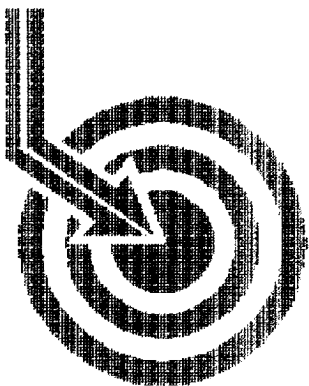




Scientific Drilling



TEXACO E & P INC.

Field: North Vacuum Abo West

Site: Lea County, NM

Well: NVAWU #29

Wellpath: VH/HH - Job #32D1299345/343

Survey: 12/6/99-12/23/99

API #: 30-025-34668

Gyro Footage: 0'-8675'

MWD Footage: 8724'-12412'

Survey: Sec. 21, T17S, R34E

K.O.P.: 8675'

SUR: 365/S & 1880/E
Q-21-17s-34e

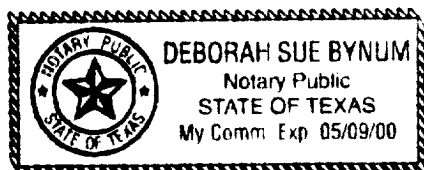
BHL: 2055/N & 4362/E
E-28-17s-34e

30-025-34668

This survey is correct to the best of my knowledge
and is supported by actual field data.

Josh Neely.....Company Representative

Notorized this date 25th of March, 2000.



Deborah Sue Bynum
Midland Co, TX



SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: North Vacuum Abo West
Site: Lea County, NM
Well: NVAWU #29
Wellpath: VH/HH - Job #32D1299345/3

Date: 3/24/2000 Time: 16:15:38 Page: 1
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E, 0.0N, 225.8Azi)
Survey Calculation Method: Minimum Curvature

