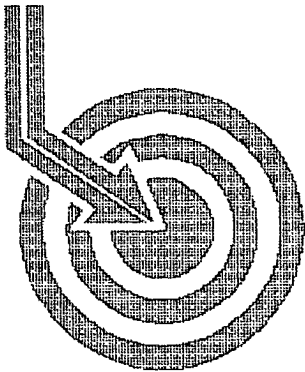




Scientific Drilling

SUR: F-36-17s-34e, 2310/N & 1980/W
BHL: H-35-17s-34e, 2132/N & 39/E
API # 30-025-30714

CHEVRONTXACO

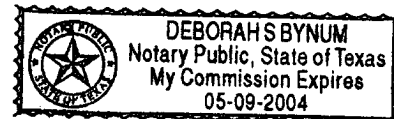
Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #73H
Wellpath: DH - Job #32D1103606
Survey: 11/22/03-11/29/03

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

Scott Hardy Company Representative

Notorized this date 16th of December, 2003.

Deborah S. Bynum
Notary Signature
County of Midland
State of Texas



Scientific Drilling Survey Report

Company: CHEVRONTExACO Field: Vacuum Goriella West Site: Lea County, NM Well: VGWU #73H Wellpath: VH - Job #32K1103607	Date: 12/15/2003 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,275.00Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey: 11/23/03 Company: KSRG 0'-5685' Tool: Scientific Drilling Keeper, Keeper Gyro	Start Date: 11/23/2003 Engineer: Angle Guebara Tied-to: From Surface
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Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	359.48	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.59	277.88	100.0	0.5	0.1	-0.5	0.59	0.5	277.88
200.0	0.60	271.17	200.0	1.6	0.2	-1.5	0.07	1.6	275.62
300.0	0.31	260.34	300.0	2.3	0.1	-2.3	0.30	2.3	272.87
400.0	0.51	251.16	400.0	3.0	-0.1	-3.0	0.21	3.0	268.64
500.0	0.31	263.73	500.0	3.7	-0.2	-3.7	0.22	3.7	266.22
600.0	0.36	284.28	600.0	4.3	-0.2	-4.3	0.13	4.3	267.36
700.0	0.36	253.19	700.0	4.9	-0.2	-4.9	0.19	4.9	267.53
800.0	0.38	237.55	800.0	5.4	-0.5	-5.5	0.10	5.5	264.99
900.0	0.55	232.26	900.0	6.0	-1.0	-6.1	0.18	6.2	261.18
1000.0	0.56	257.30	1000.0	6.8	-1.4	-7.0	0.24	7.1	259.05
1100.0	0.57	234.25	1100.0	7.7	-1.8	-7.9	0.23	8.1	257.46
1200.0	0.33	249.14	1200.0	8.3	-2.1	-8.5	0.27	8.8	255.91
1300.0	0.23	248.90	1300.0	8.8	-2.3	-9.0	0.10	9.3	255.55
1400.0	0.09	254.21	1400.0	9.0	-2.4	-9.3	0.14	9.6	255.40
1500.0	0.30	253.89	1500.0	9.3	-2.5	-9.6	0.21	9.9	255.35
1600.0	0.36	280.94	1600.0	9.9	-2.5	-10.1	0.17	10.5	256.06
1700.0	0.27	280.63	1700.0	10.4	-2.4	-10.7	0.09	11.0	257.26
1800.0	0.37	218.62	1800.0	10.8	-2.6	-11.1	0.34	11.4	256.72
1900.0	0.20	205.59	1900.0	11.1	-3.0	-11.4	0.18	11.8	255.09
2000.0	0.49	192.55	2000.0	11.2	-3.6	-11.6	0.30	12.1	252.67
2100.0	0.64	161.93	2099.9	11.0	-4.6	-11.5	0.33	12.4	248.35
2200.0	0.50	112.63	2199.9	10.4	-5.3	-10.9	0.49	12.1	244.27
2300.0	0.40	101.87	2299.9	9.6	-5.5	-10.2	0.13	11.6	241.60
2400.0	0.65	84.64	2399.9	8.7	-5.5	-9.3	0.29	10.8	239.22
2500.0	0.51	82.93	2499.9	7.7	-5.4	-8.3	0.14	9.9	236.76
2600.0	1.11	67.67	2599.9	6.5	-5.0	-6.9	0.63	8.5	234.21
2700.0	1.24	62.30	2699.9	4.7	-4.1	-5.1	0.17	6.5	230.89
2800.0	1.13	59.00	2799.9	3.0	-3.1	-3.3	0.13	4.5	226.38
2900.0	0.97	59.21	2899.9	1.5	-2.2	-1.7	0.16	2.7	217.92
3000.0	0.98	56.44	2999.8	0.1	-1.3	-0.2	0.05	1.3	191.00
3100.0	0.98	63.47	3099.8	-1.3	-0.4	1.2	0.12	1.3	107.99
3200.0	0.90	75.47	3199.8	-2.7	0.2	2.8	0.21	2.8	86.30
3300.0	0.90	57.09	3299.8	-4.1	0.8	4.2	0.29	4.3	79.13
3400.0	0.60	65.42	3399.8	-5.2	1.4	5.3	0.32	5.5	74.77
3500.0	0.57	51.14	3499.8	-6.0	2.0	6.2	0.15	6.5	72.26
3600.0	0.58	52.22	3599.8	-6.7	2.6	7.0	0.01	7.4	69.54
3700.0	0.43	57.56	3699.8	-7.4	3.1	7.7	0.16	8.3	67.96
3800.0	0.46	68.84	3799.8	-8.0	3.5	8.4	0.09	9.1	67.57
3900.0	0.55	66.79	3899.8	-8.8	3.8	9.2	0.09	9.9	67.58
4000.0	0.48	70.57	3999.8	-9.6	4.1	10.0	0.08	10.8	67.66
4100.0	0.38	73.05	4099.8	-10.3	4.4	10.7	0.10	11.6	67.92
4200.0	0.31	33.97	4199.8	-10.8	4.7	11.2	0.24	12.1	67.35
4300.0	0.52	43.17	4299.8	-11.2	5.2	11.7	0.22	12.8	65.85
4400.0	0.55	15.26	4399.8	-11.5	6.0	12.1	0.26	13.5	63.54
4500.0	0.41	350.71	4499.8	-11.5	6.8	12.2	0.25	14.0	60.66
4600.0	0.66	357.46	4599.8	-11.4	7.8	12.1	0.26	14.4	57.27
4700.0	0.48	359.54	4699.7	-11.3	8.8	12.1	0.18	14.9	53.99
4800.0	0.73	353.39	4799.7	-11.1	9.8	12.0	0.26	15.5	50.68

