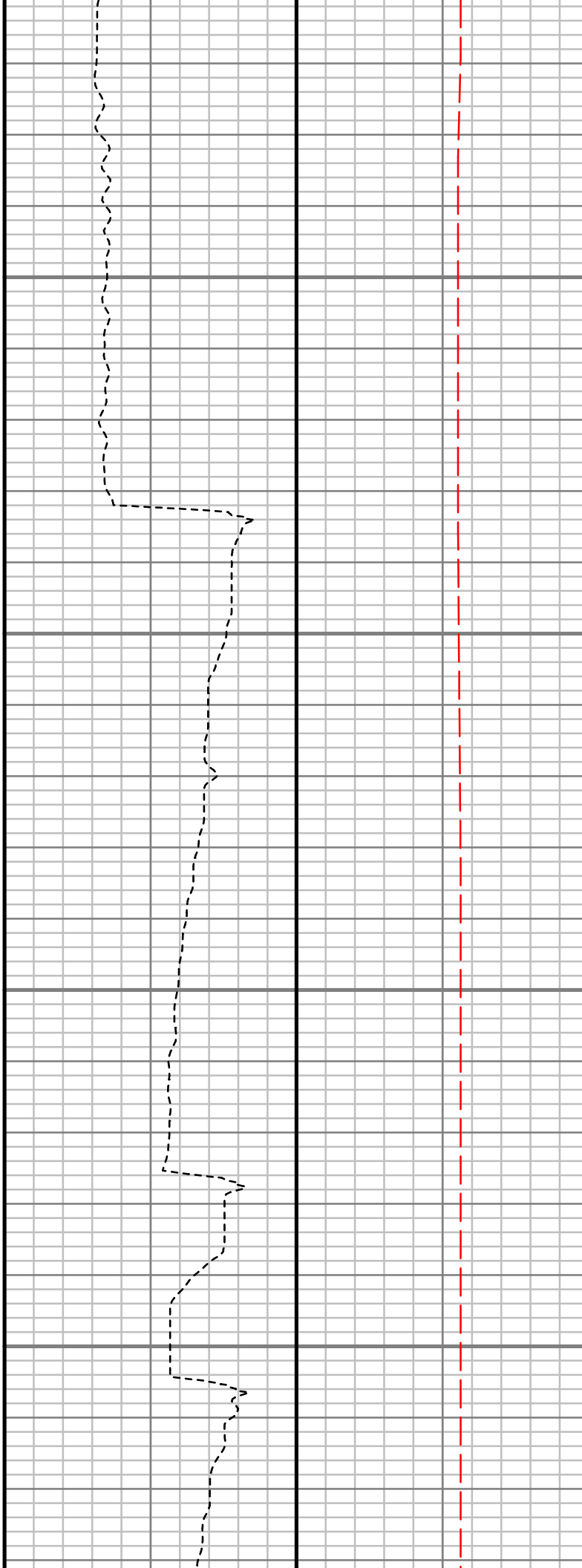
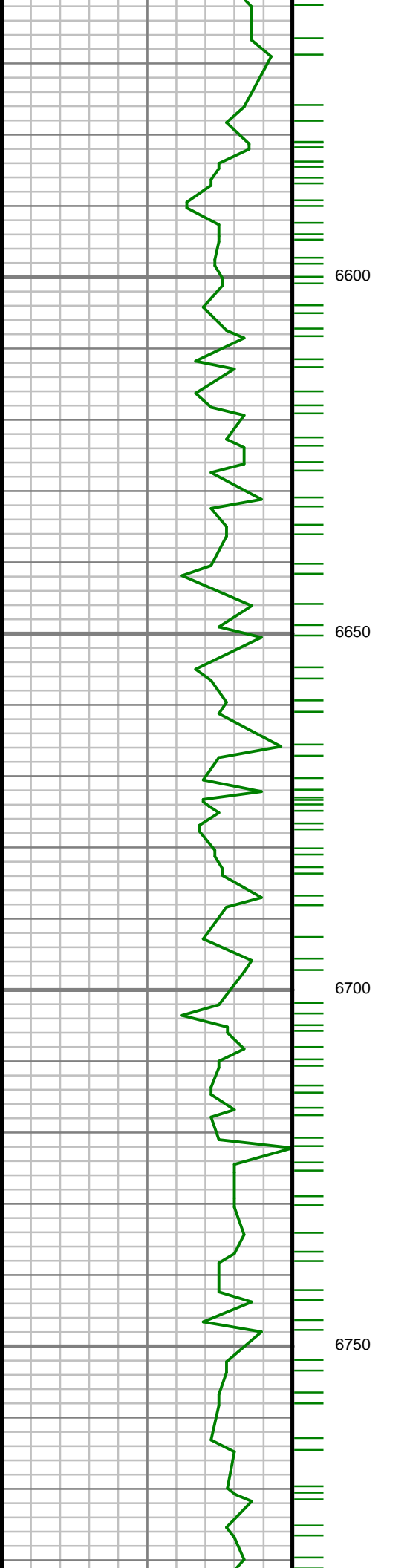


[illegible]

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

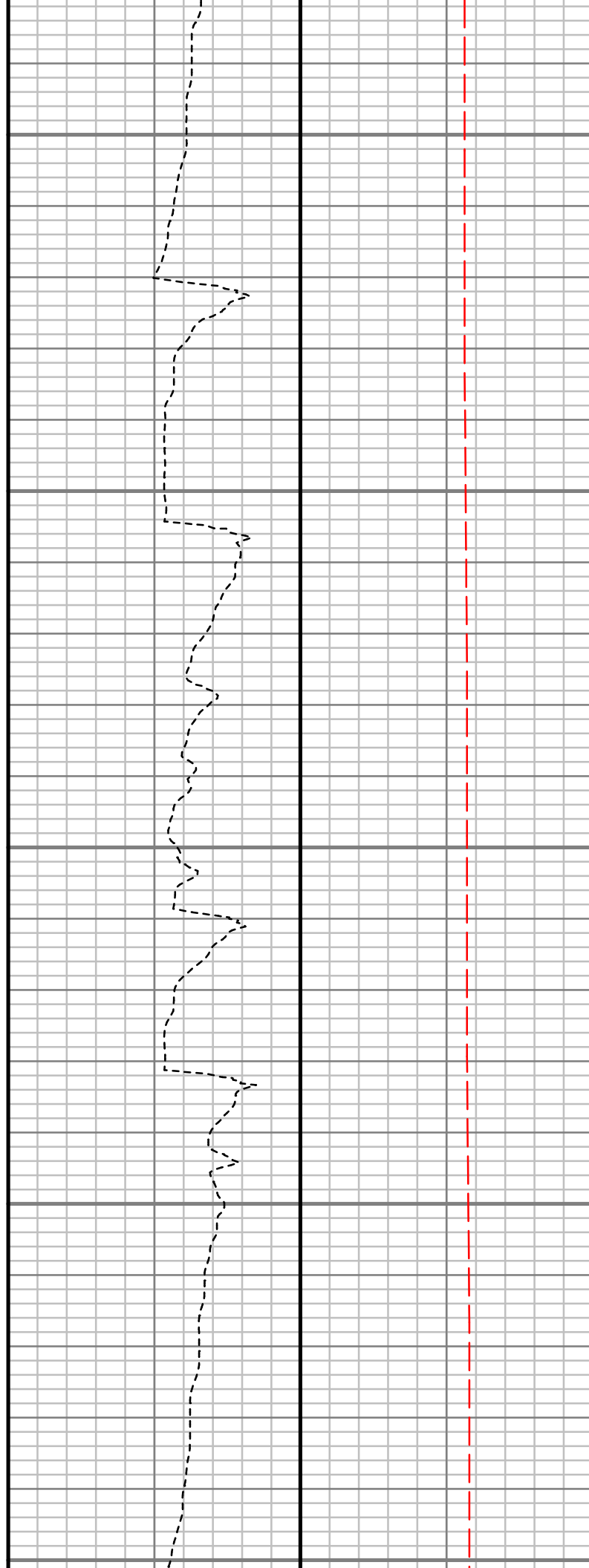
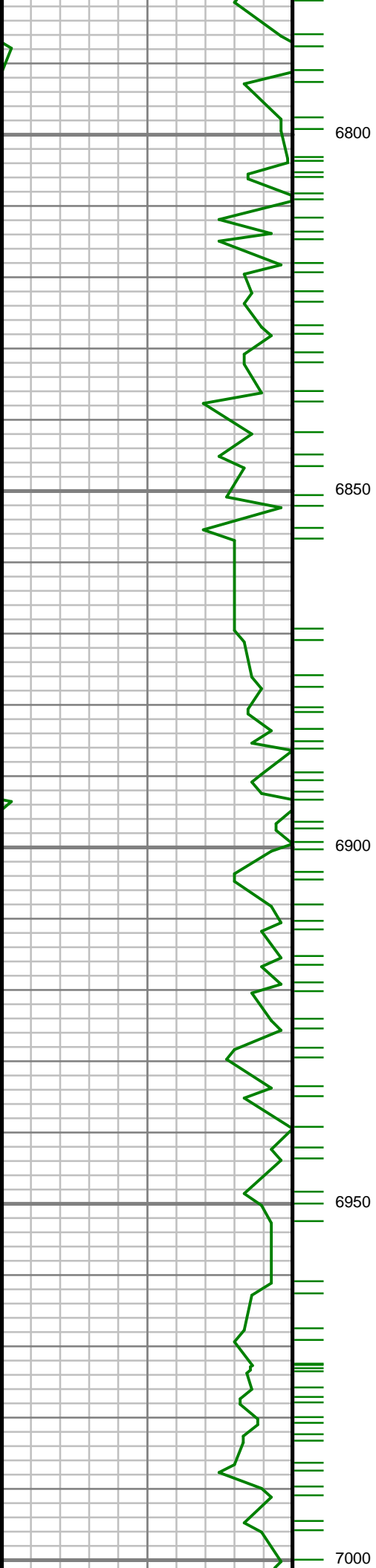
ANADARKO PETROLEUM CORPORATION BUTTERBALL 24N2-34HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123443170000				
Gamma Ray (GR) 0 Unit = aapi 150	MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP) 800 Unit = ft/hr 0	Tool Temperature (TEMP) 0 Unit = °F 300	Comments



S: 70 MD: 6568.00 ft
Inc: 0.59 deg Az: 44.19
deg TVD: 6545.60 ft

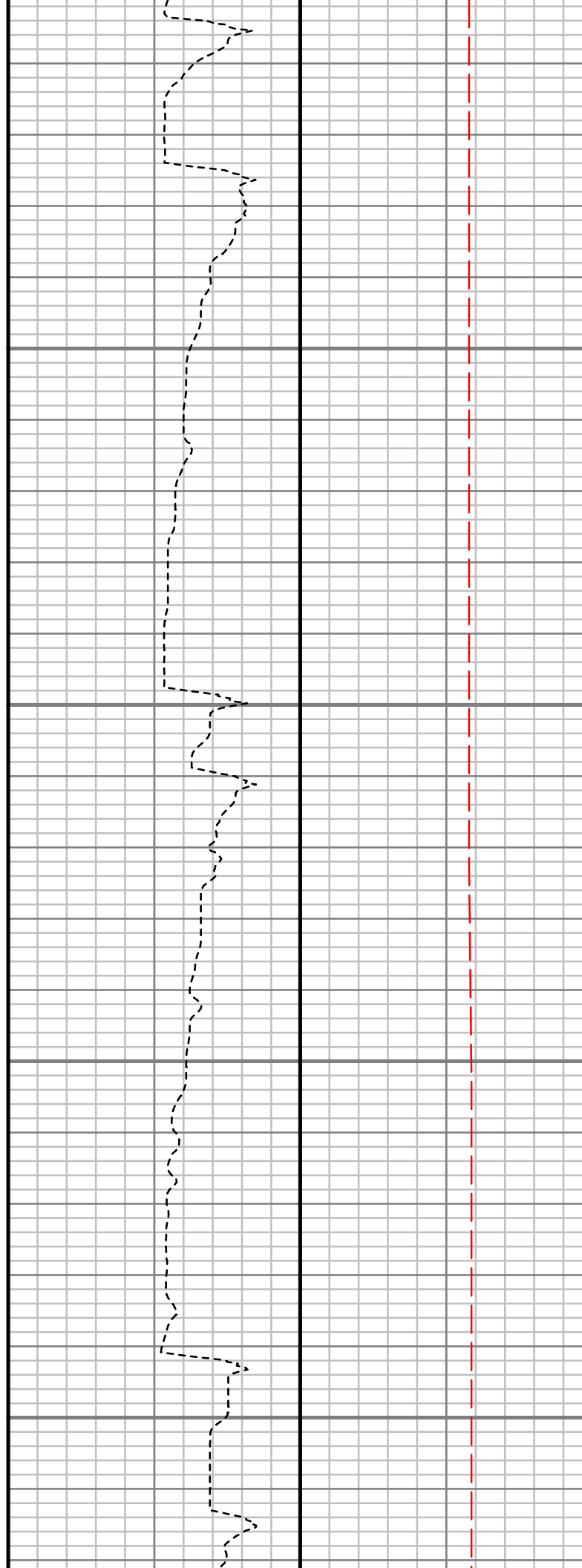
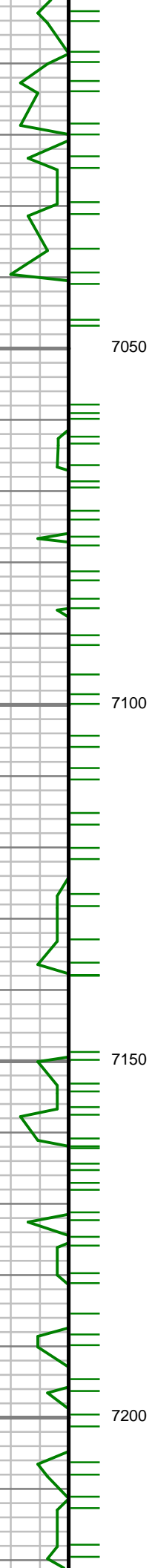
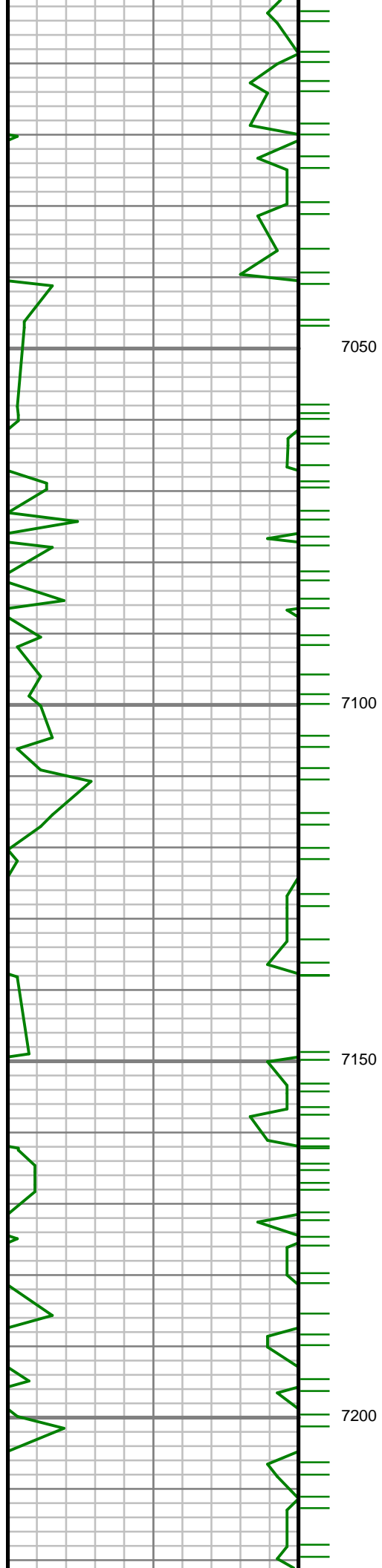
S: 71 MD: 6661.00 ft
Inc: 5.50 deg Az: 4.56
deg TVD: 6638.45 ft

S: 72 MD: 6755.00 ft
Inc: 14.10 deg Az:
357.31 deg TVD:
6730.99 ft



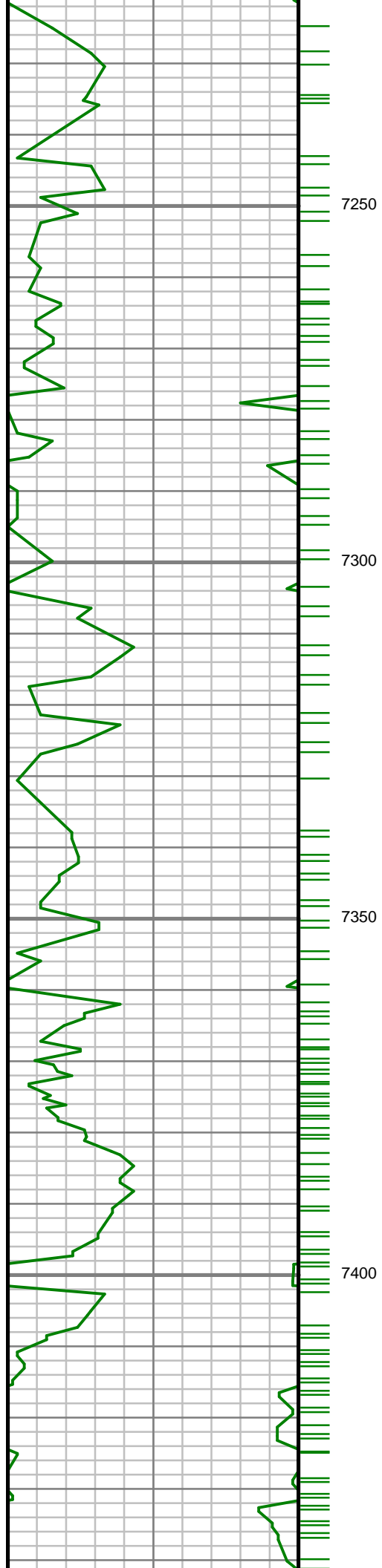
S: 73 MD: 6849.00 ft
Inc: 20.62 deg Az:
356.38 deg TVD:
6820.66 ft

S: 74 MD: 6943.00 ft
Inc: 25.02 deg Az:
358.68 deg TVD:
6907.28 ft



S: 75 MD: 7037.00 ft
Inc: 32.43 deg Az: 1.07
deg TVD: 6989.66 ft

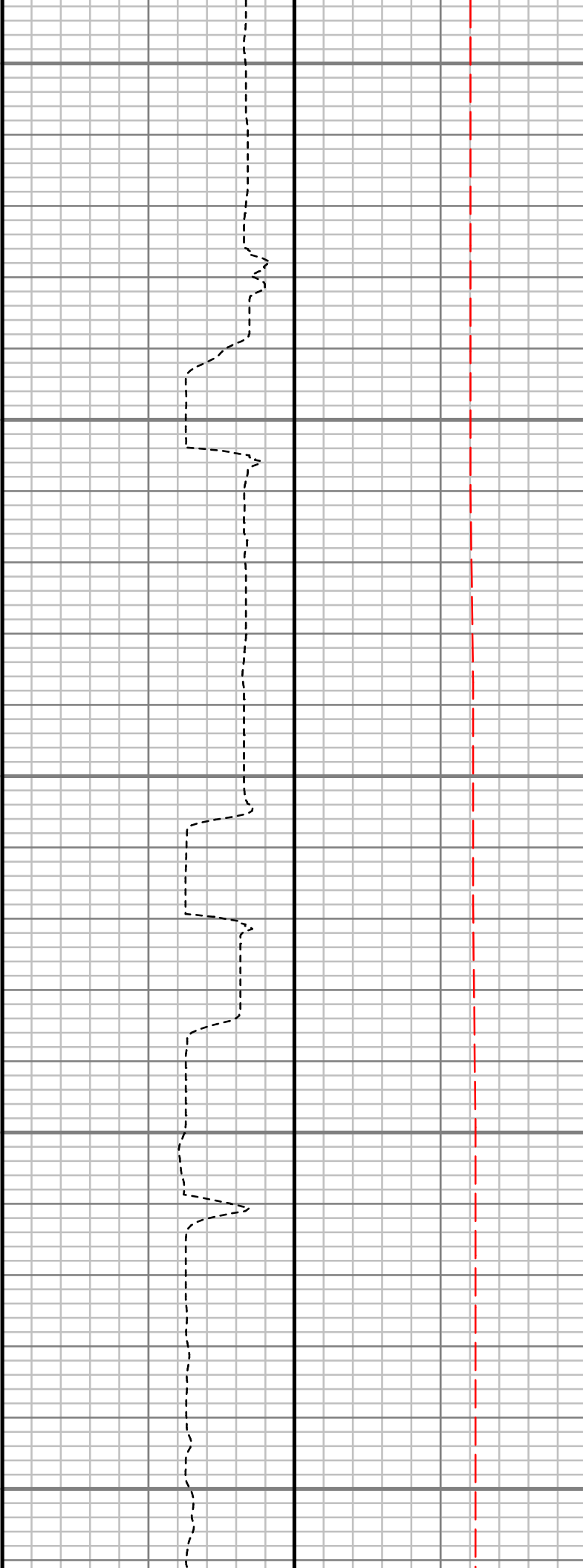
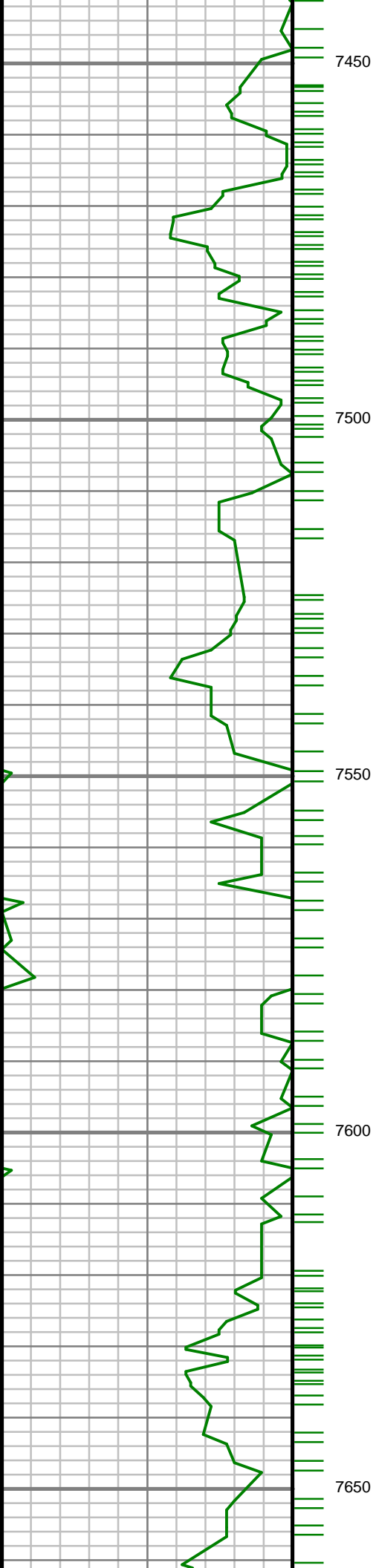
S: 76 MD: 7131.00 ft
Inc: 42.40 deg Az: 2.39
deg TVD: 7064.23 ft



S: 77 MD: 7226.00 ft
Inc: 52.15 deg Az: 0.52
deg TVD: 7128.62 ft

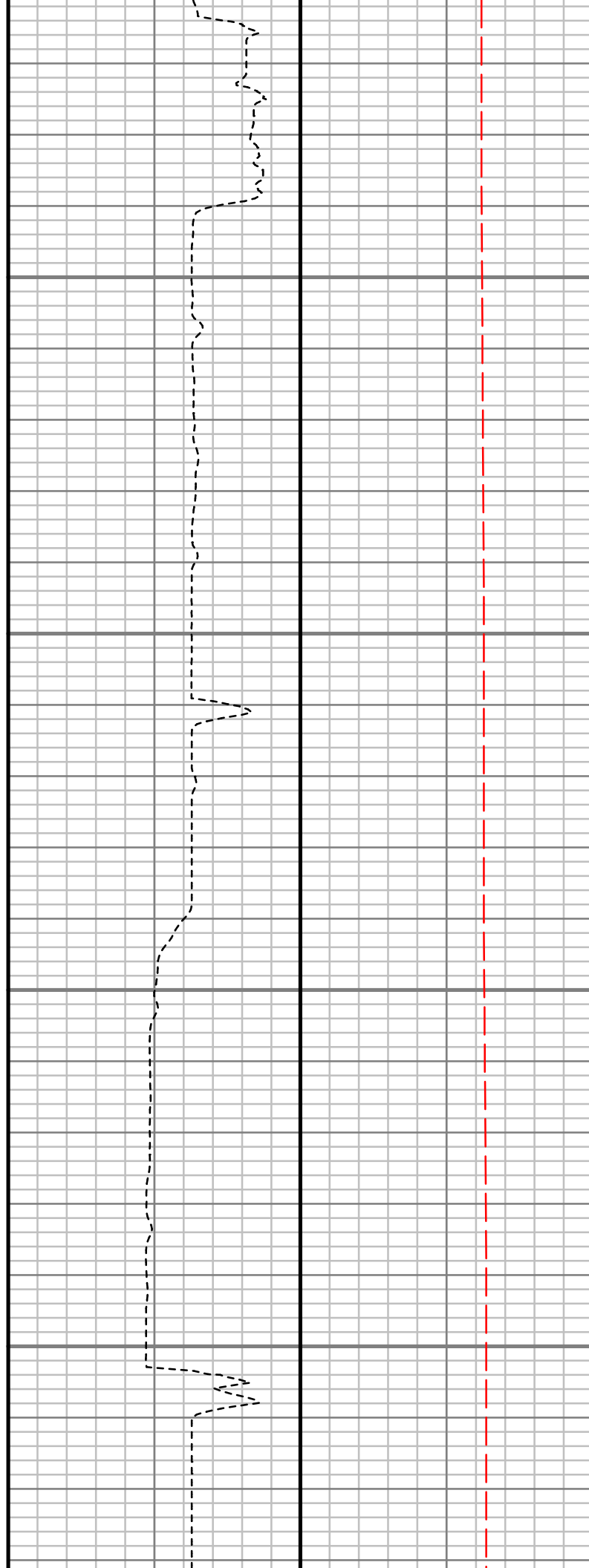
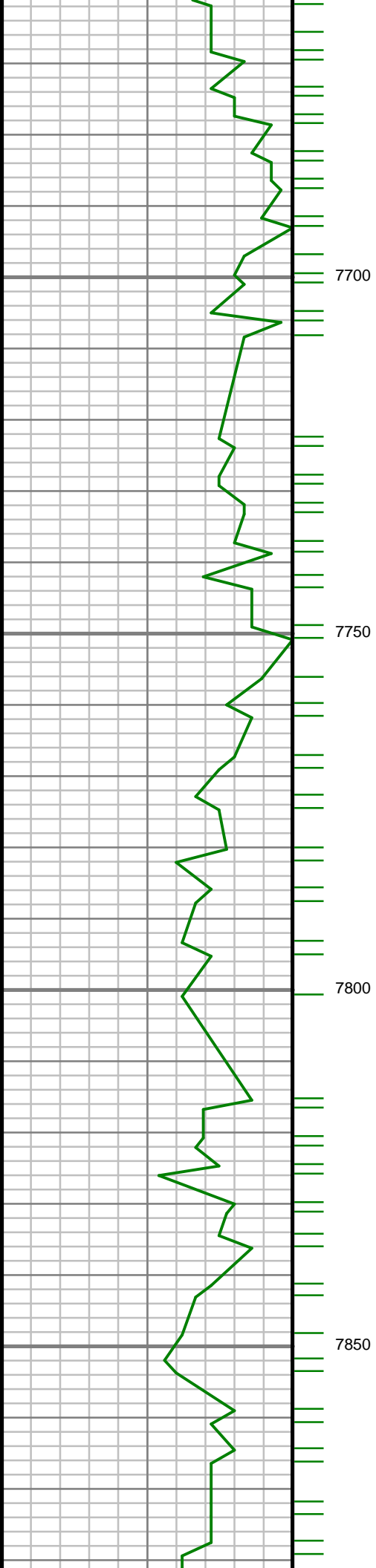
S: 78 MD: 7320.00 ft
Inc: 60.92 deg Az:
359.08 deg TVD:
7180.40 ft

