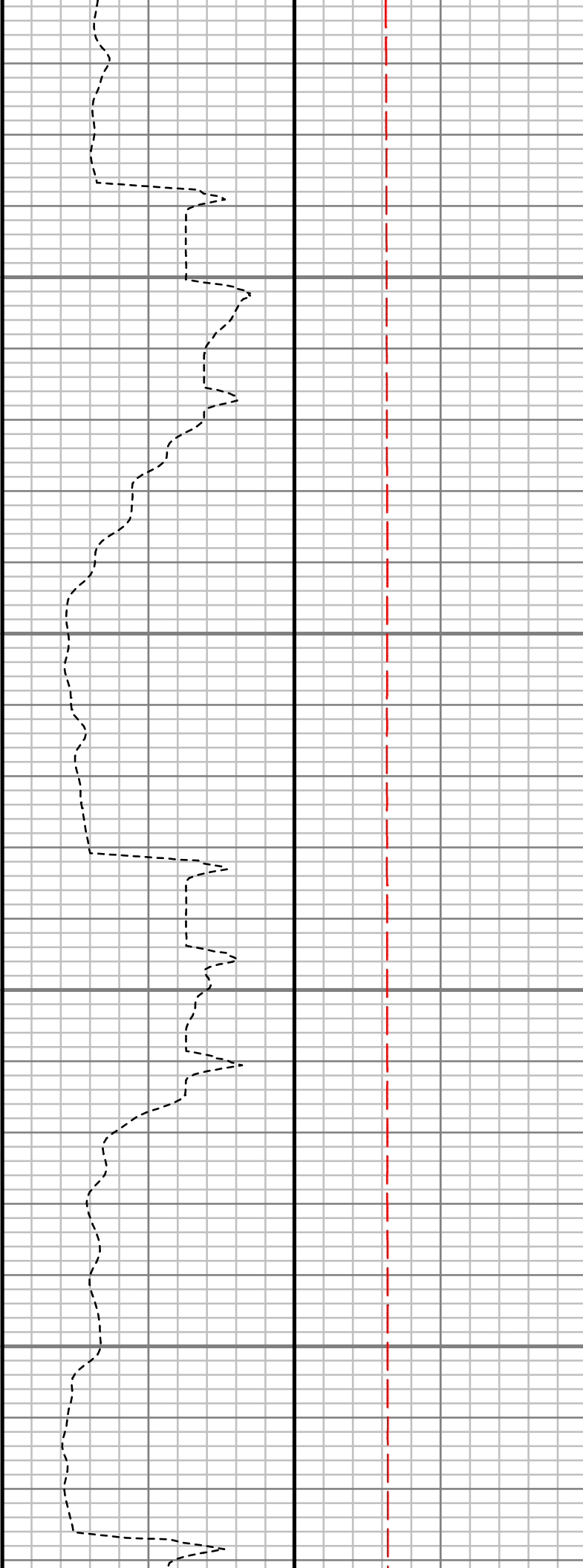
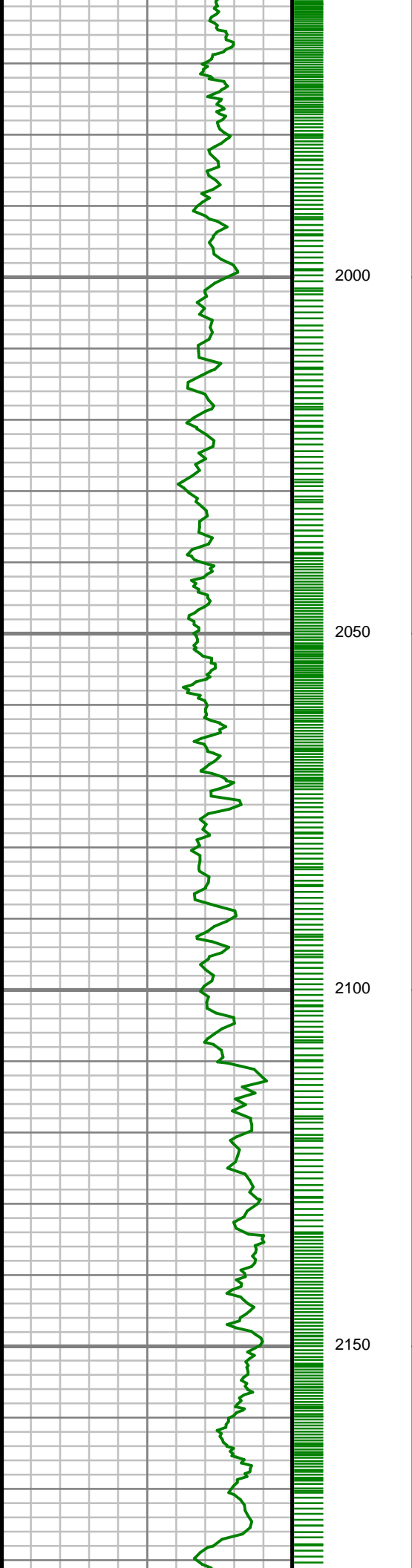


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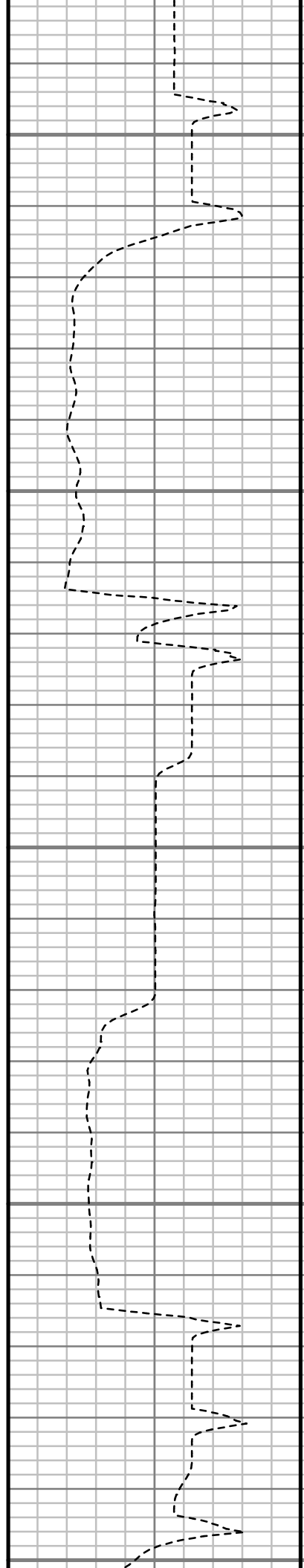
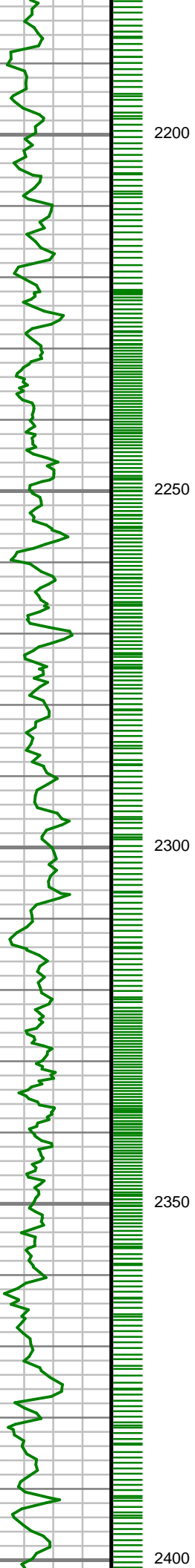
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 40C-34HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123431900000			
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
			<p>S: 22 MD: 1938.00 ft Inc: 7.16 deg Az: 79.03 deg TVD: 1925.56 ft</p>



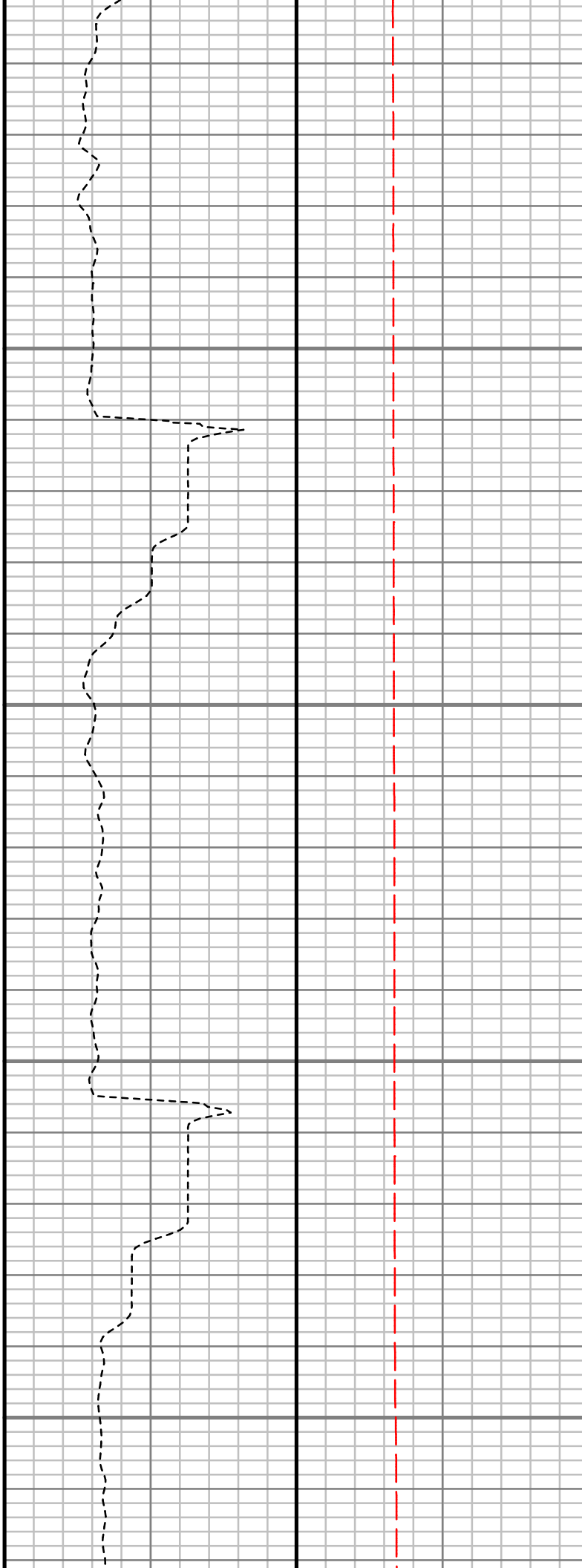
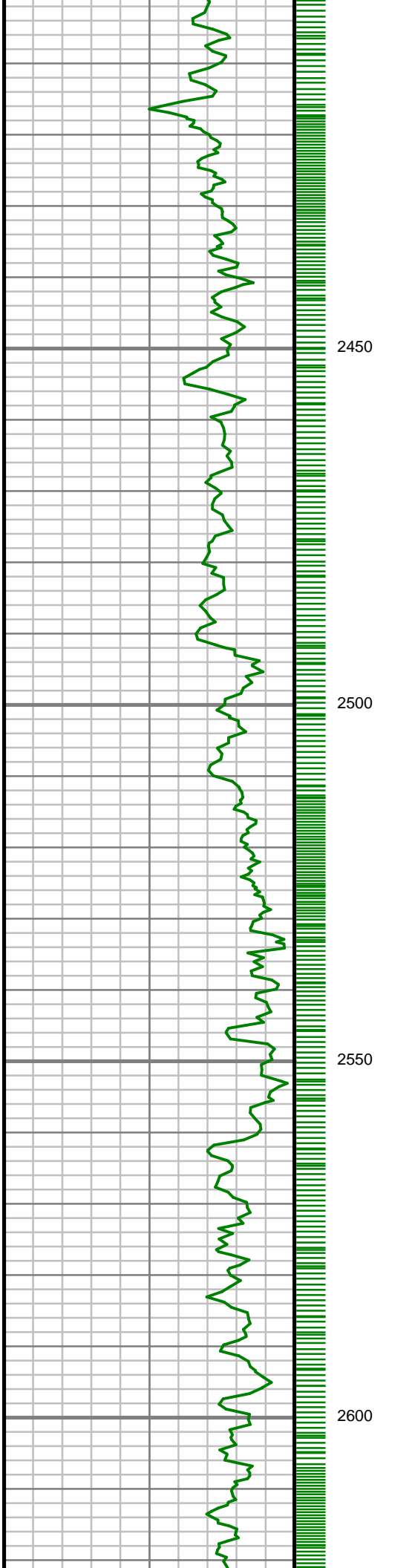
S: 23 MD: 2032.00 ft
Inc: 6.92 deg Az: 89.47
deg TVD: 2018.85 ft