Survey: 12/6/99-12/23/99
KSRG 0-8675'MWD 8724'-12412

Start Date: 3/24/2000

Company: SD/Ryan
Tool: KEEPER

Engineer: DeSpain/Burger

Survey

MD ft	Incl deg	Azin deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClA deg	ClD ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0
100.0	0.21	270.50	100.0	0.0	-0.2	0.1	0.21	270.50	0.2
200.0	0.38	288.07	200.0	0.1	-0.7	0.4	0.19	278.84	0.7
300.0	0.45	278.58	300.0	0.3	-1.4	0.8	0.10	280.93	1.4
400.0	0.25	281.31	400.0	0.4	-2.0	1.2	0.20	280.51	2.0
500.0	0.15	293.16	500.0	0.5	-2.3	1.3	0.11	281.28	2.4
600.0	0.28	312.58	600.0	0.7	-2.6	1.4	0.15	284.54	2.7
700.0	0.36	294.64	700.0	1.0	-3.1	1.5	0.13	287.55	3.2
800.0	0.36	275.94	800.0	1.1	-3.7	1.9	0.12	287.18	3.9
900.0	0.38	302.35	900.0	1.3	-4.3	2.1	0.17	287.51	4.5
1000.0	0.56	307.18	1000.0	1.8	-4.9	2.3	0.18	290.22	5.3
1100.0	0.66	302.17	1100.0	2.4	-5.8	2.5	0.11	292.60	6.3
1200.0	0.67	297.40	1200.0	3.0	-6.8	2.8	0.06	293.71	7.5
1300.0	0.51	293.02	1300.0	3.4	-7.8	3.2	0.17	293.93	8.5
1400.0	0.44	305.35	1400.0	3.8	-8.5	3.4	0.12	294.35	9.3
1500.0	0.62	306.59	1500.0	4.4	-9.2	3.6	0.18	295.41	10.2
1600.0	0.56	303.11	1600.0	5.0	-10.1	3.8	0.07	296.28	11.2
1700.0	0.56	308.16	1699.9	5.5	-10.9	3.9	0.05	297.02	12.2
1800.0	0.54	315.15	1799.9	6.2	-11.6	4.0	0.07	298.07	13.1
1900.0	0.47	312.73	1899.9	6.8	-12.2	4.0	0.07	299.07	14.0
2000.0	0.43	316.93	1999.9	7.3	-12.8	4.0	0.05	299.89	14.7
2100.0	0.43	315.80	2099.9	7.9	-13.3	4.0	0.01	300.68	15.5
2200.0	0.41	314.33	2199.9	8.4	-13.8	4.1	0.02	301.33	16.2
2300.0	0.42	312.43	2299.9	8.9	-14.3	4.1	0.02	301.84	16.9
2400.0	0.50	311.26	2399.9	9.4	-14.9	4.1	0.08	302.29	17.7
2500.0	0.56	302.96	2499.9	10.0	-15.7	4.3	0.10	302.52	18.6
2600.0	0.53	308.89	2599.9	10.5	-16.4	4.4	0.06	302.68	19.5
2700.0	0.60	319.16	2699.9	11.2	-17.1	4.5	0.12	303.23	20.5
2800.0	0.61	330.23	2799.9	12.1	-17.8	4.3	0.12	304.26	21.5
2900.0	0.65	343.87	2899.9	13.1	-18.2	3.9	0.15	305.76	22.4
3000.0	0.65	357.14	2999.9	14.2	-18.4	3.3	0.15	307.74	23.2
3100.0	0.76	0.40	3099.9	15.4	-18.4	2.4	0.12	310.03	24.0
3200.0	0.78	12.31	3199.9	16.8	-18.2	1.4	0.16	312.60	24.8
3300.0	0.91	21.64	3299.9	18.2	-17.8	0.1	0.19	315.60	25.4
3400.0	0.98	23.11	3399.9	19.7	-17.2	-1.4	0.07	318.92	26.1
3500.0	1.01	25.85	3499.8	21.3	-16.4	-3.0	0.06	322.29	26.9
3600.0	1.12	21.32	3599.8	23.0	-15.7	-4.7	0.14	325.64	27.8
3700.0	1.18	24.88	3699.8	24.8	-14.9	-6.6	0.09	328.99	29.0
3800.0	1.16	30.63	3799.8	26.6	-14.0	-8.5	0.12	332.32	30.1
3900.0	1.33	37.16	3899.8	28.4	-12.8	-10.7	0.22	335.83	31.2
4000.0	1.33	39.20	3999.7	30.2	-11.3	-13.0	0.05	339.48	32.3
4100.0	1.33	45.11	4099.7	32.0	-9.8	-15.3	0.14	343.02	33.4
4200.0	1.37	50.53	4199.7	33.5	-8.0	-17.6	0.13	346.56	34.5
4300.0	1.46	51.41	4299.6	35.1	-6.1	-20.1	0.09	350.14	35.6
4400.0	1.54	54.58	4399.6	36.7	-4.0	-22.7	0.12	353.76	36.9
4500.0	1.70	55.78	4499.6	38.3	-1.7	-25.5	0.16	357.48	38.3
4600.0	1.70	52.01	4599.5	40.0	0.7	-28.4	0.11	1.01	40.0
4700.0	1.74	49.84	4699.5	41.9	3.0	-31.4	0.08	4.14	42.0

SCIENTIFIC DRILLING

SURVEY REPORT

Company: TEXACO E & P INC.
 Field: North Vacuum Abo West
 Site: Lea County, NM
 Well: NVAWU #29
 Wellpath: VHHH - Job #32D1298345/3

Date: 3/24/2000 Time: 16:15:36 Page: 2
 Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
 Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
 Section (VS) Reference: Slot (0.0E,0.0N,225.8Azi)
 Survey Calculation Method: Minimum Curvature

