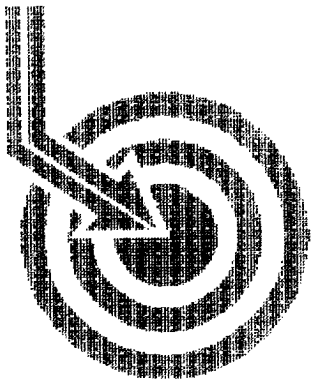




Scientific Drilling



TEXACO E & P INC.

30-025-20236

Field: Vacuum Glorieta West
Site: Lea County, NM
Well: VGWU #85
Wellpath: HH - Job #32D0501297
Survey: 5/16/01-5/19/01

SUR: L-36-175-34e
2180/S & 660/W

BHL: K-36-175-34e
2191/S & 1910/W

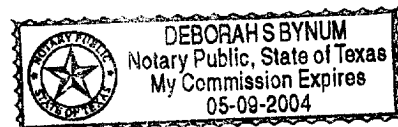
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....*Sharton*..... Company Representative

Notorized this date 6th of July, 2001.

Deborah Sue Bynum
Notary Signature

County of Midland
State of Texas



Scientific Drilling International

Survey Report

Company: TEXACO E & P INC.
Field: Vacuum Glorieta West
Site: Lea County, NM
Well: VGWU #85
Wellpath: VH - Job #32K0501298

Date: 7/5/2001 **Time:** 20:20:24 **Page:** 1
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E,0.0N,90.0Azi)
Survey Calculation Method: Minimum Curvature

Survey: 5/15/01
 KSRG 0'-5795'

Start Date: 7/5/2001

Company: Scientific Drilling Internatio
Tool: KEEPER

Engineer: Angel Guebara

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00
100.0	0.15	80.37	100.0	0.1	0.0	0.1	0.1	80.37
200.0	0.37	87.11	200.0	0.6	0.1	0.6	0.6	84.09
300.0	0.41	88.22	300.0	1.3	0.1	1.3	1.3	86.03
400.0	0.38	92.46	400.0	1.9	0.1	1.9	2.0	87.52
500.0	0.39	98.62	500.0	2.6	0.0	2.6	2.6	89.58
600.0	0.69	92.09	600.0	3.6	-0.1	3.6	3.6	90.87
700.0	0.99	82.49	700.0	5.0	0.0	5.0	5.0	89.58
800.0	0.74	80.93	800.0	6.5	0.3	6.5	6.5	87.78
900.0	0.64	78.53	900.0	7.7	0.5	7.7	7.7	86.54
1000.0	0.50	56.64	1000.0	8.6	0.8	8.6	8.6	84.59
1100.0	0.28	69.01	1100.0	9.2	1.1	9.2	9.3	82.92
1200.0	0.15	73.11	1199.9	9.6	1.3	9.6	9.6	82.43
1300.0	0.17	96.32	1299.9	9.8	1.3	9.8	9.9	82.52
1400.0	0.22	129.45	1399.9	10.1	1.2	10.1	10.2	83.50
1500.0	0.32	131.76	1499.9	10.5	0.8	10.5	10.5	85.39
1600.0	0.42	81.90	1599.9	11.0	0.7	11.0	11.1	86.32
1700.0	0.44	65.06	1699.9	11.8	0.9	11.8	11.8	85.51
1800.0	0.65	68.84	1799.9	12.6	1.3	12.6	12.7	84.17
1900.0	0.80	61.75	1899.9	13.8	1.8	13.8	13.9	82.45
2000.0	0.80	56.67	1999.9	15.0	2.5	15.0	15.2	80.38
2100.0	0.98	70.48	2099.9	16.4	3.2	16.4	16.7	78.91
2200.0	0.83	62.16	2199.9	17.8	3.8	17.8	18.2	77.86
2300.0	0.99	59.84	2299.9	19.2	4.6	19.2	19.7	76.51
2400.0	0.96	61.49	2399.9	20.7	5.4	20.7	21.4	75.27
2500.0	1.46	60.09	2499.8	22.5	6.5	22.5	23.4	73.96
2600.0	1.68	64.60	2599.8	25.0	7.7	25.0	26.1	72.77
2700.0	1.68	63.86	2699.8	27.6	9.0	27.6	29.0	71.91
2800.0	1.51	63.04	2799.7	30.1	10.3	30.1	31.8	71.18
2900.0	1.26	68.30	2899.7	32.3	11.3	32.3	34.2	70.77
3000.0	0.98	84.25	2999.7	34.2	11.8	34.2	36.1	71.01
3100.0	0.75	109.94	3099.7	35.6	11.6	35.6	37.5	71.94
3200.0	0.88	134.34	3199.7	36.8	10.9	36.8	38.3	73.56
3300.0	1.05	146.57	3299.6	37.8	9.6	37.8	39.0	75.83
3400.0	1.13	149.28	3399.6	38.8	7.9	38.8	39.6	78.45
3500.0	1.53	154.66	3499.6	39.9	5.9	39.9	40.4	81.61
3600.0	1.74	159.02	3599.6	41.0	3.3	41.0	41.2	85.45
3700.0	1.71	158.33	3699.5	42.1	0.5	42.1	42.1	89.38
3800.0	1.57	154.67	3799.5	43.3	-2.2	43.3	43.3	92.87
3900.0	1.36	150.11	3899.4	44.4	-4.4	44.4	44.7	95.70
4000.0	1.37	147.83	3999.4	45.7	-6.5	45.7	46.1	98.07
4100.0	1.20	150.08	4099.4	46.8	-8.4	46.8	47.6	100.16
4200.0	1.07	149.98	4199.4	47.8	-10.1	47.8	48.9	101.94
4300.0	1.06	149.84	4299.3	48.8	-11.7	48.8	50.1	103.52
4400.0	1.14	150.31	4399.3	49.7	-13.4	49.7	51.5	105.07
4500.0	1.20	159.39	4499.3	50.6	-15.2	50.6	52.8	106.76
4600.0	1.37	150.33	4599.3	51.5	-17.2	51.5	54.3	108.50
4700.0	1.50	151.46	4699.3	52.7	-19.4	52.7	56.2	110.23