S: 24 MD: 2127.00 ft
Inc: 7.22 deg Az: 98.55
deg TVD: 2113.13 ft



S: 25 MD: 2222.00 ft
Inc: 8.82 deg Az: 97.31
deg TVD: 2207.20 ft

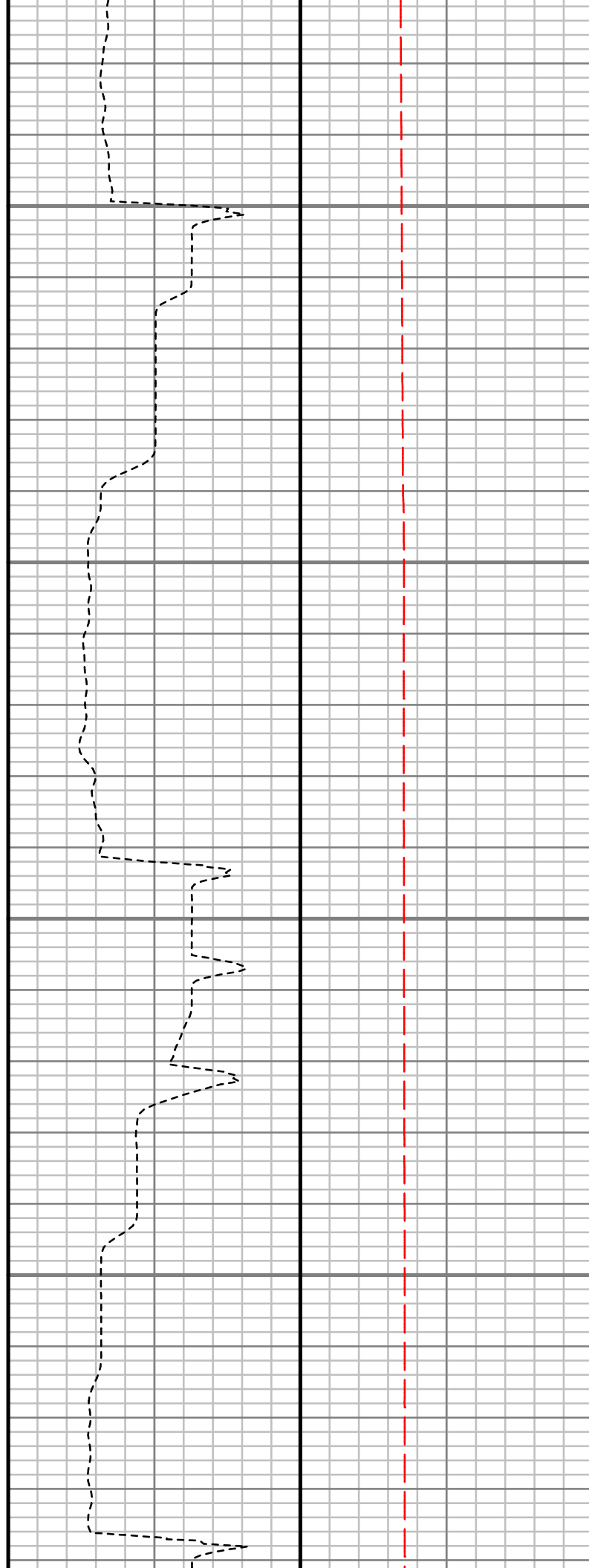
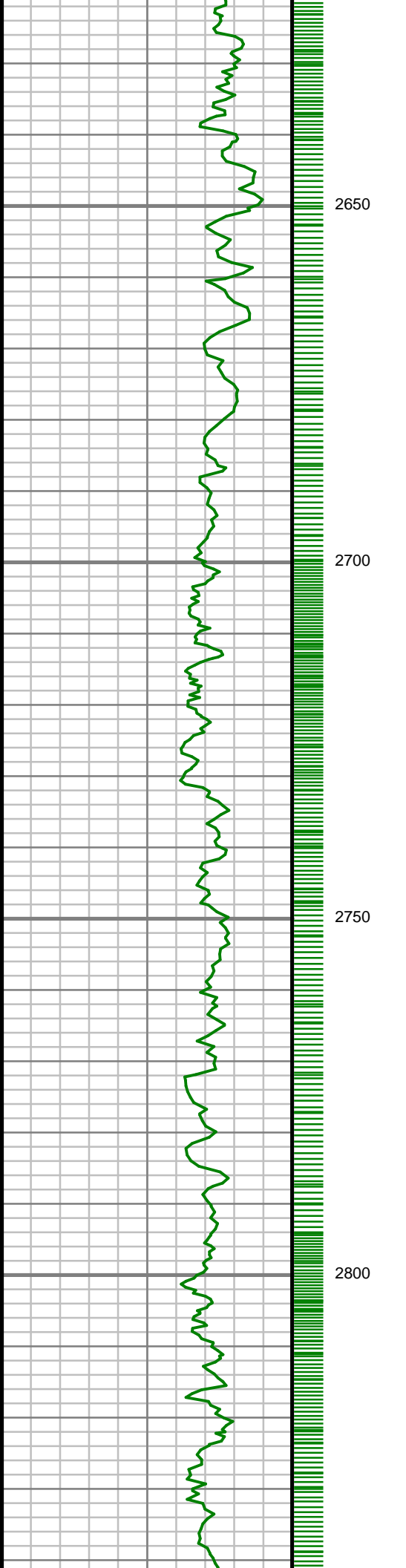
S: 26 MD: 2315.00 ft
Inc: 8.12 deg Az: 93.32
deg TVD: 2299.18 ft



S: 27 MD: 2408.00 ft
Inc: 9.19 deg Az: 94.69
deg TVD: 2391.12 ft

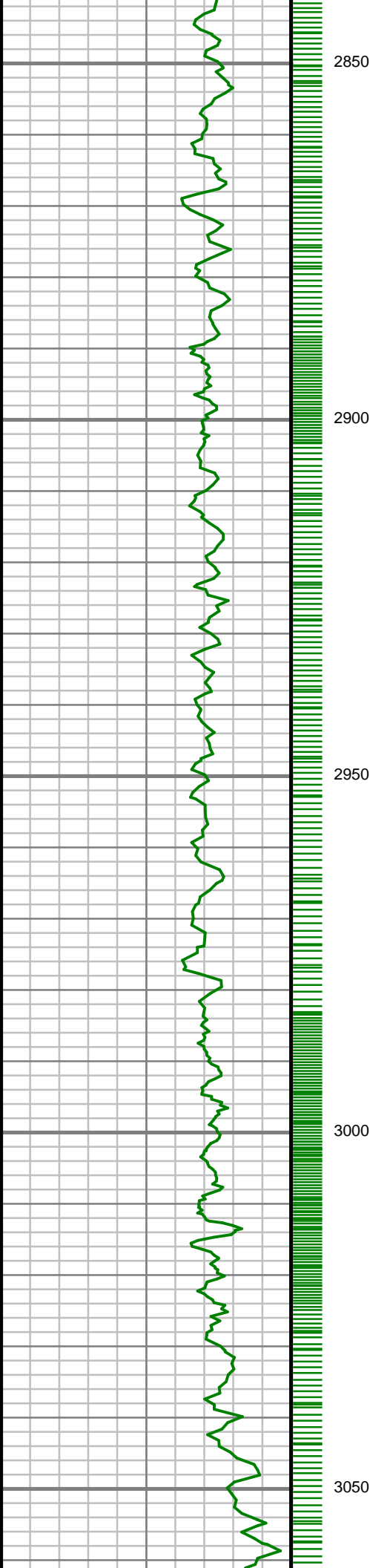
S: 28 MD: 2503.00 ft
Inc: 8.47 deg Az: 94.04
deg TVD: 2485.00 ft