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ChA deg	ChD ft
4800.0	1.83	48.44	4799.4	44.0	5.4	-34.5	0.10	6.99	44.3
4900.0	1.86	51.92	4899.4	46.0	7.9	-37.7	0.12	9.70	46.7
5000.0	1.69	52.88	4999.3	47.9	10.3	-40.8	0.17	12.15	49.0
5100.0	1.56	52.68	5099.3	49.6	12.6	-43.6	0.13	14.22	51.2
5200.0	1.46	65.57	5199.3	51.0	14.8	-46.1	0.35	16.21	53.1
5300.0	1.50	68.95	5299.2	52.0	17.2	-48.6	0.10	18.31	54.8
5400.0	1.75	69.29	5399.2	53.0	19.8	-51.2	0.25	20.53	56.6
5500.0	1.81	76.53	5499.1	53.9	22.8	-53.9	0.23	22.94	58.5
5600.0	1.68	72.32	5599.1	54.7	25.7	-56.6	0.18	25.20	60.5
5700.0	1.78	73.70	5699.0	55.6	28.6	-59.3	0.11	27.25	62.5
5800.0	1.73	79.59	5799.0	56.3	31.6	-61.9	0.19	29.31	64.6
5900.0	1.67	76.41	5899.0	56.9	34.5	-64.4	0.11	31.23	66.6
6000.0	1.81	74.38	5998.9	57.7	37.4	-67.1	0.15	32.99	68.8
6100.0	1.82	77.17	6098.9	58.5	40.5	-69.8	0.09	34.72	71.1
6200.0	1.70	72.03	6198.8	59.3	43.5	-72.5	0.20	36.26	73.5
6300.0	1.74	65.27	6298.8	60.4	46.3	-75.2	0.21	37.47	76.1
6400.0	1.91	65.49	6398.7	61.7	49.2	-78.2	0.17	38.55	78.9
6500.0	1.83	66.10	6498.7	63.0	52.1	-81.3	0.08	39.60	81.8
6600.0	1.73	62.15	6598.6	64.4	54.9	-84.3	0.16	40.47	84.6
6700.0	1.71	60.28	6698.6	65.8	57.6	-87.2	0.06	41.17	87.4
6800.0	1.78	63.10	6798.5	67.3	60.2	-90.1	0.11	41.85	90.3
6900.0	1.71	66.53	6898.5	68.6	63.0	-93.0	0.13	42.58	93.1
7000.0	1.67	66.16	6998.4	69.7	65.7	-95.7	0.04	43.29	95.8
7100.0	1.74	59.65	7098.4	71.1	68.3	-98.6	0.21	43.86	98.6
7200.0	1.85	64.31	7198.3	72.6	71.1	-101.6	0.18	44.41	101.6
7300.0	1.82	65.08	7298.3	73.9	74.0	-104.6	0.04	45.02	104.6
7400.0	1.68	63.61	7398.2	75.3	76.8	-107.5	0.15	45.56	107.5
7500.0	1.70	59.39	7498.2	76.7	79.3	-110.3	0.13	45.98	110.3
7600.0	1.87	60.76	7598.1	78.2	82.0	-113.4	0.18	46.37	113.4
7700.0	1.63	62.87	7698.1	79.7	84.7	-116.3	0.25	46.77	116.3
7800.0	1.57	60.21	7798.1	81.0	87.2	-119.0	0.10	47.11	119.0
7900.0	1.65	59.56	7898.0	82.4	89.6	-121.7	0.08	47.40	121.7
8000.0	1.57	67.06	7998.0	83.7	92.1	-124.4	0.23	47.75	124.4
8100.0	1.36	62.52	8097.9	84.8	94.4	-126.8	0.24	48.09	126.9
8200.0	1.56	60.36	8197.9	86.0	96.7	-129.2	0.21	48.35	129.4
8300.0	1.42	69.30	8297.9	87.1	99.0	-131.7	0.27	48.67	131.9
8400.0	1.26	67.17	8397.9	87.9	101.2	-133.9	0.17	49.00	134.1
8500.0	1.15	65.12	8497.8	88.8	103.1	-135.8	0.12	49.27	136.1
8600.0	1.09	66.14	8597.8	89.6	104.9	-137.7	0.06	49.49	138.0
8675.0	1.08	54.55	8672.8	90.3	106.1	-139.0	0.29	49.60	139.3
8724.0	3.50	225.00	8721.8	89.5	105.4	-138.0	9.32	49.67	138.3
8729.0	5.30	226.00	8726.8	89.2	105.2	-137.6	36.03	49.68	137.9
8739.0	8.80	230.90	8736.7	88.4	104.2	-136.4	35.48	49.69	136.7
8747.0	11.60	230.50	8744.6	87.5	103.1	-135.0	35.01	49.68	135.3
8767.0	18.60	230.20	8763.9	84.2	99.1	-129.8	35.00	49.65	130.1
8777.0	22.50	228.40	8773.2	81.9	96.5	-126.3	39.50	49.66	126.6
8787.0	26.60	228.90	8782.3	79.2	93.4	-122.1	41.05	49.70	122.4
8801.0	32.00	229.30	8794.5	74.7	88.2	-115.3	38.60	49.73	115.6
8817.0	38.90	227.90	8807.5	68.6	81.2	-106.0	43.42	49.83	106.3
8833.0	45.00	226.70	8819.4	61.3	73.4	-95.3	38.45	50.12	95.6
8847.0	51.70	226.10	8828.7	54.1	65.8	-84.9	47.96	50.58	85.2
8862.0	58.40	226.30	8837.3	45.6	56.9	-72.6	44.68	51.32	72.9

