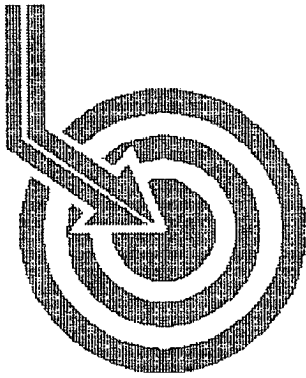


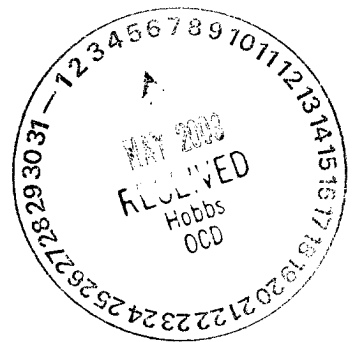


Scientific Drilling

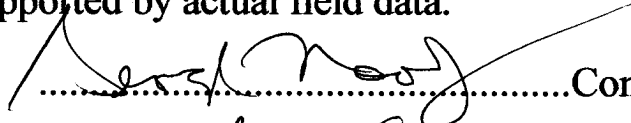
CHEVRONTEXACO

Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #46H
Wellpath: HH - Job #32D0303105
Survey: 03/05/03-03/15/03

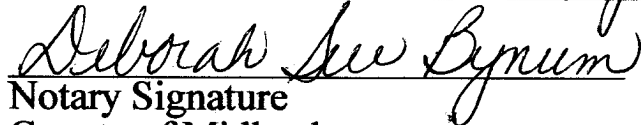
SUR: N - 25-17s-34e, 990/S & 1650/W
BHL: P - 25-17s-34e, 799/S & 1233/E
API # 30-025-20249



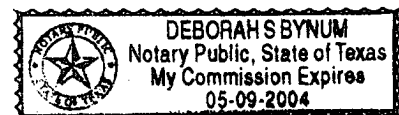
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....Company Representative

Notorized this date 16th of April, 2003.



Notary Signature
County of Midland
State of Texas



Scientific Drilling International

Survey Report

Company: CHEVRONTEXACO
Field: Vacuum Goriotta West
Site: Lea County, NM
Well: VGWU #46H
Wellpath: HH - Job #32D0303105

Date: 4/16/2003 Time: 18:14:31 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E,0.0N,94.5Azi)
Survey Calculation Method: Minimum Curvature

Survey: 03/05/03-03/15/03
MWD 5789'-8237'