S: 29 MD: 2597.00 ft
Inc: 7.74 deg Az: 89.98
deg TVD: 2578.06 ft



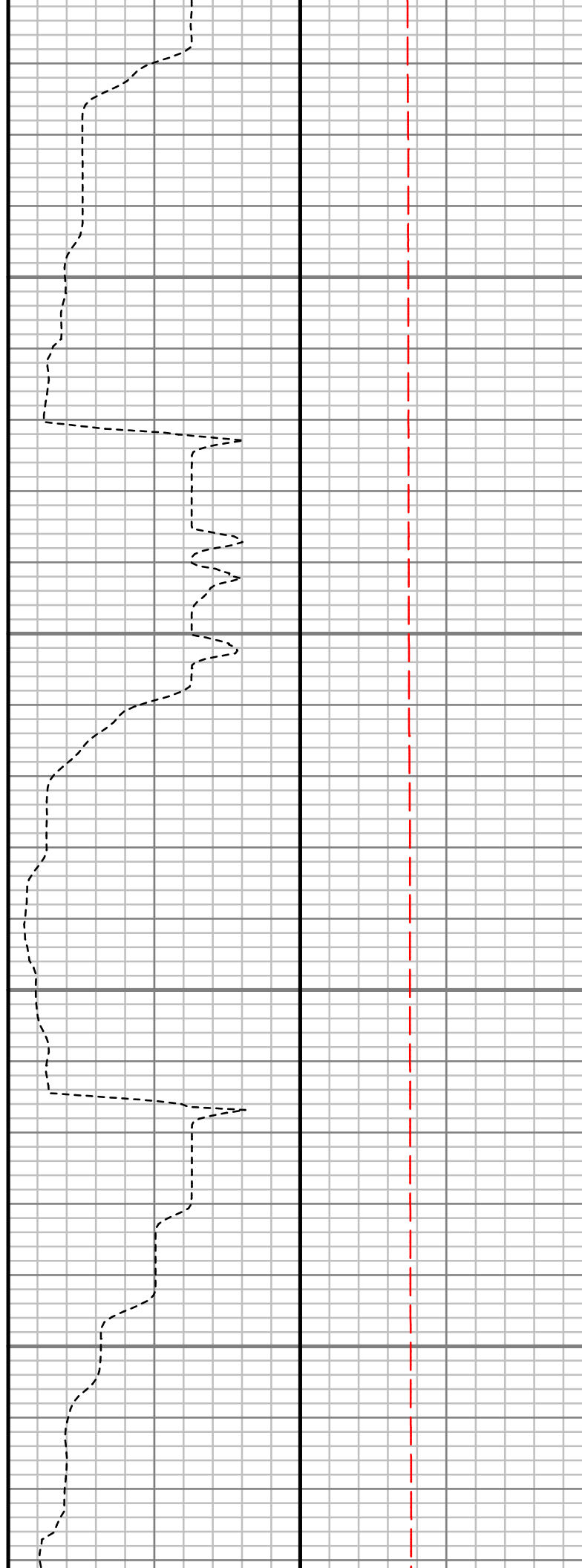
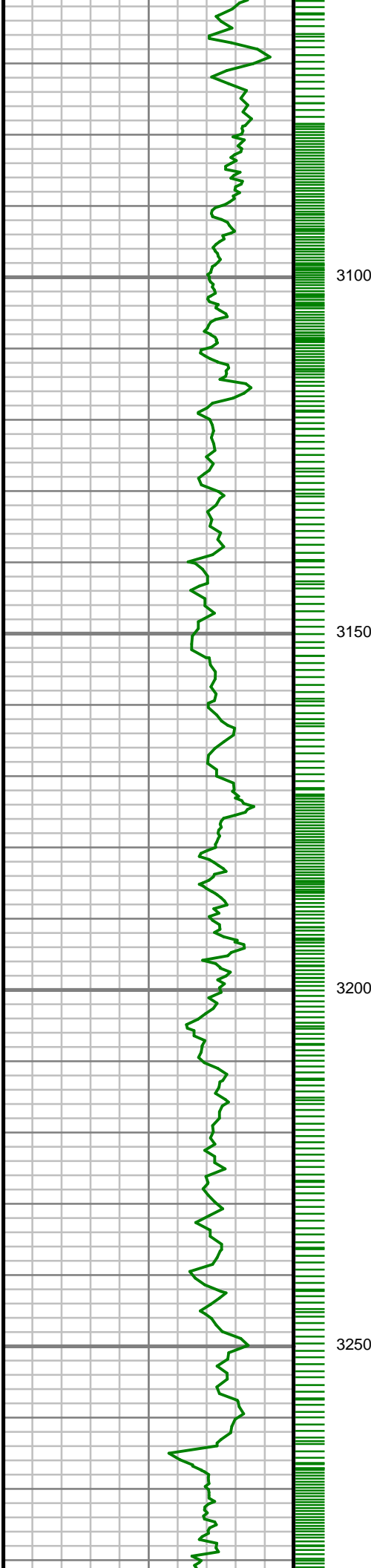
S: 30 MD: 2691.00 ft
Inc: 7.28 deg Az: 88.68
deg TVD: 2671.25 ft

S: 31 MD: 2785.00 ft
Inc: 8.71 deg Az: 88.22
deg TVD: 2764.34 ft



S: 32 MD: 2879.00 ft
Inc: 8.56 deg Az: 87.74
deg TVD: 2857.27 ft

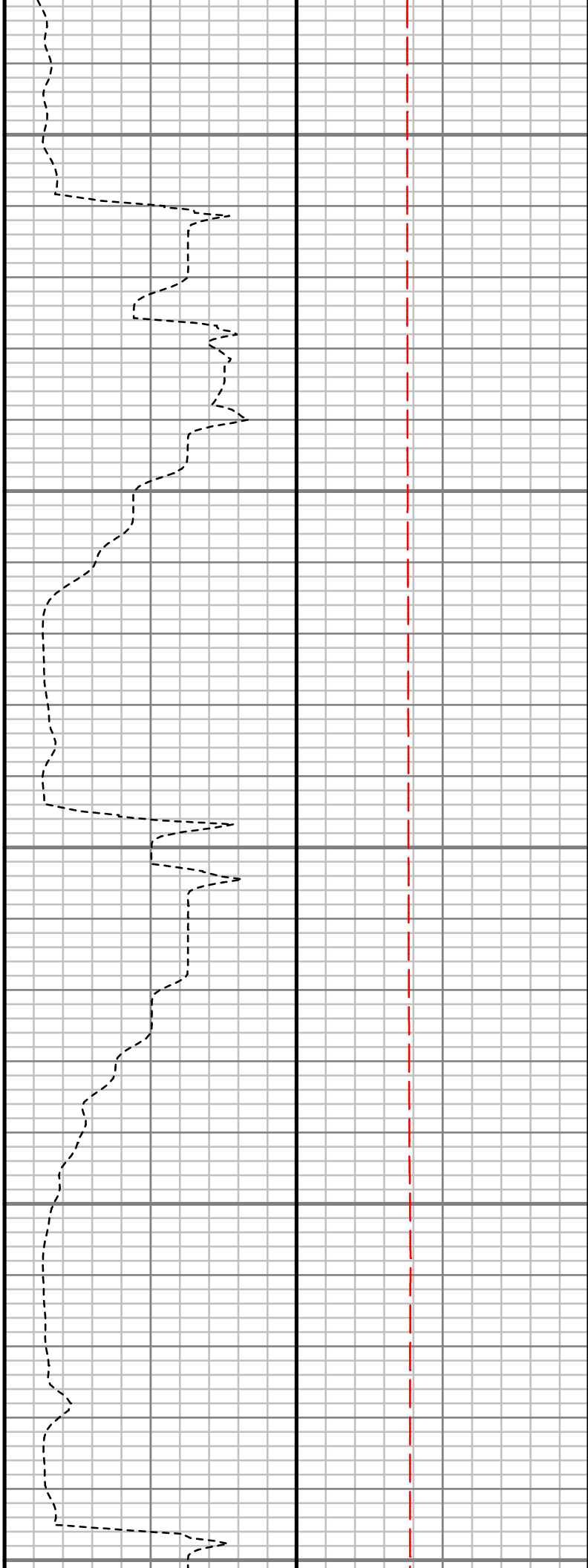
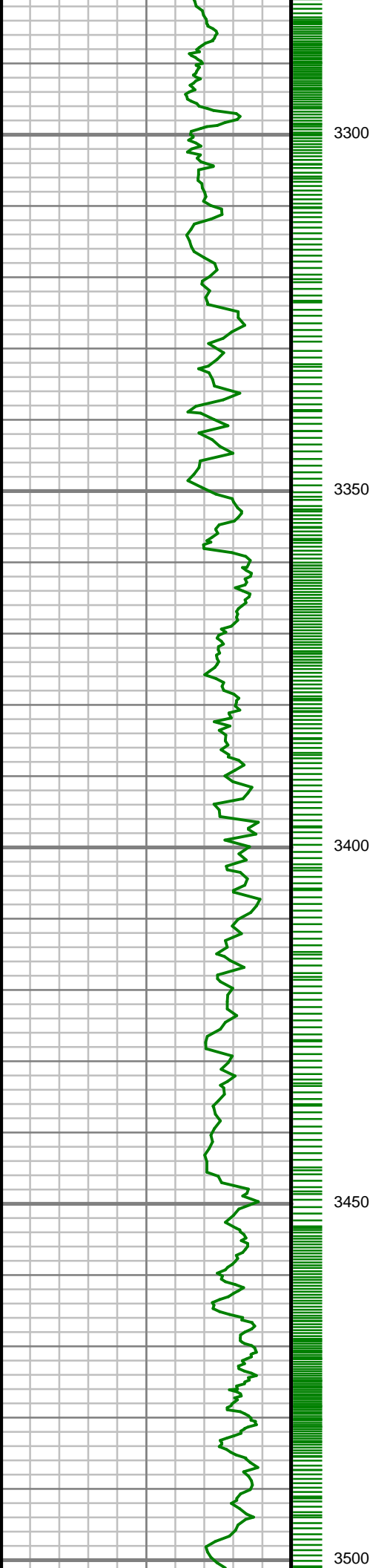
S: 33 MD: 2973.00 ft
Inc: 7.91 deg Az: 86.26
deg TVD: 2950.30 ft