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: North Vacuum Abo West
Site: Lea County, NM
Well: NVAWU #29
Wellpath: VH/VH - Job #32D1299345/3

Date: 3/24/2000 Time: 16:15:36 Page: 3
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slat (0.0E,0.0N,225.8Azi)
Survey Calculation Method: Minimum Curvature

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
8879.0	65.80	226.80	8845.3	35.3	46.0	-57.6	43.61	52.55	58.0
8894.0	72.30	226.80	8850.6	25.7	35.8	-43.6	43.33	54.37	44.1
8917.0	81.10	227.20	8855.9	10.4	19.5	-21.2	38.30	61.83	22.1
8927.0	83.40	227.50	8857.3	3.7	12.2	-11.3	23.19	73.04	12.7
8958.0	84.30	227.50	8860.6	-17.1	-10.5	19.5	2.90	211.63	20.1
8990.0	86.00	227.50	8863.3	-38.6	-34.0	51.3	5.31	221.38	51.5
9022.0	89.40	227.00	8864.6	-60.3	-57.5	83.3	10.74	223.63	83.4
9054.0	89.40	227.50	8864.9	-82.1	-81.0	115.3	1.56	224.63	115.3
9086.0	89.00	227.50	8865.4	-103.7	-104.6	147.3	1.25	225.25	147.3
9117.0	87.80	227.50	8866.2	-124.6	-127.5	178.3	3.87	225.64	178.3
9148.0	87.30	228.10	8867.5	-145.4	-150.4	209.2	2.52	225.96	209.2
9179.0	89.40	227.90	8868.4	-166.2	-173.4	240.2	6.80	226.23	240.2
9210.0	90.10	227.90	8868.6	-186.9	-196.4	271.1	2.26	226.42	271.2
9241.0	91.70	227.50	8868.1	-207.8	-219.3	302.1	5.32	226.55	302.1
9274.0	91.70	227.50	8867.1	-230.1	-243.7	335.1	0.00	226.64	335.1
9305.0	91.10	227.70	8866.4	-251.0	-266.6	366.1	2.04	226.72	366.1
9337.0	90.10	227.70	8866.0	-272.5	-290.2	398.1	3.12	226.80	398.1
9369.0	90.10	226.50	8866.0	-294.3	-313.7	430.0	3.75	226.82	430.1
9400.0	92.20	224.70	8865.3	-316.0	-335.8	461.0	8.92	226.74	461.1
9432.0	92.90	223.50	8863.9	-338.9	-358.1	493.0	4.34	226.57	493.0
9463.0	91.00	223.50	8862.9	-361.4	-379.4	523.9	6.13	226.39	524.0
9495.0	89.40	223.30	8862.7	-384.7	-401.4	555.9	5.04	226.22	555.9
9527.0	89.60	223.30	8863.0	-407.9	-423.3	587.9	0.62	226.06	587.9
9558.0	90.60	223.00	8863.0	-430.6	-444.5	618.8	3.37	225.91	618.8
9590.0	91.80	223.50	8862.3	-453.9	-466.4	650.8	4.06	225.78	650.8
9622.0	90.30	224.00	8861.7	-477.0	-488.6	682.8	4.94	225.69	682.8
9654.0	88.50	224.60	8862.1	-499.9	-510.9	714.8	5.93	225.62	714.8
