	224.4	8726.7	52.3	13.8	479.8	-187.9	-175.9	84.2
16	8933	74.1	224.4	8735.4	83.0	0.3	466.0	-190.3	-197.9	62.7
17	8964	74.9	229.0	8743.7	112.8	14.5	452.8	-191.4	-218.4	40.9
18	8996	76.6	235.1	8751.6	143.8	19.2	439.8	-189.7	-237.4	16.5
19	9028	76.6	235.8	8759.0	174.7	2.1	427.3	-186.1	-255.1	-9.2
20	9060	76.5	236.2	8766.5	205.6	1.3	414.7	-182.2	-272.5	-35.0
21	9091	76.7	236.2	8773.7	235.5	0.6	402.6	-178.4	-289.2	-60.0
22	9123	76.0	237.1	8781.2	266.3	3.5	389.9	-174.2	-306.3	-86.0
23	9154	75.2	237.4	8788.9	296.0	2.7	377.3	-169.8	-322.6	-111.3
24	9186	74.6	237.7	8797.3	326.5	2.1	363.9	-165.1	-339.2	-137.3
25	9218	72.7	237.7	8806.3	356.9	5.9	349.9	-160.4	-355.6	-163.3
26	9248	72.8	237.4	8815.2	385.2	1.0	336.3	-156.1	-370.9	-187.5
27	9278	73.2	237.1	8824.2	414.5	1.6	322.4	-151.8	-387.0	-212.4
28	9311	73.9	236.6	8833.3	444.9	2.7	308.3	-147.5	-403.8	-238.1
29	9341	74.7	236.6	8841.4	473.5	2.7	295.5	-143.6	-419.7	-262.2
30	9373	77.8	236.3	8849.0	504.3	9.7	282.8	-139.5	-436.8	-288.1
31	9405	81.0	236.7	8854.9	535.5	10.2	271.7	-135.6	-454.4	-314.2
32	9436	86.5	238.0	8858.3	566.1	17.8	263.3	-131.9	-471.7	-339.7
33	9468	92.8	236.7	8858.5	597.8	19.8	257.9	-127.7	-489.4	-366.3
34	9500	98.0	238.0	8855.5	629.3	16.7	255.7	-123.0	-506.6	-393.1
35	9530	98.6	238.2	8851.1	658.6	2.1	255.2	-118.3	-522.3	-418.3
36	9562	100.3	238.0	8845.9	689.8	5.3	255.3	-113.2	-539.0	-445.1

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR: TEXACO E & P, INC.
WELL: NVAWU # 32
LOCATION: LEA COUNTY, NEW MEXICO
JOB NO: 9819416015