S: 79 MD: 7415.00 ft
Inc: 70.17 deg Az:
358.75 deg TVD:
7219.69 ft



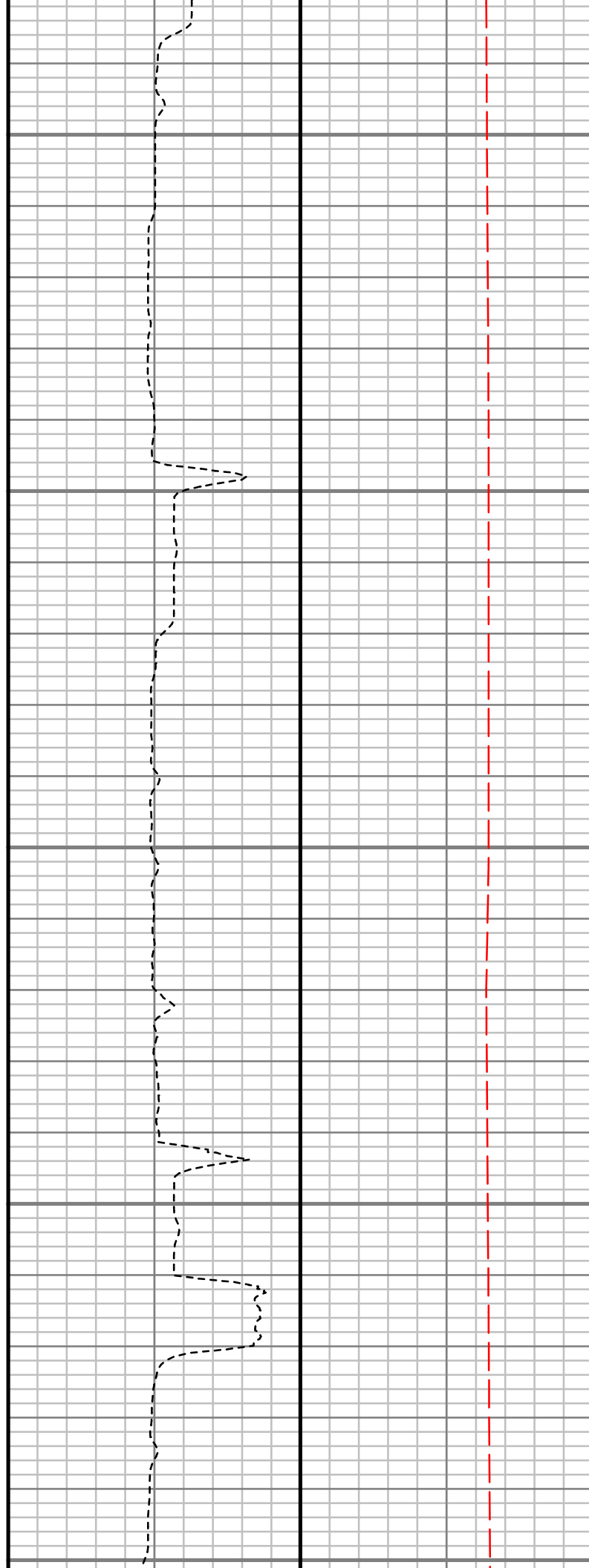
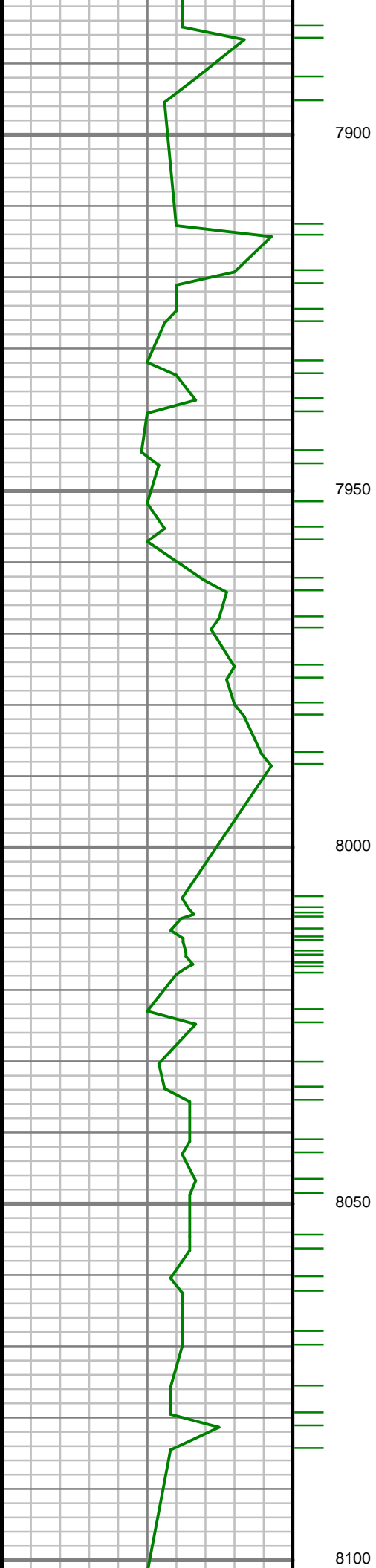
S: 80 MD: 7510.00 ft
Inc: 79.65 deg Az: 1.13
deg TVD: 7244.40 ft

S: 81 MD: 7604.00 ft
Inc: 86.64 deg Az: 2.35
deg TVD: 7255.61 ft



S: 82 MD: 7699.00 ft
Inc: 89.20 deg Az: 1.04
deg TVD: 7259.06 ft

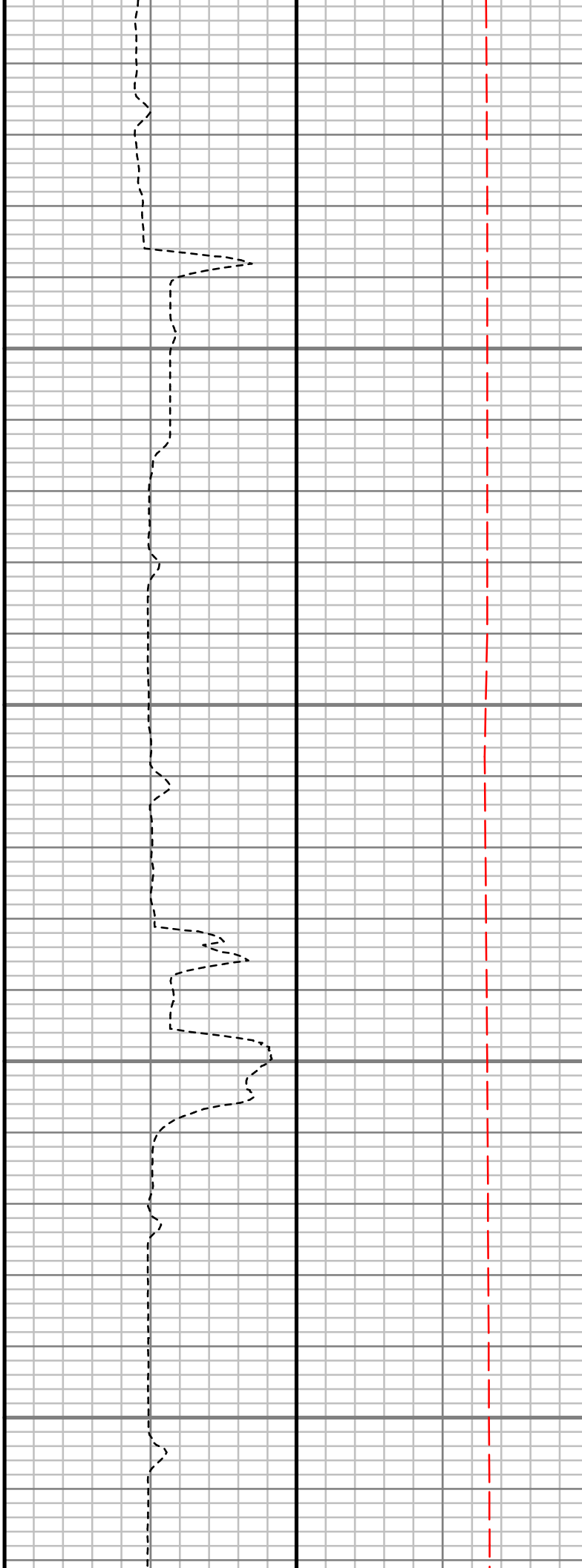
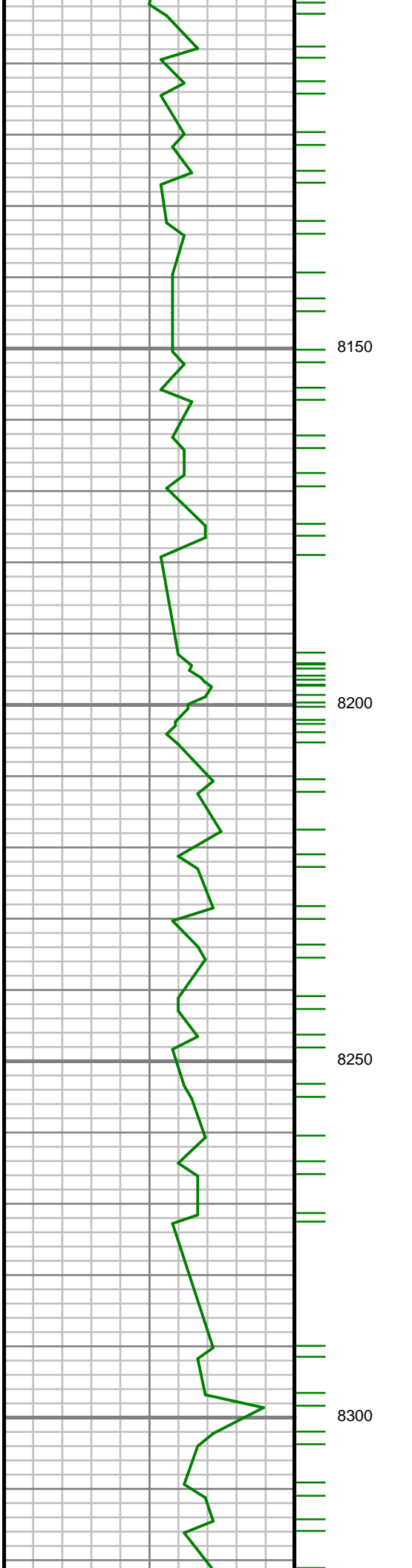
S: 83 MD: 7792.00 ft
Inc: 89.02 deg Az:
359.80 deg TVD:
7260.51 ft



S: 84 MD: 7886.00 ft
Inc: 89.06 deg Az:
359.65 deg TVD:
7262.08 ft

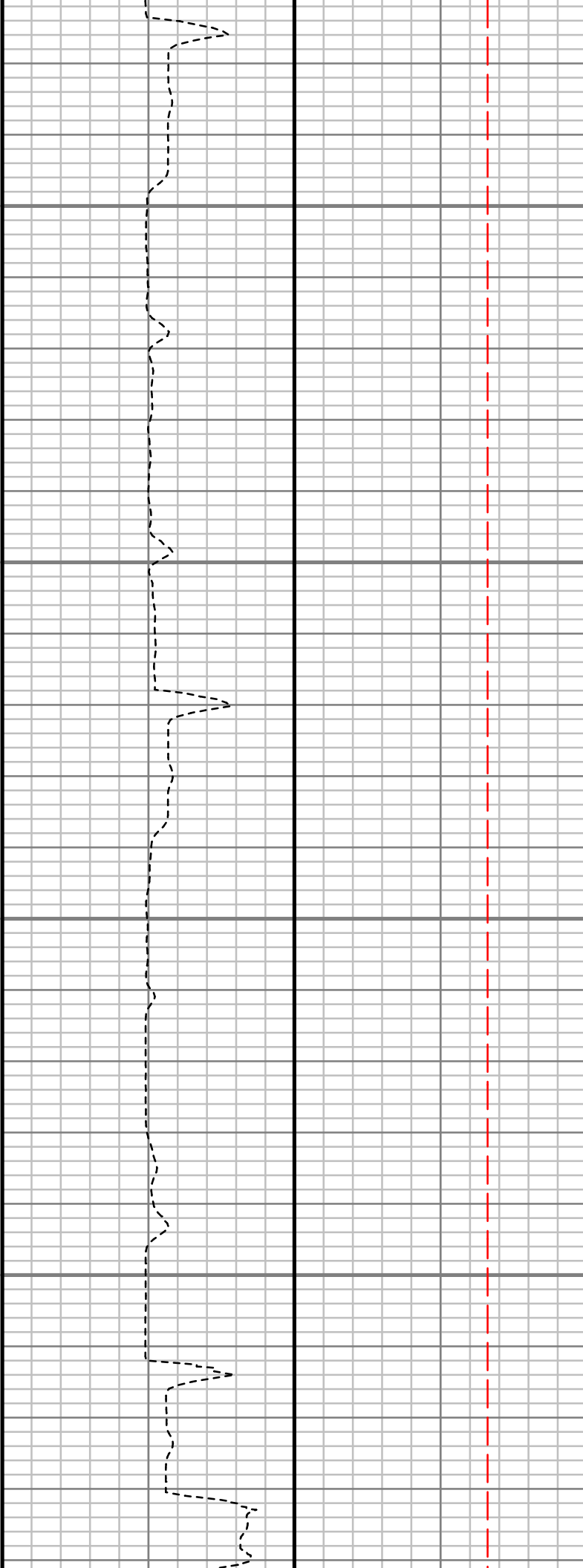
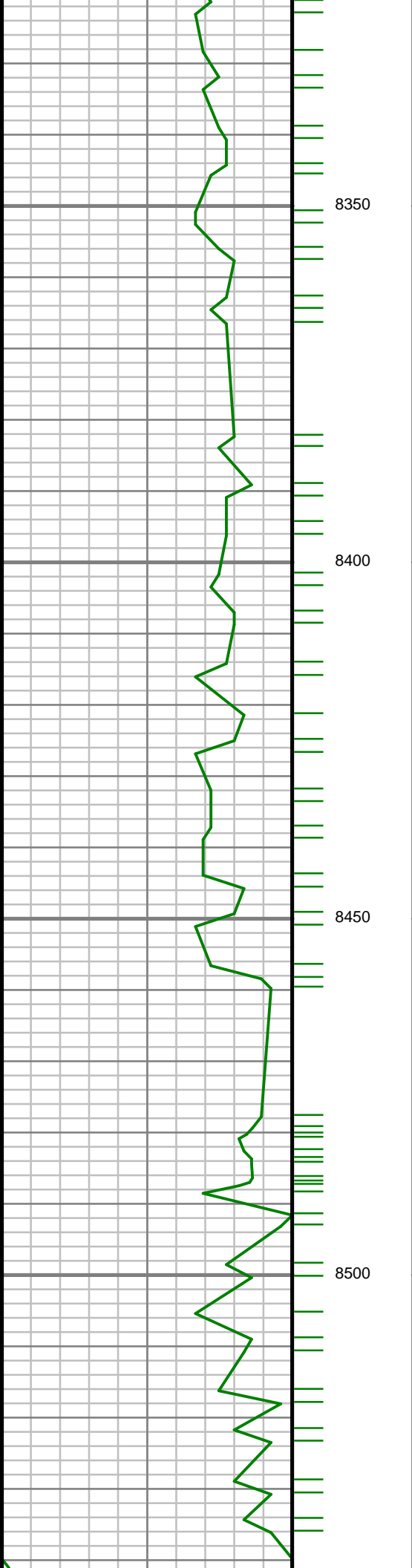
S: 85 MD: 7981.00 ft
Inc: 88.89 deg Az:
359.55 deg TVD:
7263.78 ft

S: 86 MD: 8075.00 ft
Inc: 90.40 deg Az:
359.86 deg TVD:
7264.35 ft



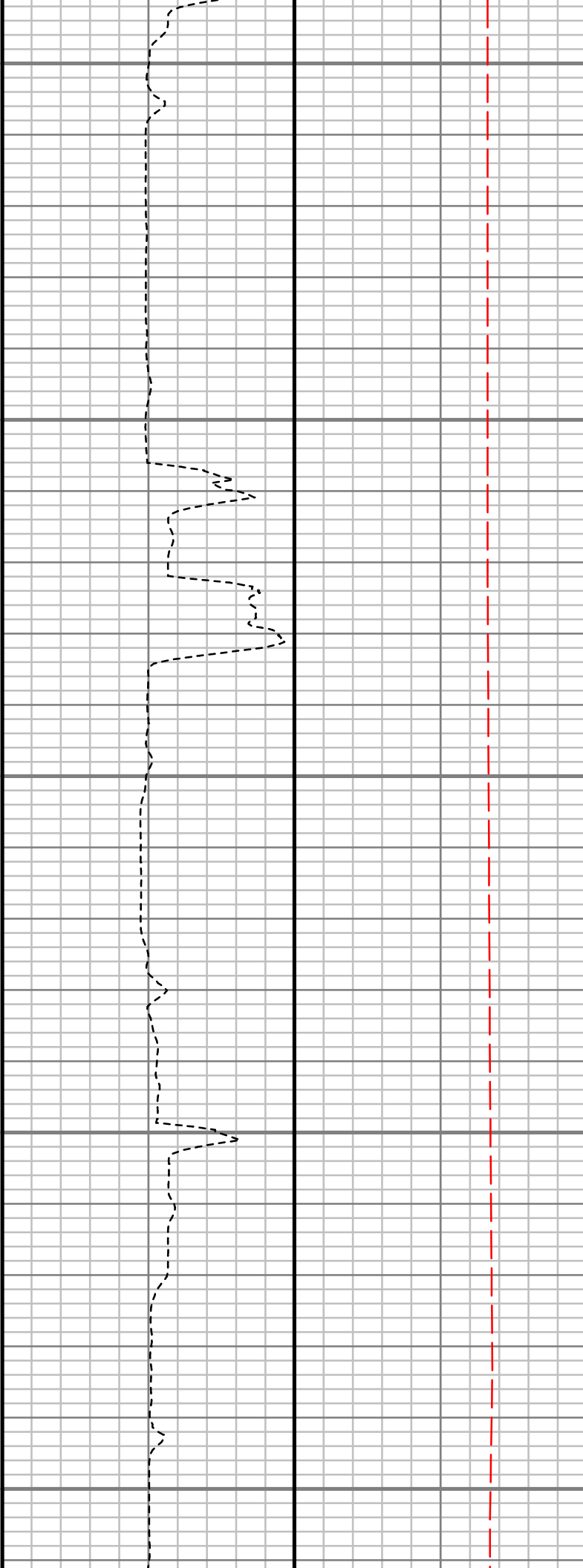
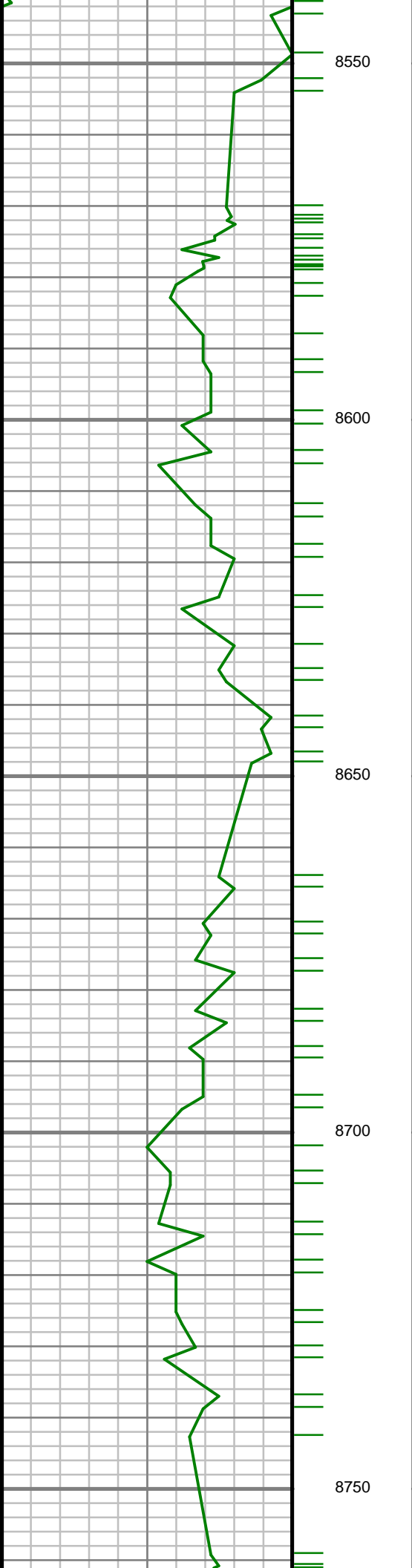
S: 87 MD: 8170.00 ft
Inc: 91.11 deg Az:
359.90 deg TVD:
7263.10 ft

S: 88 MD: 8264.00 ft
Inc: 89.19 deg Az:
359.66 deg TVD:
7262.85 ft



S: 89 MD: 8357.00 ft
Inc: 89.06 deg Az:
359.87 deg TVD:
7264.27 ft

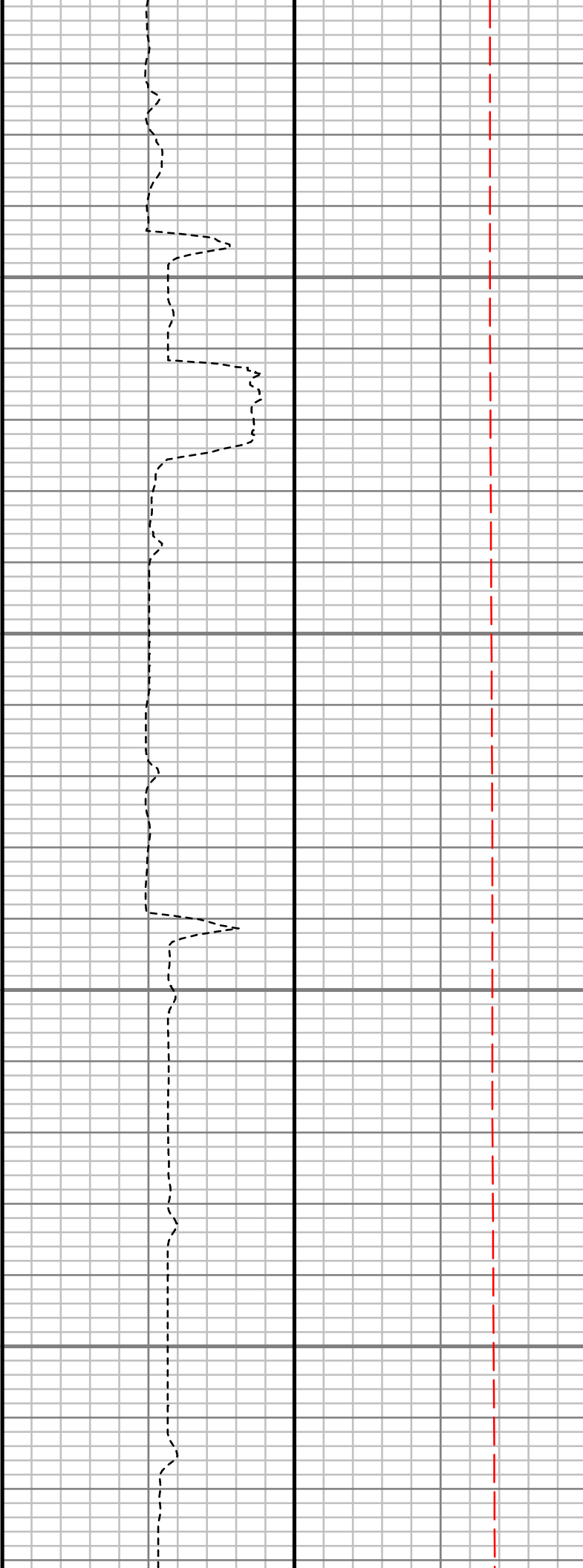
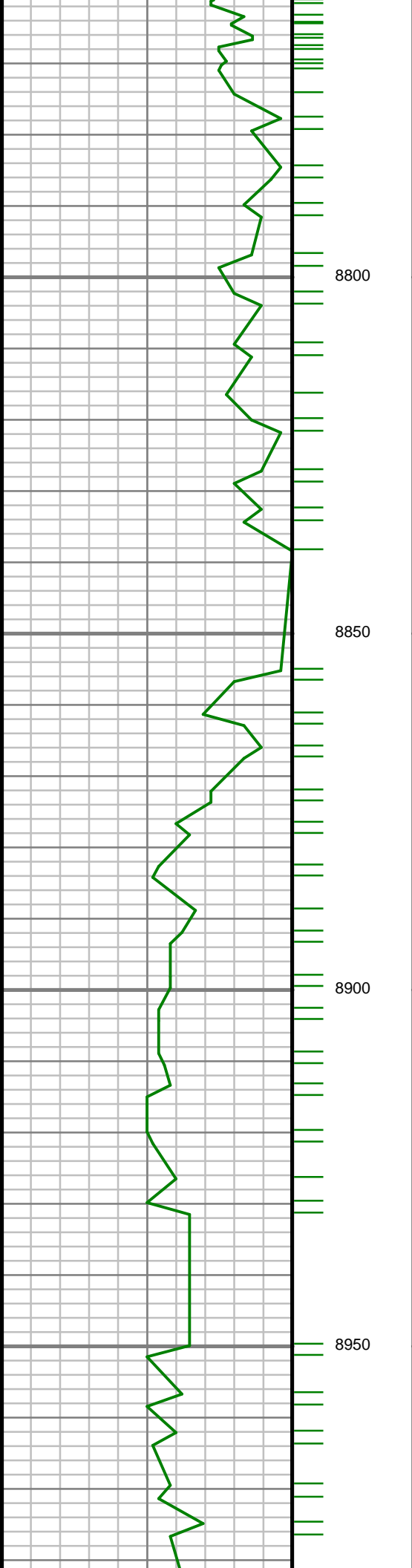
S: 90 MD: 8451.00 ft
Inc: 88.79 deg Az:
359.37 deg TVD:
7266.03 ft