9686.0	88.90	225.30	8862.8	-522.5	-533.5	746.8	2.52	225.60	746.8
9717.0	88.30	226.80	8863.5	-544.0	-555.8	777.7	5.21	225.61	777.7
9749.0	88.20	227.70	8864.5	-565.7	-579.3	809.7	2.83	225.68	809.7
9781.0	91.00	227.90	8864.7	-587.2	-603.0	841.7	8.77	225.76	841.7
9812.0	94.10	227.40	8863.4	-608.1	-625.9	872.6	10.13	225.83	872.6
9844.0	95.40	227.90	8860.7	-629.6	-649.5	904.5	4.35	225.89	904.5
9876.0	94.80	226.30	8857.9	-651.3	-672.8	936.4	5.32	225.93	936.4
9908.0	93.80	226.10	8855.5	-673.4	-695.8	968.3	3.19	225.94	968.3
9939.0	94.50	226.30	8853.2	-694.8	-718.1	999.2	2.35	225.95	999.2
9971.0	91.70	226.10	8851.5	-716.9	-741.2	1031.2	8.77	225.96	1031.2
10003.0	90.40	225.90	8850.9	-739.1	-764.2	1063.2	4.11	225.96	1063.2
10035.0	92.00	226.30	8850.2	-761.3	-787.3	1095.1	5.15	225.96	1095.1
10066.0	92.70	226.70	8849.0	-782.6	-809.7	1126.1	2.60	225.98	1126.1
10097.0	93.60	227.40	8847.3	-803.7	-832.4	1157.1	3.68	226.01	1157.1
10129.0	93.80	227.70	8845.2	-825.2	-856.0	1189.0	1.13	226.05	1189.0
10161.0	94.70	228.10	8842.8	-846.6	-879.6	1220.9	3.08	226.10	1220.9
10193.0	93.60	228.90	8840.5	-867.8	-903.5	1252.8	4.25	226.16	1252.8
10225.0	92.40	229.60	8838.8	-888.6	-927.8	1284.7	4.34	226.23	1284.7
10256.0	92.00	230.00	8837.6	-908.6	-951.4	1315.6	1.82	226.32	1315.6
10287.0	93.30	230.00	8836.2	-928.5	-975.1	1346.4	4.19	226.40	1346.5
10318.0	91.10	229.30	8835.0	-948.6	-998.7	1377.3	7.45	226.47	1377.4
10350.0	91.10	227.20	8834.4	-969.9	-1022.6	1409.3	6.56	226.52	1409.4
10382.0	91.30	226.70	8833.7	-991.7	-1046.0	1441.3	1.68	226.52	1441.4
10414.0	91.50	224.60	8833.0	-1014.1	-1068.9	1473.3	6.59	226.51	1473.4
10445.0	90.80	224.00	8832.3	-1036.3	-1090.5	1504.3	2.97	226.48	1504.4
10477.0	91.50	224.40	8831.7	-1059.2	-1112.8	1536.2	2.52	226.41	1536.3

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: North Vacuum Abo West
Site: Lea County, NM
Well: NVAWU #29
Wellpath: VH/HH - Job #32D1299345/3

Date: 3/24/2000 Time: 16:15:36 Page: 4
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TYD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,225.8Azi)
Survey Calculation Method: Minimum Curvature