Scientific Drilling International Survey Report

Company: TEXACO E & P INC.
Field: Vacuum Glorieta West
Site: Lea County, NM
Well: VGWU #85
Wellpath: VH - Job #32K0501298

Date: 7/5/2001 **Time:** 20:20:24 **Page:** 2
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E,0.0N,90.0Azi)
Survey Calculation Method: Minimum Curvature

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg
4800.0	1.73	154.37	4799.2	54.0	-21.9	54.0	58.3	112.11
4900.0	1.48	140.90	4899.2	55.5	-24.3	55.5	60.6	113.66
5000.0	1.60	123.92	4999.1	57.5	-26.1	57.5	63.1	114.42
5100.0	1.20	131.67	5099.1	59.4	-27.6	59.4	65.5	114.89
5200.0	1.17	118.89	5199.1	61.1	-28.8	61.1	67.5	115.21
5300.0	1.04	126.46	5299.1	62.7	-29.8	62.7	69.4	115.41
5400.0	0.98	121.97	5399.1	64.2	-30.8	64.2	71.2	115.63
5500.0	0.75	114.30	5499.0	65.5	-31.5	65.5	72.7	115.69
5600.0	0.75	118.51	5599.0	66.7	-32.1	66.7	74.0	115.70
5700.0	0.71	106.71	5699.0	67.8	-32.6	67.8	75.2	115.65
5795.9	0.88	111.29	5794.9	69.1	-33.0	69.1	76.6	115.54

Scientific Drilling International

Survey Report

Company: TEXACO E & P INC. Field: Vacuum Glorieta West Site: Lea County, NM Well: VGWU #85 Wellpath: HH - Job #32D0501297	Date: 7/5/2001 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 20:27:35 Site: Lea County, NM, True North SITE 0.0 above Mean Sea Level Well (0.0E,0.0N,90.0Azi) Minimum Curvature	Page: 1
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Survey: 5/16/01-5/19/01 MWD 5820'-7062'	Start Date: 7/5/2001	
Company: SDI w/Unidril Tool: MWD	Engineer: Lamb/Ford	