Scientific Drilling Survey Report

Company: CHEVRONTEXACO Field: Vacuum Glorieta West Site: Lea County, NM Well: VGWU #73H Wellpath: VH - Job #32K1103607	Date: 12/15/2003 Time: 18:41:43 Page: 2 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,275.00Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.0	0.93	329.28	4899.7	-10.5	11.1	11.5	0.40	16.0	45.88
5000.0	0.86	335.10	4999.7	-9.6	12.5	10.8	0.11	16.5	40.68
5100.0	1.02	349.15	5099.7	-9.0	14.1	10.3	0.28	17.4	36.14
5200.0	0.98	347.98	5199.7	-8.5	15.8	9.9	0.04	18.7	32.18
5300.0	1.03	336.59	5299.7	-7.8	17.5	9.4	0.21	19.8	28.31
5400.0	0.78	324.36	5399.7	-7.0	18.8	8.6	0.31	20.7	24.67
5500.0	1.11	323.90	5499.7	-5.9	20.2	7.7	0.33	21.6	20.85
5600.0	1.13	335.29	5599.6	-4.8	21.8	6.7	0.22	22.8	17.04
5685.0	1.10	342.50	5684.6	-4.0	23.4	6.1	0.17	24.2	14.62

Scientific Drilling Survey Report

Company: CHEVRONTEXACO Field: Vacuum Glorieta West Site: Lea County, NM Well: VGWU #73H Wellpath: DH - Job #32D1103606	Date: 12/15/2003 Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North Vertical (TVD) Reference: SITE 0.0 Section (VS) Reference: Well (0.00N,0.00E,275.00Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey: 11/22/03-11/29/03 MWD 5710'-7826' Company: Scientific Drilling Tool: MWD,MWD	Start Date: 11/22/2003 Engineer: Lamb/Melendez/Grossie Tied-to: From: Definitive Path
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Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
5685.0	1.10	342.50	5684.6	-4.0	23.4	6.1	0.00	24.2	14.62
5710.0	1.10	342.50	5709.6	-3.9	23.8	6.0	0.00	24.6	14.03
5762.0	23.65	278.63	5760.1	6.9	25.9	-4.7	44.59	26.3	349.82
5772.0	28.05	280.38	5769.1	11.2	26.6	-8.9	44.65	28.1	341.43
5793.0	37.20	280.03	5786.8	22.5	28.6	-20.1	43.58	35.0	324.96
5825.0	47.57	275.99	5810.4	44.0	31.6	-41.4	33.49	52.1	307.31
5857.0	54.87	272.56	5830.4	68.9	33.4	-66.3	24.29	74.2	296.73
5888.0	62.17	270.19	5846.6	95.3	34.0	-92.7	24.43	98.7	290.14
5920.0	70.00	269.66	5859.6	124.4	33.9	-121.9	24.52	126.5	285.56
5951.0	77.91	269.23	5868.1	154.0	33.7	-151.7	25.55	155.4	282.51
5983.0	86.26	267.99	5872.5	185.5	32.9	-183.3	26.37	186.3	280.17
6015.0	91.98	267.90	5873.0	217.2	31.7	-215.3	17.88	217.6	278.39
6046.0	91.71	268.25	5872.0	248.0	30.7	-246.3	1.43	248.2	277.11
6078.0	92.07	268.87	5871.0	279.8	29.9	-278.2	2.24	279.8	276.13