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
10508.0	92.60	224.40	8830.6	-1081.4	-1134.5	1567.2	3.55	226.37	1567.3
10539.0	92.70	223.50	8829.1	-1103.6	-1156.0	1598.2	2.92	226.33	1598.2
10569.0	93.40	224.00	8827.5	-1125.3	-1176.7	1628.1	2.87	226.28	1628.2
10601.0	94.50	224.20	8825.3	-1148.2	-1198.9	1660.0	3.49	226.24	1660.1
10633.0	94.70	224.70	8822.8	-1171.0	-1221.2	1691.9	1.68	226.20	1691.9
10664.0	93.60	224.90	8820.5	-1192.9	-1243.0	1722.8	3.61	226.18	1722.8
10696.0	92.00	225.10	8819.0	-1215.5	-1265.6	1754.8	5.04	226.16	1754.8
10728.0	91.00	224.40	8818.1	-1238.2	-1288.2	1786.8	3.81	226.13	1786.8
10759.0	89.60	224.70	8818.0	-1260.3	-1309.9	1817.7	4.62	226.10	1817.8
10791.0	88.50	225.30	8818.5	-1283.0	-1332.5	1849.7	3.92	226.09	1849.8
10822.0	87.10	224.40	8819.7	-1304.9	-1354.4	1880.7	5.37	226.07	1880.7
10854.0	85.50	223.80	8821.8	-1327.8	-1376.6	1912.6	5.34	226.03	1912.6
10886.0	83.60	224.60	8824.8	-1350.7	-1398.8	1944.5	6.44	226.00	1944.5
10918.0	84.10	224.60	8828.2	-1373.3	-1421.1	1976.3	1.56	225.98	1976.3
10950.0	84.30	224.90	8831.5	-1395.9	-1443.6	2008.1	1.12	225.96	2008.1
10981.0	84.10	224.60	8834.6	-1417.8	-1465.3	2038.9	1.16	225.94	2038.9
11013.0	84.60	225.10	8837.7	-1440.4	-1487.7	2070.8	2.20	225.93	2070.8
11045.0	85.70	224.70	8840.4	-1463.0	-1510.2	2102.7	3.66	225.91	2102.7
11076.0	86.40	224.20	8842.6	-1485.1	-1531.9	2133.6	2.77	225.89	2133.6
11108.0	85.70	224.70	8844.8	-1507.9	-1554.2	2165.5	2.69	225.87	2165.5
11140.0	82.90	224.90	8848.0	-1530.5	-1576.7	2197.3	8.77	225.85	2197.3
11171.0	83.10	225.40	8851.7	-1552.2	-1598.5	2228.1	1.73	225.84	2228.1
11203.0	83.90	225.80	8855.4	-1574.4	-1621.2	2259.9	2.79	225.84	2259.9
11234.0	85.00	225.90	8858.4	-1595.9	-1643.3	2290.7	3.56	225.84	2290.7
11266.0	85.70	226.10	8861.0	-1618.1	-1666.3	2322.6	2.27	225.84	2322.6
11298.0	87.10	225.80	8863.0	-1640.3	-1689.2	2354.6	4.47	225.84	2354.6
11329.0	87.80	225.60	8864.3	-1661.9	-1711.4	2385.5	2.35	225.84	2385.5
11362.0	86.40	225.60	8866.0	-1685.0	-1735.0	2418.5	4.24	225.84	2418.5
11393.0	87.40	225.80	8867.7	-1708.6	-1757.1	2449.4	3.29	225.84	2449.4
11425.0	88.00	225.90	8869.0	-1728.8	-1780.0	2481.4	1.90	225.84	2481.4
11457.0	89.00	225.90	8869.8	-1751.1	-1803.0	2513.4	3.12	225.84	2513.4
11488.0	89.00	225.90	8870.4	-1772.7	-1825.3	2544.4	0.00	225.84	2544.4
11520.0	92.70	226.70	8869.9	-1794.8	-1848.4	2576.4	11.83	225.84	2576.4
11551.0	93.10	226.50	8868.3	-1816.0	-1870.9	2607.4	1.44	225.85	2607.4
11582.0	93.40	225.30	8866.6	-1837.6	-1893.1	2638.3	3.98	225.85	2638.3
11614.0	94.80	225.80	8864.3	-1859.9	-1915.9	2670.2	4.64	225.85	2670.2
11645.0	95.20	225.60	8861.6	-1881.5	-1938.0	2701.1	1.44	225.85	2701.1
11677.0	94.30	224.40	8858.9	-1904.1	-1960.6	2733.0	4.68	225.84	2733.0
11708.0	94.30	224.20	8856.6	-1926.2	-1982.2	2763.9	0.64	225.82	2763.9
11740.0	94.00	224.40	8854.3	-1949.0	-2004.4	2795.8	1.13	225.80	2795.8
11772.0	95.00	225.60	8851.8	-1971.6	-2027.0	2827.7	4.87	225.79	2827.7
11804.0	95.00	226.80	8849.0	-1993.6	-2050.0	2859.6	3.74	225.80	2859.6
11836.0	94.70	226.80	8846.3	-2015.5	-2073.3	2891.4	0.94	225.81	2891.4
11868.0	94.70	226.80	8843.6	-2037.3	-2096.5	2923.3	0.00	225.82	2923.3
11899.0	93.70	226.80	8841.4	-2058.5	-2119.0	2954.2	3.23	225.83	2954.2
11931.0	91.50	226.80	8839.9	-2080.3	-2142.3	2986.2	6.87	225.84	2986.2
11962.0	87.40	225.90	8840.2	-2101.7	-2164.8	3017.2	13.54	225.85	3017.2
12027.0	91.70	227.20	8840.7	-2146.4	-2211.9	3082.2	6.91	225.86	3082.2
12058.0	92.40	227.00	8839.6	-2167.5	-2234.6	3113.1	2.35	225.87	3113.1
12089.0	92.00	226.70	8838.4	-2188.7	-2257.2	3144.1	1.61	225.88	3144.1
12121.0	91.30	226.70	8837.5	-2210.6	-2280.5	3176.1	2.19	225.89	3176.1
12153.0	89.70	225.60	8837.2	-2232.8	-2303.6	3208.1	6.07	225.89	3208.1