S: 91 MD: 8545.00 ft
Inc: 88.79 deg Az: 0.02
deg TVD: 7268.02 ft

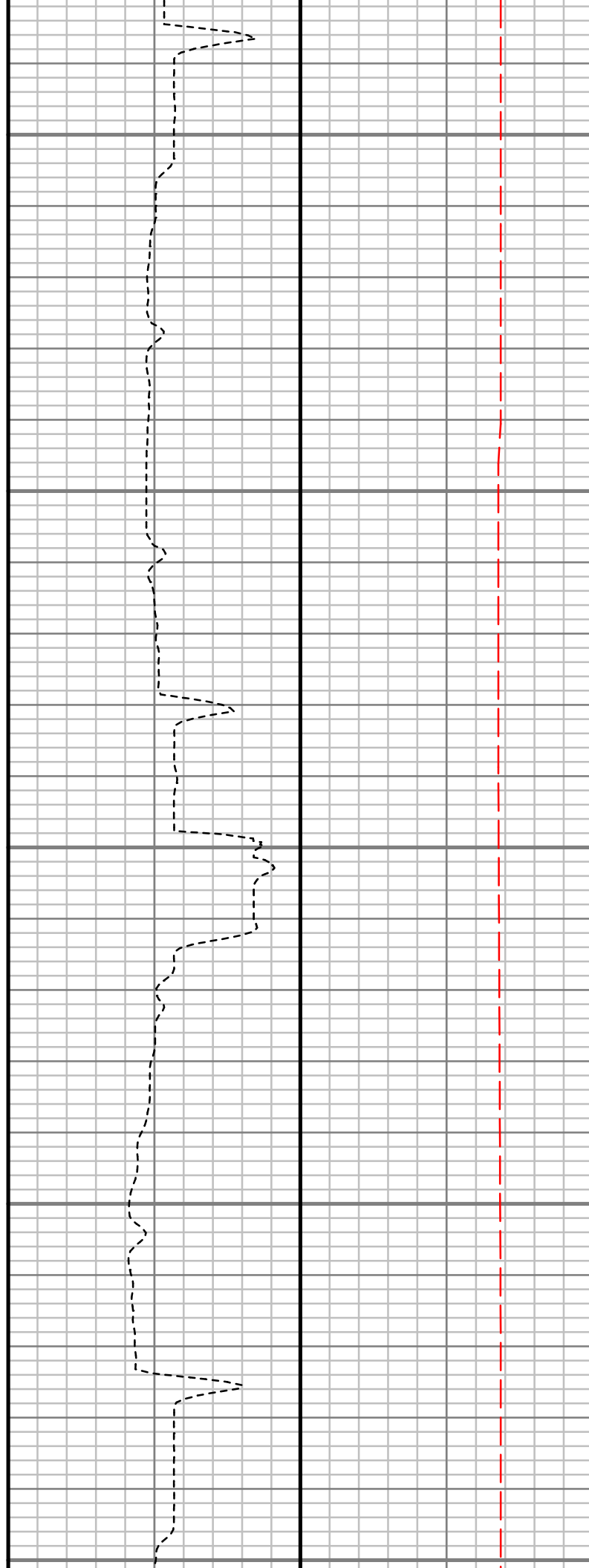
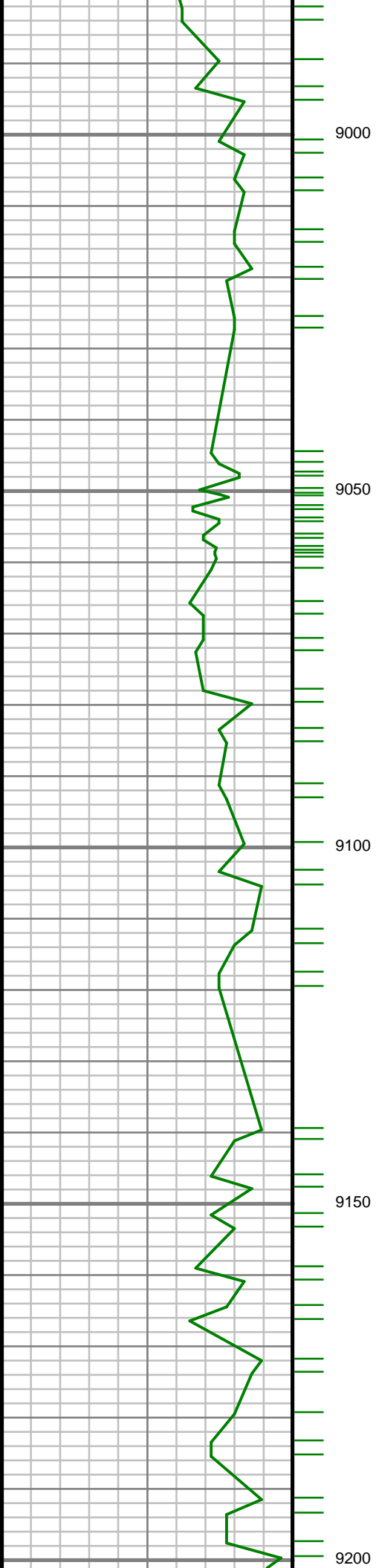
S: 92 MD: 8639.00 ft
Inc: 89.40 deg Az:
359.92 deg TVD:
7269.50 ft

S: 93 MD: 8734.00 ft
Inc: 89.09 deg Az:
359.99 deg TVD:
7270.76 ft



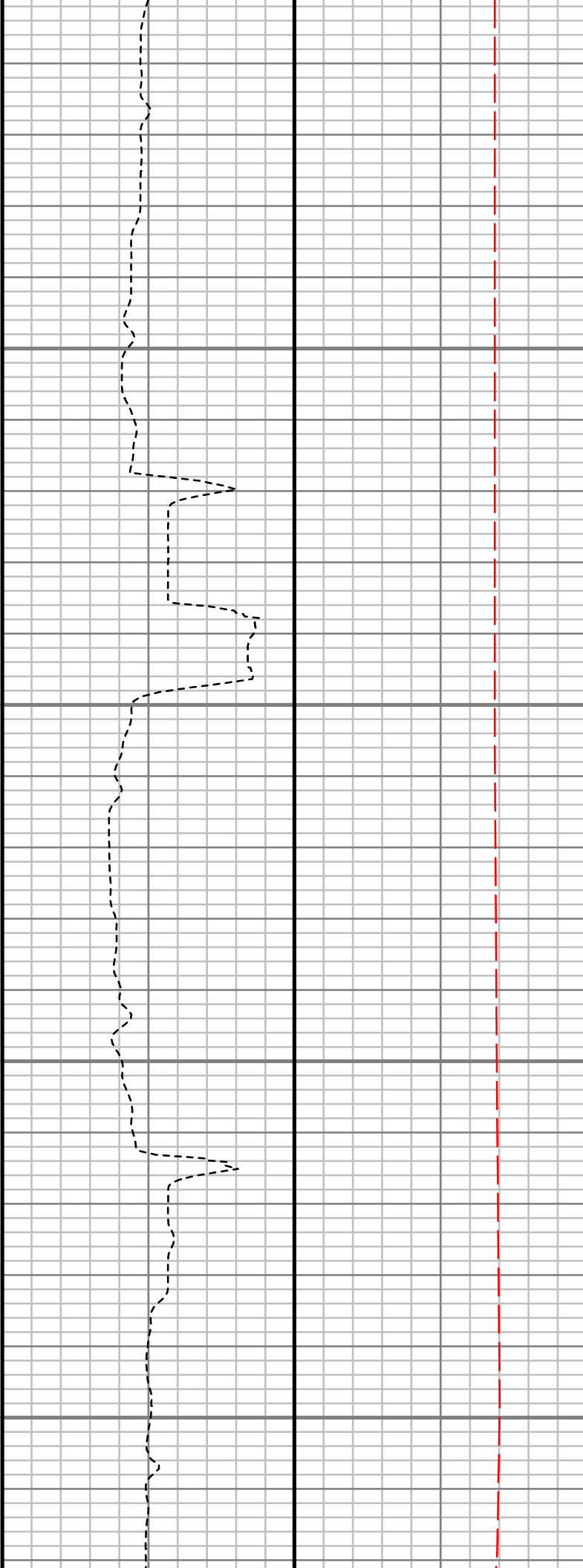
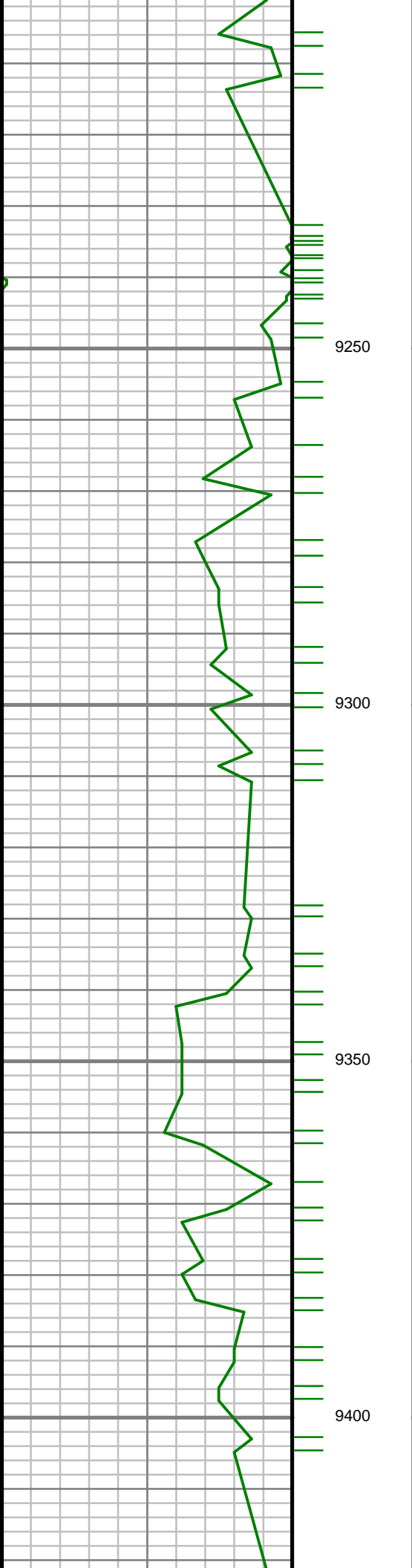
S: 94 MD: 8828.00 ft
Inc: 90.17 deg Az:
359.89 deg TVD:
7271.36 ft

S: 95 MD: 8924.00 ft
Inc: 90.37 deg Az:
359.83 deg TVD:
7270.91 ft



S: 96 MD: 9017.00 ft
Inc: 89.70 deg Az:
358.82 deg TVD:
7270.86 ft

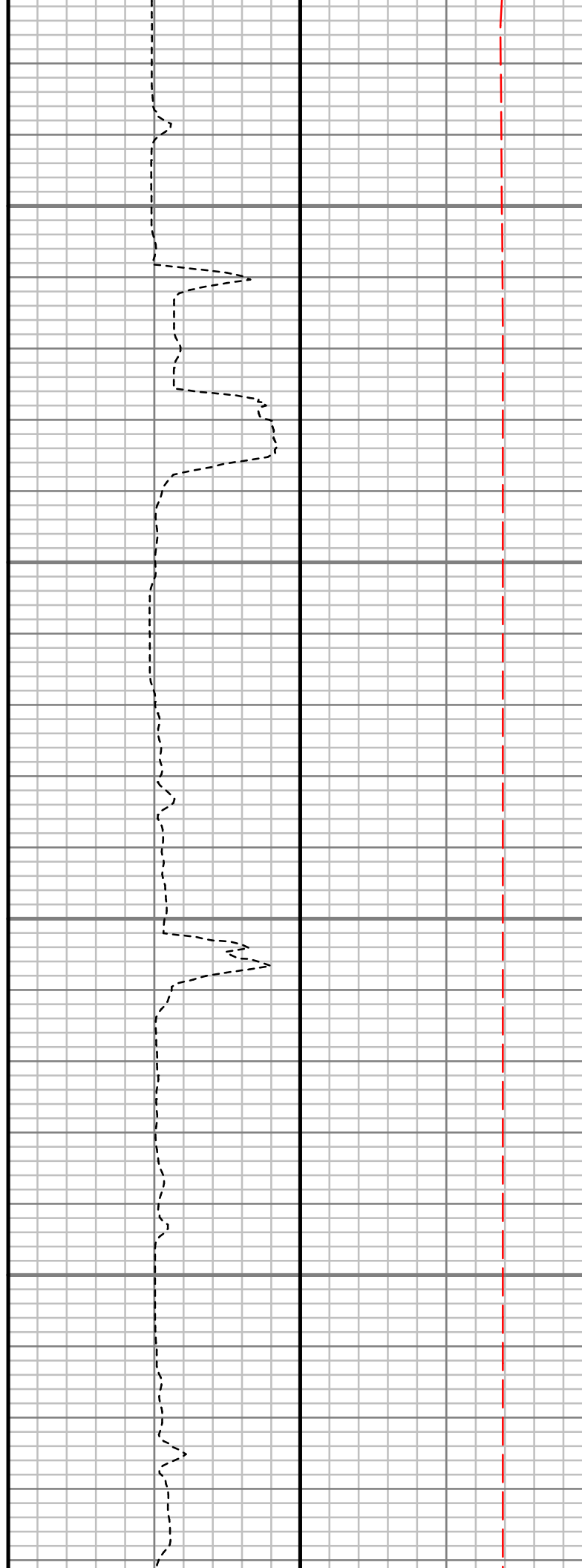
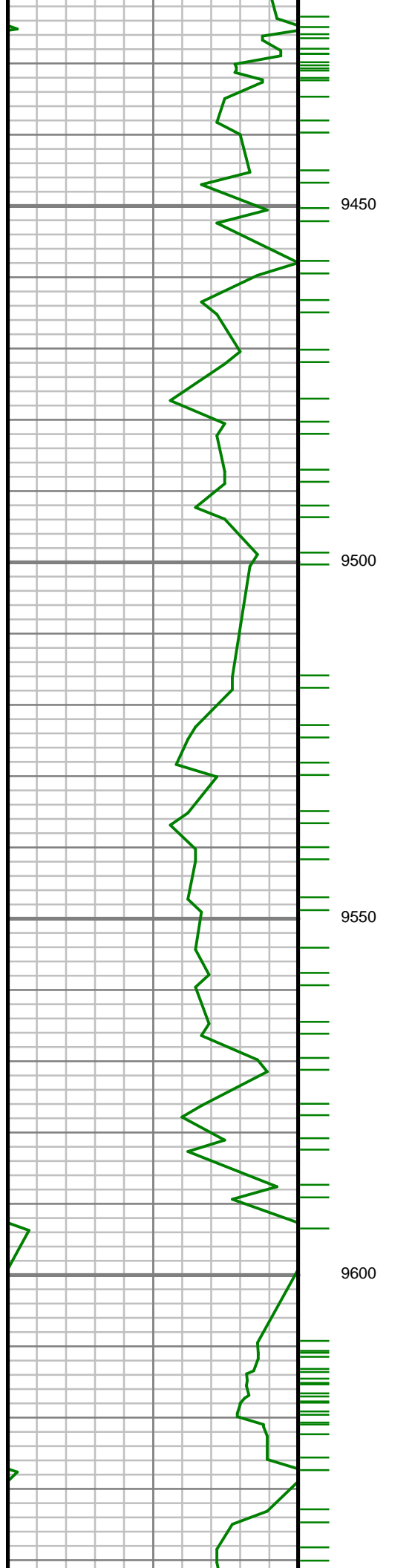
S: 97 MD: 9112.00 ft
Inc: 89.90 deg Az: 0.69
deg TVD: 7271.19 ft



S: 98 MD: 9206.00 ft
Inc: 89.60 deg Az: 1.19
deg TVD: 7271.61 ft

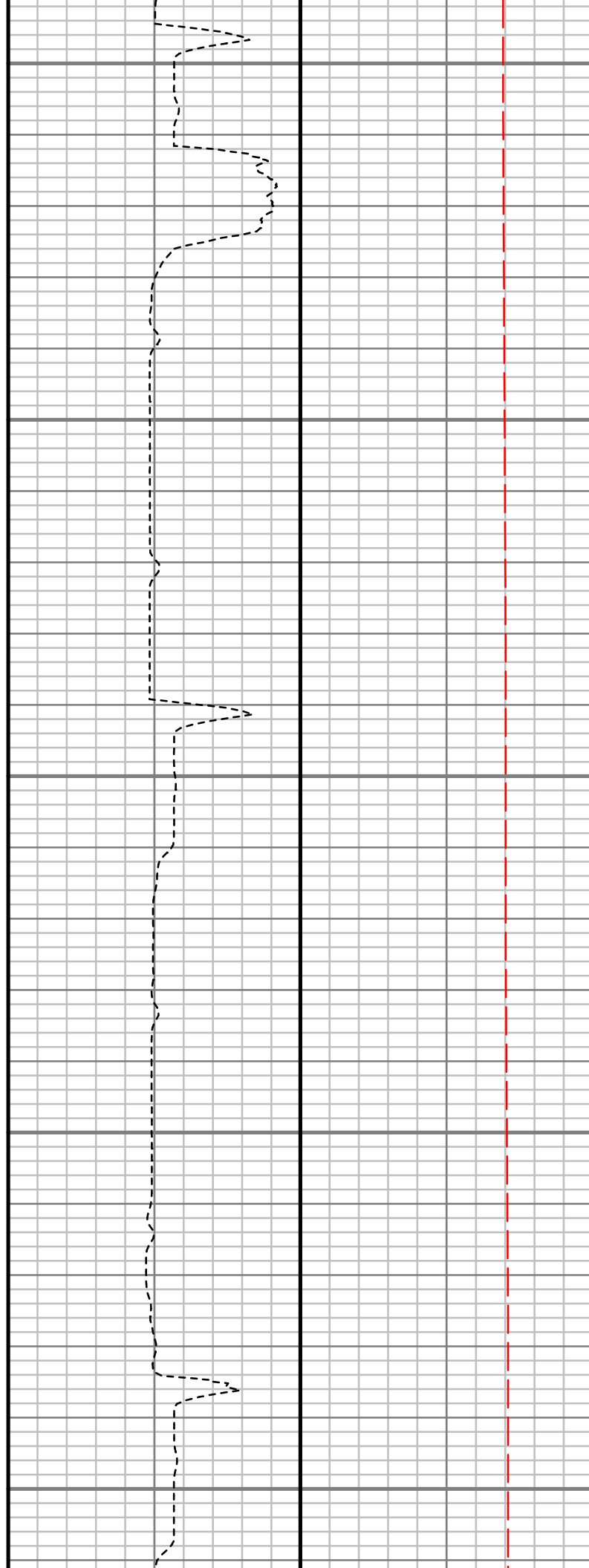
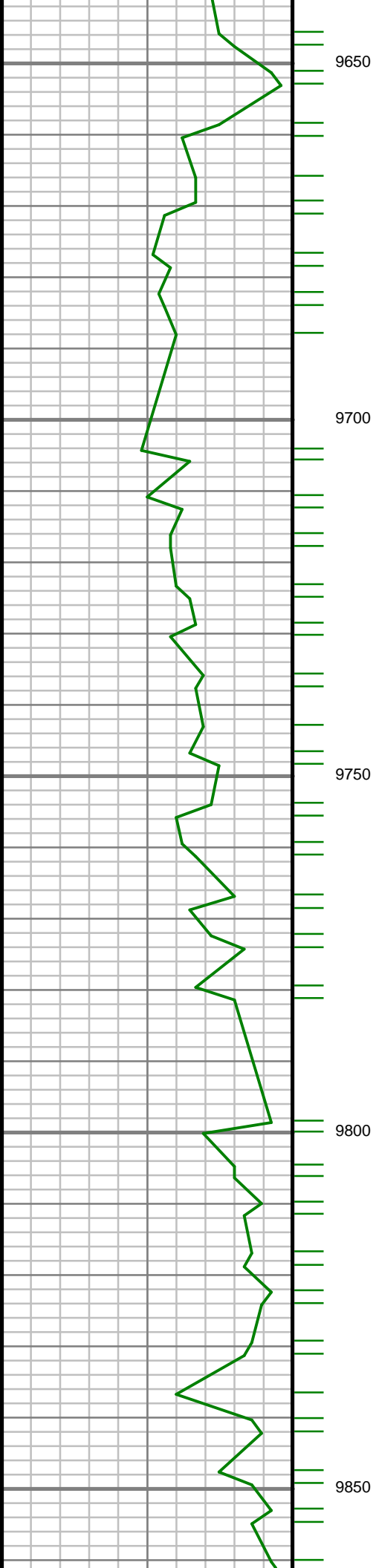
S: 99 MD: 9301.00 ft
Inc: 90.50 deg Az: 1.47
deg TVD: 7271.52 ft

S: 100 MD: 9396.00 ft
Inc: 90.00 deg Az: 0.95
deg TVD: 7271.10 ft



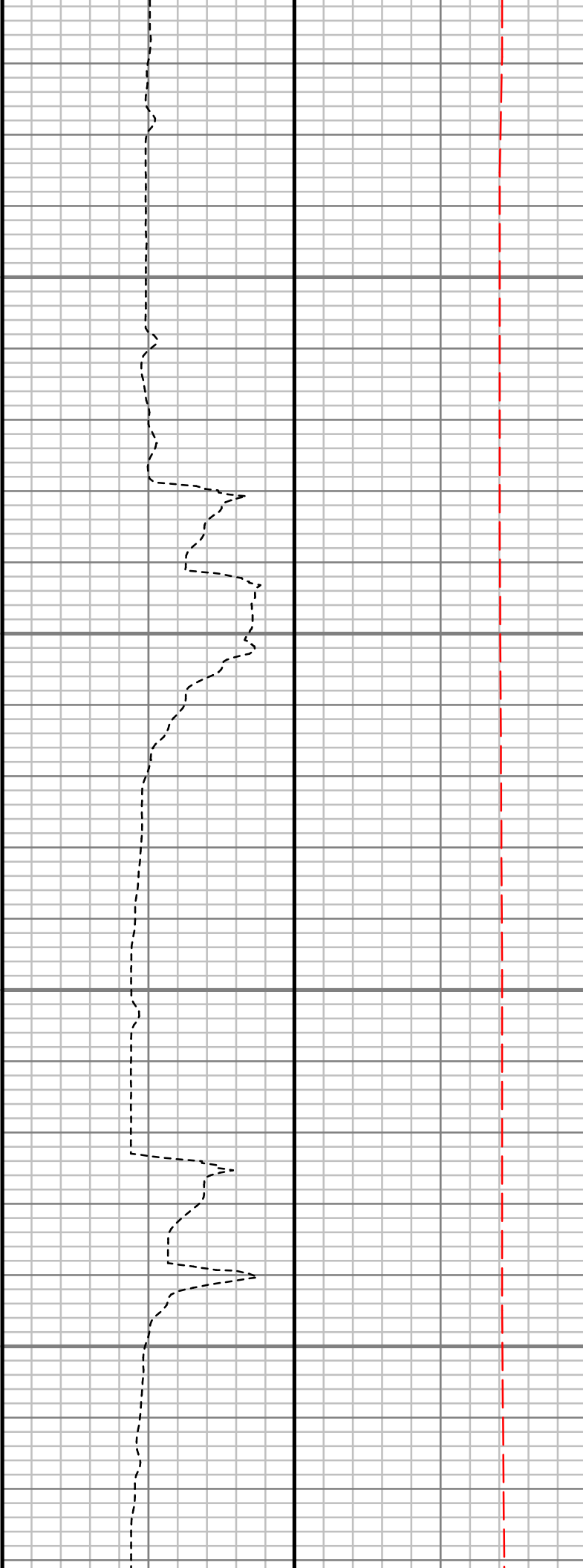
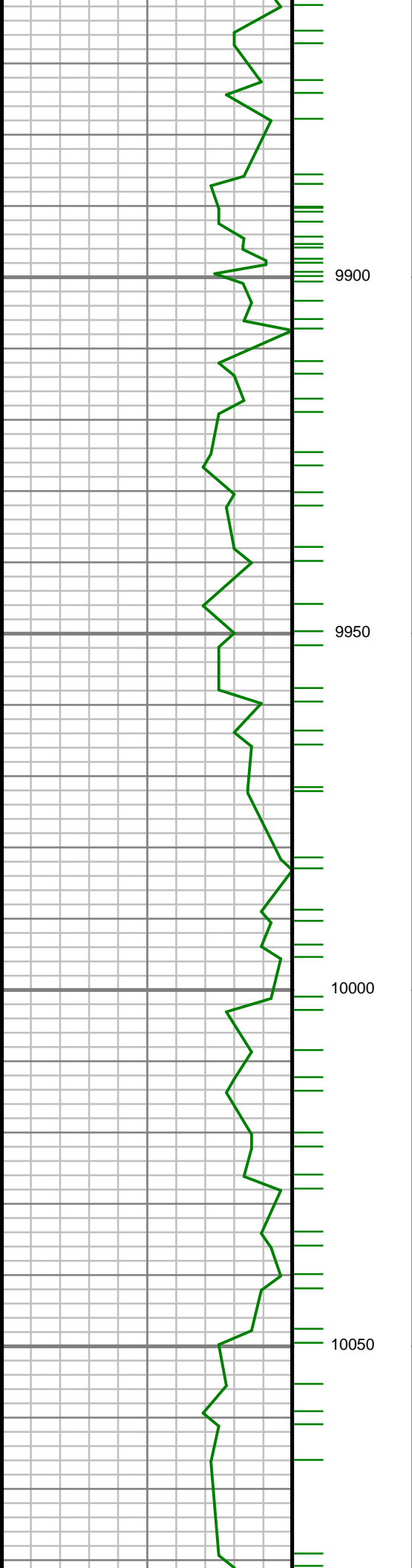
S: 101 MD: 9490.00 ft
Inc: 90.37 deg Az: 1.11
deg TVD: 7270.80 ft