6109.0	91.89	269.31	5869.9	310.6	29.4	-309.2	1.53	310.6	275.43
6141.0	92.59	276.69	5868.6	342.5	31.1	-341.1	23.15	342.5	275.21
6173.0	92.51	276.87	5867.2	374.5	34.9	-372.9	0.62	374.5	275.34
6204.0	92.77	277.04	5865.8	405.4	38.6	-403.6	1.00	405.4	275.46
6236.0	91.89	273.44	5864.5	437.4	41.5	-435.4	11.57	437.4	275.45
6267.0	90.92	272.39	5863.7	468.4	43.1	-466.4	4.61	468.4	275.28
6299.0	91.98	272.74	5862.9	500.3	44.5	-498.3	3.49	500.3	275.11
6331.0	92.68	273.18	5861.6	532.3	46.2	-530.3	2.58	532.3	274.98
6362.0	92.68	276.78	5860.2	563.2	48.9	-561.1	11.60	563.2	274.98
6394.0	91.71	275.81	5858.9	595.2	52.4	-592.9	4.29	595.2	275.05
6425.0	90.84	275.90	5858.3	626.2	55.5	-623.7	2.82	626.2	275.09
6457.0	91.28	275.81	5857.7	658.2	58.8	-655.6	1.40	658.2	275.13
6489.0	90.50	275.29	5857.2	690.2	61.9	-687.4	2.93	690.2	275.14
6520.0	89.69	275.55	5857.1	721.2	64.8	-718.3	2.74	721.2	275.16
6552.0	88.99	276.25	5857.5	753.2	68.1	-750.1	3.09	753.2	275.19
6583.0	86.97	275.99	5858.6	784.2	71.4	-780.9	6.57	784.2	275.23
6615.0	87.67	274.93	5860.1	816.1	74.5	-812.7	3.97	816.1	275.23
6647.0	91.28	274.41	5860.4	848.1	77.1	-844.6	11.40	848.1	275.21
6678.0	91.63	273.70	5859.6	879.1	79.2	-875.5	2.55	879.1	275.17
6710.0	92.42	273.79	5858.4	911.1	81.3	-907.4	2.48	911.1	275.12
6742.0	91.36	272.82	5857.4	943.0	83.2	-939.4	4.49	943.0	275.06
6773.0	90.22	273.62	5857.0	974.0	84.9	-970.3	4.49	974.0	275.00
6805.0	91.01	274.05	5856.6	1006.0	87.1	-1002.2	2.81	1006.0	274.96
6836.0	91.54	274.05	5855.9	1037.0	89.3	-1033.1	1.71	1037.0	274.94
6868.0	91.71	274.85	5855.0	1069.0	91.7	-1065.0	2.55	1069.0	274.92
6900.0	91.36	275.02	5854.2	1101.0	94.5	-1096.9	1.22	1101.0	274.92
6931.0	87.41	275.02	5854.5	1132.0	97.2	-1127.8	12.74	1132.0	274.93
6963.0	86.97	275.37	5856.1	1163.9	100.1	-1159.6	1.76	1163.9	274.93
6994.0	86.35	275.11	5857.9	1194.9	102.9	-1190.4	2.17	1194.9	274.94
7026.0	88.90	274.60	5859.2	1226.8	105.6	-1222.3	8.13	1226.8	274.94
7058.0	89.62	273.62	5859.6	1258.8	107.9	-1254.2	3.80	1258.8	274.92
7089.0	90.04	273.44	5859.7	1289.8	109.8	-1285.1	1.47	1289.8	274.88
7121.0	90.52	274.85	5859.5	1321.8	112.1	-1317.1	4.65	1321.8	274.87
7153.0	90.22	274.58	5859.3	1353.8	114.8	-1348.9	1.26	1353.8	274.86
7184.0	90.22	273.62	5859.2	1384.8	117.0	-1379.9	3.10	1384.8	274.85