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: North Vacuum Abo West
Site: Lea County, NM
Well: NVAWU #29
Wellpath: VH/HH - Job #32D1299345/3

Date: 3/24/2000 **Time:** 16:15:36 **Page:** 5
Co-ordinate(N/E) Reference: Site Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Site (0.0E, 0.0N, 225.8Azi)
Survey Calculation Method: Minimum Curvature

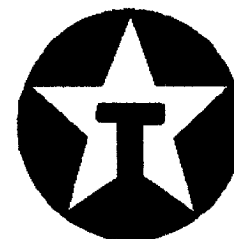
Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
12191.0	89.40	225.10	8837.5	-2259.5	-2330.6	3246.1	1.53	225.89	3246.1
12216.0	90.60	224.40	8837.5	-2277.3	-2348.2	3271.1	5.56	225.88	3271.1
12248.0	88.90	222.60	8837.7	-2300.5	-2370.2	3303.1	7.74	225.86	3303.1
12279.0	90.40	222.80	8837.9	-2323.3	-2391.3	3334.0	4.88	225.83	3334.0
12310.0	90.40	223.10	8837.6	-2345.9	-2412.4	3365.0	0.97	225.80	3365.0
12342.0	90.10	223.30	8837.5	-2369.3	-2434.3	3396.9	1.13	225.78	3396.9
12374.0	89.90	223.00	8837.5	-2392.6	-2456.2	3428.9	1.13	225.75	3428.9
12412.0	90.00	223.00	8837.5	-2420.4	-2482.1	3466.9	0.26	225.72	3466.9