S: 102 MD: 9584.00 ft
Inc: 89.73 deg Az: 0.98
deg TVD: 7270.72 ft



S: 103 MD: 9679.00 ft
Inc: 90.91 deg Az: 0.29
deg TVD: 7270.19 ft

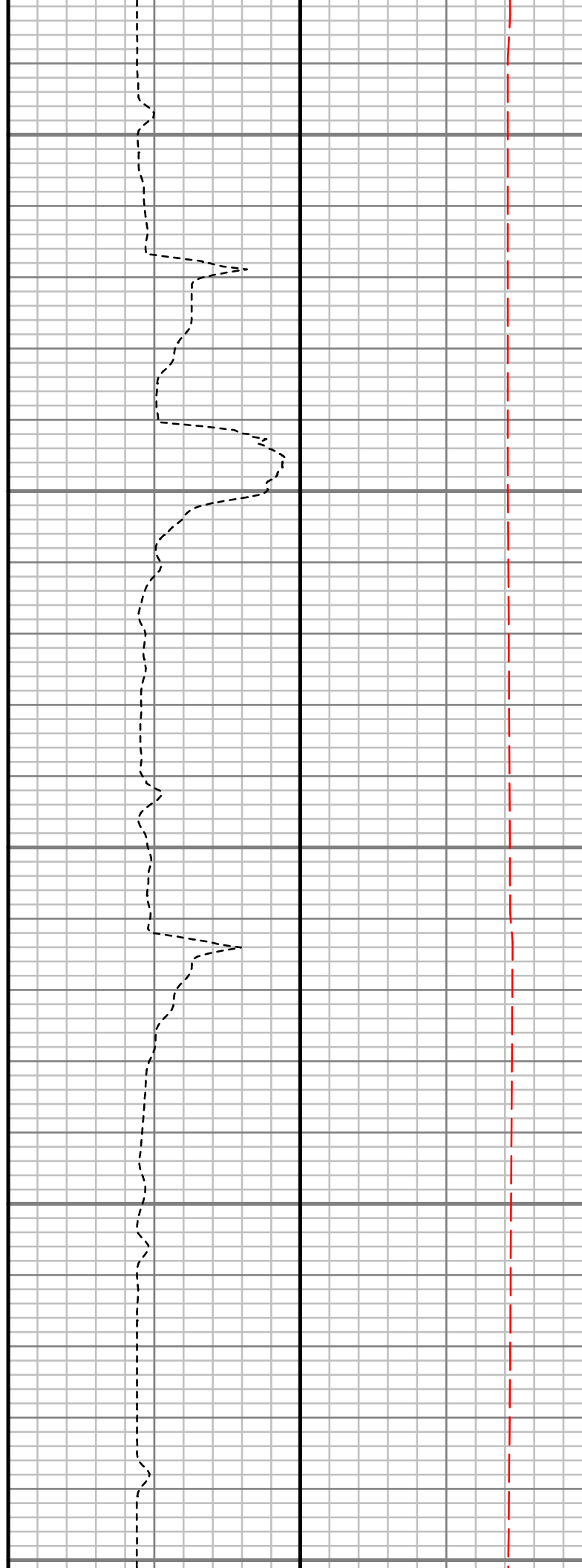
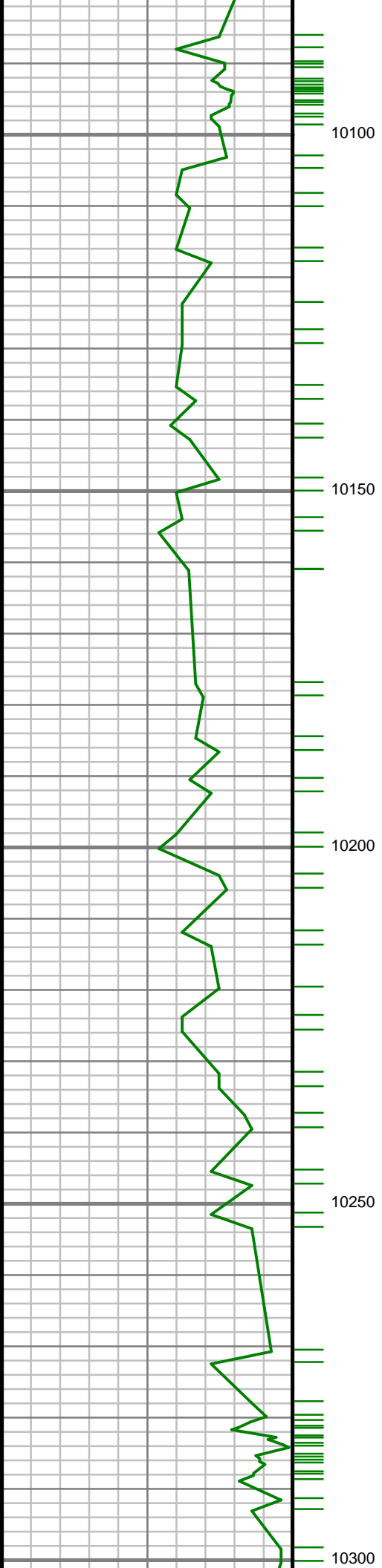
S: 104 MD: 9772.00 ft
Inc: 91.27 deg Az: 1.82
deg TVD: 7268.42 ft



S: 105 MD: 9867.00 ft
Inc: 90.10 deg Az: 0.88
deg TVD: 7267.28 ft

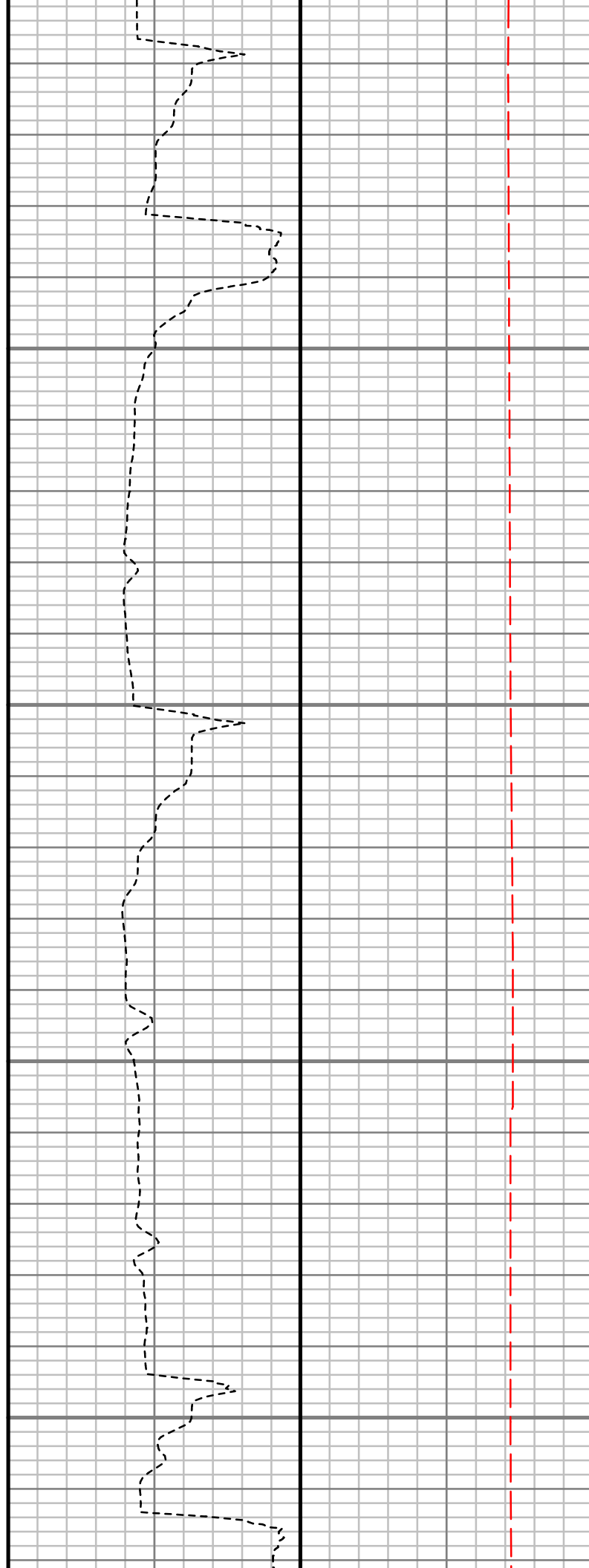
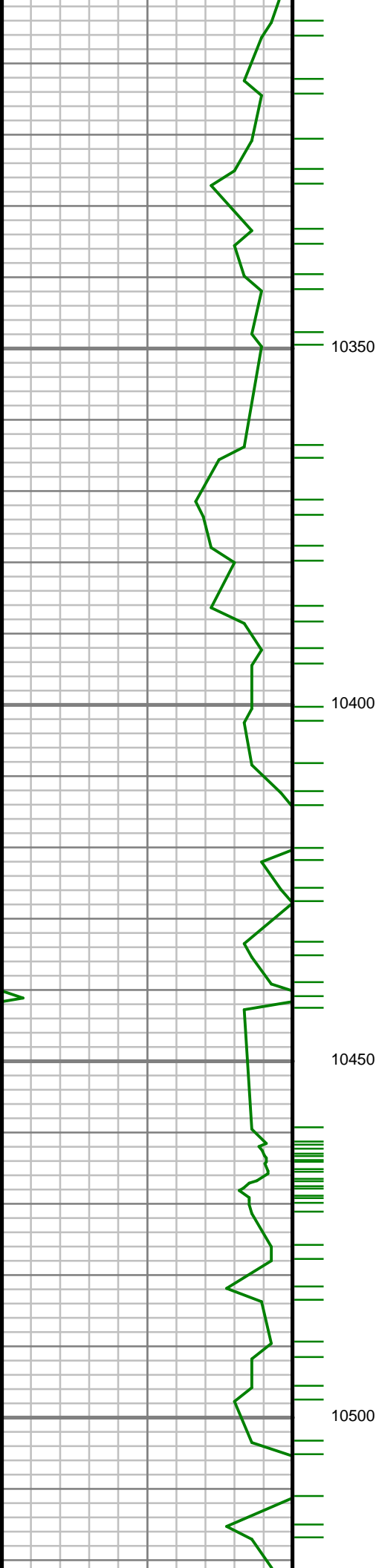
S: 106 MD: 9961.00 ft
Inc: 91.78 deg Az: 0.63
deg TVD: 7265.73 ft

S: 107 MD: 10054.00 ft
Inc: 91.71 deg Az: 0.82
deg TVD: 7262.90 ft



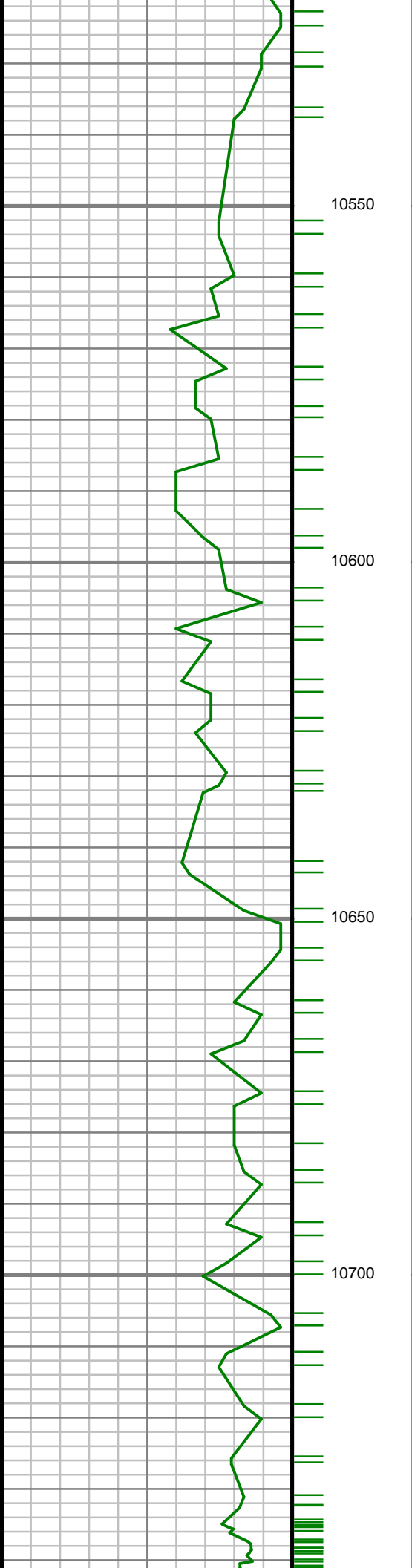
S: 108 MD: 10148.00 ft
Inc: 90.87 deg Az: 0.55
deg TVD: 7260.77 ft

S: 109 MD: 10243.00 ft
Inc: 90.94 deg Az: 0.81
deg TVD: 7259.27 ft



S: 110 MD: 10336.00 ft
Inc: 90.30 deg Az: 1.16
deg TVD: 7258.26 ft

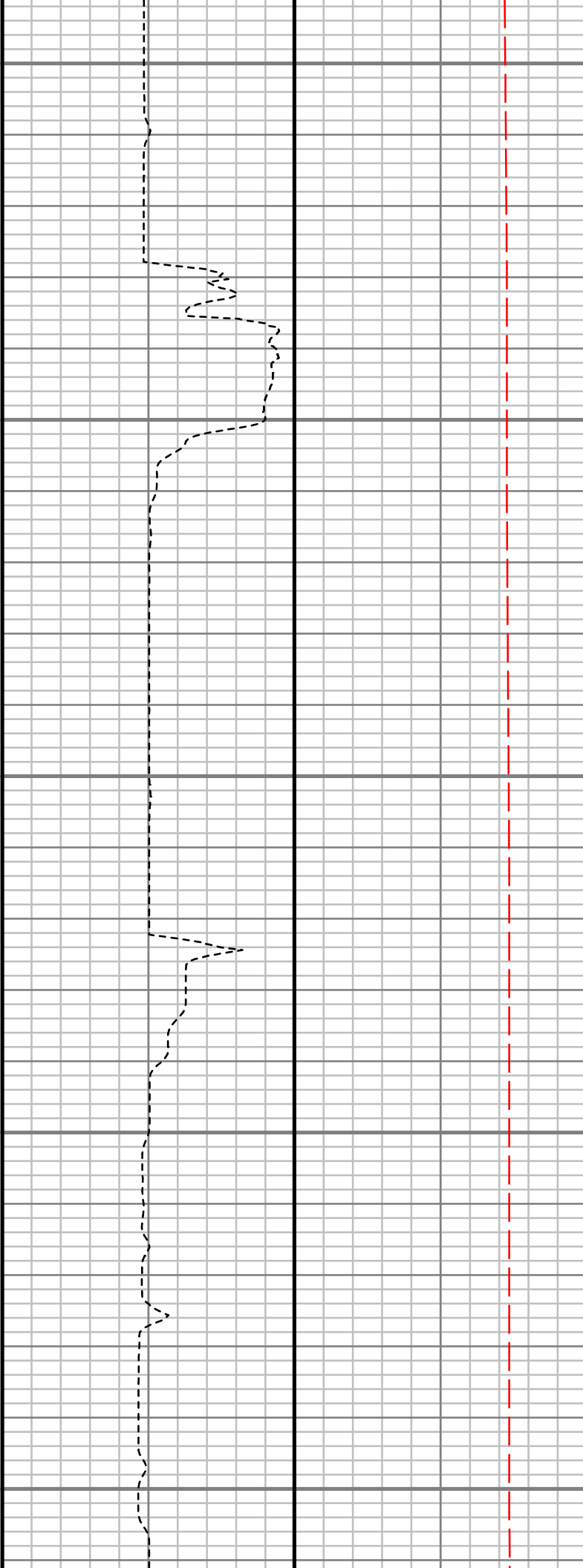
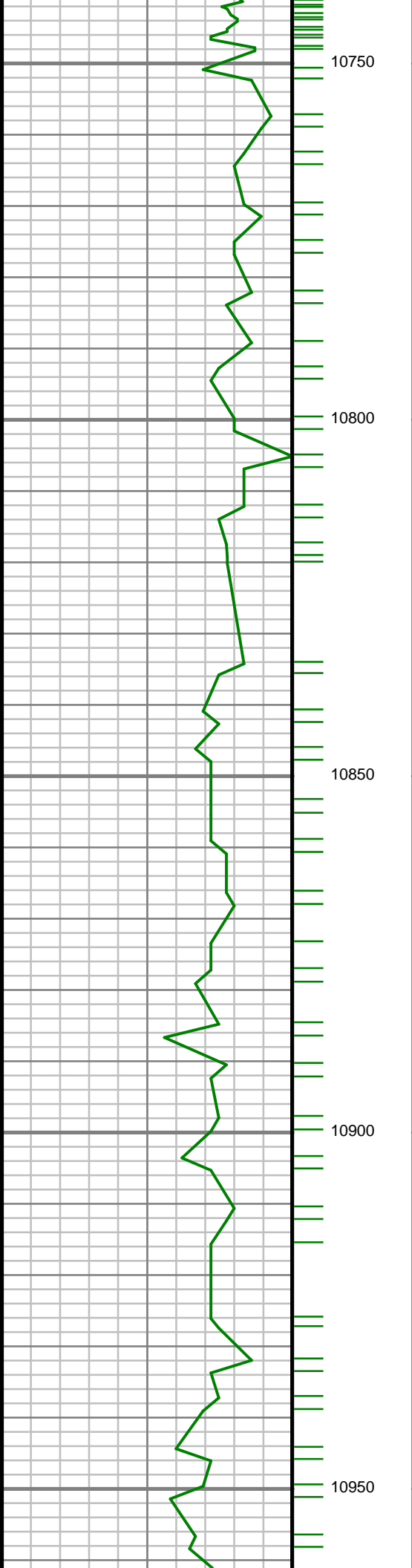
S: 111 MD: 10430.00 ft
Inc: 89.70 deg Az: 0.07
deg TVD: 7258.26 ft



S: 112 MD: 10523.00 ft
Inc: 91.61 deg Az: 1.23
deg TVD: 7257.20 ft

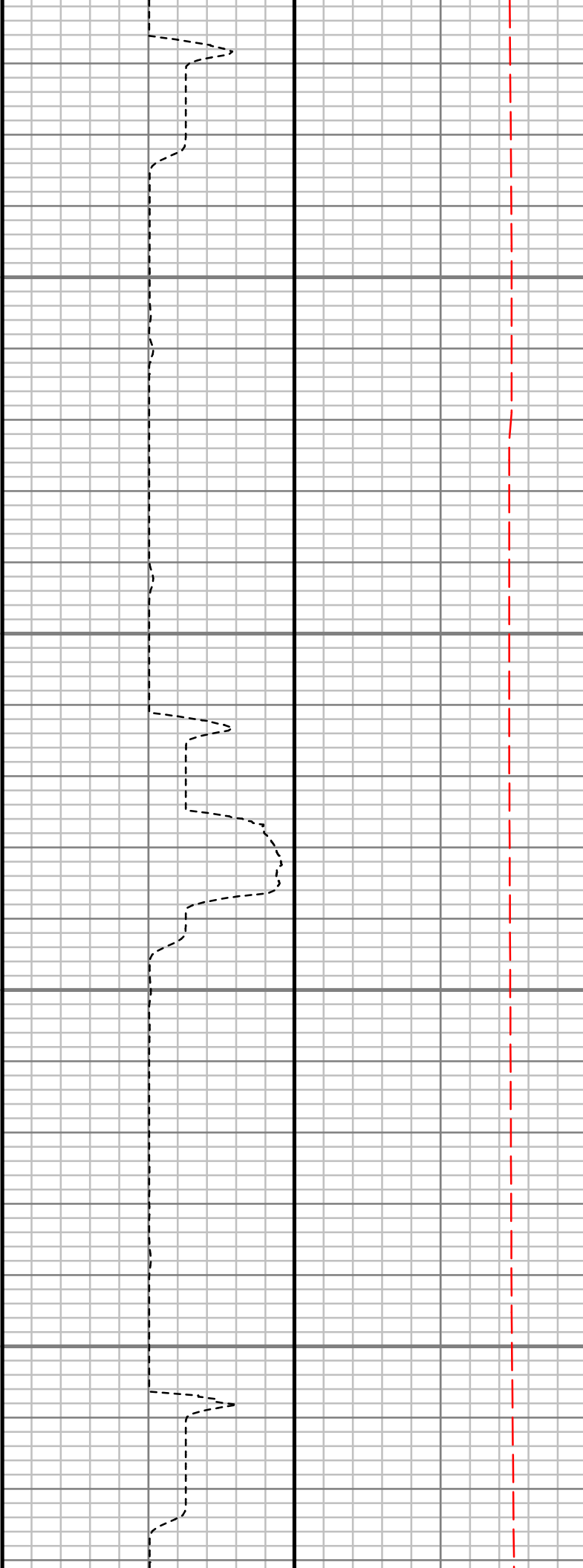
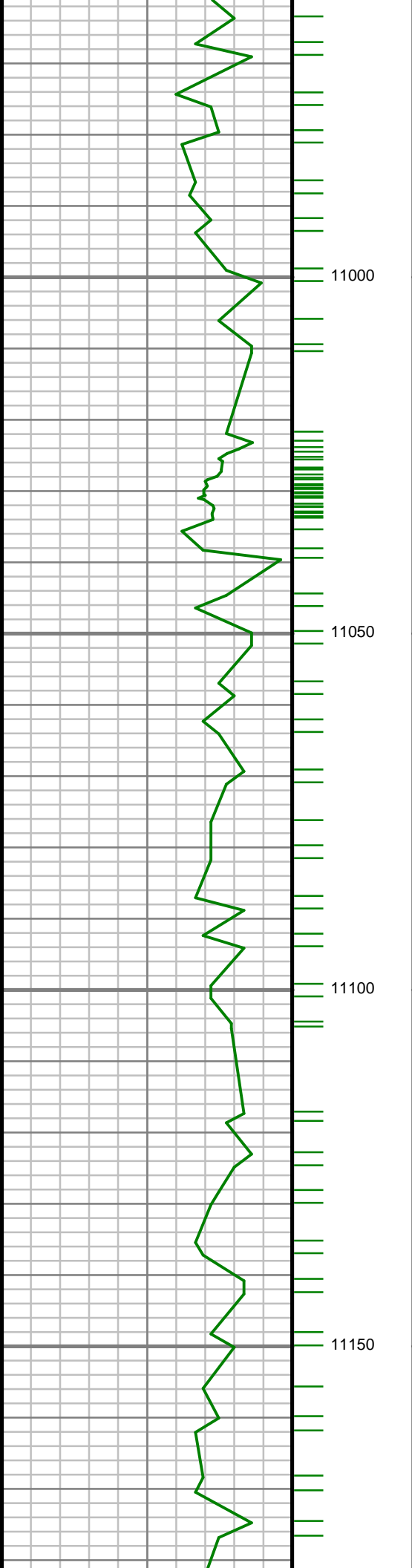
S: 113 MD: 10618.00 ft
Inc: 91.48 deg Az: 1.16
deg TVD: 7254.63 ft

S: 114 MD: 10713.00 ft
Inc: 91.75 deg Az: 2.22
deg TVD: 7251.96 ft



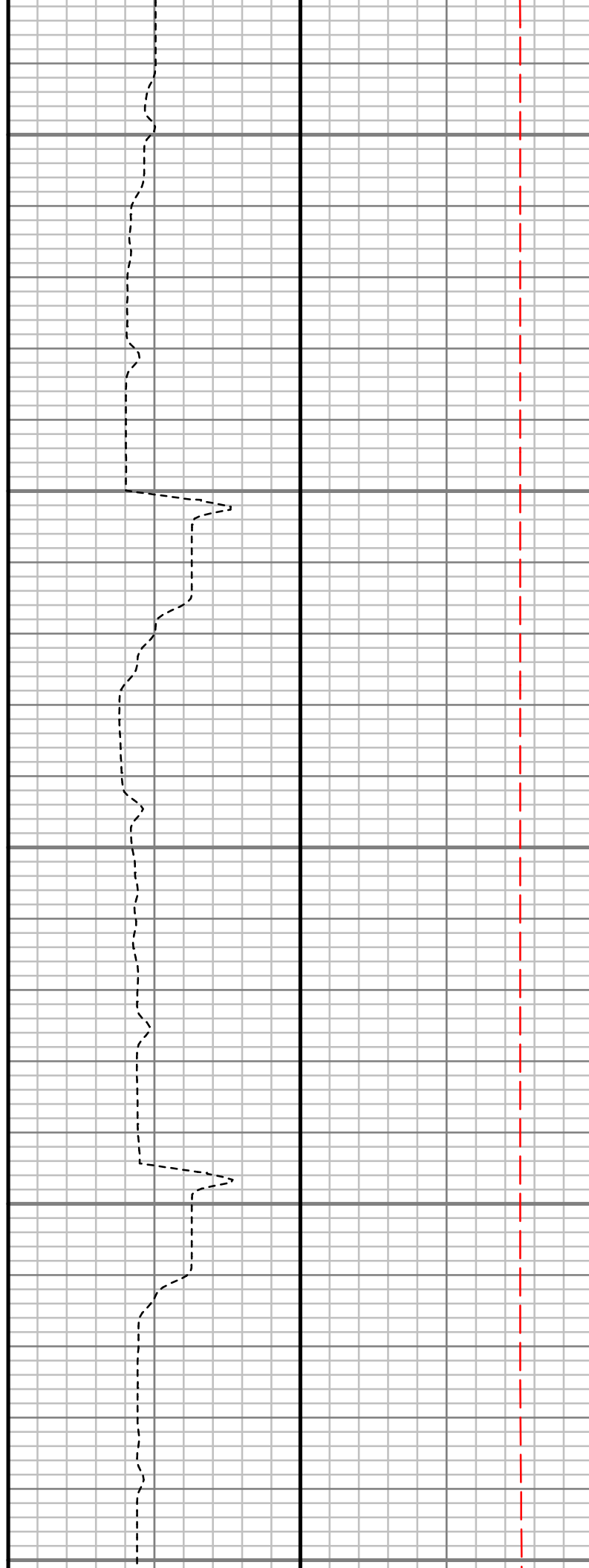
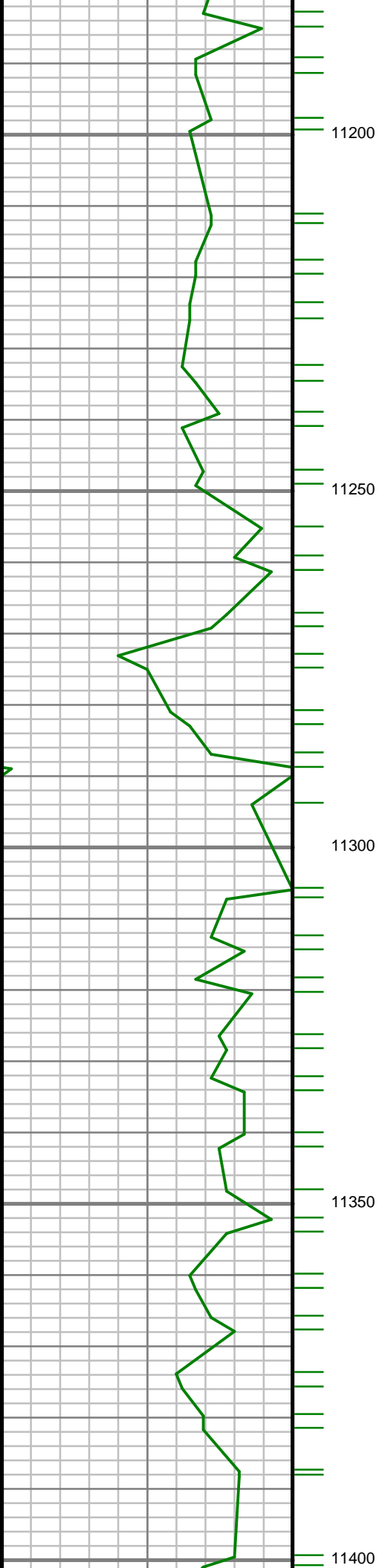
S: 115 MD: 10806.00 ft
Inc: 90.44 deg Az: 0.26
deg TVD: 7250.19 ft

