

Scientific Drilling

RCVD FEB 19'08

OIL CONS. DIV.

NOBLE ENERGY

DIST. 3

Field: Quietman

Site: San Juan County, NM

Well: Quietman Federal 28 #5 30-045-32768

Wellpath: VH - Job #33K1107996

Survey: 11/01/07

Surface 1335/N 870/W
BTL 1305/N 713/W

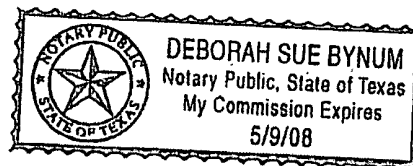
This survey is correct to the best of my knowledge
and is supported by actual field data.

.....R. Hartman.....Company Representative

Notorized this date 13th of December, 2007.

Deborah Sue Bynum
Notary Signature

County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International Survey Report

Company: NOBLE ENERGY	Date: 12/13/2007	Time: 09:57:10	Page: 1
Field: Quietman	Co-ordinate(NE) Reference:	Site: San Juan County, NM, Grid North	
Site: San Juan County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Quietman Federal 28 #5	Section (VS) Reference:	Well (0.00N,0.00E,280.69Azi)	
Wellpath: VH - Job #33K1107996	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 11/01/07	Start Date: 11/01/2007
KSRG 0'-6564'	
Company: Scientific Drilling Internatio	Engineer: Richey/Stanley
Tool: Keeper;Keeper Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClSD ft	ClSA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.33	295.77	100.00	0.28	0.13	-0.26	0.33	0.29	295.77
200.00	0.65	295.77	200.00	1.10	0.50	-1.03	0.32	1.14	295.77
300.00	0.98	295.77	299.99	2.48	1.12	-2.31	0.33	2.57	295.77
400.00	1.23	297.99	399.97	4.33	1.99	-4.03	0.25	4.49	296.30
500.00	1.34	304.56	499.94	6.42	3.16	-5.94	0.18	6.73	298.00
600.00	1.67	299.86	599.91	8.87	4.55	-8.17	0.35	9.35	299.11
700.00	2.31	296.47	699.85	12.18	6.17	-11.23	0.65	12.82	298.78
800.00	2.69	295.10	799.75	16.40	8.06	-15.16	0.38	17.17	298.01
900.00	2.99	294.99	899.63	21.20	10.16	-19.65	0.30	22.12	297.34
1000.00	3.53	296.46	999.47	26.69	12.63	-24.77	0.55	27.81	297.02
1100.00	4.36	297.63	1099.23	33.28	15.77	-30.90	0.83	34.69	297.04
1200.00	5.20	296.82	1198.88	41.27	19.58	-38.31	0.84	43.02	297.07
1300.00	5.92	296.33	1298.41	50.59	23.91	-46.97	0.72	52.71	296.98
1400.00	6.47	295.37	1397.82	61.01	28.61	-56.69	0.56	63.50	296.78
1500.00	5.83	293.46	1497.25	71.41	33.05	-66.44	0.67	74.20	296.45
1600.00	5.46	289.96	1596.76	81.06	36.69	-75.57	0.51	84.00	295.90
1700.00	5.31	287.35	1696.32	90.35	39.70	-84.46	0.29	93.32	295.17
1800.00	5.19	284.34	1795.90	99.46	42.20	-93.25	0.30	102.36	294.35
1900.00	5.03	282.93	1895.51	108.36	44.30	-101.91	0.20	111.12	293.49
2000.00	5.13	280.41	1995.11	117.21	46.09	-110.58	0.24	119.80	292.63
2100.00	5.54	277.48	2094.68	126.50	47.52	-119.76	0.49	128.85	291.64
2200.00	5.57	273.89	2194.21	136.14	48.48	-129.39	0.35	138.17	290.54
2300.00	6.00	270.61	2293.70	146.10	48.87	-139.46	0.54	147.77	289.31
2400.00	6.46	267.06	2393.11	156.72	48.63	-150.30	0.60	157.97	287.93
2500.00	6.81	261.76	2492.44	167.79	47.49	-161.79	0.70	168.62	286.36
2600.00	7.50	257.83	2591.66	179.41	45.27	-174.04	0.85	179.83	284.58
2700.00	7.76	253.90	2690.78	191.45	42.02	-186.90	0.58	191.57	282.67
2800.00	6.00	255.39	2790.05	202.21	38.83	-198.45	1.77	202.21	281.07
2900.00	4.89	256.57	2889.60	210.82	36.52	-207.65	1.12	210.84	279.98
3000.00	4.29	254.22	2989.28	218.06	34.51	-215.40	0.63	218.14	279.10
3100.00	1.54	249.05	3089.14	222.55	33.02	-220.25	2.76	222.71	278.53
3200.00	0.33	156.49	3189.13	223.53	32.27	-221.39	1.59	223.73	278.29
3300.00	0.43	124.14	3289.13	223.03	31.80	-220.96	0.23	223.24	278.19
3400.00	0.63	117.58	3389.12	222.16	31.33	-220.17	0.21	222.39	278.10
3500.00	1.17	100.41	3489.11	220.61	30.89	-218.68	0.60	220.85	278.04
3600.00	2.28	71.87	3589.06	217.85	31.33	-215.78	1.37	218.04	278.26
3700.00	2.64	72.58	3688.97	214.07	32.64	-211.69	0.36	214.19	278.76
3800.00	2.13	75.62	3788.89	210.36	33.79	-207.70	0.53	210.43	279.24
3900.00	2.09	81.07	3888.82	206.96	34.53	-204.09	0.20	206.99	279.60
4000.00	2.10	93.43	3988.75	203.42	34.70	-200.46	0.45	203.45	279.82
4100.00	2.64	96.60	4088.67	199.31	34.33	-196.35	0.56	199.33	279.92
4200.00	2.88	96.23	4188.56	194.68	33.81	-191.74	0.04	194.69	280.00
4300.00	2.71	101.49	4288.45	189.98	33.09	-187.09	0.25	190.00	280.03
4400.00	2.73	105.50	4388.33	185.25	31.98	-182.48	0.19	185.26	279.94
4500.00	2.74	110.25	4488.22	180.52	30.52	-177.95	0.23	180.54	279.73
4600.00	2.50	113.63	4588.12	176.04	28.82	-173.70	0.29	176.08	279.42
4700.00	1.79	112.90	4688.05	172.38	27.33	-170.27	0.71	172.45	279.12
4800.00	1.20	91.13	4788.01	169.82	26.70	-167.78	0.81	169.89	279.04