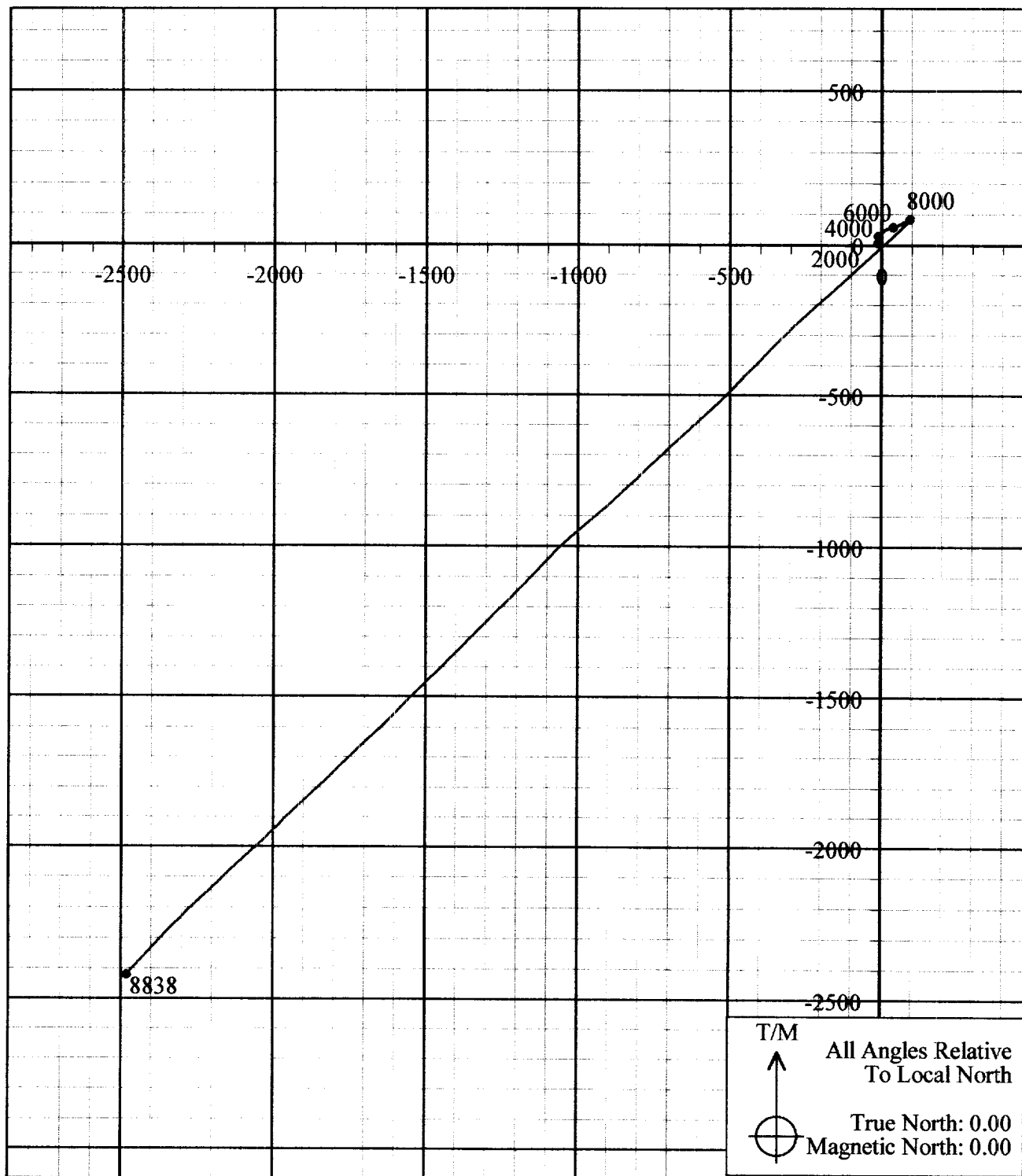


**Scientific
Drilling**

TEXACO E & P INC
Field: North Vacuum Abo West
Site: Lea County, NM
Well: NVAWU #29
Wellpath: VH/HH - Job #32D1299345/343
Survey: 12/6/99-12/23/99



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



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