S: 34 MD: 3068.00 ft
Inc: 8.23 deg Az: 79.64
deg TVD: 3044.36 ft

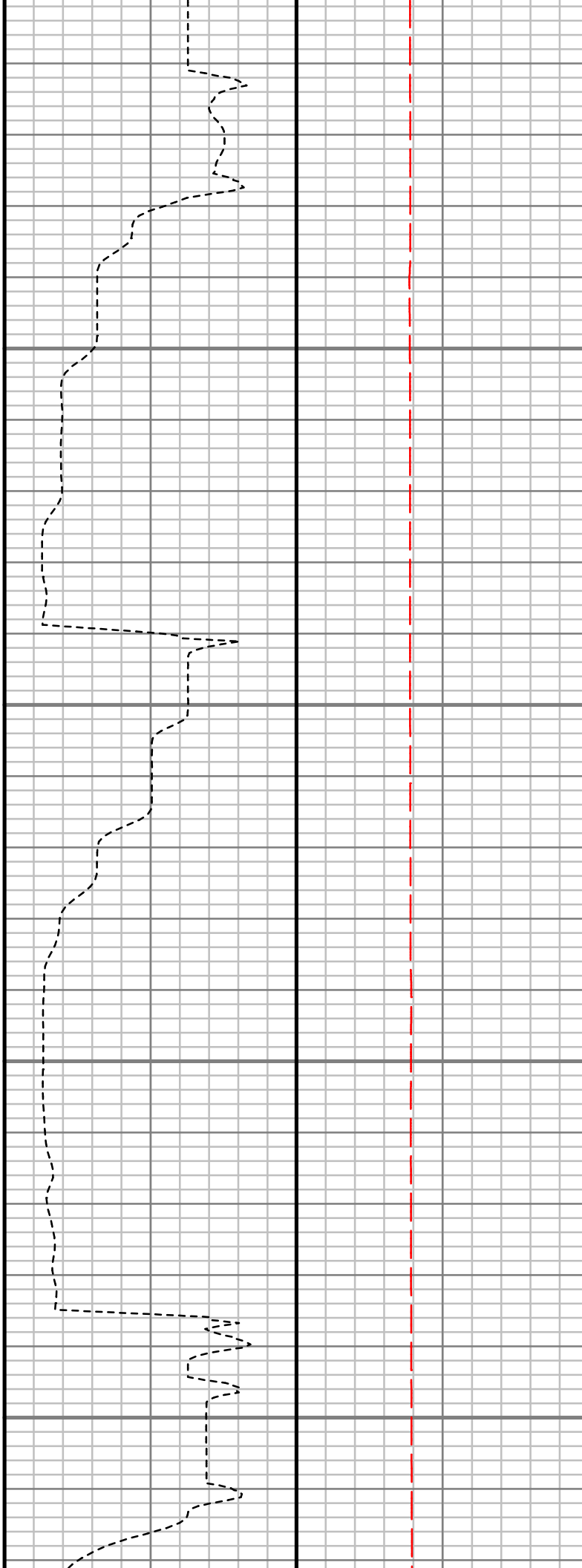
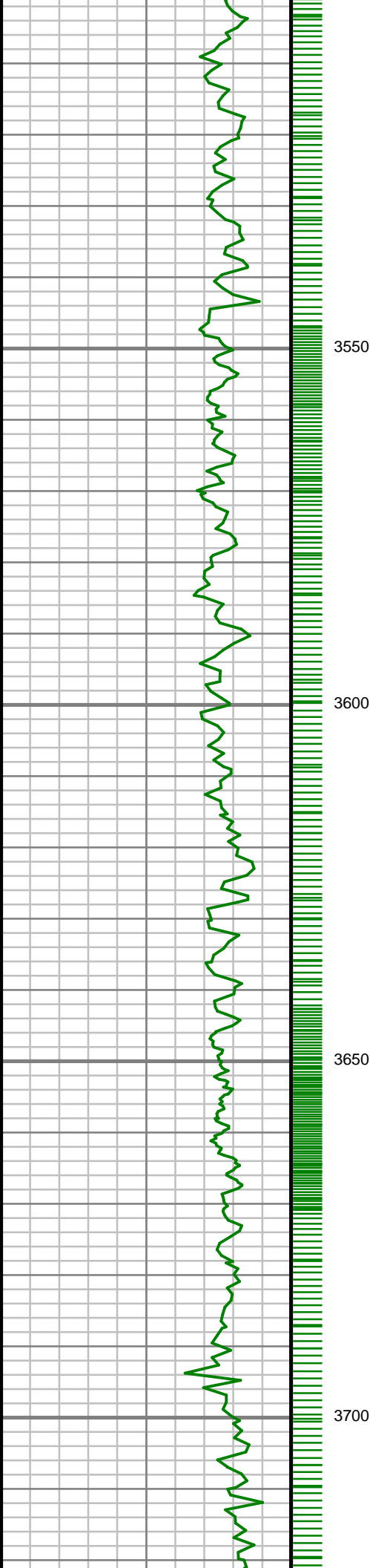
S: 35 MD: 3162.00 ft
Inc: 8.95 deg Az: 84.80
deg TVD: 3137.31 ft

S: 36 MD: 3256.00 ft
Inc: 8.23 deg Az: 83.44
deg TVD: 3230.25 ft



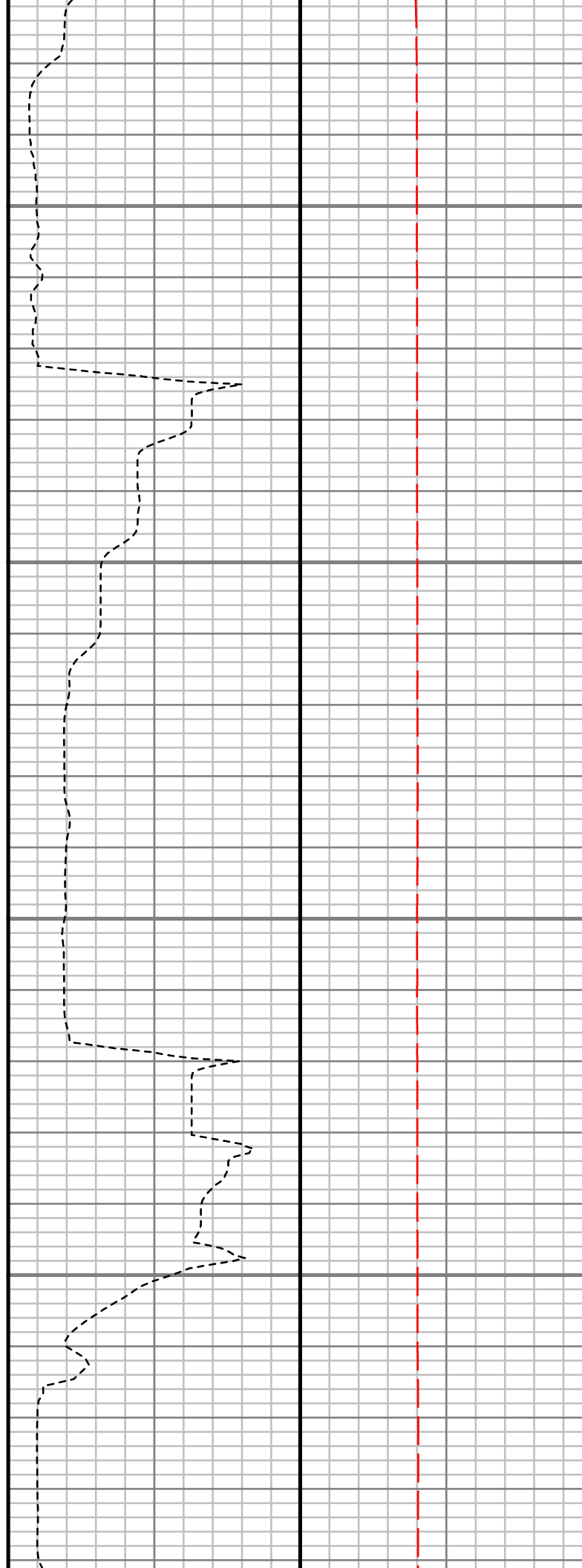
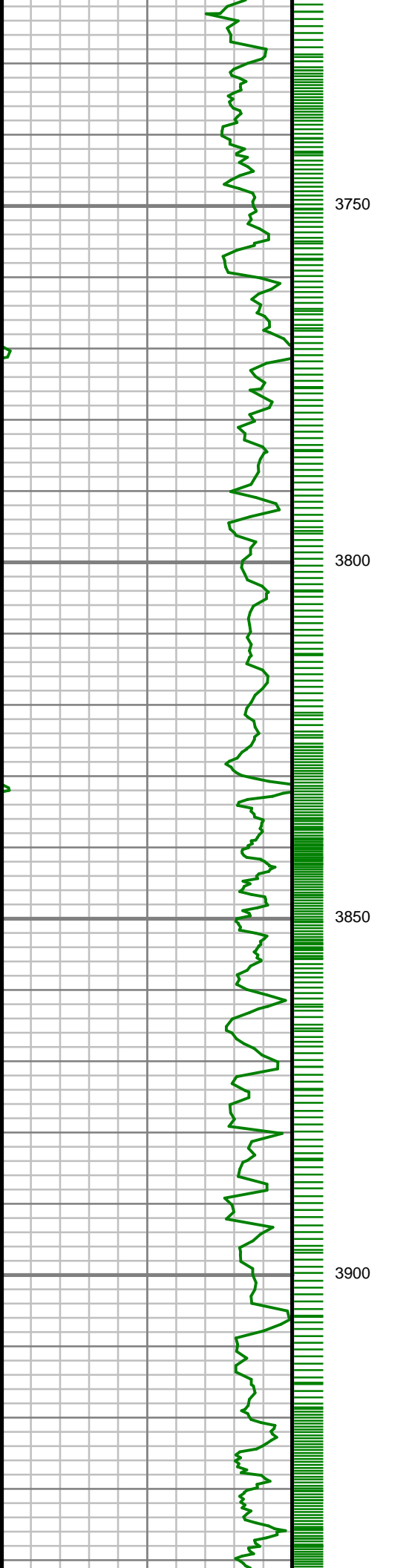
S: 37 MD: 3349.00 ft
Inc: 8.45 deg Az: 88.30
deg TVD: 3322.27 ft

S: 38 MD: 3442.00 ft
Inc: 7.57 deg Az: 87.67
deg TVD: 3414.36 ft



S: 39 MD: 3535.00 ft
Inc: 8.29 deg Az: 88.27
deg TVD: 3506.47 ft

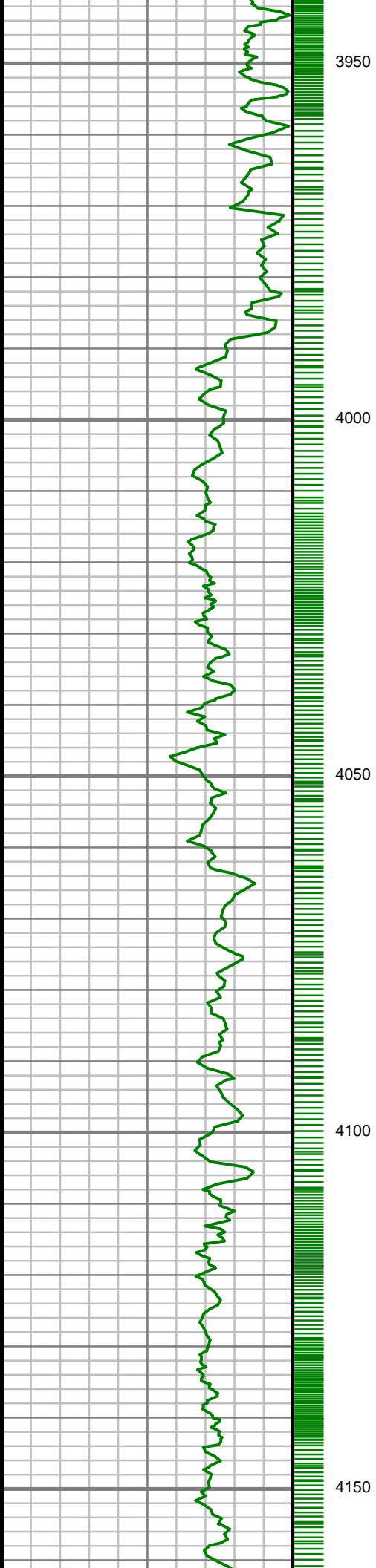
S: 40 MD: 3630.00 ft
Inc: 7.39 deg Az: 87.34
deg TVD: 3600.59 ft