Start Date: 4/16/2003

Company: Scientific Drilling Internatio
Tool: MWD

Engineer: Lamb/Hendrix

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
5759.0	1.04	171.27	5758.2	34.3	-62.5	29.5	69.2	154.75	0.00
5789.0	1.04	171.27	5788.2	34.5	-63.1	29.6	69.7	154.88	0.00
5840.0	24.70	101.50	5837.6	45.3	-65.7	40.3	77.1	148.51	47.76
5850.0	29.50	102.10	5846.5	49.8	-66.6	44.7	80.2	146.14	48.08
5860.0	34.60	101.50	5855.0	55.1	-67.7	49.9	84.1	143.61	51.10
5870.0	39.10	98.60	5863.0	61.1	-68.8	55.8	88.6	140.94	48.23
5900.0	51.70	89.80	5884.0	82.3	-70.1	77.0	104.2	132.32	46.83
5930.0	58.80	92.50	5901.1	106.9	-70.7	101.7	123.8	124.80	24.79
5940.0	60.20	92.70	5906.2	115.5	-71.1	110.3	131.2	122.79	14.11
5962.0	63.30	92.50	5916.6	134.9	-71.9	129.6	148.2	119.03	14.11
5977.0	65.90	93.10	5923.0	148.4	-72.6	143.2	160.5	116.89	17.71
5993.0	73.50	94.70	5928.6	163.4	-73.6	158.1	174.4	114.97	48.42
6025.0	84.60	94.40	5934.7	194.8	-76.1	189.4	204.1	111.89	34.70
6056.0	85.20	94.90	5937.4	225.7	-78.6	220.2	233.8	109.65	2.52
6088.0	89.50	94.10	5938.9	257.6	-81.1	252.0	264.8	107.84	13.67
6120.0	90.30	93.90	5939.0	289.6	-83.3	283.9	295.9	106.36	2.58
6151.0	90.20	91.50	5938.8	320.6	-84.8	314.9	326.1	105.07	7.75
6183.0	90.60	91.60	5938.6	352.6	-85.7	346.9	357.3	103.87	1.29
6214.0	88.50	90.60	5938.8	383.5	-86.3	377.9	387.6	102.86	7.50
6246.0	88.60	91.00	5939.6	415.4	-86.7	409.9	418.9	101.95	1.29
6277.0	88.40	90.60	5940.5	446.4	-87.1	440.9	449.4	101.18	1.44
6308.0	87.80	90.00	5941.5	477.3	-87.3	471.8	479.9	100.48	2.74
6340.0	87.70	90.90	5942.7	509.2	-87.6	503.8	511.4	99.86	2.83
6372.0	88.10	91.00	5943.9	541.1	-88.1	535.8	543.0	99.34	1.29
6403.0	88.40	93.10	5944.9	572.0	-89.2	566.8	573.7	98.94	6.84
6435.0	89.10	93.40	5945.6	604.0	-91.0	598.7	605.6	98.64	2.38
6466.0	91.40	93.60	5945.4	635.0	-92.9	629.6	636.5	98.39	7.45
6497.0	91.50	93.30	5944.6	666.0	-94.8	660.6	667.3	98.16	1.02
6529.0	91.30	92.90	5943.9	698.0	-96.5	692.5	699.2	97.93	1.40
6560.0	88.90	92.40	5943.8	729.0	-97.9	723.5	730.1	97.71	7.91
6592.0	89.40	93.20	5944.3	760.9	-99.5	755.4	762.0	97.50	2.95
6623.0	89.80	93.30	5944.5	791.9	-101.3	786.4	792.9	97.34	1.33
6654.0	89.60	93.30	5944.7	822.9	-103.0	817.3	823.8	97.19	0.65
6685.0	89.70	93.30	5944.8	853.9	-104.8	848.3	854.7	97.04	0.32
6716.0	89.40	92.60	5945.1	884.9	-106.4	879.2	885.7	96.90	2.46
6747.0	89.20	92.50	5945.5	915.9	-107.8	910.2	916.6	96.75	0.72
6779.0	88.70	92.20	5946.1	947.8	-109.1	942.2	948.5	96.61	1.82
6810.0	88.90	94.20	5946.7	978.8	-110.8	973.1	979.4	96.50	6.48
6842.0	87.80	92.60	5947.6	1010.8	-112.7	1005.0	1011.3	96.40	6.07
6874.0	87.20	91.20	5949.0	1042.7	-113.8	1037.0	1043.2	96.26	4.76
6905.0	88.50	92.40	5950.2	1073.7	-114.8	1068.0	1074.1	96.13	5.71
6937.0	88.90	91.70	5950.9	1105.6	-115.9	1099.9	1106.0	96.02	2.52
6968.0	90.00	93.60	5951.2	1136.6	-117.3	1130.9	1137.0	95.92	7.08
6999.0	89.30	92.90	5951.4	1167.6	-119.1	1161.8	1167.9	95.85	3.19
7031.0	90.00	92.90	5951.6	1199.6	-120.7	1193.8	1199.9	95.77	2.19
7062.0	92.30	94.40	5951.0	1230.6	-122.7	1224.7	1230.9	95.72	8.86
7093.0	92.20	93.60	5949.8	1261.6	-124.9	1255.6	1261.8	95.68	2.60
7125.0	91.70	93.00	5948.7	1293.5	-126.7	1287.6	1293.8	95.62	2.44

Scientific Drilling International

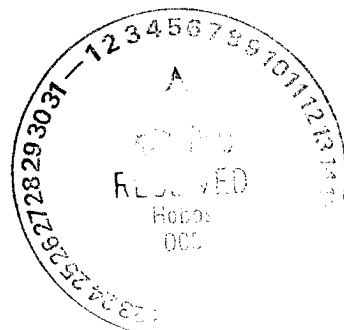
Survey Report

Company: CHEVRONTEXACO
 Field: Vacuum Glorietta West
 Site: Lea County, NM
 Well: VGWU #46H
 Wellpath: HH - Job #32D0303105