START 4/27/98
FINISH 5/18/98
CURVE S.W.
SOUTHWEST LATERAL

DIP1 = 9.39 deg = 99.39 deg
TARGET1 = 8,730 ft TVD
VS1 = 2,934 ft

DIP2 = 9.39 deg = 99.39 deg
TARGET2 = 8,730 ft TVD
VS2 = 2,934 ft

DATE: 5/18/98
TIME: 5:06 PM
DIRECTION 228.87

MAG DECLINATION 9.11 EAST

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
37	9592	100.0	237.4	8840.6	719.0	2.2	255.7	-108.7	-554.8	-470.1
38	9624	98.9	236.8	8835.3	750.2	3.9	255.8	-104.2	-571.9	-496.6
39	9656	97.6	235.8	8830.7	781.6	5.1	255.2	-100.1	-589.5	-522.9
40	9687	97.9	235.2	8826.6	812.1	2.1	254.3	-96.5	-606.9	-548.2
41	9719	98.1	235.4	8822.1	843.6	0.9	253.6	-93.0	-624.9	-574.3
42	9751	101.0	235.2	8816.8	875.0	9.1	253.7	-89.4	-642.9	-600.2
43	9782	101.7	234.3	8810.7	905.2	3.6	254.8	-86.3	-660.4	-625.0
44	9814	101.7	234.6	8804.2	936.4	0.9	256.1	-83.3	-678.6	-650.5
45	9845	101.7	235.1	8797.9	966.8	1.6	257.4	-80.1	-696.1	-675.4
46	9876	101.9	235.8	8791.6	996.7	2.3	258.8	-76.6	-713.3	-700.3
7	9908	102.8	236.2	8784.7	1027.7	3.1	260.5	-72.7	-730.8	-726.3
48	9940	103.7	236.4	8777.4	1058.6	2.9	262.7	-68.7	-748.1	-752.2
49	9971	101.0	235.4	8770.8	1088.7	9.3	264.4	-65.0	-765.1	-777.2
50	10005	101.7	236.0	8764.1	1121.8	2.7	265.6	-61.1	-783.9	-804.8
51	10037	99.5	234.2	8758.2	1153.0	8.8	266.3	-57.6	-801.9	-830.6
52	10066	98.2	232.9	8753.7	1181.6	6.3	266.1	-55.3	-818.9	-853.6
53	10098	98.1	231.9	8749.2	1213.2	3.1	265.4	-53.4	-838.2	-878.7
54	10129	98.1	230.9	8744.8	1243.9	3.2	264.7	-52.0	-857.4	-902.7
55	10161	97.9	230.4	8740.4	1275.5	1.7	263.9	-51.0	-877.4	-927.2
56	10192	97.9	230.1	8736.1	1306.2	1.0	263.1	-50.3	-897.1	-950.8
57	10224	93.0	231.2	8733.1	1338.1	15.7	260.8	-49.3	-917.3	-975.4
58	10256	89.1	231.8	8732.5	1370.0	12.3	256.1	-47.8	-937.2	-1000.5
59	10287	84.2	231.9	8734.3	1400.9	15.8	249.2	-46.2	-956.3	-1024.8
60	10319	80.6	231.7	8738.5	1432.6	11.3	239.8	-44.6	-975.9	-1049.7
61	10351	80.1	231.9	8743.9	1464.1	1.7	229.2	-43.0	-995.4	-1074.5
62	10383	80.0	231.2	8749.4	1495.6	2.2	218.4	-41.5	-1015.0	-1099.2
63	10414	79.9	231.0	8754.8	1526.1	0.7	208.0	-40.3	-1034.2	-1123.0
64	10449	79.9	232.0	8761.0	1560.5	2.8	196.2	-38.7	-1055.6	-1149.9
65	10481	79.8	230.8	8766.6	1592.0	3.7	185.3	-37.3	-1075.3	-1174.5
66	10512	80.5	232.0	8771.9	1622.5	4.4	175.0	-36.0	-1094.3	-1198.4
67	10544	80.4	232.4	8777.2	1654.0	1.3	164.5	-34.2	-1113.7	-1223.3
68	10576	80.4	233.1	8782.6	1685.5	2.2	153.9	-32.0	-1132.8	-1248.5
69	10607	80.1	233.1	8787.8	1715.9	1.0	143.6	-29.8	-1151.1	-1272.9
70	10639	79.8	232.3	8793.4	1747.4	2.6	132.8	-27.7	-1170.2	-1298.0
1	10671	79.5	232.5	8799.1	1778.8	1.1	121.9	-25.7	-1189.4	-1322.9
72	10702	78.8	233.1	8805.0	1809.2	3.0	111.0	-23.6	-1207.8	-1347.2

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR:	TEXACO E & P, INC.				START	4/27/98	CURVE	S.W.
WELL:	NVAWU # 32				FINISH	5/18/98		
LOCATION:	LEA COUNTY, NEW MEXICO							
JOB NO:	9819416015					SOUTHWEST LATERAL		
DIP1 =	9.39	deg	= 99.39	deg	DATE:	5/18/98	MAG DECLINATION	9.11 EAST
TARGET1 =	8,730	ft TVD						
VS1 =	2,934	ft			TIME:	7:18 PM		
DIP2 =	9.39	deg	= 99.39	deg				
TARGET2 =	8,730	ft TVD			DIRECTION	228.87		
VS2 =	2,934	ft						