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg
5795.9	0.88	111.29	5794.9	69.1	-33.0	69.1	76.6	115.54
5820.0	0.88	111.29	5819.0	69.4	-33.1	69.4	76.9	115.52
5875.0	29.90	92.00	5871.5	83.8	-33.8	83.8	90.4	111.95
5897.0	42.60	94.90	5889.2	96.8	-34.6	96.8	102.8	109.68
5925.0	59.00	91.00	5906.8	118.4	-35.6	118.4	123.6	106.76
5960.0	79.90	81.50	5919.1	150.8	-33.3	150.8	154.5	102.46
5992.0	85.90	80.80	5923.0	182.2	-28.4	182.2	184.4	98.87
6023.0	87.90	81.00	5924.7	212.8	-23.6	212.8	214.1	96.32
6055.0	91.00	84.30	5925.0	244.5	-19.5	244.5	245.3	94.55
6086.0	90.60	86.60	5924.6	275.4	-17.0	275.4	275.9	93.53
6118.0	90.60	86.60	5924.2	307.3	-15.1	307.3	307.7	92.81
6149.0	91.50	87.10	5923.7	338.3	-13.4	338.3	338.5	92.27
6181.0	92.60	89.80	5922.5	370.2	-12.5	370.2	370.5	91.94
6213.0	94.00	89.70	5920.7	402.2	-12.4	402.2	402.4	91.77
6244.0	90.90	89.00	5919.4	433.2	-12.0	433.2	433.3	91.59
6276.0	91.60	88.70	5918.7	465.1	-11.4	465.1	465.3	91.40
6307.0	91.30	88.70	5917.9	496.1	-10.7	496.1	496.2	91.24
6339.0	87.80	88.50	5918.1	528.1	-9.9	528.1	528.2	91.08
6371.0	89.00	89.10	5919.0	560.1	-9.2	560.1	560.2	90.95
6402.0	93.10	90.10	5918.5	591.1	-9.0	591.1	591.1	90.88
6434.0	94.00	90.50	5916.5	623.0	-9.2	623.0	623.1	90.85
6466.0	94.90	90.50	5914.0	654.9	-9.5	654.9	655.0	90.83
6497.0	91.40	89.50	5912.3	685.9	-9.5	685.9	685.9	90.79
6529.0	91.90	89.90	5911.4	717.8	-9.3	717.8	717.9	90.74
6561.0	92.70	89.60	5910.1	749.8	-9.2	749.8	749.9	90.70
6592.0	90.30	88.70	5909.3	780.8	-8.7	780.8	780.8	90.64
6624.0	91.30	89.30	5908.8	812.8	-8.2	812.8	812.8	90.57
6655.0	92.60	88.90	5907.8	843.8	-7.7	843.8	843.8	90.52
6687.0	88.90	88.10	5907.3	875.8	-6.8	875.8	875.8	90.45
6718.0	89.60	88.10	5907.8	906.7	-5.8	906.7	906.7	90.37
6750.0	90.20	87.60	5907.8	938.7	-4.6	938.7	938.7	90.28
6782.0	91.00	87.60	5907.5	970.7	-3.3	970.7	970.7	90.19
6813.0	91.00	87.60	5906.9	1001.6	-2.0	1001.6	1001.6	90.11
6845.0	90.40	86.40	5906.5	1033.6	-0.3	1033.6	1033.6	90.02
6875.0	87.90	85.30	5907.0	1063.5	1.9	1063.5	1063.5	89.90
6907.0	85.70	88.20	5908.8	1095.4	3.7	1095.4	1095.4	89.81
6939.0	85.90	88.00	5911.1	1127.3	4.8	1127.3	1127.3	89.76
6970.0	86.90	87.30	5913.1	1158.2	6.0	1158.2	1158.2	89.70
7002.0	88.00	86.80	5914.5	1190.1	7.7	1190.1	1190.2	89.63
7062.0	88.00	86.80	5916.6	1250.0	11.0	1250.0	1250.1	89.50