Date: 4/16/2003 Time: 18:14:31 Page: 2
 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
 Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
 Section (VS) Reference: Well (0.0E,0.0N,94.5Azi)
 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	DLS deg/100ft
7156.0	92.80	93.00	5947.4	1324.5	-128.3	1318.5	1324.7	95.56	3.55
7188.0	91.20	94.60	5946.3	1356.5	-130.4	1350.4	1356.7	95.52	7.07
7220.0	90.00	94.00	5946.0	1388.5	-132.8	1382.3	1388.7	95.49	4.19
7251.0	87.30	93.90	5946.7	1419.5	-135.0	1413.2	1419.7	95.46	8.72
7283.0	87.80	94.40	5948.1	1451.4	-137.3	1445.1	1451.6	95.43	2.21
7314.0	88.00	95.00	5949.2	1482.4	-139.8	1476.0	1482.6	95.41	2.04
7346.0	88.60	95.30	5950.2	1514.4	-142.7	1507.8	1514.6	95.41	2.10
7378.0	88.30	94.50	5951.0	1546.4	-145.4	1539.7	1546.6	95.40	2.67
7409.0	88.00	94.60	5952.0	1577.4	-147.9	1570.6	1577.5	95.38	1.02
7440.0	87.80	93.20	5953.2	1608.3	-150.0	1601.5	1608.5	95.35	4.56
7472.0	88.10	93.30	5954.3	1640.3	-151.8	1633.4	1640.5	95.31	0.99
7504.0	89.20	93.70	5955.1	1672.3	-153.8	1665.4	1672.4	95.27	3.66
7535.0	88.30	93.70	5955.8	1703.3	-155.8	1696.3	1703.4	95.25	2.90
7566.0	86.50	93.10	5957.2	1734.3	-157.6	1727.2	1734.4	95.21	6.12
7598.0	86.70	93.50	5959.1	1766.2	-159.4	1759.1	1766.3	95.18	1.40
7630.0	88.50	93.90	5960.4	1798.2	-161.5	1791.0	1798.3	95.15	5.76
7661.0	90.00	93.40	5960.8	1829.1	-163.5	1821.9	1829.2	95.13	5.10
7693.0	90.40	93.60	5960.7	1861.1	-165.4	1853.9	1861.2	95.10	1.40
7723.0	91.90	92.70	5960.1	1891.1	-167.1	1883.8	1891.2	95.07	5.83
7755.0	92.20	92.80	5959.0	1923.1	-168.6	1915.8	1923.2	95.03	0.99
7786.0	92.00	92.90	5957.8	1954.1	-170.1	1946.7	1954.1	95.00	0.72
7818.0	92.10	93.10	5956.7	1986.0	-171.8	1978.6	1986.1	94.96	0.70
7846.0	92.10	92.50	5955.6	2014.0	-173.2	2006.6	2014.0	94.93	2.14
7881.0	91.80	93.10	5954.5	2049.0	-174.9	2041.5	2049.0	94.90	1.92
7912.0	89.40	92.40	5954.1	2079.9	-176.4	2072.5	2080.0	94.86	8.06
7944.0	89.20	92.00	5954.5	2111.9	-177.6	2104.5	2111.9	94.82	1.40
7976.0	89.25	92.37	5955.0	2143.9	-178.8	2136.4	2143.9	94.78	1.17
8007.0	90.90	94.10	5954.9	2174.9	-180.6	2167.4	2174.9	94.76	7.71
8039.0	92.30	96.00	5954.0	2206.9	-183.4	2199.2	2206.9	94.77	7.37
8070.0	90.70	93.60	5953.2	2237.8	-186.0	2230.1	2237.9	94.77	9.30
8102.0	90.80	93.10	5952.8	2269.8	-187.9	2262.1	2269.8	94.75	1.59
8134.0	89.70	91.80	5952.6	2301.8	-189.2	2294.0	2301.8	94.72	5.32
8166.0	89.70	90.70	5952.8	2333.8	-189.9	2326.0	2333.8	94.67	3.44
8197.0	89.30	90.90	5953.1	2364.7	-190.4	2357.0	2364.7	94.62	1.44
8237.0	89.30	90.90	5953.6	2404.6	-191.0	2397.0	2404.6	94.56	0.00