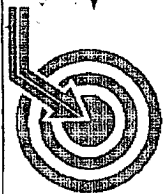
Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Vacuum Goriotta West
Site: Lea County, NM
Well: VGWU #73H
Wellpath: DH - Job #32D1103606

Date: 12/15/2003 **Time:** 18:46:47 **Page:** 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,275.00Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
7216.0	91.98	276.25	5858.6	1416.8	119.7	-1411.7	9.89	1416.8	274.85
7247.0	92.86	277.13	5857.3	1447.8	123.3	-1442.5	4.01	1447.8	274.89
7279.0	92.24	275.55	5855.9	1479.7	126.9	-1474.3	5.30	1479.7	274.92
7311.0	90.84	273.74	5855.0	1511.7	129.5	-1506.1	7.15	1511.7	274.91
7342.0	91.63	273.79	5854.3	1542.7	131.5	-1537.1	2.55	1542.7	274.89
7374.0	90.92	274.05	5853.6	1574.7	133.7	-1569.0	2.36	1574.7	274.87
7405.0	89.87	276.05	5853.4	1605.7	136.4	-1599.9	7.29	1605.7	274.87
7436.0	92.33	276.96	5852.8	1636.7	139.9	-1630.7	8.46	1636.7	274.90
7468.0	90.48	275.81	5852.0	1668.6	143.5	-1662.5	6.81	1668.6	274.93
7500.0	88.20	275.02	5852.4	1700.6	146.5	-1694.3	7.54	1700.6	274.94
7531.0	90.31	277.75	5852.8	1731.6	149.9	-1725.1	11.13	1731.6	274.97
7563.0	89.52	278.01	5852.9	1763.6	154.3	-1756.8	2.60	1763.6	275.02
7595.0	91.36	279.11	5852.6	1795.5	159.1	-1788.4	6.70	1795.5	275.08
7626.0	91.01	277.22	5852.0	1826.4	163.5	-1819.1	6.20	1826.5	275.14
7658.0	90.13	274.85	5851.7	1858.4	166.9	-1850.9	7.90	1858.4	275.15
7690.0	89.16	274.58	5851.9	1890.4	169.5	-1882.8	3.15	1890.4	275.14
7721.0	88.81	274.49	5852.4	1921.4	171.9	-1913.7	1.17	1921.4	275.13
7753.0	90.92	275.55	5852.5	1953.4	174.7	-1945.6	7.38	1953.4	275.13
7784.0	87.41	271.77	5852.9	1984.4	176.7	-1976.5	16.64	1984.4	275.11
7826.0	88.00	271.77	5854.6	2026.3	178.0	-2018.5	1.40	2026.3	275.04