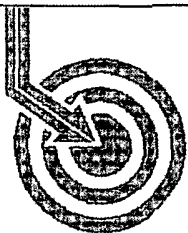


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Site: San Juan County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Quietman Federal 28 #5	Section (VS) Reference:	Well (0.00N,0.00E,280.69Azi)	
Wellpath: VH - Job #33K1107996	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

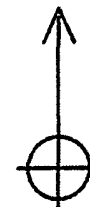
MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	0.89	74.03	4888.00	168.10	26.90	-165.99	0.44	168.15	279.20
5000.00	0.35	71.59	4987.99	167.14	27.21	-164.95	0.54	167.18	279.37
5100.00	0.24	70.01	5087.99	166.69	27.38	-164.47	0.11	166.73	279.45
5200.00	0.20	84.64	5187.99	166.34	27.46	-164.10	0.07	166.38	279.50
5300.00	0.20	126.35	5287.99	166.02	27.38	-163.78	0.14	166.05	279.49
5400.00	0.19	120.21	5387.99	165.70	27.19	-163.50	0.02	165.74	279.44
5500.00	0.35	112.58	5487.98	165.25	26.99	-163.07	0.16	165.29	279.40
5600.00	0.40	76.05	5587.98	164.63	26.96	-162.45	0.24	164.67	279.42
5700.00	0.78	58.52	5687.98	163.81	27.40	-161.53	0.42	163.84	279.63
5800.00	0.82	59.87	5787.97	162.76	28.11	-160.33	0.04	162.78	279.94
5900.00	0.55	52.82	5887.96	161.90	28.76	-159.33	0.28	161.91	280.23
6000.00	0.62	39.05	5987.96	161.32	29.47	-158.61	0.16	161.32	280.53
6100.00	0.56	37.73	6087.95	160.84	30.28	-157.97	0.06	160.84	280.85
6200.00	0.27	24.45	6187.95	160.56	30.88	-157.57	0.30	160.57	281.09
6300.00	0.14	147.54	6287.95	160.42	30.99	-157.41	0.37	160.43	281.14
6400.00	0.22	173.39	6387.95	160.28	30.69	-157.32	0.11	160.29	281.04
6500.00	0.40	182.39	6487.94	160.18	30.16	-157.31	0.19	160.18	280.85
6564.00	0.41	174.75	6551.94	160.08	29.70	-157.30	0.09	160.08	280.69