S: 41 MD: 3724.00 ft
Inc: 8.22 deg Az: 86.77
deg TVD: 3693.71 ft

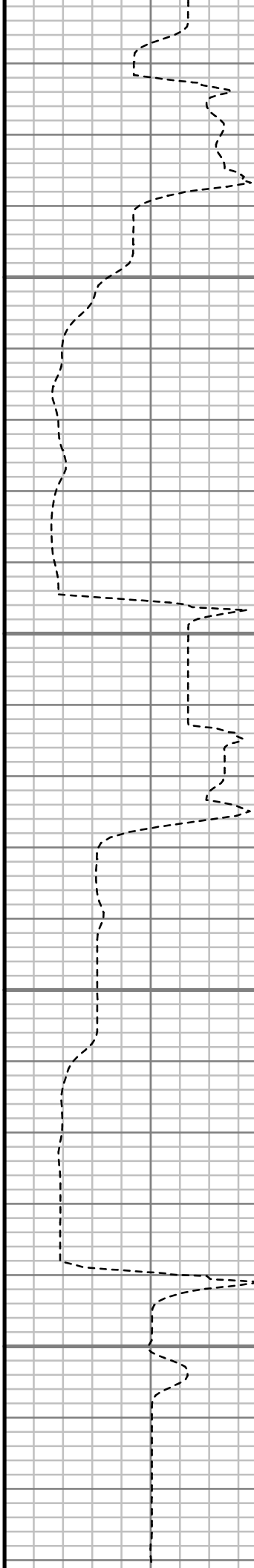
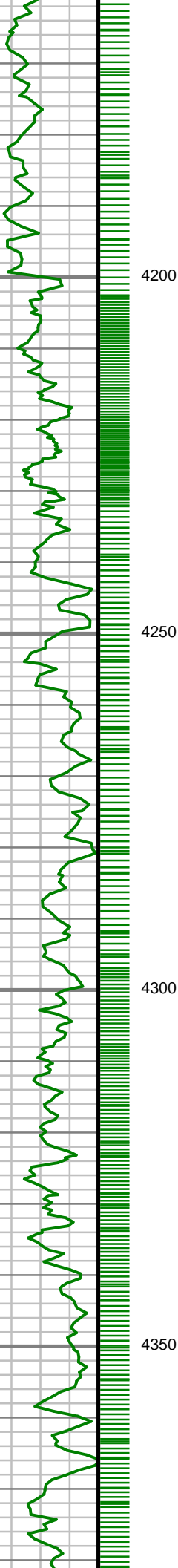
S: 42 MD: 3818.00 ft
Inc: 7.39 deg Az: 83.14
deg TVD: 3786.84 ft

S: 43 MD: 3910.00 ft
Inc: 7.58 deg Az:
101.38 deg TVD:
3878.07 ft



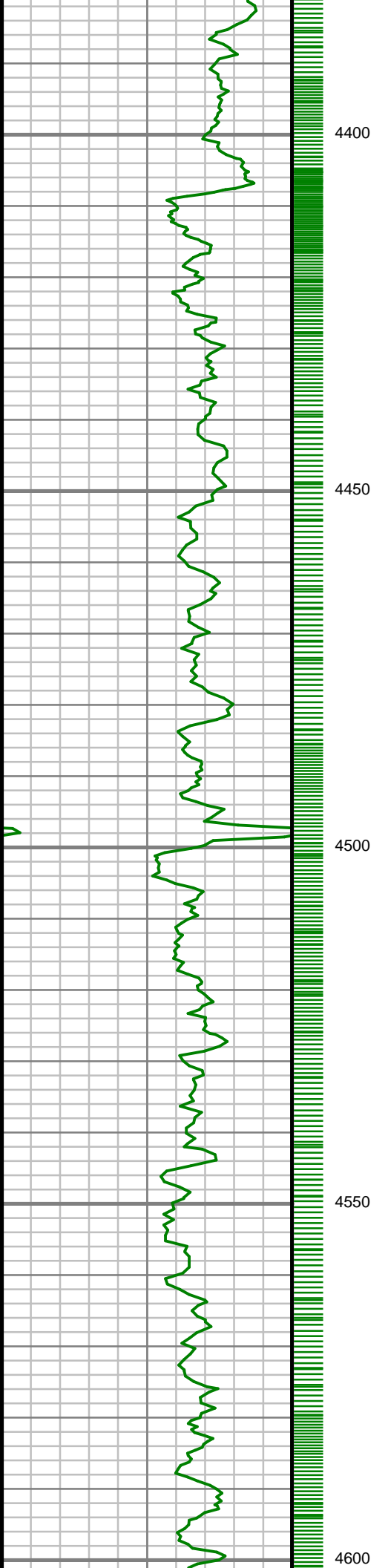
S: 44 MD: 4005.00 ft
Inc: 8.65 deg Az: 96.56
deg TVD: 3972.12 ft

S: 45 MD: 4100.00 ft
Inc: 8.16 deg Az: 95.36
deg TVD: 4066.10 ft



S: 46 MD: 4194.00 ft
Inc: 5.77 deg Az: 96.06
deg TVD: 4159.40 ft

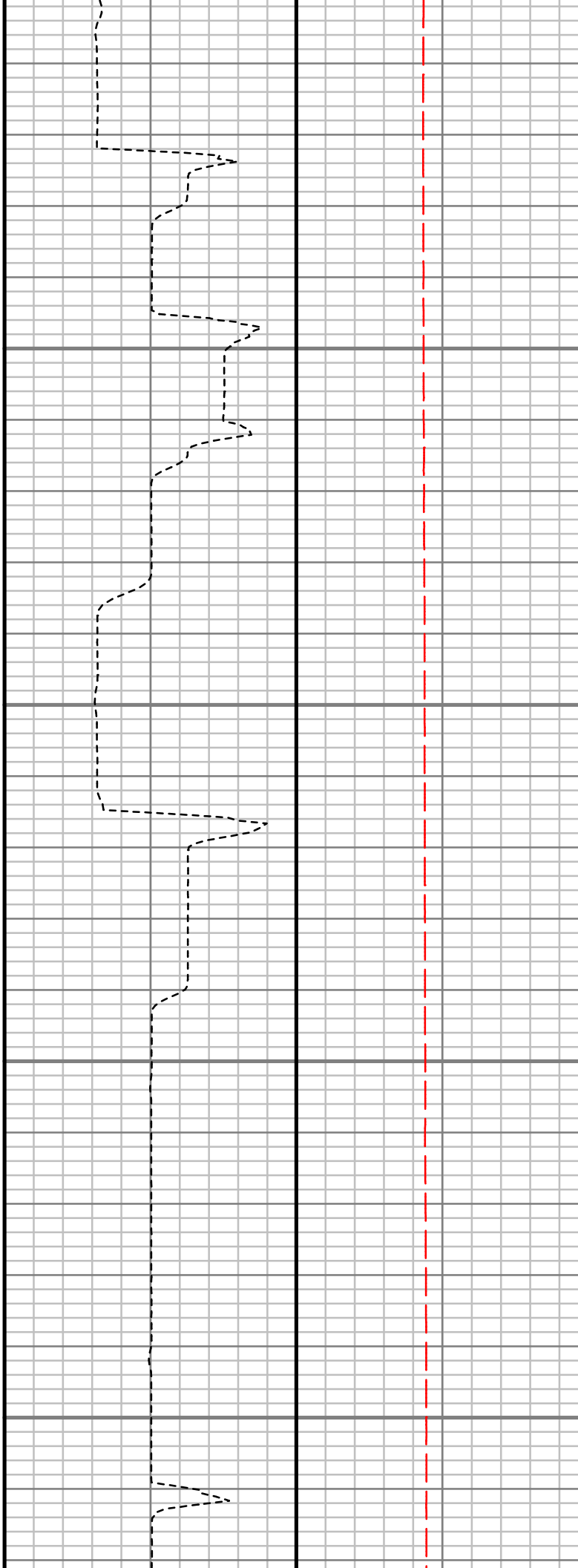
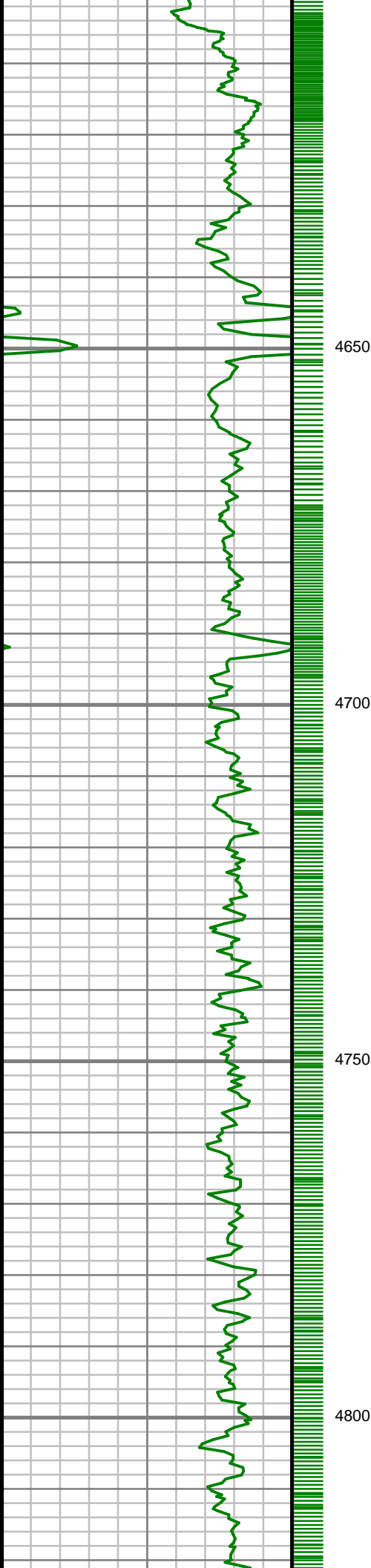
S: 47 MD: 4288.00 ft
Inc: 3.79 deg Az: 89.39
deg TVD: 4253.07 ft