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
73	10734	78.9	233.1	8811.2	1840.5	0.3	99.7	-21.3	-1226.7	-1372.3
74	10766	80.9	232.8	8816.8	1871.9	6.3	88.9	-19.1	-1245.7	-1397.4
75	10797	80.5	233.3	8821.8	1902.4	2.0	78.8	-16.9	-1264.0	-1421.8
76	10829	79.7	233.2	8827.3	1933.8	2.5	68.1	-14.4	-1282.9	-1447.1
77	10861	80.1	234.0	8832.9	1965.2	2.8	57.3	-11.9	-1301.6	-1472.5
78	10893	81.1	235.9	8838.1	1996.6	6.6	46.9	-8.5	-1319.7	-1498.3
79	10924	81.5	235.3	8842.8	2027.1	2.3	37.2	-4.9	-1337.0	-1523.6
80	10956	82.6	234.1	8847.2	2058.6	5.1	27.5	-1.7	-1355.4	-1549.5
81	10987	82.7	233.1	8851.2	2089.2	3.2	18.5	0.8	-1373.6	-1574.2
82	11019	87.8	232.8	8853.9	2121.0	16.0	10.6	3.1	-1392.8	-1599.6
3	11051	91.8	230.5	8854.0	2153.0	14.4	5.2	4.7	-1412.7	-1624.7
84	11082	97.0	228.7	8851.6	2183.9	17.7	2.5	5.1	-1432.7	-1648.3
85	11114	98.2	228.6	8847.4	2215.6	3.8	1.4	4.9	-1453.6	-1672.1
86	11146	97.5	228.7	8843.0	2247.3	2.2	0.6	4.8	-1474.6	-1695.9
87	11177	97.8	227.4	8838.9	2278.0	4.3	-0.4	4.4	-1495.1	-1718.7
88	11209	100.0	228.2	8833.9	2309.6	7.3	-0.7	3.8	-1516.4	-1742.1
89	11241	100.4	228.8	8828.2	2341.1	2.2	-0.2	3.6	-1537.2	-1765.7
90	11272	100.4	229.7	8822.6	2371.6	2.9	0.4	3.8	-1557.1	-1788.8

DIAMONDBACK DRILLING SERVICES
HORIZONTAL SURVEY PROGRAM
MINIMUM CURVATURE CALCULATIONS(SPE-3362)

OPERATOR: TEXACO E & P. INC. WELL: NVAWU # 32 LOCATION: LEA COUNTY, NEW MEXICO JOB NO: 9819416015	START 4/27/98 CURVE S.W. FINISH 5/18/98 SOUTHWEST LATERAL
DIP1 = 9.39 deg = 99.39 deg TARGET1 = 8,730 ft TVD VS1 = 2,934 ft	DATE: 5/18/98 MAG DECLINATION 9.11 EAST TIME: 7:22 PM
DIP2 = 9.39 deg = 99.39 deg TARGET2 = 8,730 ft TVD VS2 = 2.934 ft	DIRECTION 228.87

SVY #	MEASURED DEPTH	INCL (DRIFT)	AZIMUTH (DIR)	TRUE VERTICAL DEPTH	VERTICAL SECTION	DLS/ 100	CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)
91	11303	100.3	230.4	8817.1	2402.1	2.2	0.9	4.4	-1576.7	-1812.2
92	11333	99.7	230.4	8811.9	2431.6	2.0	1.2	5.2	-1595.5	-1835.0
93	11365	99.4	230.0	8806.6	2463.2	1.5	1.3	5.9	-1615.7	-1859.2
94	11397	99.6	230.3	8801.3	2494.7	1.1	1.4	6.6	-1636.0	-1883.4
95	11429	100.6	230.8	8795.7	2526.2	3.5	1.8	7.6	-1656.0	-1907.8
96	11460	100.5	230.3	8790.0	2556.7	1.6	2.4	8.4	-1675.3	-1931.3
97	11491	99.8	230.3	8784.5	2587.2	2.3	2.8	9.2	-1694.8	-1954.8
98	11522	99.5	229.6	8779.3	2617.7	2.4	3.0	9.8	-1714.5	-1978.2
99	11554	98.7	228.4	8774.3	2649.3	4.5	2.8	9.9	-1735.2	-2002.0
100	11585	98.3	228.1	8769.7	2680.0	1.6	2.3	9.5	-1755.6	-2024.9
)1	11617	98.0	227.7	8765.2	2711.7	1.6	1.6	9.0	-1776.9	-2048.4
102	11649	96.9	228.3	8761.0	2743.4	3.9	0.5	8.5	-1798.1	-2072.0
103	11680	97.2	228.2	8757.2	2774.2	1.0	-0.8	8.2	-1818.6	-2094.9
104	11712	99.4	228.8	8752.6	2805.8	7.1	-1.4	8.0	-1839.6	-2118.6
105	11744	99.2	227.9	8747.4	2837.4	2.8	-1.4	7.7	-1860.6	-2142.2
106	11775	98.8	226.9	8742.6	2868.0	3.4	-1.6	6.9	-1881.3	-2164.8
107	11807	99.1	227.7	8737.6	2899.6	2.6	-1.9	6.0	-1902.7	-2188.0
TD	11842	99.1	227.7	8732.0	2934.2	0.0	-2.1	5.3	-1926.0	-2213.6

SURVEYS 1 - 63 WITH MWD
TIM TARVER, WAYNE HOLLAND
SURVEYS 64 - 107 WITH STEERING TOOL
RICK CAGLE