S: 116 MD: 10900.00 ft
Inc: 90.34 deg Az:
359.98 deg TVD:
7249.55 ft



S: 117 MD: 10995.00 ft
Inc: 91.48 deg Az:
359.52 deg TVD:
7248.05 ft

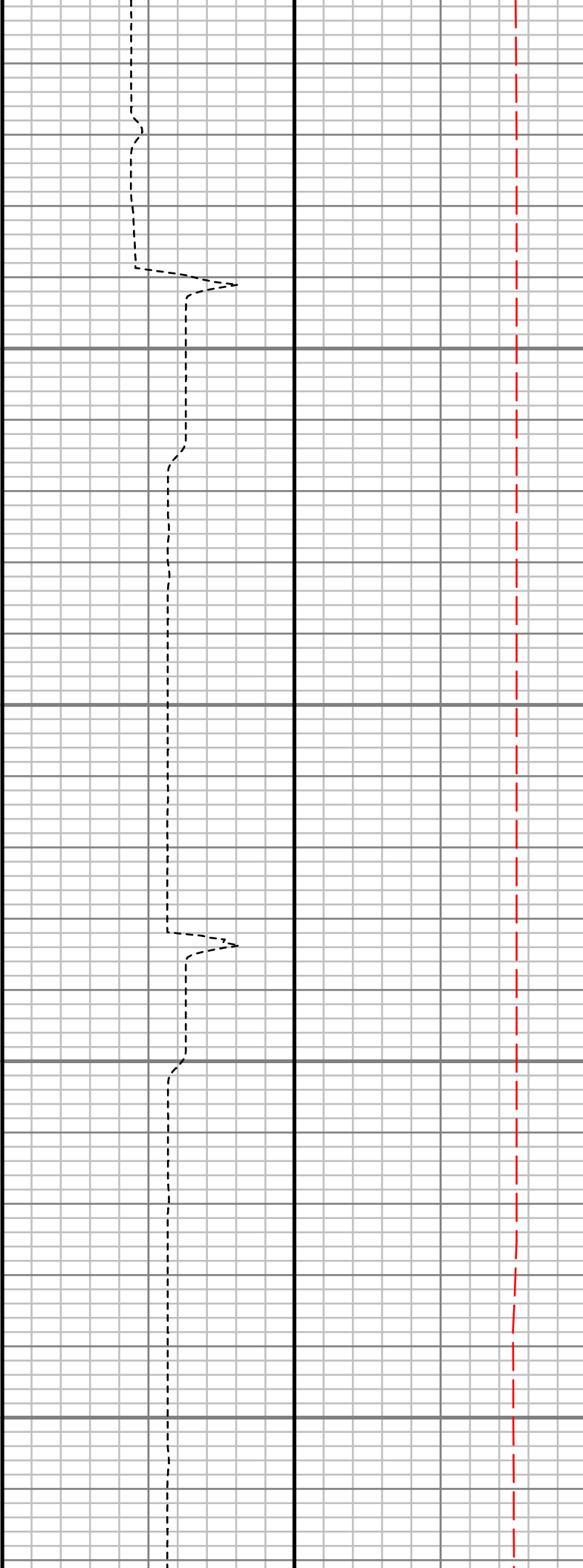
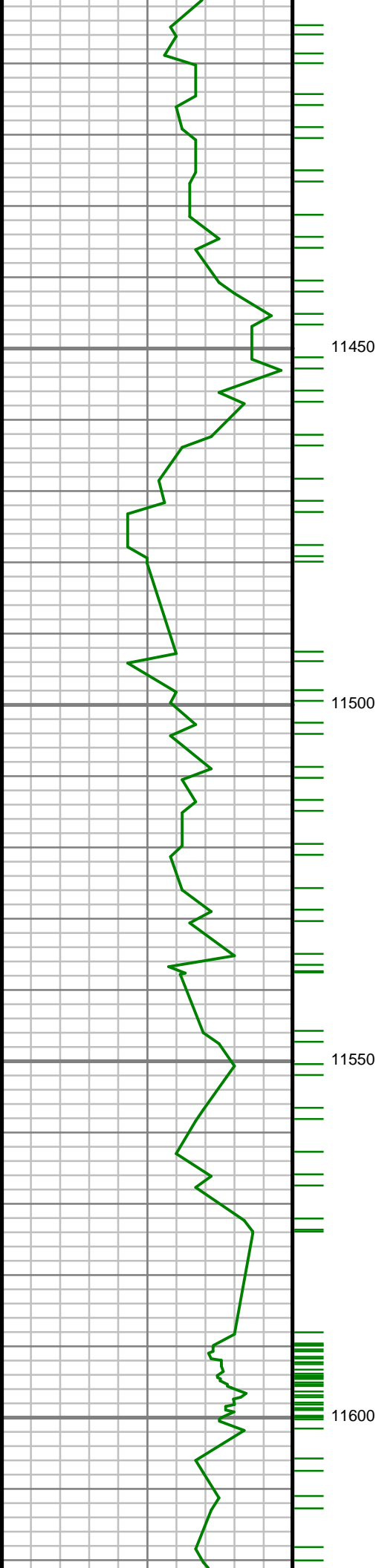
S: 118 MD: 11090.00 ft
Inc: 90.40 deg Az:
358.32 deg TVD:
7246.49 ft



S: 119 MD: 11183.00 ft
Inc: 89.93 deg Az:
358.56 deg TVD:
7246.22 ft

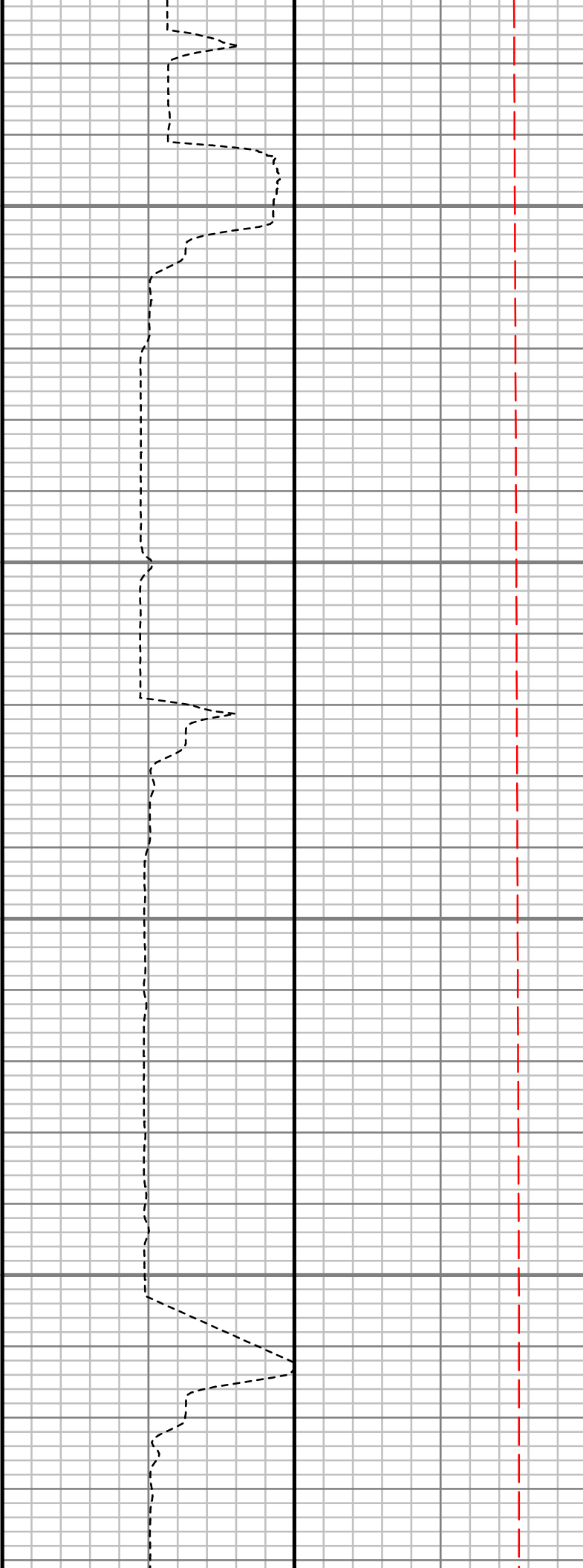
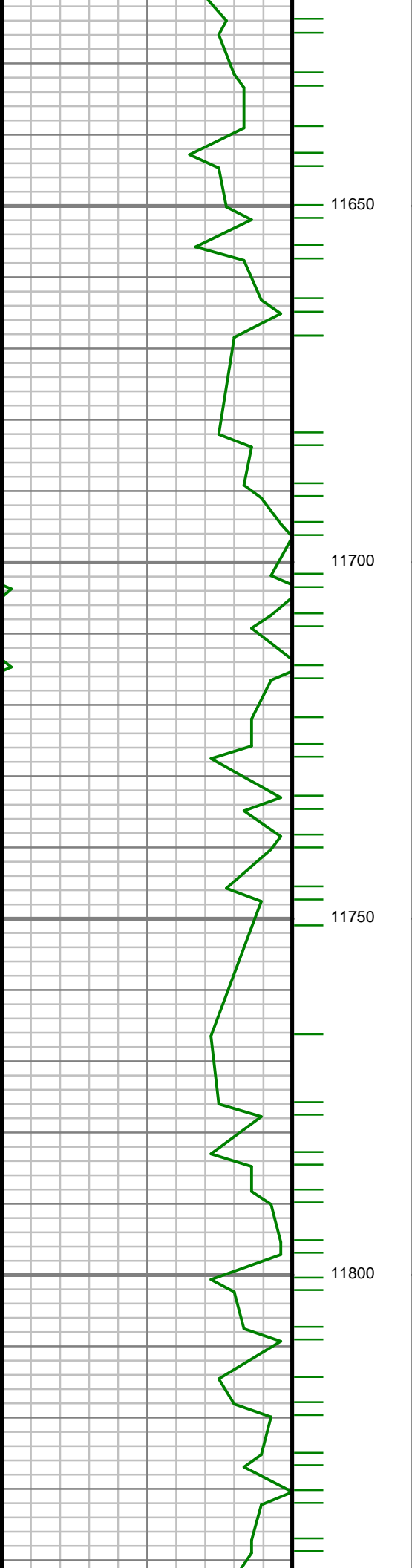
S: 120 MD: 11277.00 ft
Inc: 90.34 deg Az:
358.66 deg TVD:
7245.99 ft

S: 121 MD: 11370.00 ft
Inc: 91.04 deg Az:
358.67 deg TVD:
7244.88 ft



S: 122 MD: 11464.00 ft
Inc: 91.31 deg Az:
359.33 deg TVD:
7242.95 ft

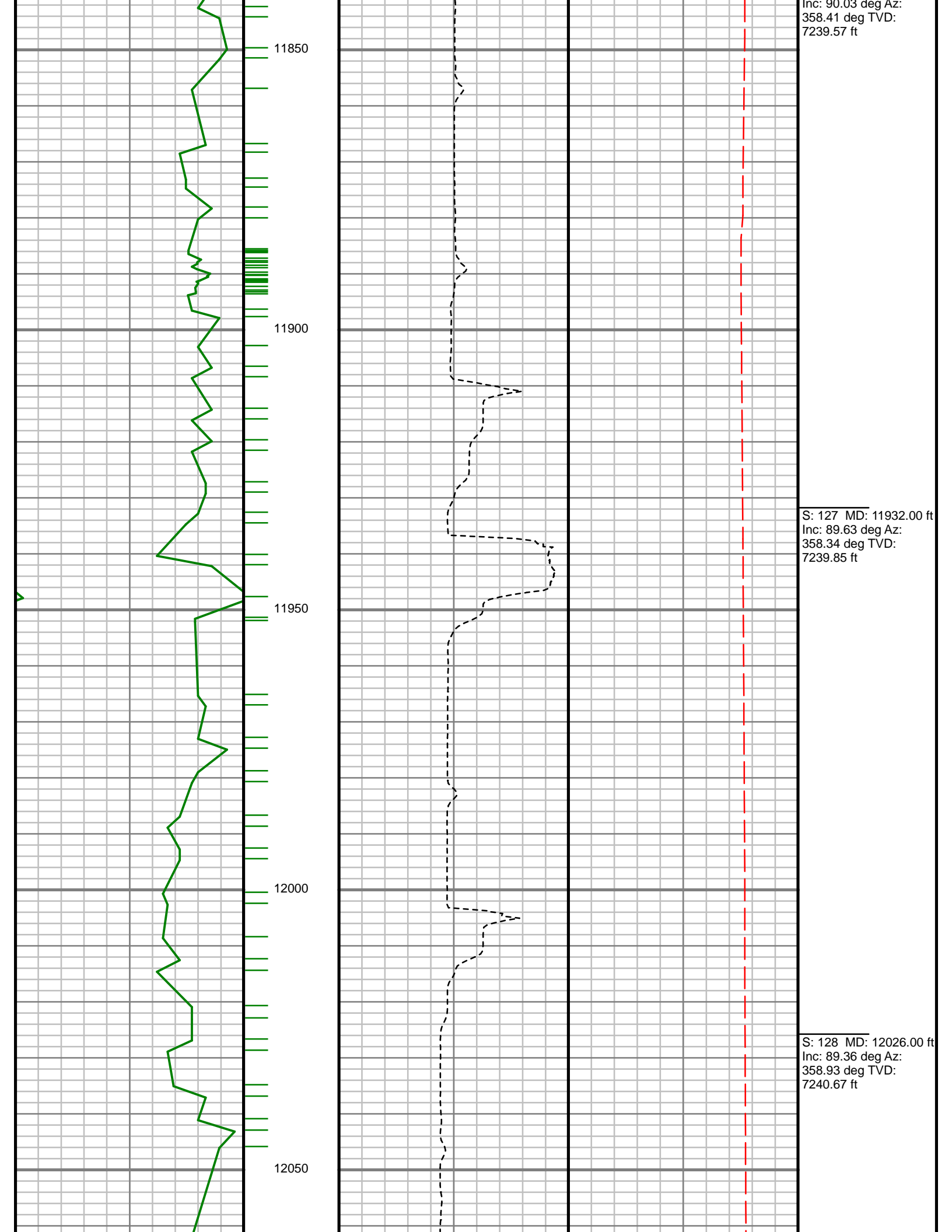
S: 123 MD: 11557.00 ft
Inc: 91.58 deg Az:
358.68 deg TVD:
7240.61 ft

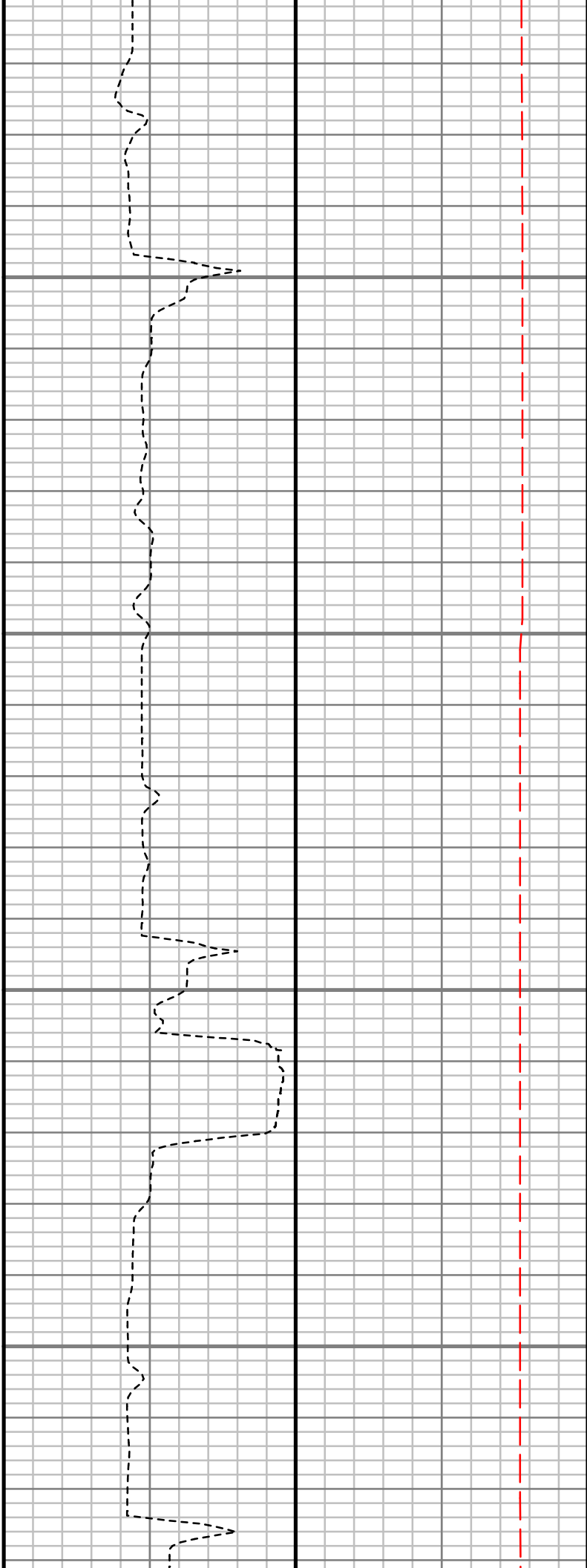
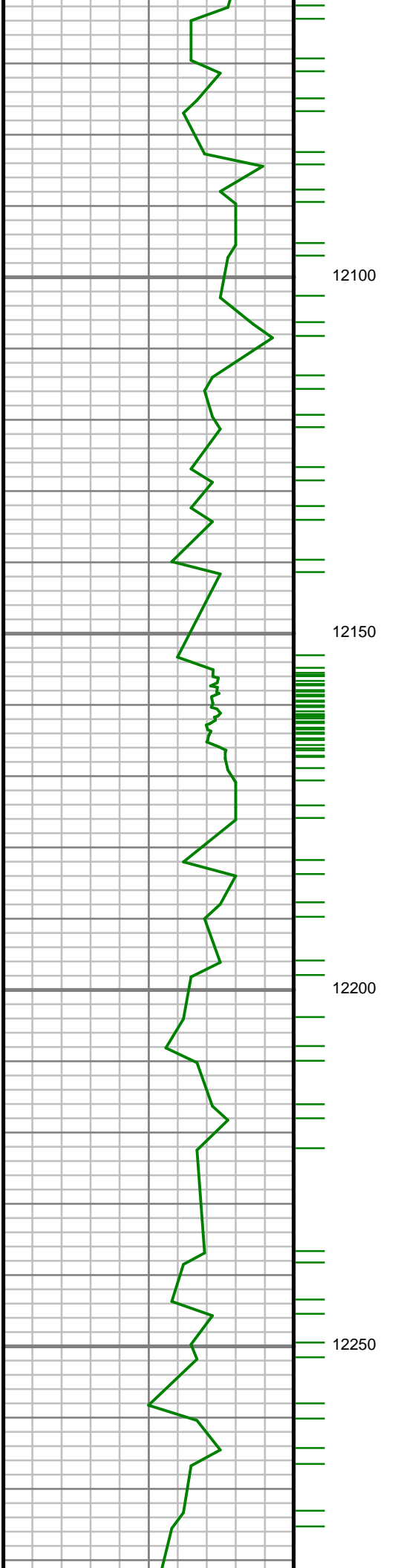


S: 124 MD: 11650.00 ft
Inc: 90.10 deg Az:
358.79 deg TVD:
7239.24 ft

S: 125 MD: 11743.00 ft
Inc: 89.73 deg Az:
359.00 deg TVD:
7239.38 ft

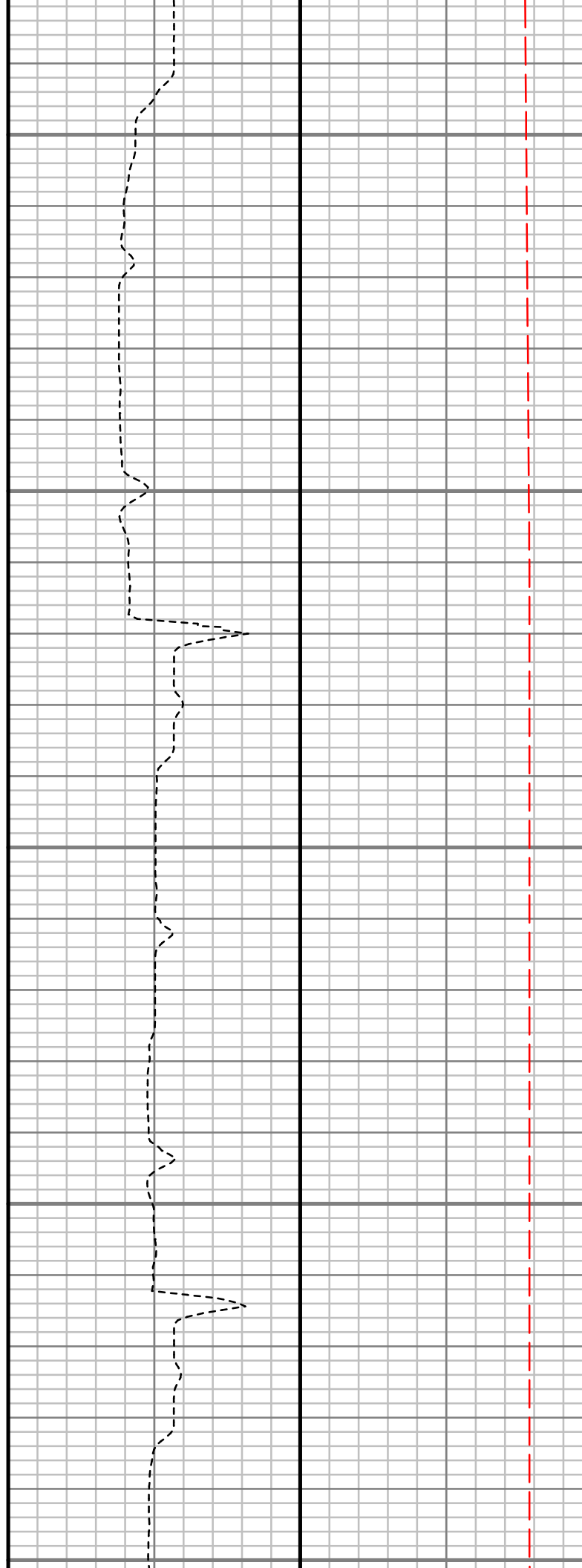
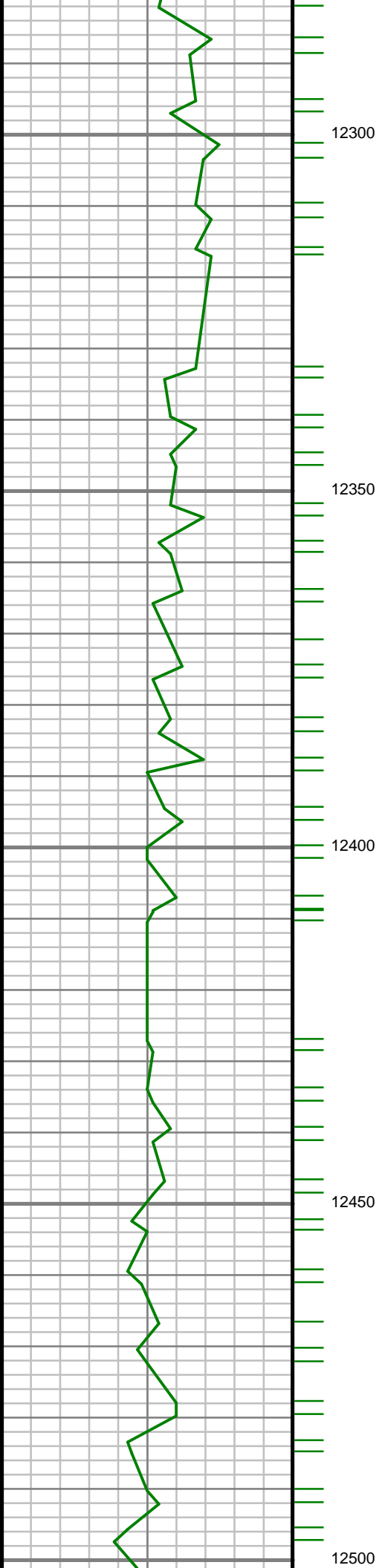
S: 126 MD: 11838.00 ft





S: 129 MD: 12121.00 ft
Inc: 89.29 deg Az:
358.02 deg TVD:
7241.79 ft

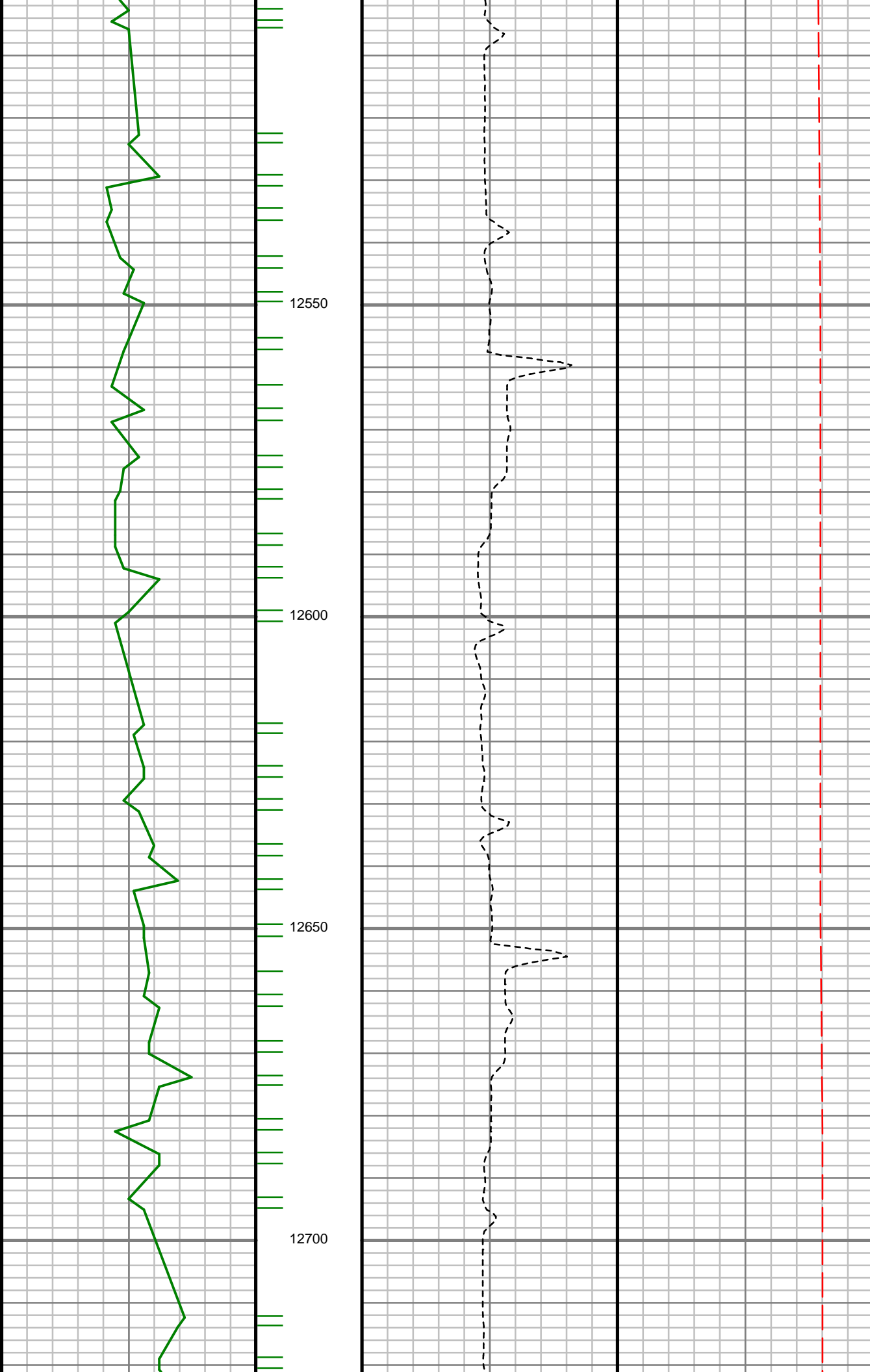
S: 130 MD: 12214.00 ft
Inc: 89.39 deg Az: 0.24
deg TVD: 7242.85 ft