S: 48 MD: 4383.00 ft
Inc: 3.42 deg Az: 77.26
deg TVD: 4347.88 ft

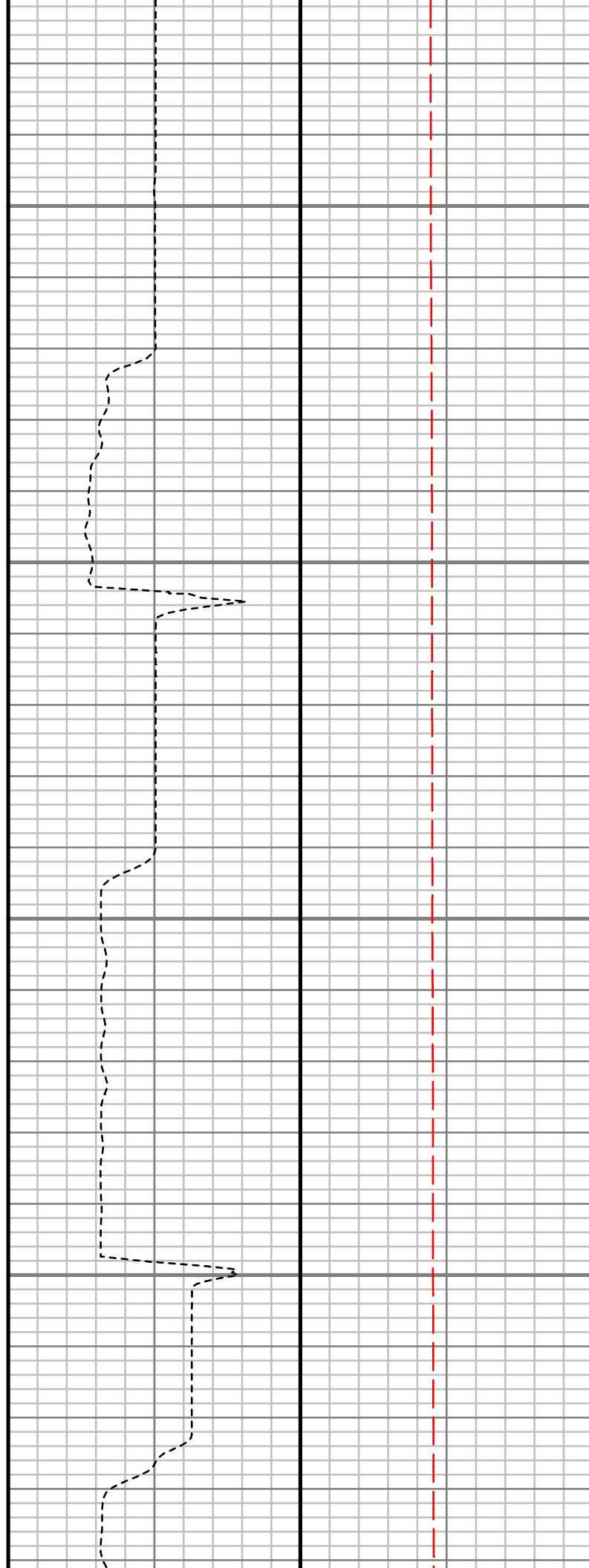
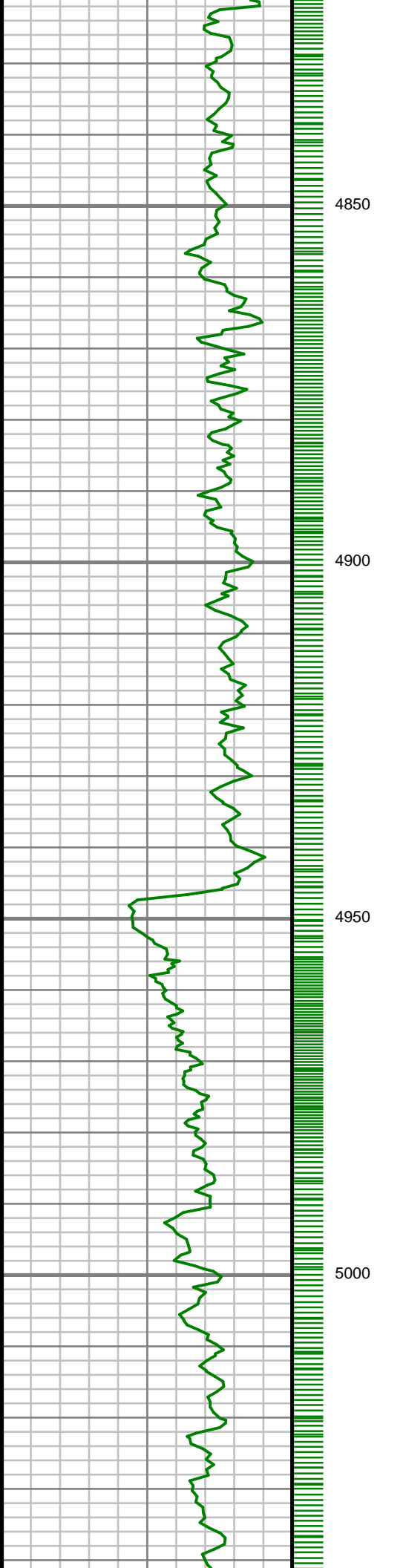
S: 49 MD: 4478.00 ft
Inc: 1.22 deg Az: 85.20
deg TVD: 4442.80 ft

S: 50 MD: 4572.00 ft
Inc: 1.22 deg Az: 87.37
deg TVD: 4536.78 ft



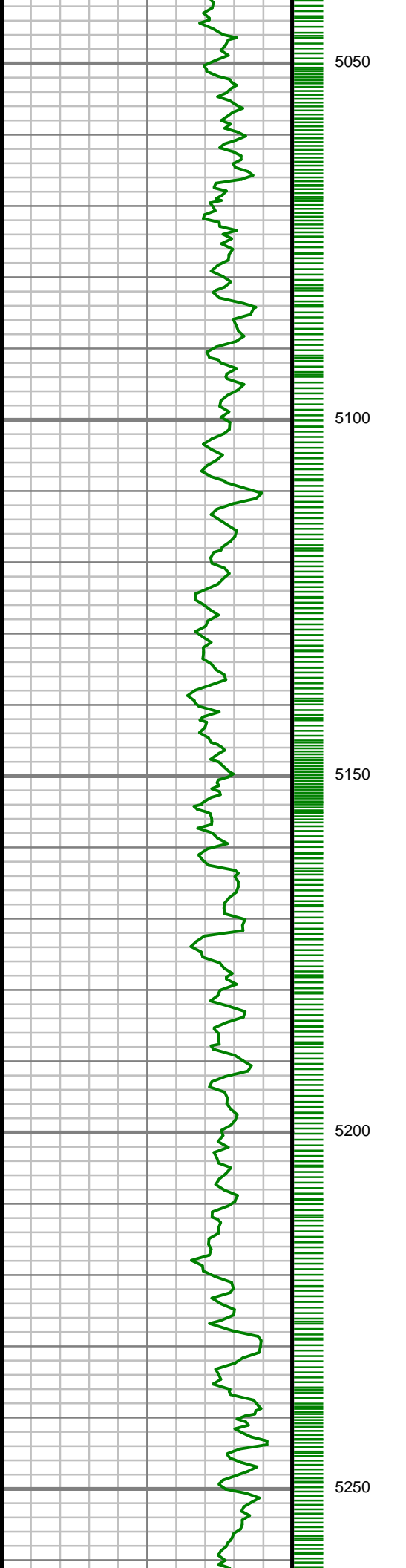
S: 51 MD: 4666.00 ft
Inc: 0.43 deg Az: 80.60
deg TVD: 4630.77 ft