**Scientific
Drilling**

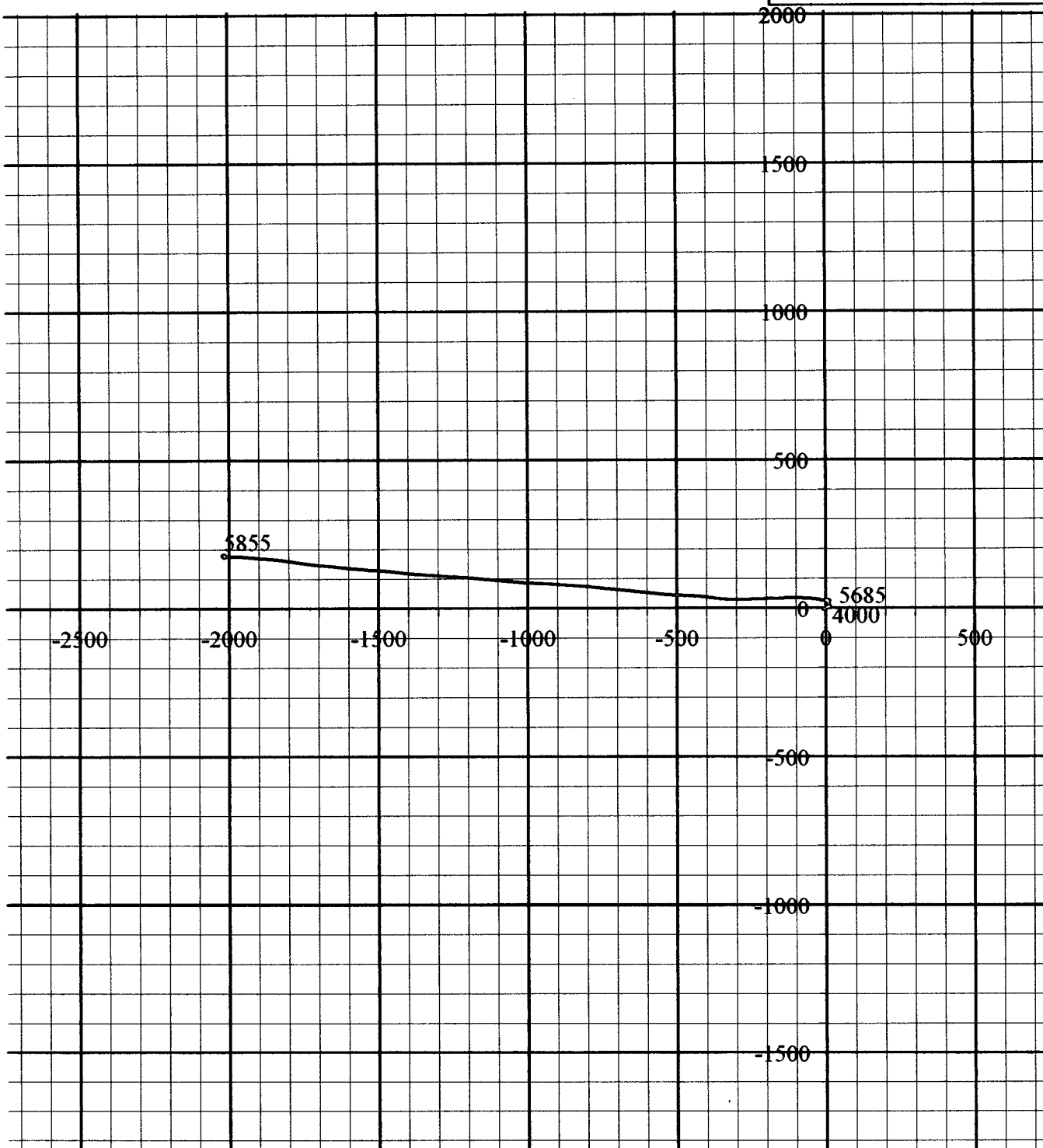
Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #73H
Wellpath: DH - Job #32D1103606
Survey: 11/22/03-11/29/03



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 12/15/2003
Model: Wmm_95

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



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