S: 131 MD: 12309.00 ft
Inc: 89.50 deg Az: 0.53
deg TVD: 7243.77 ft

S: 132 MD: 12403.00 ft
Inc: 90.13 deg Az:
359.88 deg TVD:
7244.07 ft

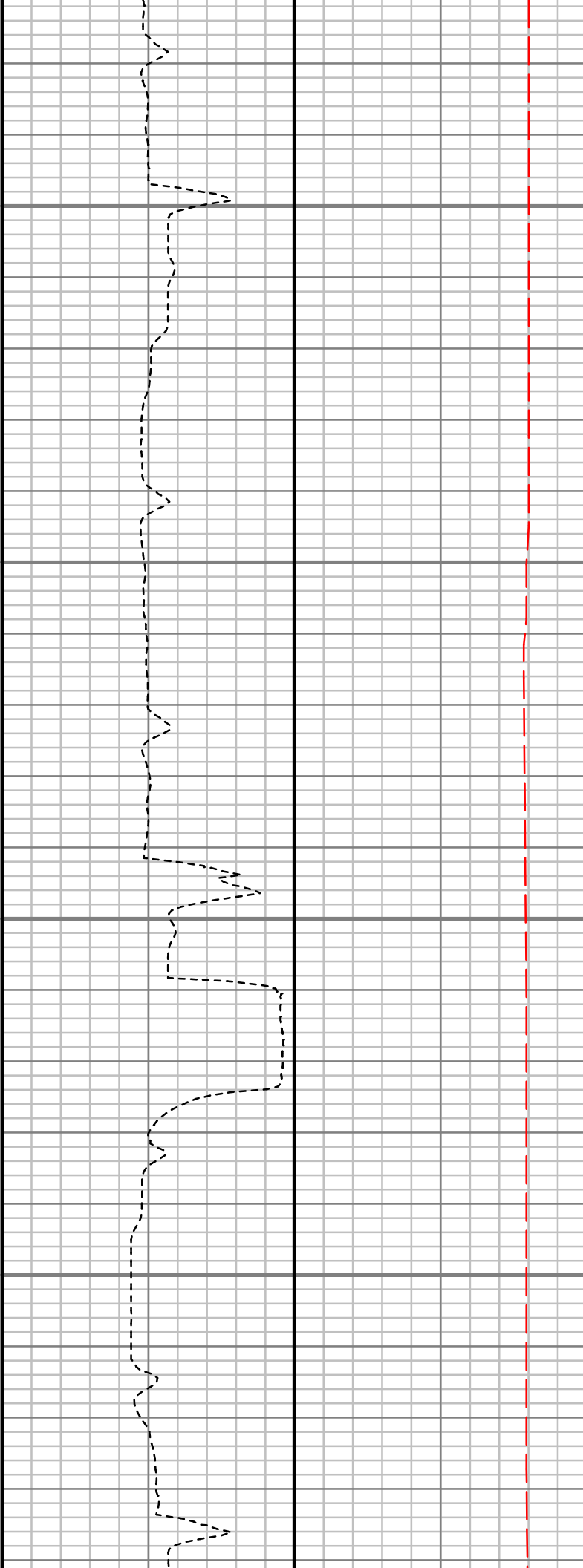
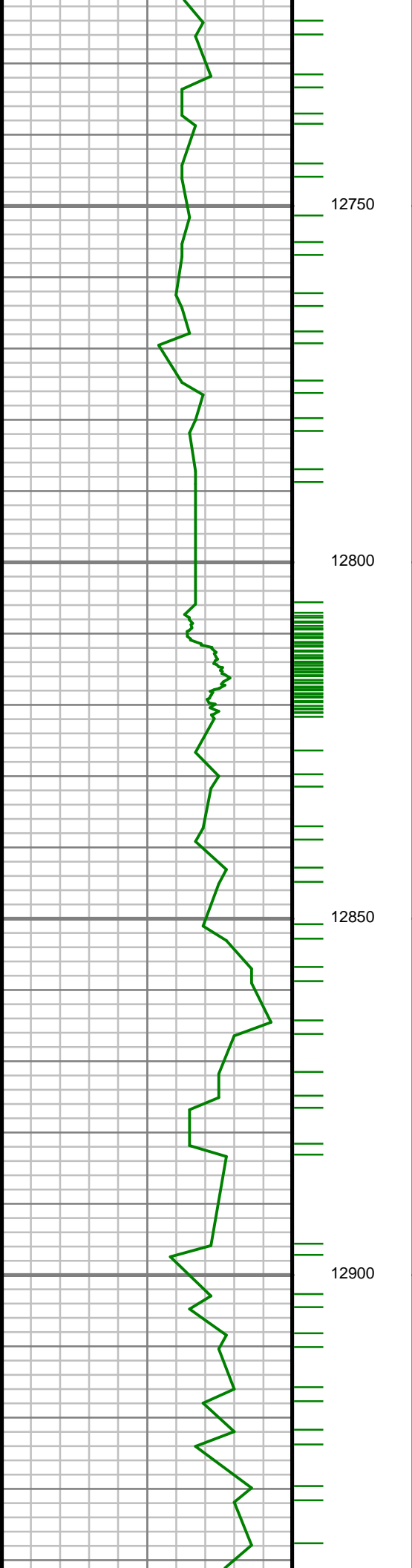
S: 133 MD: 12497.00 ft
Inc: 90.07 deg Az:



359.80 deg TVD:
7243.91 ft

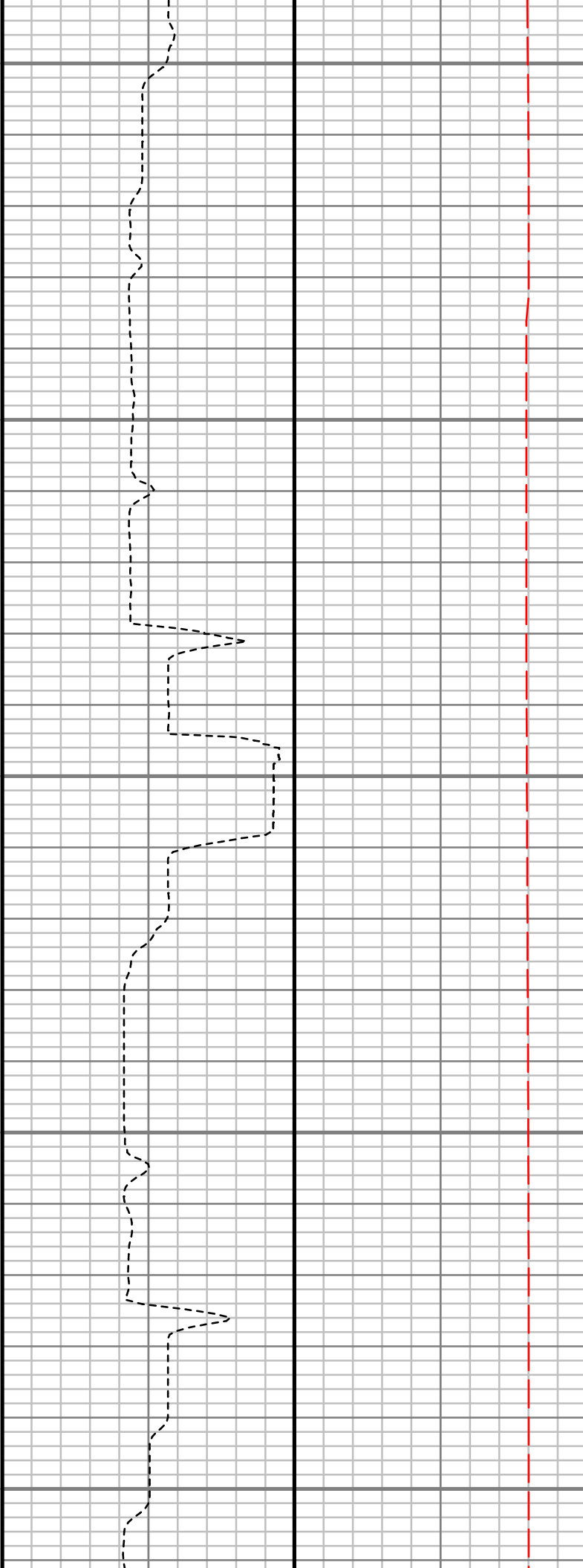
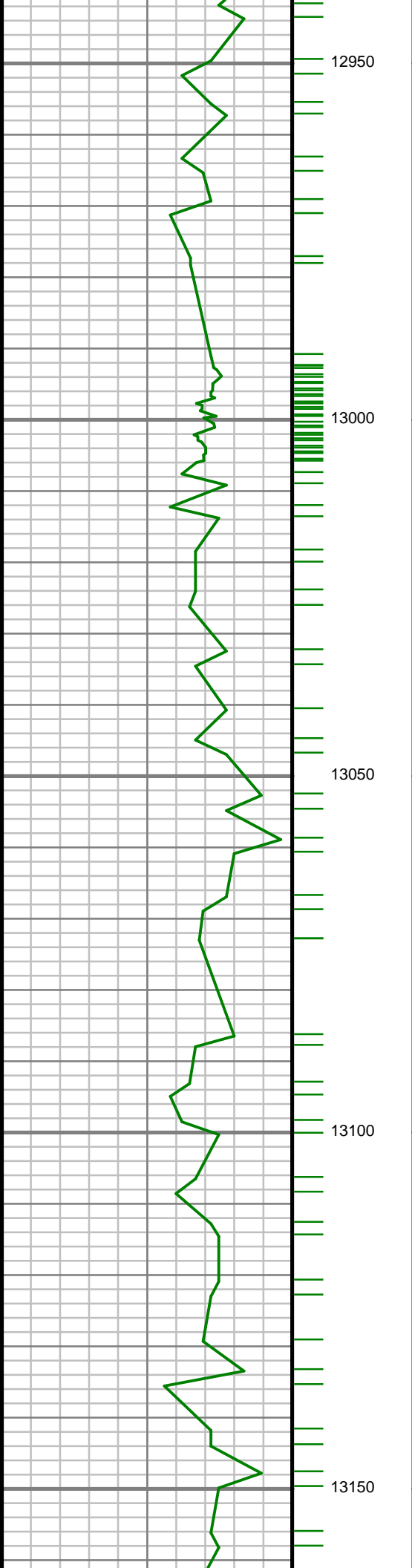
S: 134 MD: 12592.00 ft
Inc: 90.20 deg Az:
359.69 deg TVD:
7243.69 ft

S: 135 MD: 12686.00 ft
Inc: 90.81 deg Az:
359.68 deg TVD:
7242.86 ft



S: 136 MD: 12781.00 ft
Inc: 91.04 deg Az:
358.91 deg TVD:
7241.33 ft

S: 137 MD: 12874.00 ft
Inc: 90.40 deg Az: 0.23
deg TVD: 7240.16 ft

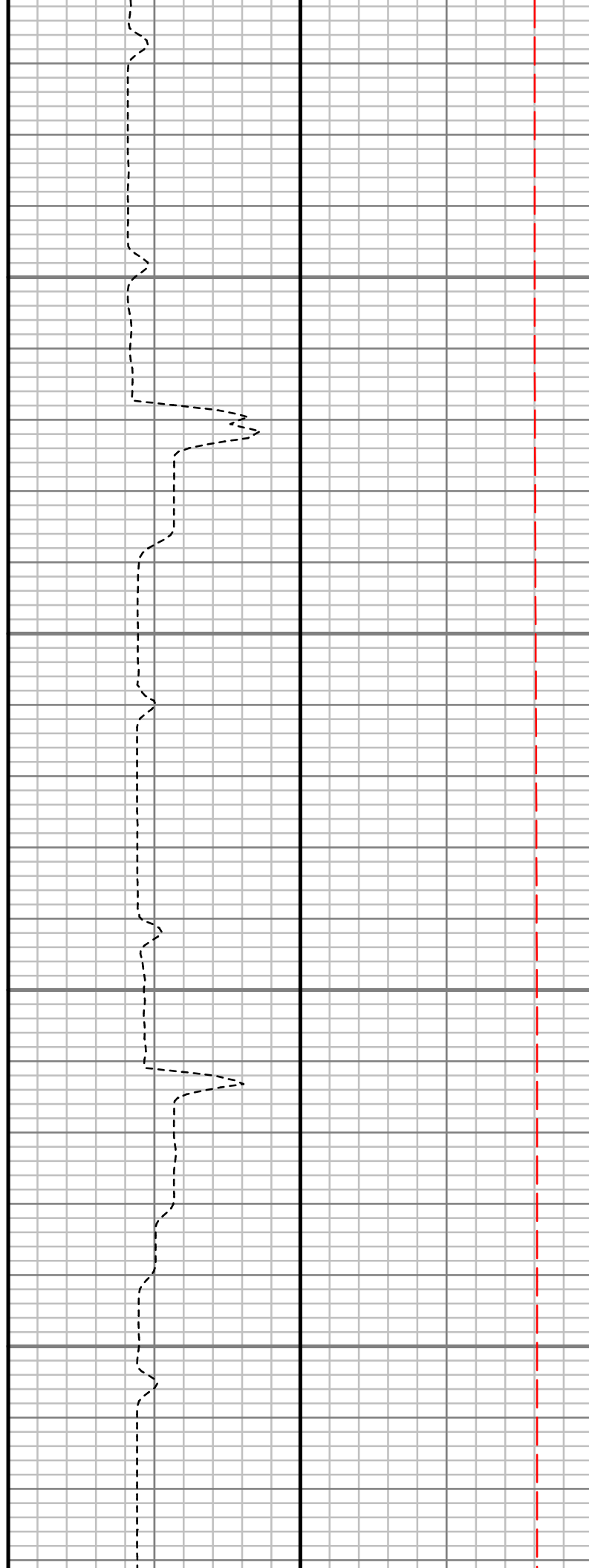
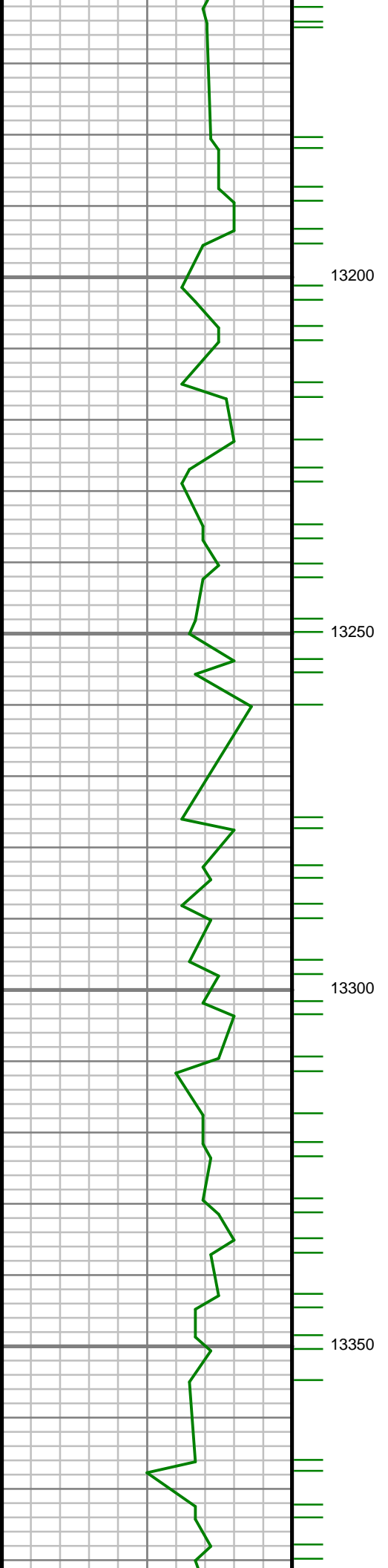


S: 138 MD: 12968.00 ft
Inc: 89.29 deg Az:
359.08 deg TVD:
7240.40 ft

S: 139 MD: 13063.00 ft
Inc: 89.50 deg Az: 1.15
deg TVD: 7241.41 ft

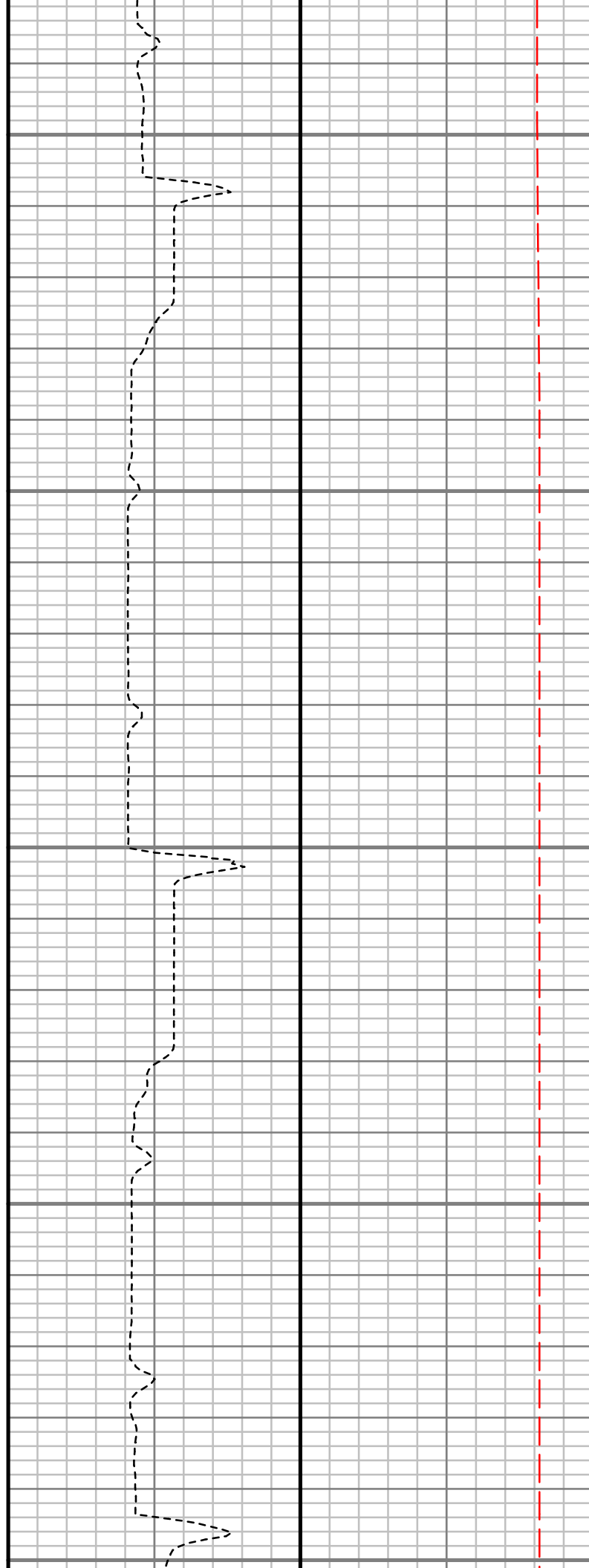
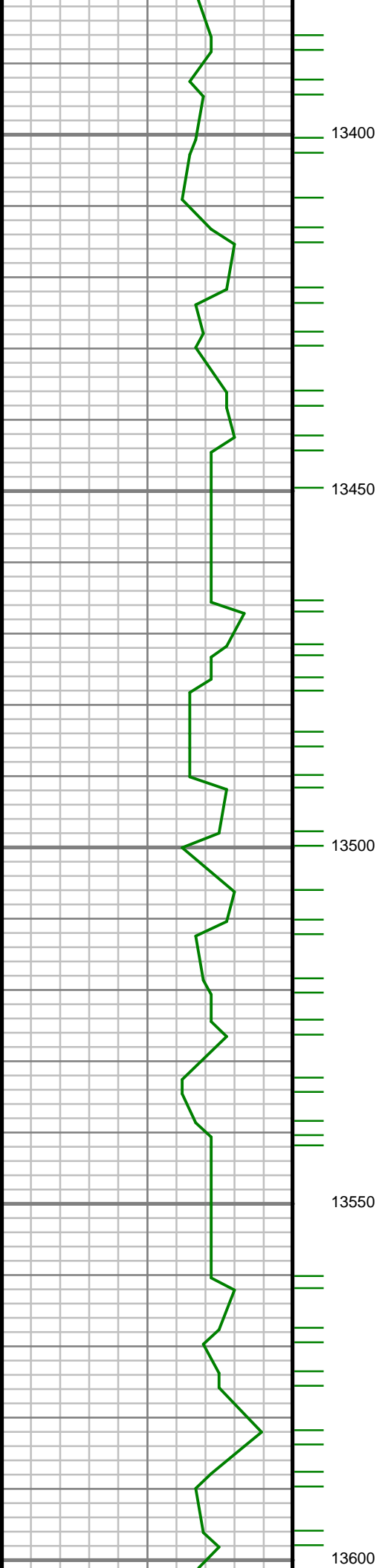
S: 140 MD: 13156.00 ft
Inc: 90.17 deg Az: 1.39

deg TVD: 7241.68 ft



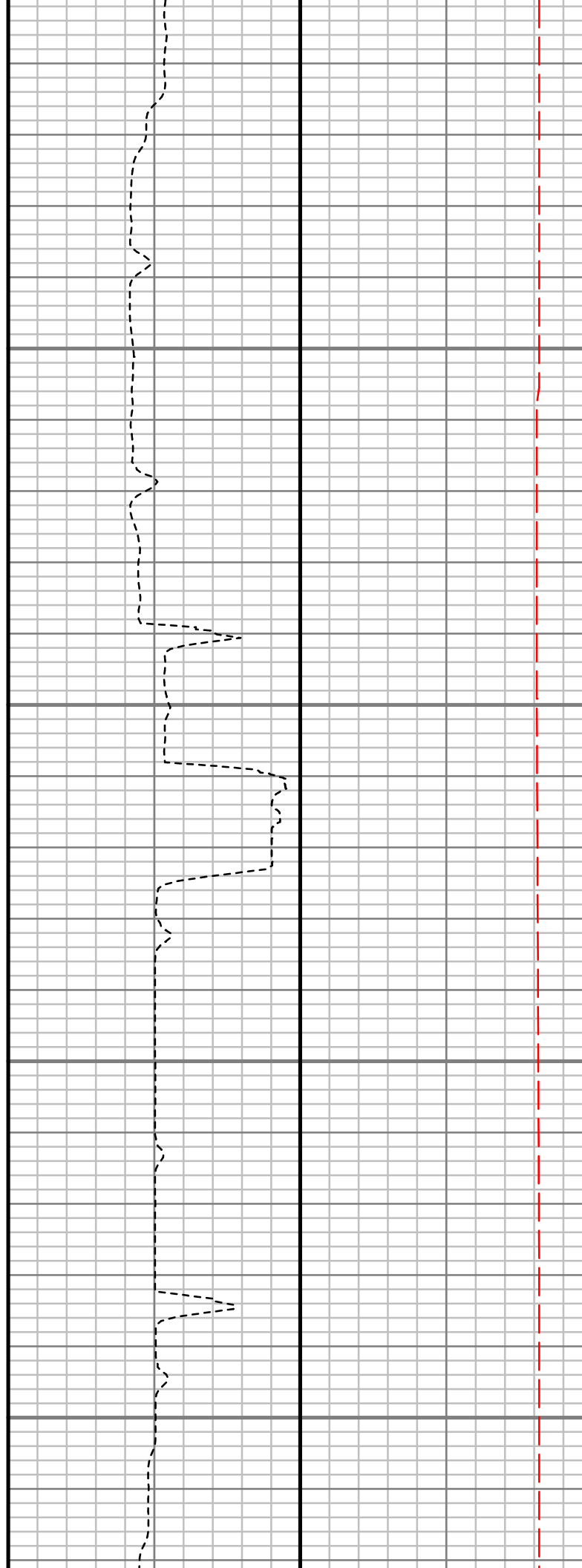
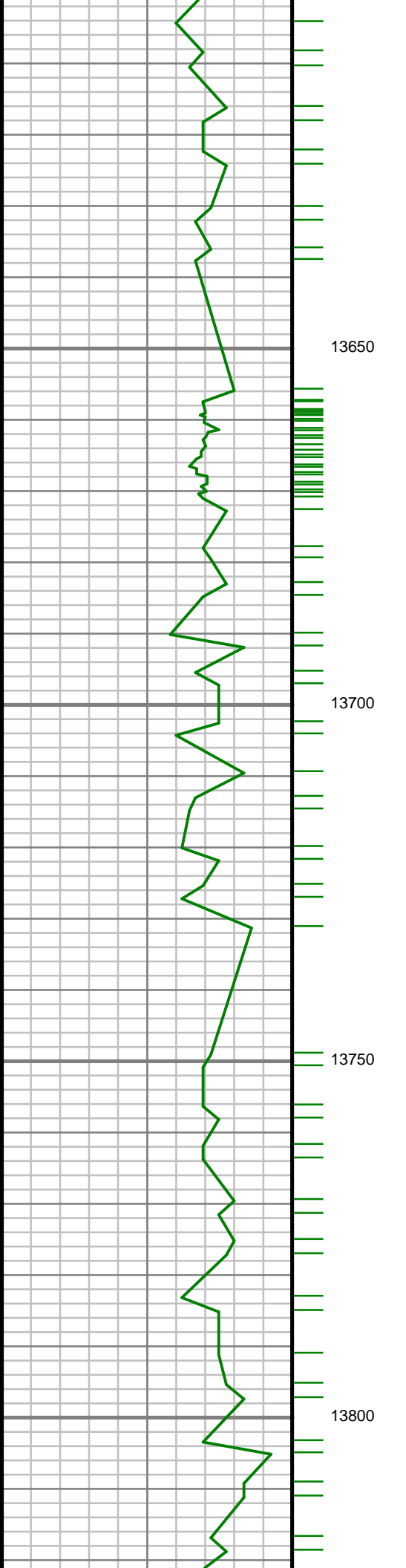
S: 141 MD: 13251.00 ft
Inc: 90.40 deg Az: 1.08
deg TVD: 7241.21 ft