Scientific Drilling International

Survey Report

Company: CHEVRONTExACO Field: Vacuum Goriotta West Site: Lea County, NM Well: VGWU #46H Wellpath: VH - Job #32K0303110	Date: 4/16/2003 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level Section (VS) Reference: Well (0.0E, 0.0N, 94.5Azi) Survey Calculation Method: Minimum Curvature	Time: 18:10:02 Page: 1
---	--	---

Survey: 03/06/03 KSRG 0'-5759'	Start Date: 4/16/2003
Company: Scientific Drilling Internatio Tool: Keeper	Engineer: Jeff Cossey

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.00
100.0	0.62	50.91	100.0	0.4	0.3	0.4	0.5	50.91	0.62
200.0	0.36	71.44	200.0	1.1	0.8	1.1	1.4	55.49	0.31
300.0	0.59	174.49	300.0	1.5	0.4	1.5	1.5	76.02	0.76
400.0	0.25	315.37	400.0	1.4	0.0	1.4	1.4	89.48	0.80
500.0	0.27	286.69	500.0	1.0	0.2	1.0	1.0	76.78	0.13
600.0	0.10	236.61	600.0	0.7	0.3	0.7	0.7	70.07	0.22
700.0	0.06	262.71	700.0	0.6	0.2	0.6	0.6	70.90	0.05
800.0	0.23	237.63	800.0	0.3	0.1	0.4	0.4	76.41	0.18
900.0	0.14	250.07	900.0	0.1	-0.1	0.1	0.1	130.69	0.10
1000.0	0.20	243.85	1000.0	-0.2	-0.2	-0.2	0.3	227.60	0.06
1100.0	0.13	267.33	1100.0	-0.4	-0.3	-0.5	0.5	240.65	0.10
1200.0	0.17	247.90	1200.0	-0.7	-0.3	-0.7	0.8	245.71	0.06
1300.0	0.23	219.82	1300.0	-0.9	-0.5	-1.0	1.1	241.52	0.11
1400.0	0.17	191.66	1400.0	-1.1	-0.8	-1.1	1.4	233.90	0.11
1500.0	0.11	242.91	1500.0	-1.2	-1.0	-1.3	1.6	230.91	0.13
1600.0	0.23	217.42	1600.0	-1.4	-1.2	-1.5	1.9	230.10	0.14
1700.0	0.46	241.90	1700.0	-1.8	-1.6	-1.9	2.5	230.97	0.27
1800.0	0.52	241.19	1800.0	-2.5	-2.0	-2.7	3.3	233.66	0.06
1900.0	0.59	232.22	1900.0	-3.3	-2.5	-3.5	4.3	234.28	0.11
2000.0	0.65	237.77	2000.0	-4.1	-3.1	-4.4	5.4	234.45	0.08
2100.0	0.71	236.21	2100.0	-5.1	-3.8	-5.4	6.6	234.90	0.06
2200.0	0.53	191.23	2200.0	-5.6	-4.6	-6.0	7.5	232.58	0.50
2300.0	0.52	199.74	2300.0	-5.8	-5.5	-6.2	8.3	228.76	0.08
2400.0	0.54	197.87	2399.9	-6.0	-6.3	-6.5	9.1	225.85	0.03
2500.0	0.55	178.74	2499.9	-6.1	-7.3	-6.7	9.9	222.52	0.18
2600.0	0.95	124.18	2599.9	-5.3	-8.2	-6.0	10.1	216.00	0.77
2700.0	1.14	113.07	2699.9	-3.6	-9.1	-4.4	10.1	205.70	0.28
2800.0	1.25	115.97	2799.9	-1.7	-9.9	-2.5	10.2	193.95	0.13
2900.0	1.36	117.09	2899.9	0.4	-11.0	-0.4	11.0	182.25	0.11
3000.0	1.30	129.11	2999.8	2.5	-12.2	1.5	12.3	172.97	0.28
3100.0	1.21	135.69	3099.8	4.2	-13.7	3.1	14.0	167.13	0.17
3200.0	1.16	146.55	3199.8	5.6	-15.3	4.4	15.9	163.87	0.23
3300.0	1.28	145.43	3299.8	6.9	-17.0	5.6	17.9	161.78	0.12
3400.0	1.34	151.08	3399.8	8.3	-19.0	6.8	20.2	160.27	0.14
3500.0	1.23	147.85	3499.7	9.6	-20.9	7.9	22.4	159.20	0.13
3600.0	1.35	151.95	3599.7	10.8	-22.9	9.1	24.6	158.36	0.15
3700.0	1.33	141.50	3699.7	12.3	-24.8	10.3	26.9	157.36	0.24
3800.0	1.42	145.58	3799.6	13.8	-26.7	11.8	29.2	156.24	0.13
3900.0	1.52	141.70	3899.6	15.5	-28.8	13.3	31.7	155.23	0.14
4000.0	1.32	148.00	3999.6	17.1	-30.8	14.7	34.2	154.86	0.25
4100.0	1.14	151.65	4099.6	18.3	-32.7	15.8	36.3	154.18	0.20
4200.0	1.12	150.02	4199.5	19.4	-34.4	16.8	38.3	154.01	0.04
4300.0	1.10	156.19	4299.5	20.4	-36.1	17.6	40.2	153.97	0.12
4400.0	0.92	146.06	4399.5	21.4	-37.7	18.5	42.0	153.87	0.25
4500.0	0.92	151.05	4499.5	22.3	-39.0	19.3	43.6	153.67	0.08
4600.0	0.98	150.90	4599.5	23.3	-40.5	20.1	45.2	153.57	0.06
4700.0	1.10	156.19	4699.5	24.2	-42.1	20.9	47.0	153.58	0.15