S: 52 MD: 4759.00 ft
Inc: 0.35 deg Az:
343.49 deg TVD:
4723.76 ft



S: 53 MD: 4854.00 ft
Inc: 0.69 deg Az: 314.25 deg TVD: 4818.76 ft

S: 54 MD: 4948.00 ft
Inc: 0.48 deg Az: 24.22 deg TVD: 4912.76 ft

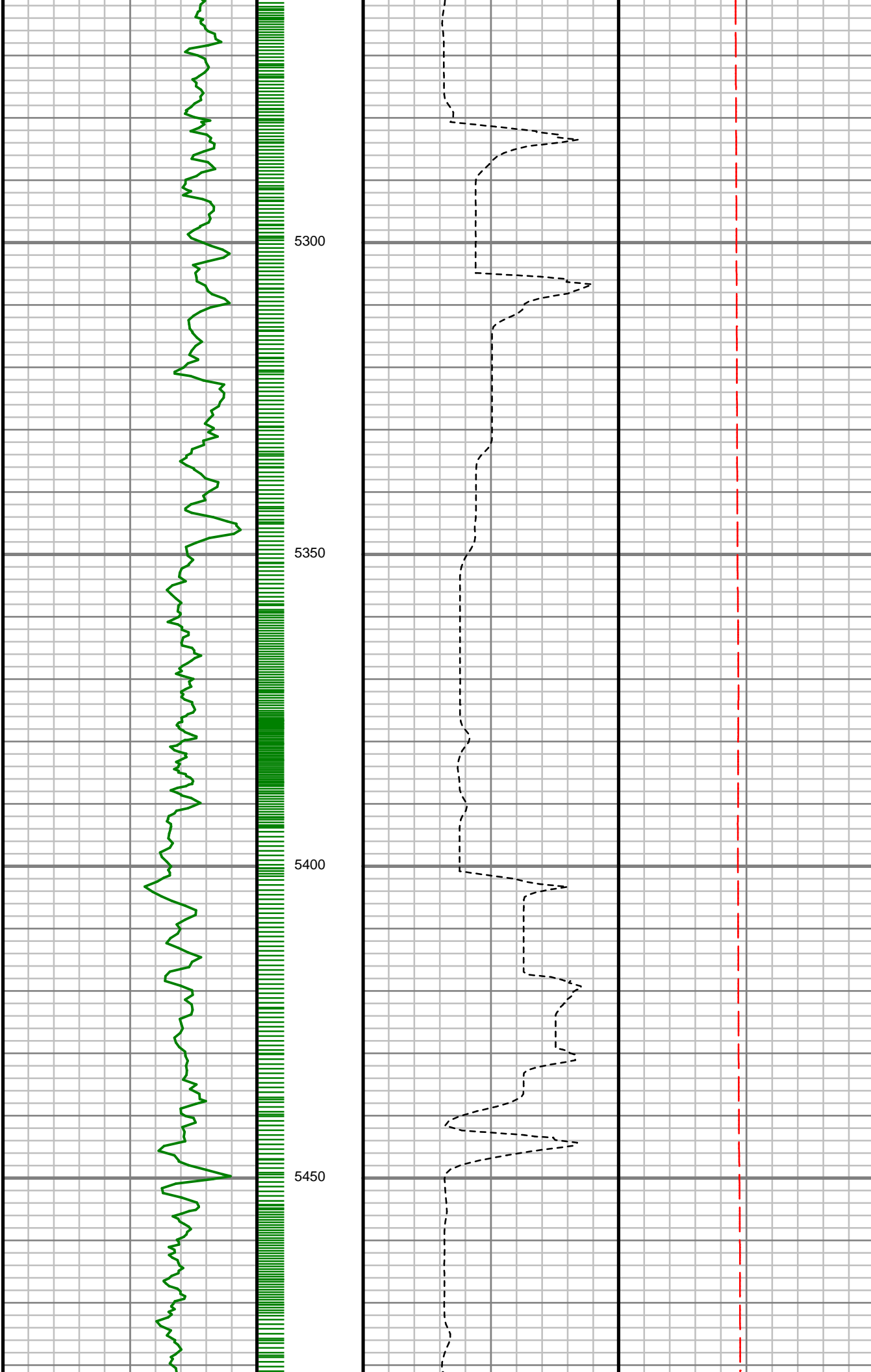


S: 55 MD: 5043.00 ft
Inc: 0.99 deg Az: 18.71
deg TVD: 5007.75 ft

S: 56 MD: 5137.00 ft
Inc: 0.83 deg Az: 37.84
deg TVD: 5101.74 ft

S: 57 MD: 5256.00 ft
Inc: 0.47 deg Az: 69.05

deg TVD: 5220.73 ft



5300

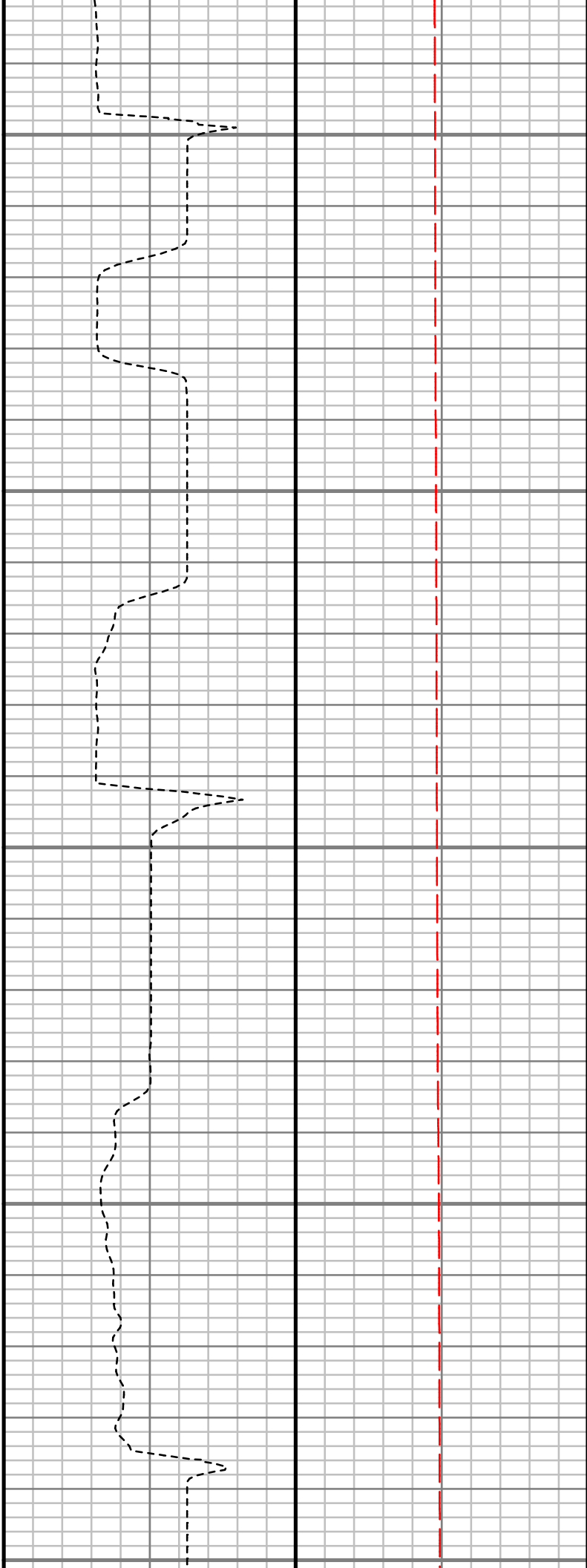
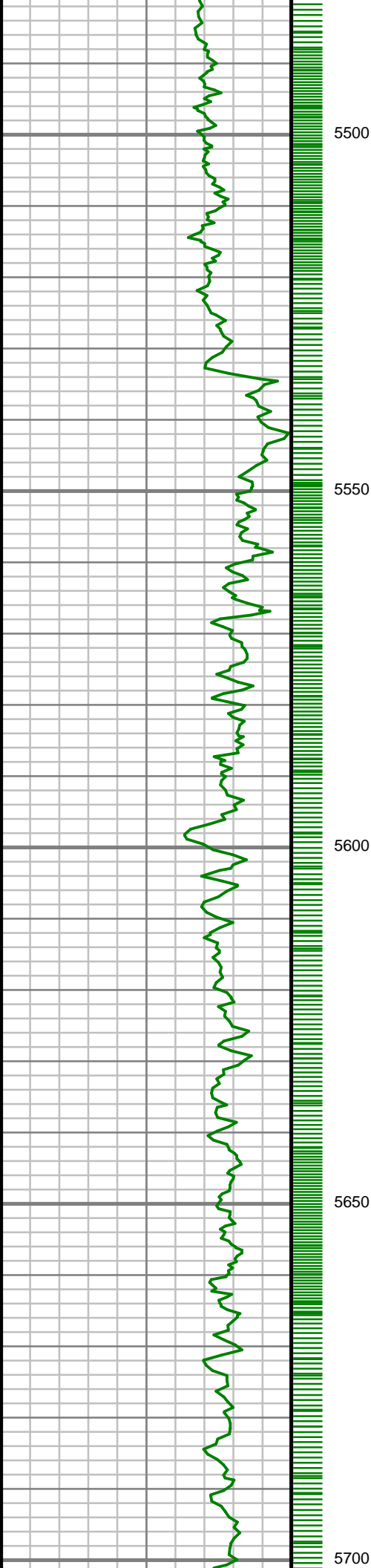
5350

5400

5450

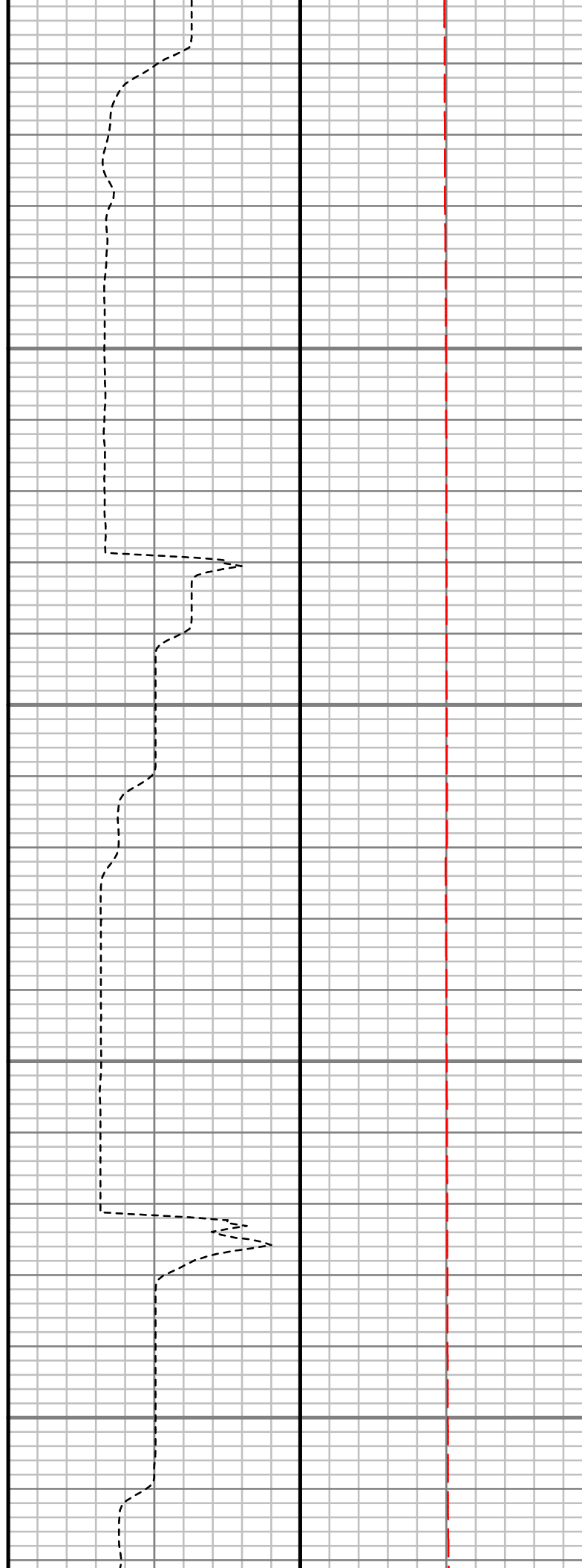
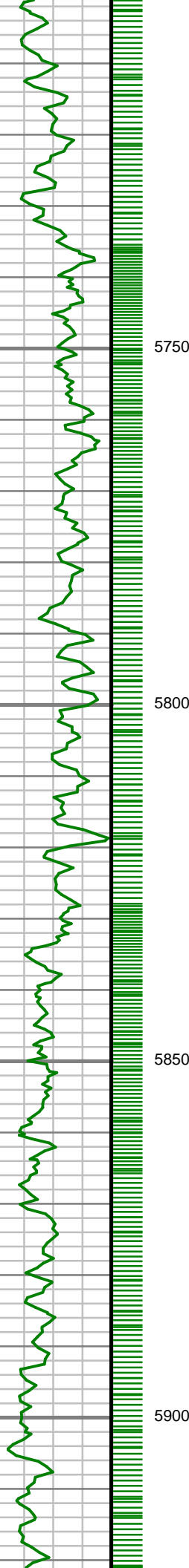
S: 58 MD: 5351.00 ft
Inc: 0.77 deg Az: 79.71
deg TVD: 5315.72 ft