S: 142 MD: 13347.00 ft
Inc: 90.30 deg Az: 0.64
deg TVD: 7240.61 ft



S: 143 MD: 13440.00 ft
Inc: 90.30 deg Az: 0.69
deg TVD: 7240.12 ft

S: 144 MD: 13533.00 ft
Inc: 90.24 deg Az:
359.83 deg TVD:
7239.69 ft

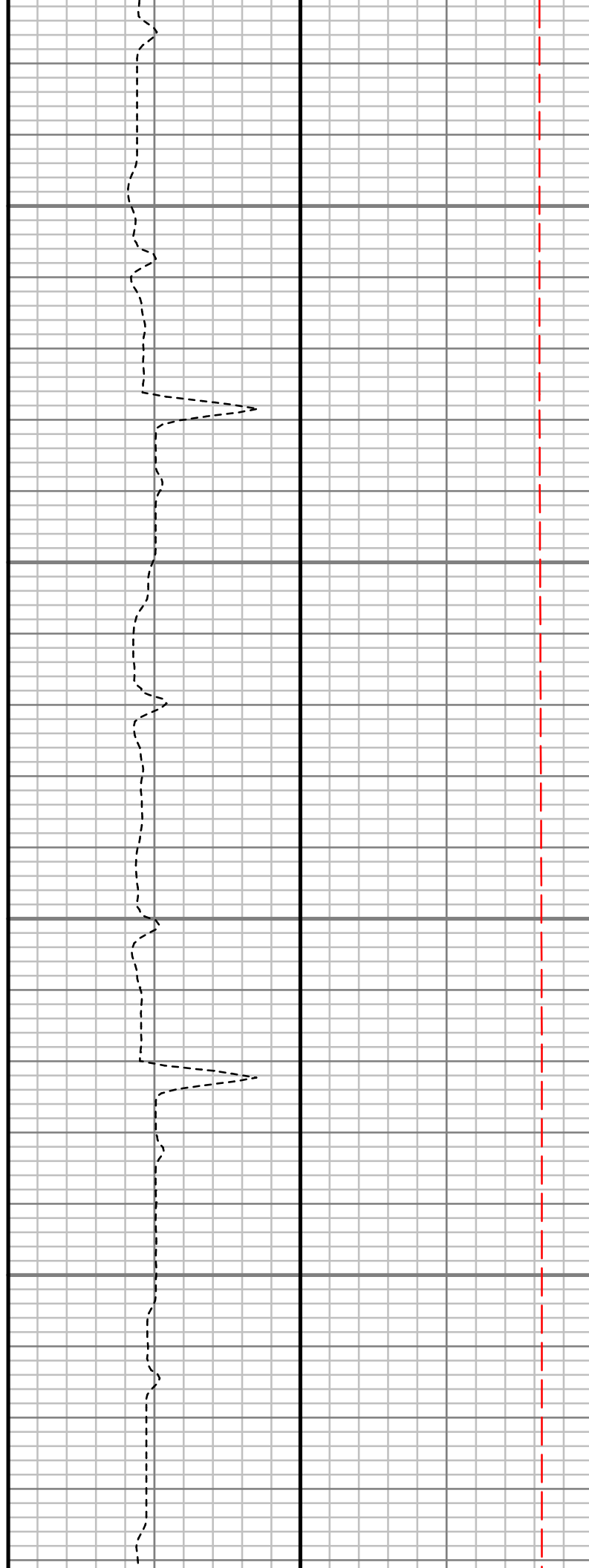
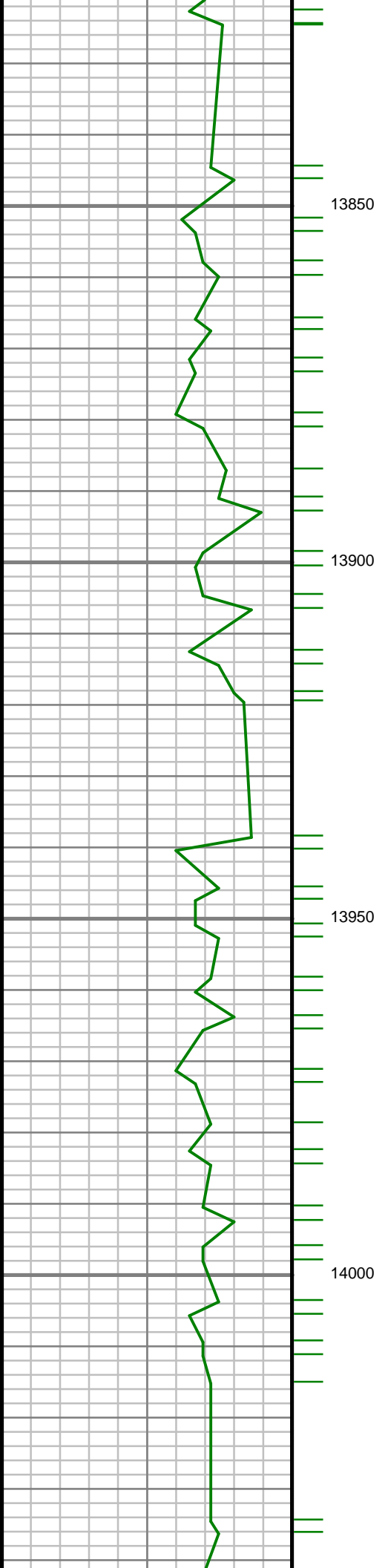


S: 145 MD: 13628.00 ft
Inc: 90.17 deg Az:
358.97 deg TVD:
7239.35 ft

S: 146 MD: 13722.00 ft
Inc: 89.50 deg Az: 0.73
deg TVD: 7239.63 ft

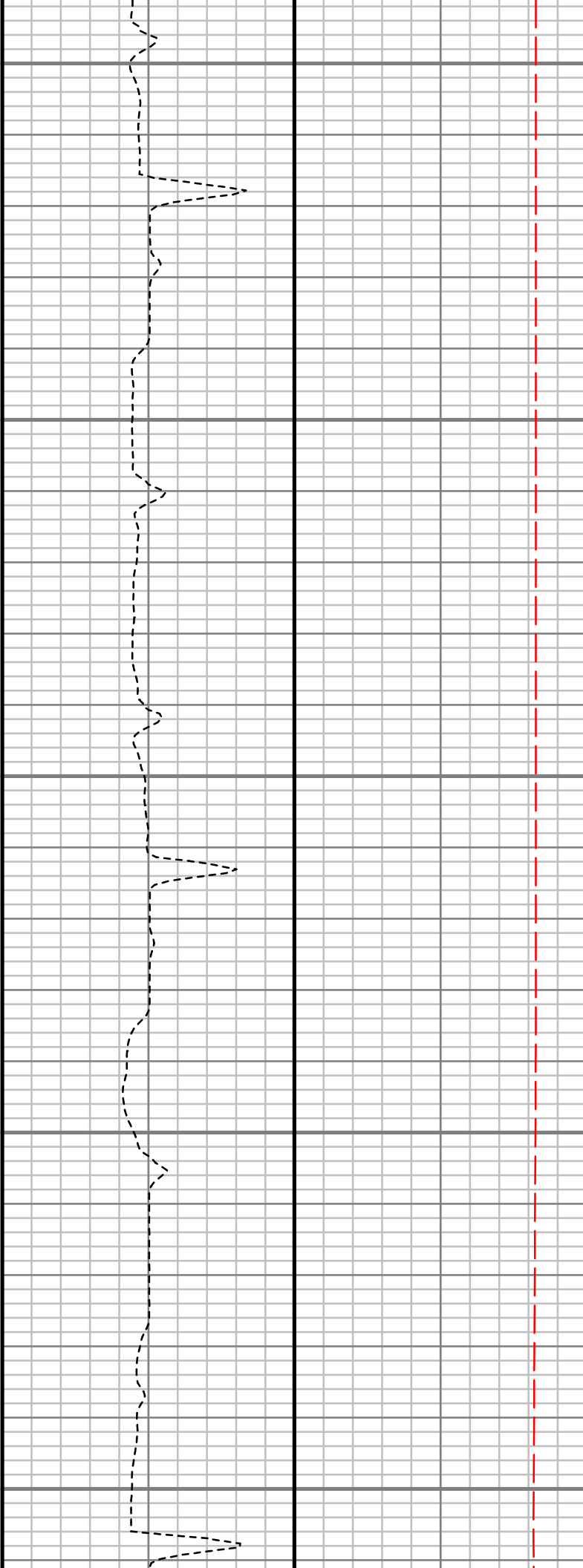
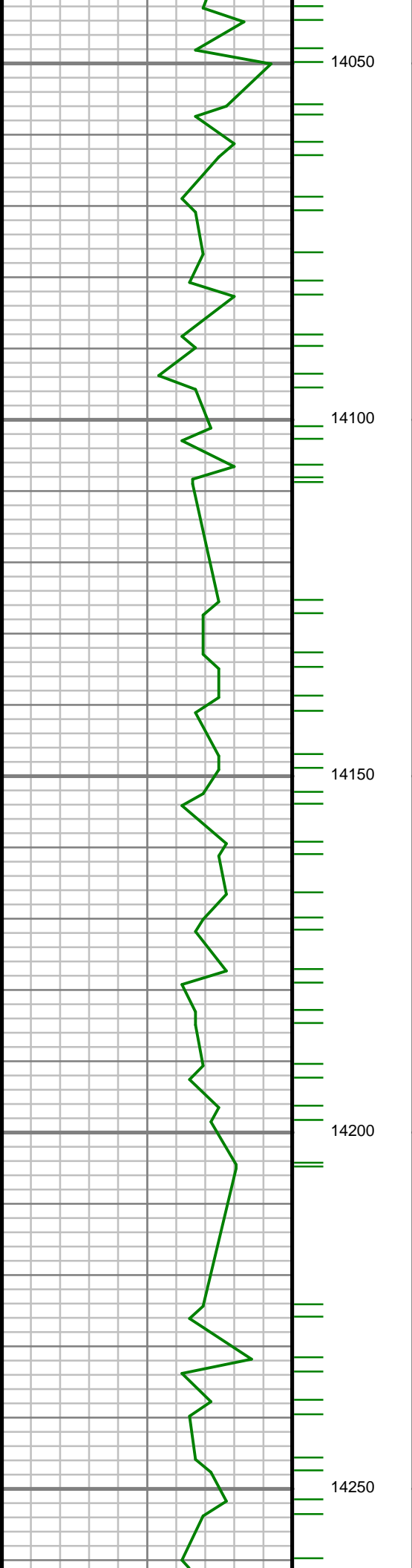
S: 147 MD: 13816.00 ft
Inc: 89.76 deg Az: 0.61

deg TVD: 7240.23 ft



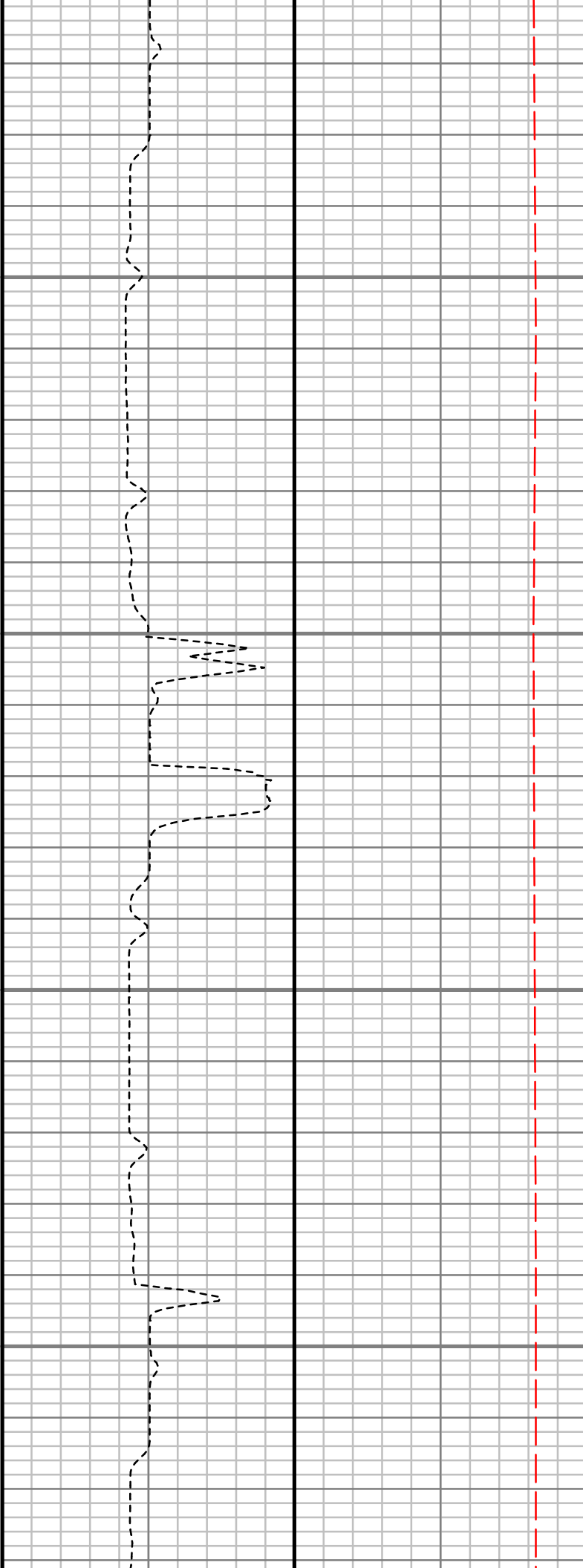
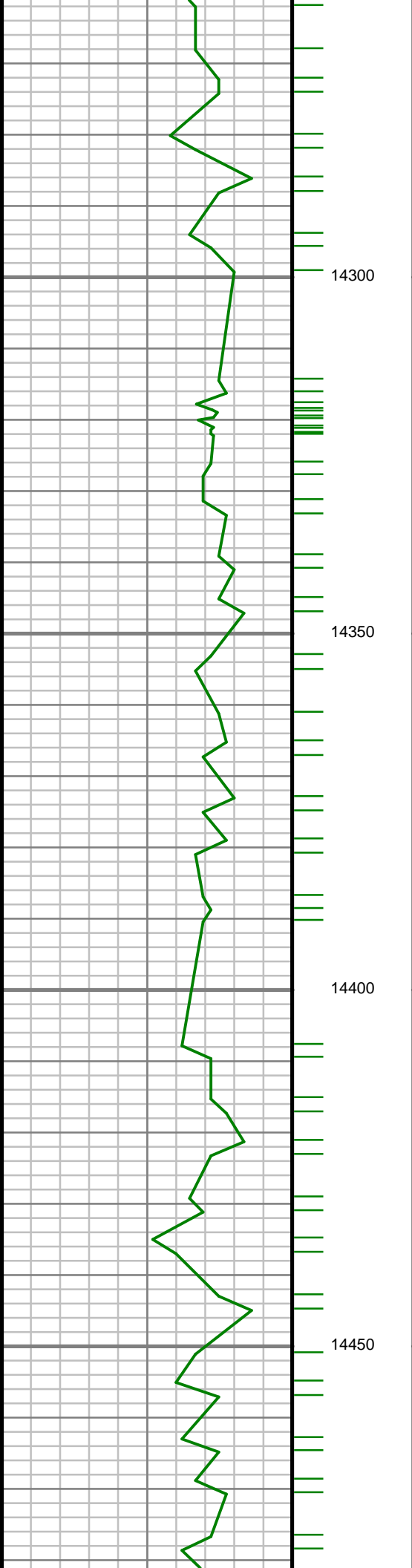
S: 148 MD: 13909.00 ft
Inc: 90.50 deg Az: 0.98
deg TVD: 7240.02 ft

S: 149 MD: 14005.00 ft
Inc: 89.93 deg Az: 0.21
deg TVD: 7239.65 ft



S: 150 MD: 14100.00 ft
Inc: 90.13 deg Az: 0.13
deg TVD: 7239.59 ft

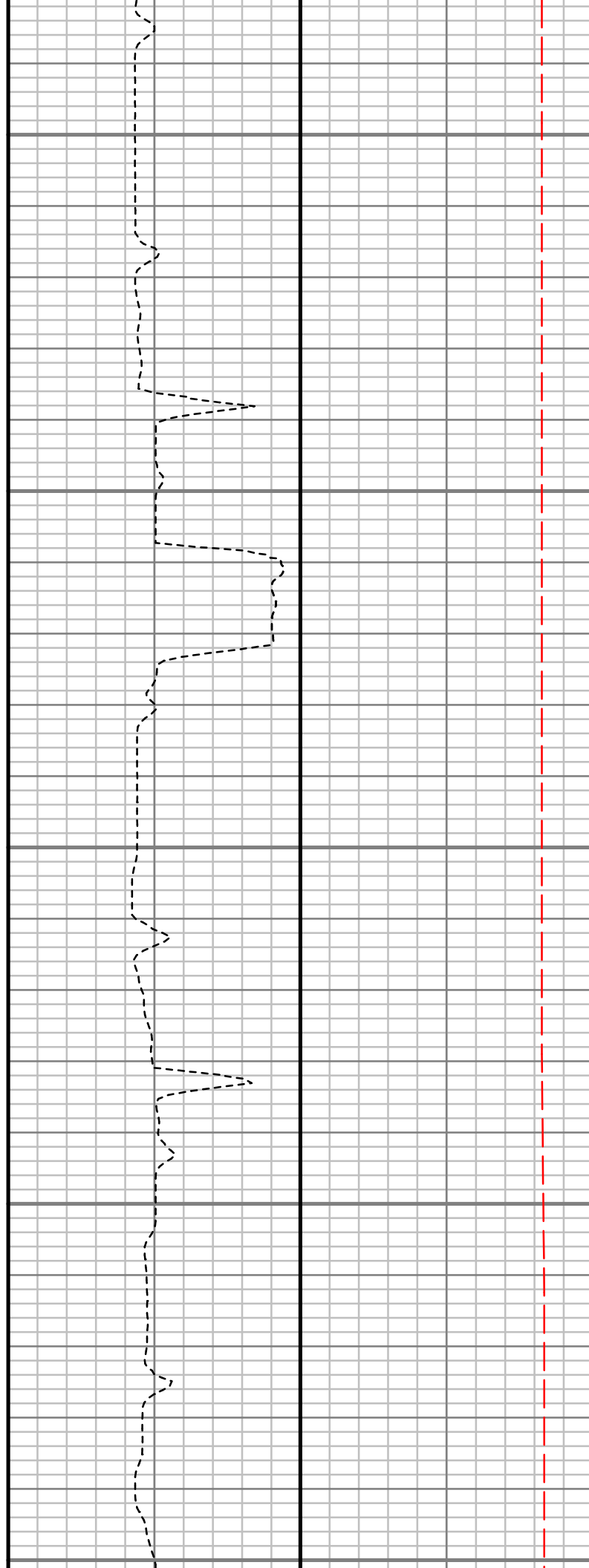
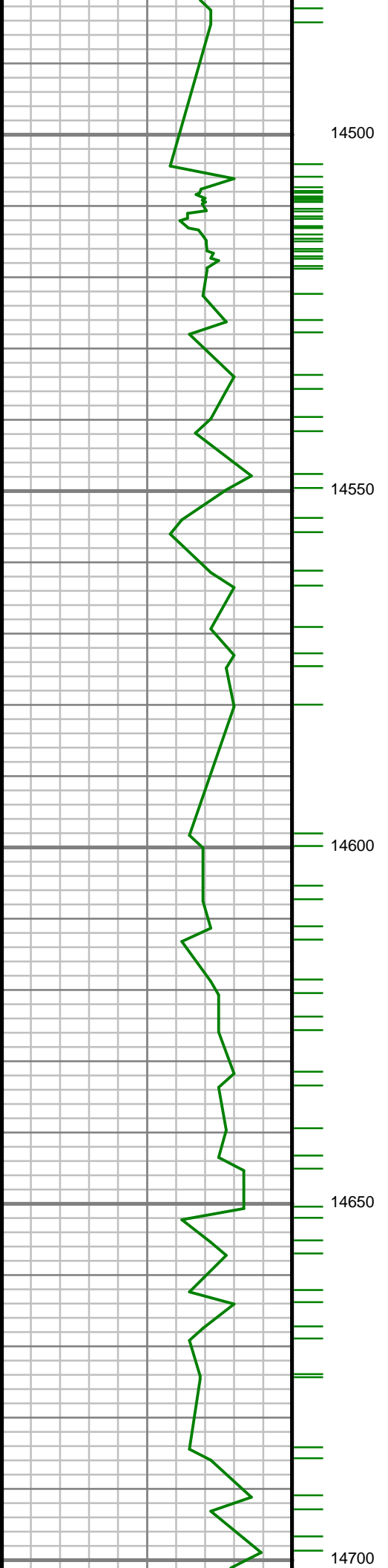
S: 151 MD: 14194.00 ft
Inc: 90.47 deg Az: 0.57
deg TVD: 7239.10 ft



S: 152 MD: 14288.00 ft
Inc: 90.27 deg Az:
359.59 deg TVD:
7238.49 ft

S: 153 MD: 14382.00 ft
Inc: 89.80 deg Az: 0.04
deg TVD: 7238.44 ft

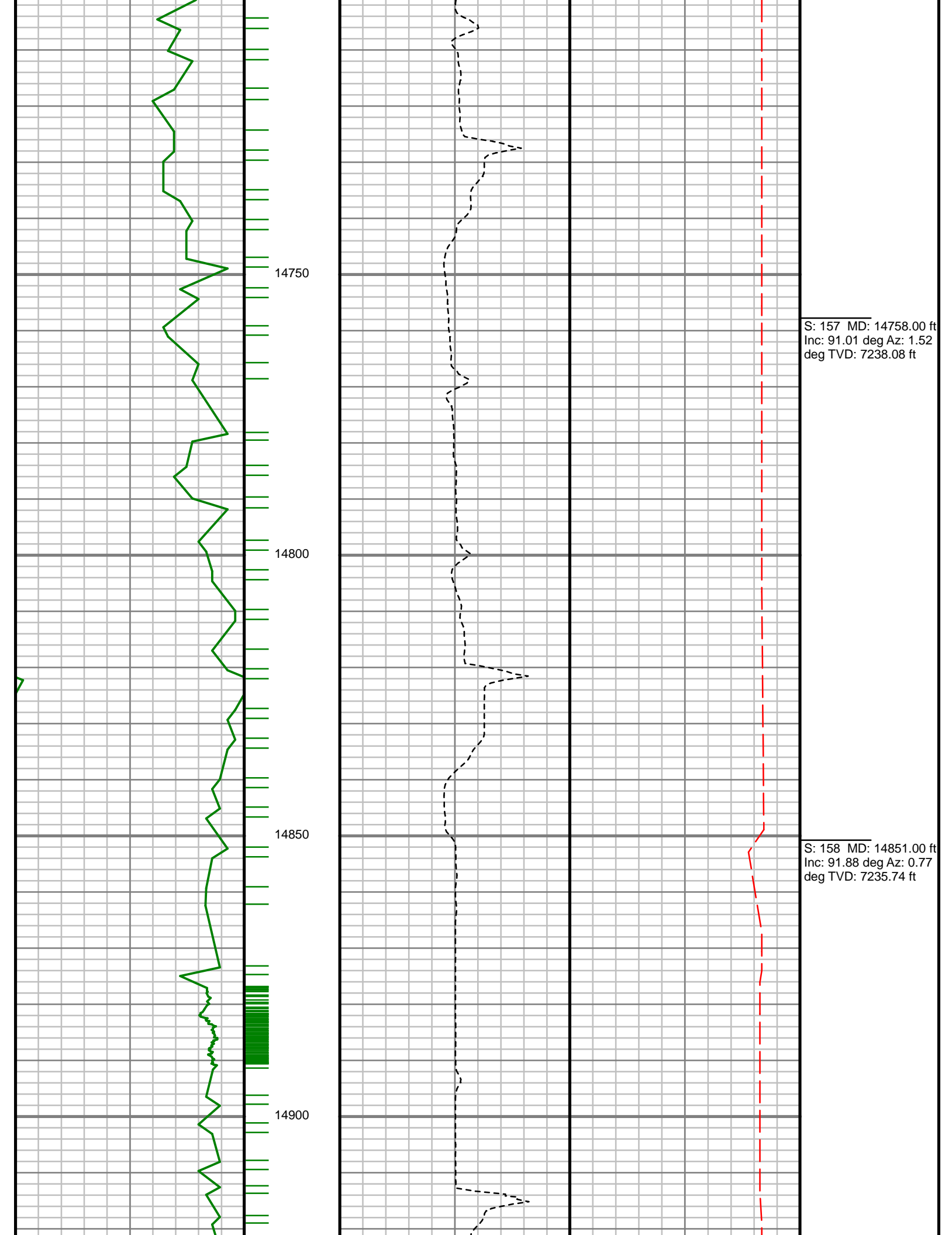
S: 154 MD: 14476.00 ft
Inc: 89.80 deg Az:

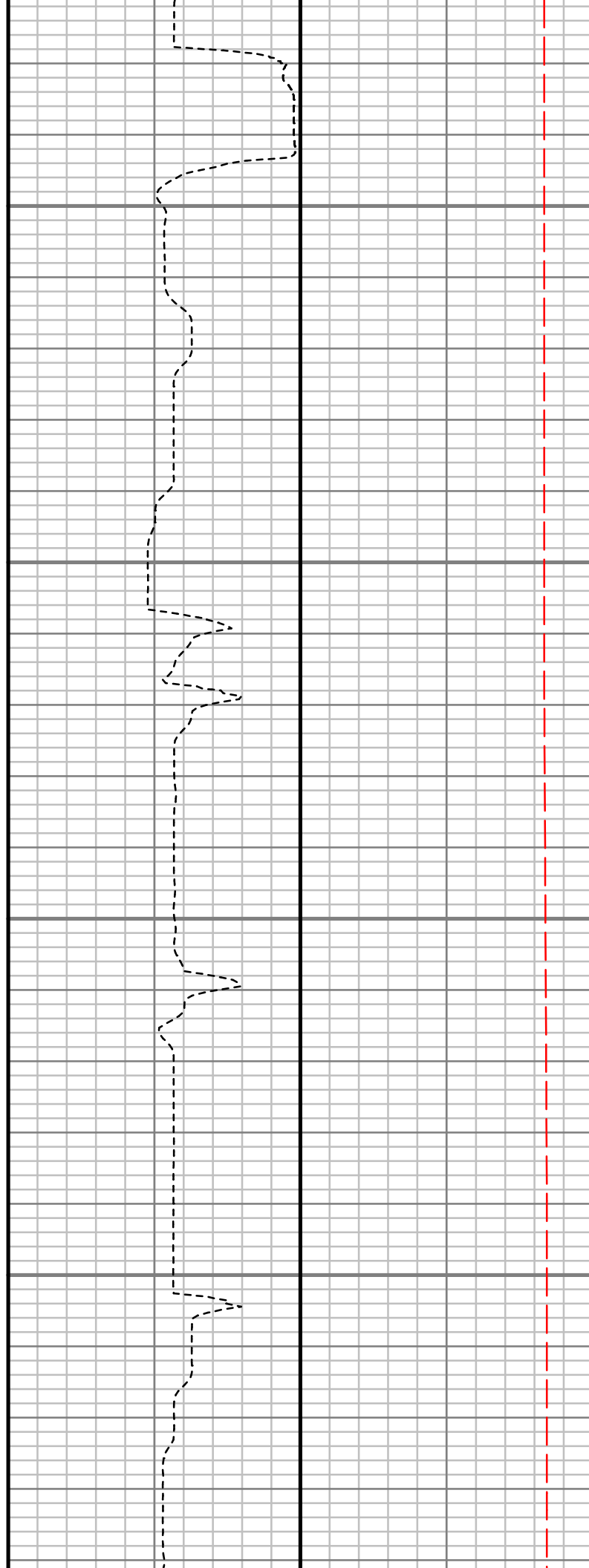
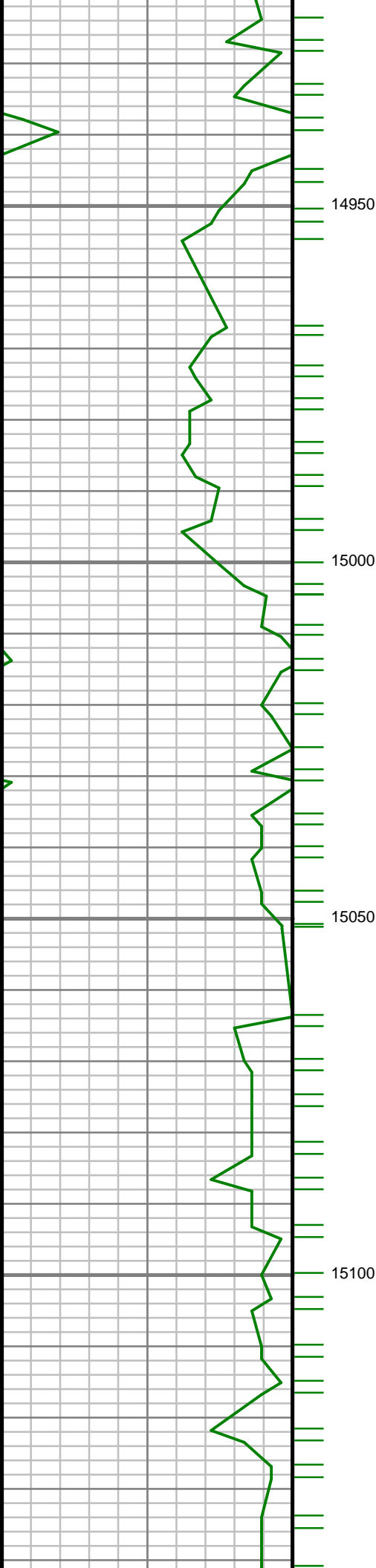