Scientific Drilling International

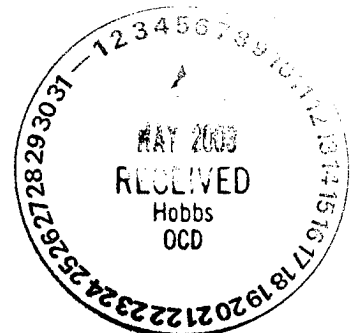
Survey Report

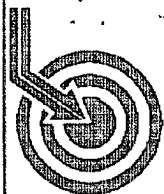
Company: CHEVRONTEXACO
Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #46H
Wellpath: VH - Job #32K0303110

Date: 4/16/2003 **Time:** 18:10:02 **Page:** 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Well (0.0E, 0.0N, 94.5Azi)
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	DLS deg/100ft
4800.0	1.35	153.00	4799.4	25.3	-44.0	21.8	49.2	153.61	0.26
4900.0	1.17	156.88	4899.4	26.3	-46.0	22.8	51.4	153.66	0.20
5000.0	1.30	150.61	4999.4	27.5	-48.0	23.7	53.5	153.66	0.19
5100.0	1.32	139.81	5099.4	28.9	-49.8	25.0	55.8	153.32	0.25
5200.0	1.43	140.99	5199.3	30.6	-51.7	26.6	58.1	152.79	0.11
5300.0	1.40	157.20	5299.3	32.0	-53.8	27.8	60.5	152.64	0.40
5400.0	1.24	166.43	5399.3	32.9	-55.9	28.6	62.8	152.96	0.27
5500.0	1.17	170.54	5499.3	33.5	-58.0	29.0	64.8	153.45	0.11
5600.0	1.10	174.53	5599.2	33.9	-60.0	29.2	66.7	154.01	0.11
5700.0	0.79	175.46	5699.2	34.2	-61.6	29.4	68.3	154.50	0.31
5759.0	1.04	171.27	5758.2	34.3	-62.5	29.5	69.2	154.75	0.44