Scientific
Drilling

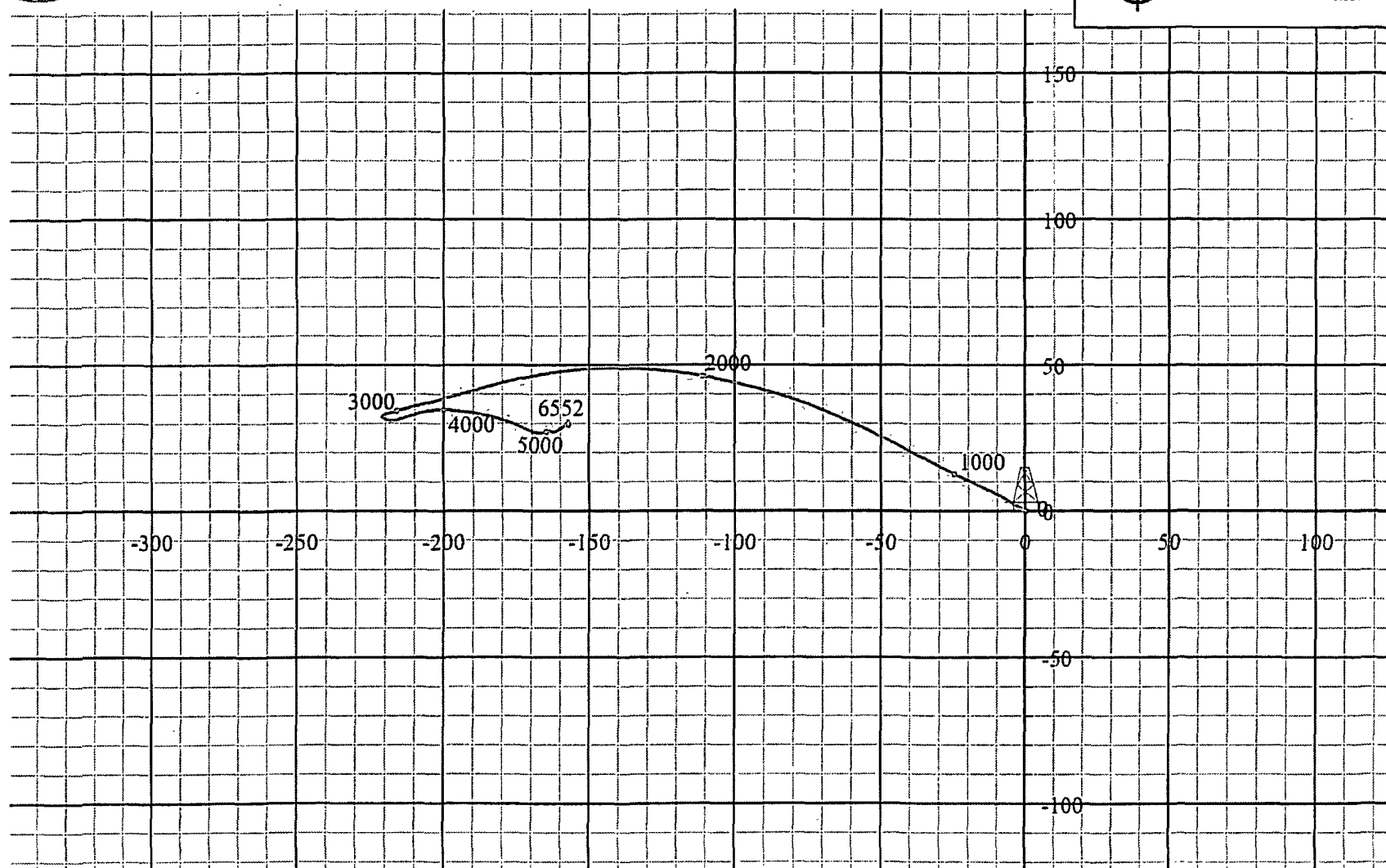
Field: Quietman
Site: San Juan County, NM
Well: Quietman Federal 28 #5
Wellpath: VH - Job #33K1107996
Survey: 11/01/07

G/T/M



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

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 12/13/2007
Model: igrf2000



South(-)/North(+) [50ft/in]

West(-)/East(+) [50ft/in]