359.29 deg TVD:
7238.77 ft

S: 155 MD: 14571.00 ft
Inc: 89.19 deg Az: 0.53
deg TVD: 7239.61 ft

S: 156 MD: 14665.00 ft
Inc: 90.84 deg Az: 1.31
deg TVD: 7239.58 ft

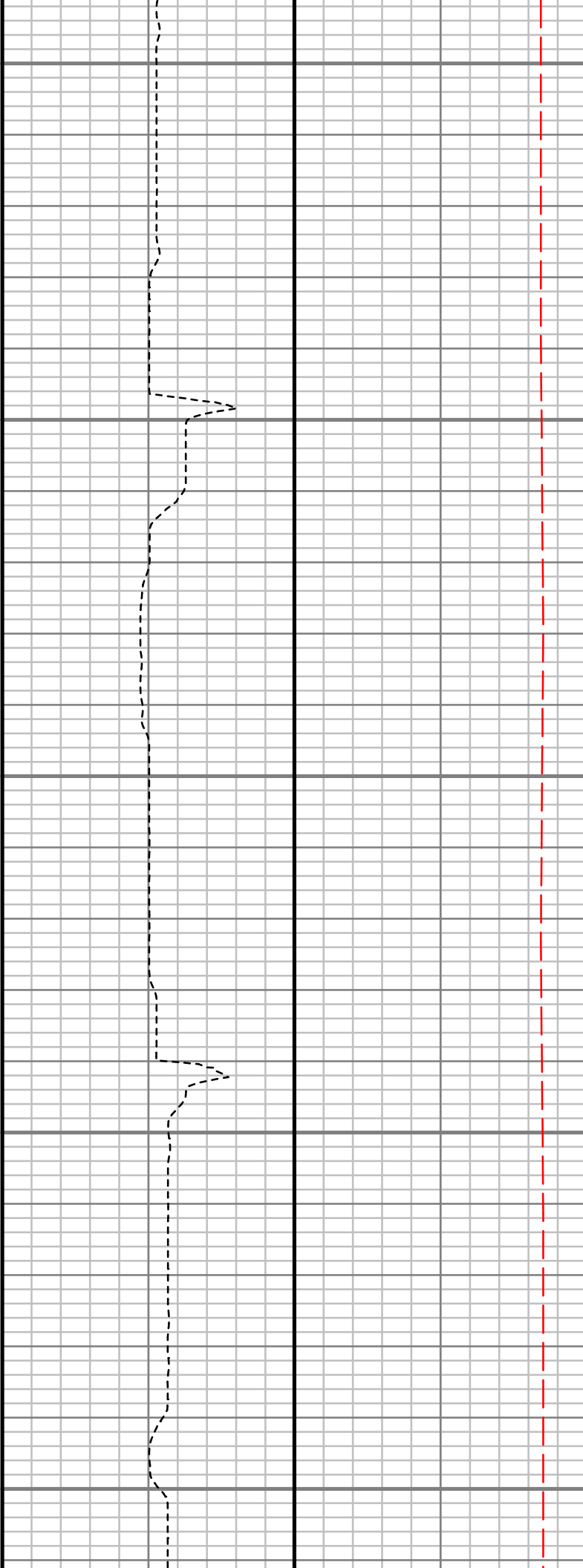
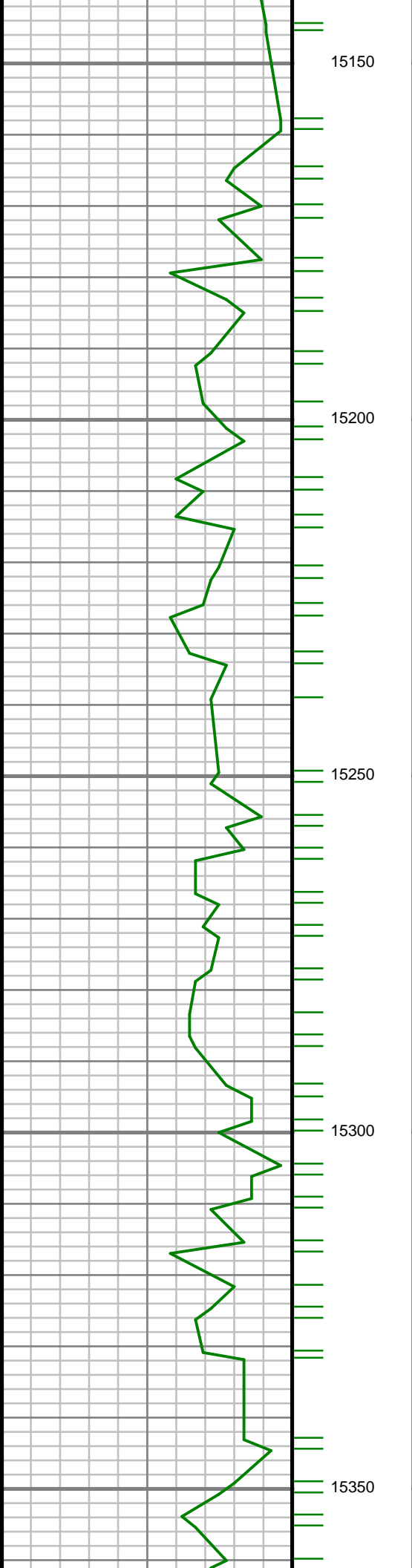




S: 159 MD: 14945.00 ft
Inc: 89.56 deg Az: 1.49
deg TVD: 7234.55 ft

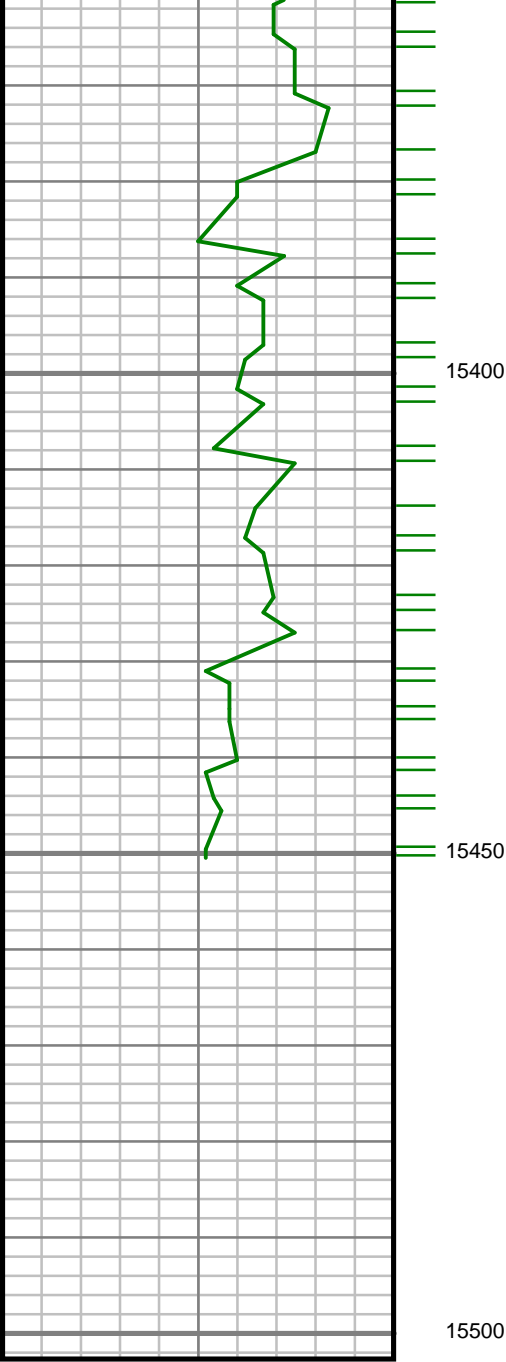
S: 160 MD: 15038.00 ft
Inc: 89.87 deg Az: 1.20
deg TVD: 7235.01 ft

S: 161 MD: 15132.00 ft
Inc: 89.19 deg Az: 1.22
deg TVD: 7235.78 ft



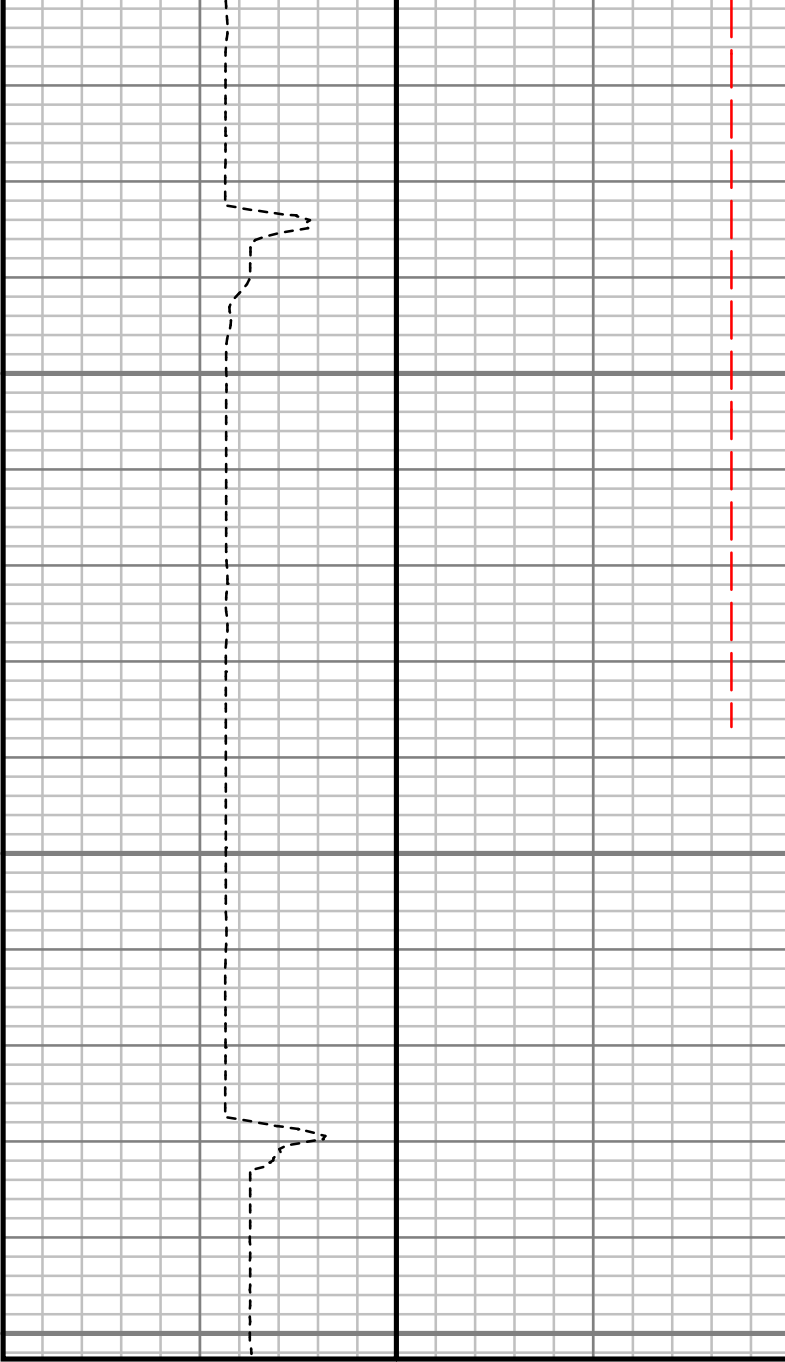
S: 162 MD: 15226.00 ft
Inc: 88.96 deg Az: 1.36
deg TVD: 7237.30 ft

S: 163 MD: 15319.00 ft
Inc: 88.29 deg Az: 1.99
deg TVD: 7239.54 ft



Gamma Ray (GR)		
0	Unit = aapi	150

MEASURED DEPTH
1:240 (ft)



Rate of Penetration (ROP)		
800	Unit = ft/hr	0

Tool Temperature (TEMP)		
0	Unit = °F	300

S: 164 MD: 15412.00 ft
Inc: 88.12 deg Az: 1.57
deg TVD: 7242.45 ft

S: 165 MD: 15439.00 ft
Inc: 88.18 deg Az: 1.37
deg TVD: 7243.32 ft

Comments

SURVEY REPORT

BUTTERBALL 24N2-34HZ

BUTTERBALL 24N2-34HZ

CUSTOMER ANADARKO PETROLEUM CORPORATION
PROJECT BUTTERBALL
FIELD WATTENBERG

WELL INFORMATION

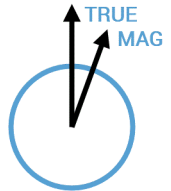
Lat/Long 40.158269° N, 104.869704° W
Northing 14,584,393.1 ft
Easting 1,676,821.81 ft
UWI 05123443170000

MAP INFORMATION

North Reference True North
Grid Correction
System Universal Transverse Mercator (US Survey Feet)
Datum North American Datum 1983 (GRS 1980)
Map Zone Zone 13N (108 W to 102 W)

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 0.11°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.050 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-3909 ft	ANADARKO MAGVAR	23 May 2017	8.36°	add 8.36°
3909-11743 ft	ANADARKO MAGVAR	23 May 2017	8.37°	add 8.37°
11743-15439 ft	ANADARKO MAGVAR	23 May 2017	8.34°	add 8.34°

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
153.00	0.27	72.76	153.00	0.11	0.11	0.34	0.18
239.00	0.33	27.40	239.00	0.39	0.39	0.65	0.28
328.00	0.62	23.27	328.00	1.06	1.06	0.96	0.33
415.00	1.12	351.80	414.99	2.33	2.33	1.02	0.77
503.00	1.83	313.42	502.96	4.15	4.15	-0.12	1.34
592.00	2.87	306.87	591.88	6.46	6.46	-2.93	1.20
679.00	3.55	287.96	678.75	8.59	8.60	-7.24	1.44
765.00	4.79	285.17	764.52	10.33	10.36	-13.24	1.46
854.00	5.35	278.37	853.17	11.90	11.94	-20.93	0.92
943.00	6.72	277.10	941.67	13.13	13.18	-30.20	1.55
1032.00	7.10	275.16	1030.03	14.24	14.32	-40.85	0.50
1121.00	7.86	273.69	1118.27	15.11	15.21	-52.40	0.88
1209.00	9.19	276.90	1205.30	16.31	16.44	-65.38	1.60
1298.00	10.10	274.93	1293.04	17.81	17.96	-80.21	1.09
1382.00	10.85	271.72	1375.64	18.65	18.83	-95.45	1.13
1469.00	9.68	274.34	1461.24	19.42	19.63	-110.93	1.45
1556.00	9.84	274.82	1546.99	20.57	20.81	-125.63	0.21
1640.00	10.59	276.22	1629.65	21.98	22.25	-140.46	0.94
1729.00	10.36	274.83	1717.17	23.51	23.81	-156.56	0.38

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1804.00	9.66	273.07	1791.03	24.39	24.72	-169.56	1.02
1937.00	8.91	274.20	1922.28	25.70	26.07	-190.98	0.58
2031.00	8.47	271.15	2015.20	26.35	26.74	-205.17	0.68
2126.00	7.55	270.01	2109.28	26.46	26.88	-218.40	0.99
2221.00	7.10	269.06	2203.50	26.35	26.79	-230.51	0.49
2314.00	6.51	272.43	2295.85	26.45	26.92	-241.52	0.76
2407.00	6.12	268.63	2388.28	26.54	27.02	-251.75	0.61
2502.00	5.57	267.99	2482.79	26.24	26.74	-261.42	0.59
2596.00	6.58	275.08	2576.26	26.54	27.06	-271.33	1.34
2690.00	6.52	275.34	2669.65	27.49	28.03	-282.01	0.07
2784.00	6.38	271.01	2763.05	28.06	28.62	-292.55	0.54
2878.00	4.44	261.81	2856.63	27.61	28.19	-301.38	2.26
2972.00	2.66	242.61	2950.45	26.08	26.67	-306.92	2.26
3068.00	1.88	192.94	3046.38	23.52	24.11	-309.25	2.12
3160.00	1.83	194.92	3138.34	20.63	21.22	-309.96	0.09
3254.00	1.55	202.57	3232.29	18.00	18.60	-310.84	0.38
3348.00	1.47	195.84	3326.26	15.66	16.26	-311.66	0.21
3440.00	1.54	192.14	3418.23	13.31	13.91	-312.24	0.13
3534.00	1.40	192.32	3512.20	10.95	11.56	-312.75	0.15
3628.00	1.62	187.79	3606.17	8.52	9.12	-313.18	0.27

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3722.00	1.48	248.97	3700.14	6.76	7.36	-314.49	1.68
3816.00	1.29	268.51	3794.11	6.29	6.90	-316.68	0.54
3909.00	1.53	263.45	3887.08	6.12	6.73	-318.96	0.29
4004.00	0.59	160.92	3982.07	5.51	6.13	-320.06	1.84
4099.00	0.86	155.61	4077.06	4.40	5.02	-319.61	0.30
4193.00	0.85	149.77	4171.05	3.16	3.77	-318.97	0.09
4287.00	0.64	132.62	4265.04	2.21	2.82	-318.23	0.32
4382.00	0.65	168.72	4360.04	1.32	1.93	-317.74	0.42
4476.00	0.54	182.27	4454.03	0.36	0.97	-317.65	0.18
4571.00	1.37	348.86	4549.03	1.02	1.63	-317.89	2.00
4664.00	1.98	356.69	4641.99	3.72	4.33	-318.20	0.70
4758.00	1.66	2.17	4735.94	6.70	7.31	-318.24	0.39
4852.00	1.50	13.26	4829.90	9.26	9.87	-317.91	0.37
4947.00	1.42	36.90	4924.87	11.40	12.01	-316.92	0.63
5042.00	1.13	32.52	5019.85	13.14	13.74	-315.71	0.32
5135.00	1.65	23.28	5112.82	15.14	15.74	-314.69	0.60
5255.00	1.41	19.04	5232.78	18.12	18.73	-313.52	0.22
5350.00	1.50	23.81	5327.75	20.37	20.97	-312.64	0.16
5445.00	1.40	16.28	5422.72	22.63	23.23	-311.81	0.23
5539.00	1.35	16.13	5516.69	24.81	25.40	-311.18	0.05

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5633.00	0.53	329.00	5610.68	26.24	26.84	-311.09	1.14
5725.00	1.38	287.81	5702.67	26.94	27.54	-312.36	1.14
5818.00	1.48	285.55	5795.64	27.60	28.21	-314.59	0.12
5912.00	0.71	226.40	5889.62	27.52	28.13	-316.18	1.35
6004.00	0.51	218.11	5981.62	26.81	27.41	-316.85	0.24
6099.00	0.29	177.28	6076.61	26.24	26.85	-317.10	0.36
6192.00	0.34	125.96	6169.61	25.84	26.45	-316.86	0.30
6285.00	0.40	100.28	6262.61	25.62	26.23	-316.32	0.19
6380.00	0.38	83.83	6357.61	25.60	26.21	-315.68	0.12
6474.00	0.48	58.41	6451.61	25.84	26.44	-315.04	0.23
6568.00	0.59	44.19	6545.60	26.39	26.99	-314.37	0.18
6661.00	5.50	4.56	6638.45	31.18	31.78	-313.68	5.44
6755.00	14.10	357.31	6730.99	47.13	47.74	-313.86	9.23
6849.00	20.62	356.38	6820.66	75.12	75.73	-315.44	6.94
6943.00	25.02	358.68	6907.28	111.53	112.14	-316.95	4.77
7037.00	32.43	1.07	6989.66	156.66	157.27	-316.94	7.98
7131.00	42.40	2.39	7064.23	213.67	214.27	-315.14	10.64
7226.00	52.15	0.52	7128.62	283.35	283.95	-313.46	10.36
7320.00	60.92	359.08	7180.40	361.68	362.28	-313.78	9.42
7415.00	70.17	358.75	7219.69	448.04	448.65	-315.43	9.74

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7510.00	79.65	1.13	7244.40	539.65	540.26	-315.48	10.27
7604.00	86.64	2.35	7255.61	632.89	633.49	-312.65	7.55
7699.00	89.20	1.04	7259.06	727.78	728.37	-309.84	3.01
7792.00	89.02	359.80	7260.51	820.76	821.36	-309.16	1.36
7886.00	89.06	359.65	7262.08	914.75	915.34	-309.62	0.16
7981.00	88.89	359.55	7263.78	1009.73	1010.33	-310.28	0.21
8075.00	90.40	359.86	7264.35	1103.72	1104.32	-310.77	1.64
8170.00	91.11	359.90	7263.10	1198.71	1199.31	-310.97	0.74
8264.00	89.19	359.66	7262.85	1292.71	1293.31	-311.34	2.05
8357.00	89.06	359.87	7264.27	1385.69	1386.29	-311.73	0.27
8451.00	88.79	359.37	7266.03	1479.67	1480.27	-312.35	0.60
8545.00	88.79	0.02	7268.02	1573.65	1574.25	-312.86	0.69
8639.00	89.40	359.92	7269.50	1667.64	1668.24	-312.91	0.65
8734.00	89.09	359.99	7270.76	1762.63	1763.23	-312.98	0.33
8828.00	90.17	359.89	7271.36	1856.62	1857.23	-313.08	1.15
8924.00	90.37	359.83	7270.91	1952.62	1953.23	-313.31	0.22
9017.00	89.70	358.82	7270.86	2045.61	2046.22	-314.41	1.31
9112.00	89.90	0.69	7271.19	2140.60	2141.21	-314.81	1.99
9206.00	89.60	1.19	7271.61	2234.59	2235.20	-313.26	0.62
9301.00	90.50	1.47	7271.52	2329.57	2330.17	-311.06	1.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9396.00	90.00	0.95	7271.10	2424.55	2425.15	-309.05	0.76
9490.00	90.37	1.11	7270.80	2518.54	2519.13	-307.36	0.43
9584.00	89.73	0.98	7270.72	2612.53	2613.12	-305.65	0.69
9679.00	90.91	0.29	7270.19	2707.52	2708.11	-304.60	1.44
9772.00	91.27	1.82	7268.42	2800.49	2801.07	-302.90	1.69
9867.00	90.10	0.88	7267.28	2895.45	2896.04	-300.66	1.58
9961.00	91.78	0.63	7265.73	2989.43	2990.01	-299.43	1.81
10054.00	91.71	0.82	7262.90	3082.38	3082.96	-298.26	0.22
10148.00	90.87	0.55	7260.77	3176.35	3176.93	-297.13	0.94
10243.00	90.94	0.81	7259.27	3271.34	3271.91	-296.00	0.29
10336.00	90.30	1.16	7258.26	3364.32	3364.89	-294.40	0.78
10430.00	89.70	0.07	7258.26	3458.31	3458.88	-293.38	1.32
10523.00	91.61	1.23	7257.20	3551.30	3551.87	-292.33	2.41
10618.00	91.48	1.16	7254.63	3646.25	3646.81	-290.35	0.16
10713.00	91.75	2.22	7251.96	3741.17	3741.73	-287.55	1.15
10806.00	90.44	0.26	7250.19	3834.13	3834.68	-285.54	2.53
10900.00	90.34	359.98	7249.55	3928.13	3928.68	-285.35	0.32
10995.00	91.48	359.52	7248.05	4023.11	4023.67	-285.77	1.30
11090.00	90.40	358.32	7246.49	4118.08	4118.63	-287.56	1.69
11183.00	89.93	358.56	7246.22	4211.04	4211.60	-290.09	0.57

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11277.00	90.34	358.66	7245.99	4305.00	4305.57	-292.37	0.44
11370.00	91.04	358.67	7244.88	4397.97	4398.54	-294.54	0.76
11464.00	91.31	359.33	7242.95	4491.93	4492.50	-296.18	0.76
11557.00	91.58	358.68	7240.61	4584.88	4585.46	-297.79	0.76
11650.00	90.10	358.79	7239.24	4677.84	4678.43	-299.84	1.59
11743.00	89.73	359.00	7239.38	4770.82	4771.41	-301.64	0.45
11838.00	90.03	358.41	7239.57	4865.79	4866.38	-303.78	0.69
11932.00	89.63	358.34	7239.85	4959.75	4960.34	-306.45	0.44
12026.00	89.36	358.93	7240.67	5053.71	5054.31	-308.69	0.70
12121.00	89.29	358.02	7241.79	5148.67	5149.27	-311.21	0.97
12214.00	89.39	0.24	7242.85	5241.64	5242.25	-312.62	2.39
12309.00	89.50	0.53	7243.77	5336.63	5337.24	-311.99	0.32
12403.00	90.13	359.88	7244.07	5430.63	5431.24	-311.66	0.97
12497.00	90.07	359.80	7243.91	5524.63	5525.24	-311.92	0.11
12592.00	90.20	359.69	7243.69	5619.63	5620.24	-312.34	0.18
12686.00	90.81	359.68	7242.86	5713.62	5714.23	-312.85	0.64
12781.00	91.04	358.91	7241.33	5808.60	5809.21	-314.03	0.84
12874.00	90.40	0.23	7240.16	5901.59	5902.20	-314.72	1.58
12968.00	89.29	359.08	7240.40	5995.58	5996.20	-315.28	1.70
13063.00	89.50	1.15	7241.41	6090.57	6091.18	-315.09	2.19

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
13156.00	90.17	1.39	7241.68	6183.55	6184.16	-313.04	0.77
13251.00	90.40	1.08	7241.21	6278.53	6279.14	-310.99	0.41
13347.00	90.30	0.64	7240.61	6374.52	6375.12	-309.56	0.47
13440.00	90.30	0.69	7240.12	6467.51	6468.12	-308.48	0.06
13533.00	90.24	359.83	7239.69	6560.51	6561.11	-308.06	0.93
13628.00	90.17	358.97	7239.35	6655.50	6656.11	-309.05	0.90
13722.00	89.50	0.73	7239.63	6749.50	6750.10	-309.29	2.00
13816.00	89.76	0.61	7240.23	6843.49	6844.09	-308.19	0.31
13909.00	90.50	0.98	7240.02	6936.48	6937.08	-306.90	0.89
14005.00	89.93	0.21	7239.65	7032.48	7033.08	-305.90	0.99
14100.00	90.13	0.13	7239.59	7127.48	7128.08	-305.62	0.23
14194.00	90.47	0.57	7239.10	7221.47	7222.07	-305.05	0.59
14288.00	90.27	359.59	7238.49	7315.47	7316.07	-304.92	1.06
14382.00	89.80	0.04	7238.44	7409.47	7410.07	-305.22	0.69
14476.00	89.80	359.29	7238.77	7503.47	7504.07	-305.77	0.80
14571.00	89.19	0.53	7239.61	7598.46	7599.06	-305.92	1.45
14665.00	90.84	1.31	7239.58	7692.45	7693.04	-304.41	1.94
14758.00	91.01	1.52	7238.08	7785.41	7786.00	-302.11	0.29
14851.00	91.88	0.77	7235.74	7878.36	7878.95	-300.25	1.24
14945.00	89.56	1.49	7234.55	7972.33	7972.92	-298.39	2.58

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
15038.00	89.87	1.20	7235.01	8065.31	8065.89	-296.21	0.45
15132.00	89.19	1.22	7235.78	8159.29	8159.87	-294.22	0.71
15226.00	88.96	1.36	7237.30	8253.26	8253.83	-292.11	0.29
15319.00	88.29	1.99	7239.54	8346.19	8346.77	-289.39	0.99
15412.00	88.12	1.57	7242.45	8439.11	8439.67	-286.50	0.49
15439.00	88.18	1.37	7243.32	8466.09	8466.65	-285.81	0.75

5" = 100' MD