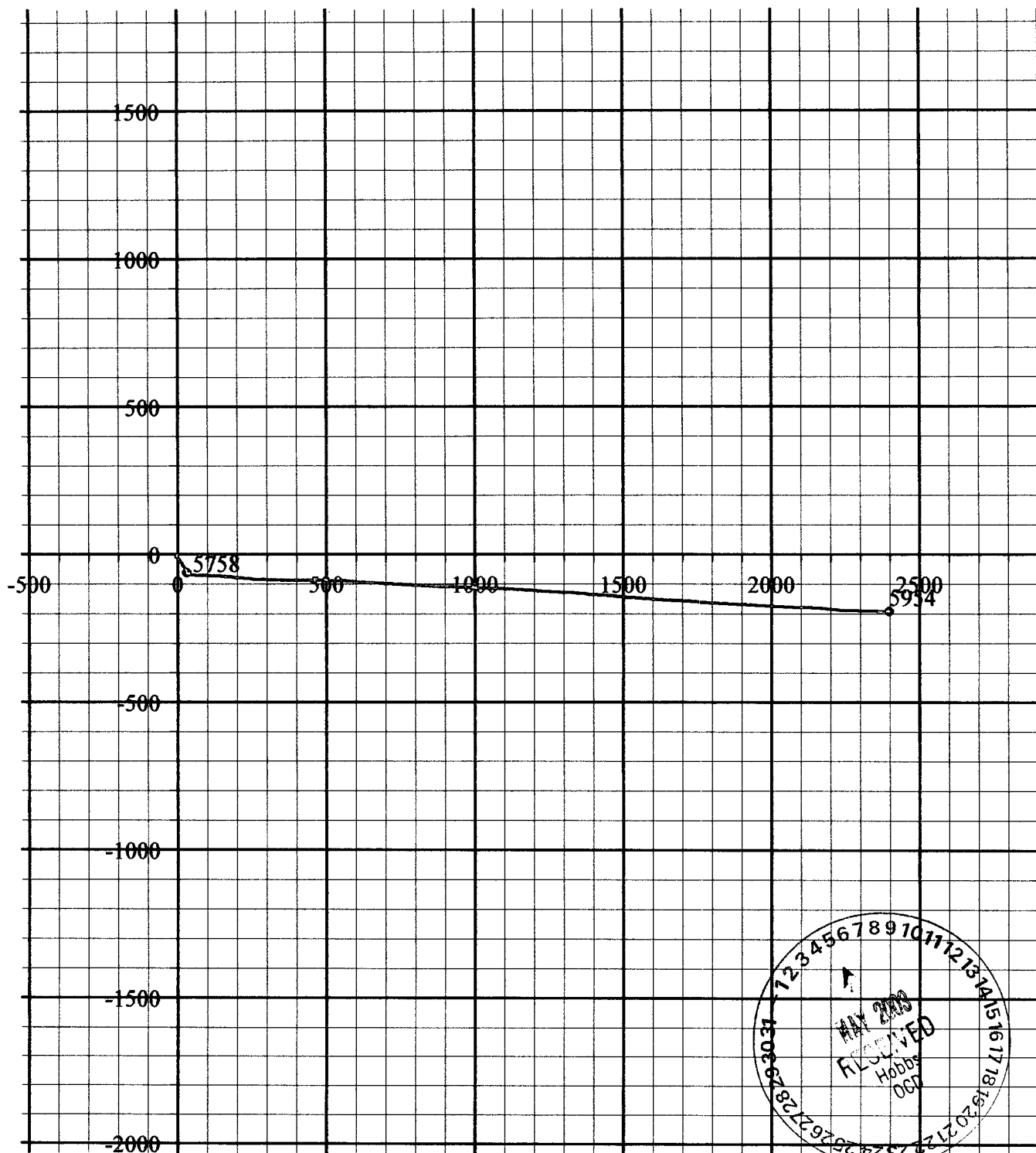


Scientific
Drilling

Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #46H
Wellpath: HH - Job #32D0303105
Survey: 03/05/03-03/15/03

G/T/M All Angles Relative
To Grid North
Grid North: 0.00
True North: 0.00
Magnetic North: 0.00

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



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