S: 59 MD: 5447.00 ft
Inc: 0.79 deg Az: 294.04
deg TVD: 5411.72 ft



S: 60 MD: 5541.00 ft
Inc: 0.71 deg Az:
299.68 deg TVD:
5505.71 ft

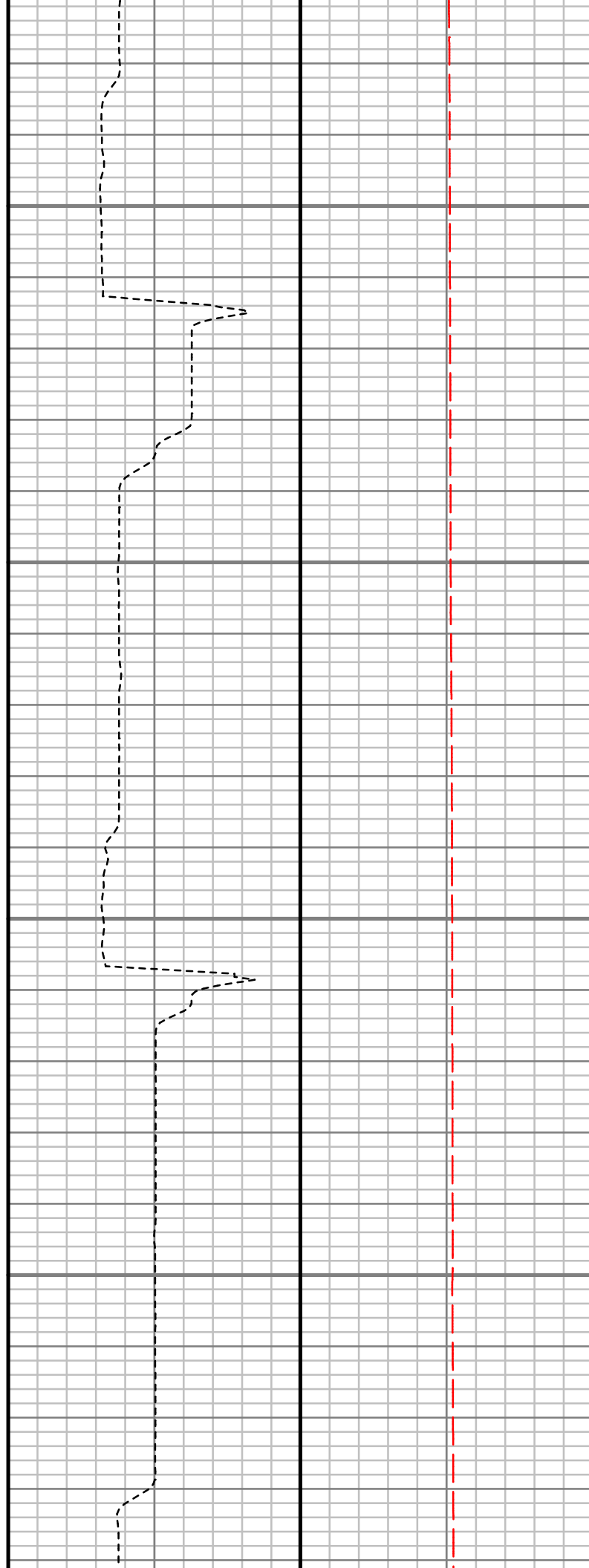
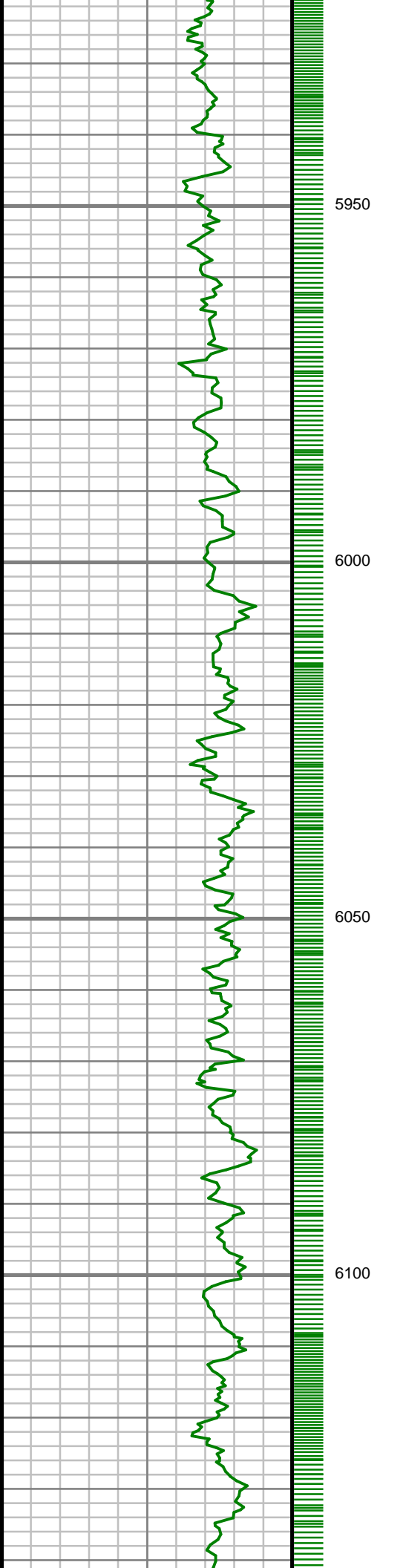
S: 61 MD: 5635.00 ft
Inc: 0.32 deg Az:
316.69 deg TVD:
5599.71 ft



S: 62 MD: 5727.00 ft
Inc: 0.41 deg Az:
344.34 deg TVD:
5691.71 ft

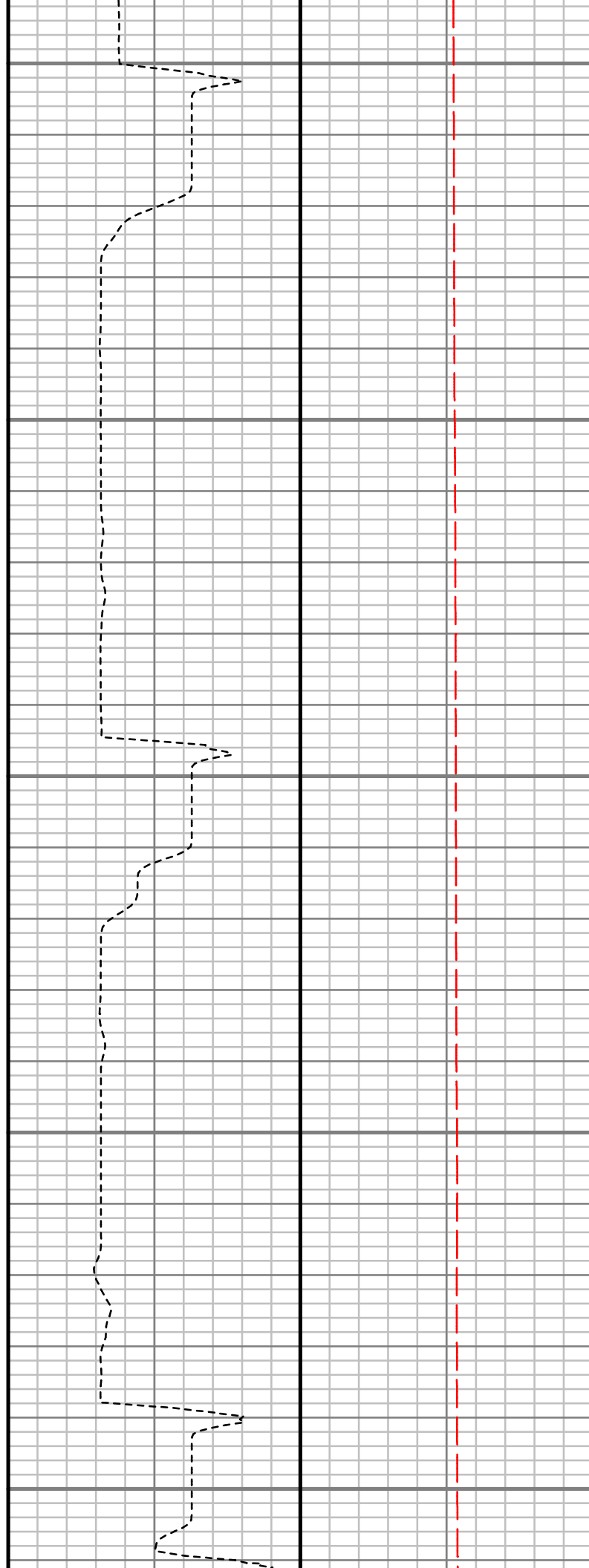
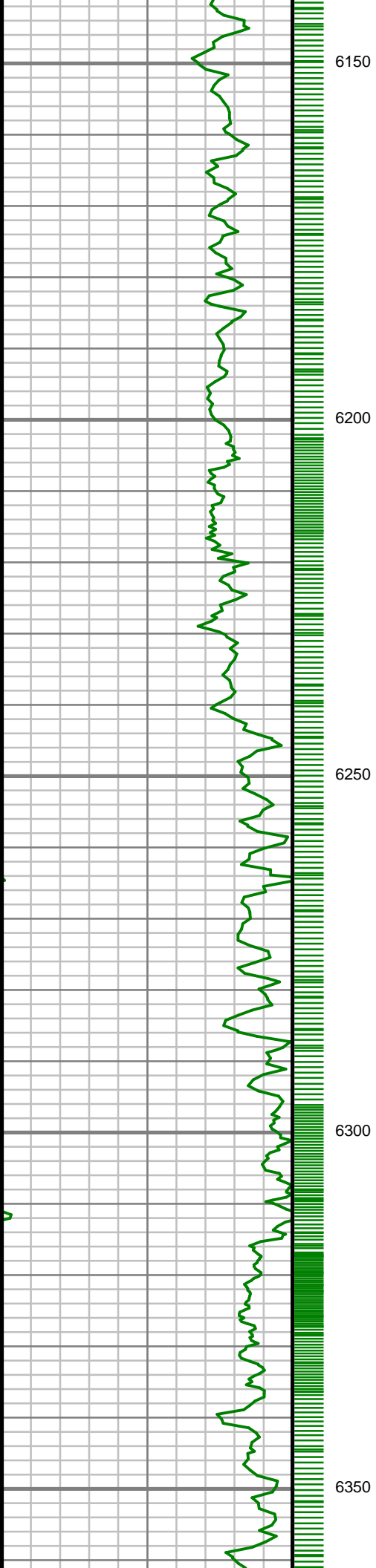
S: 63 MD: 5819.00 ft
Inc: 0.24 deg Az:
342.71 deg TVD:
5783.70 ft

S: 64 MD: 5913.00 ft
Inc: 0.57 deg Az: 80.87
deg TVD: 5877.70 ft



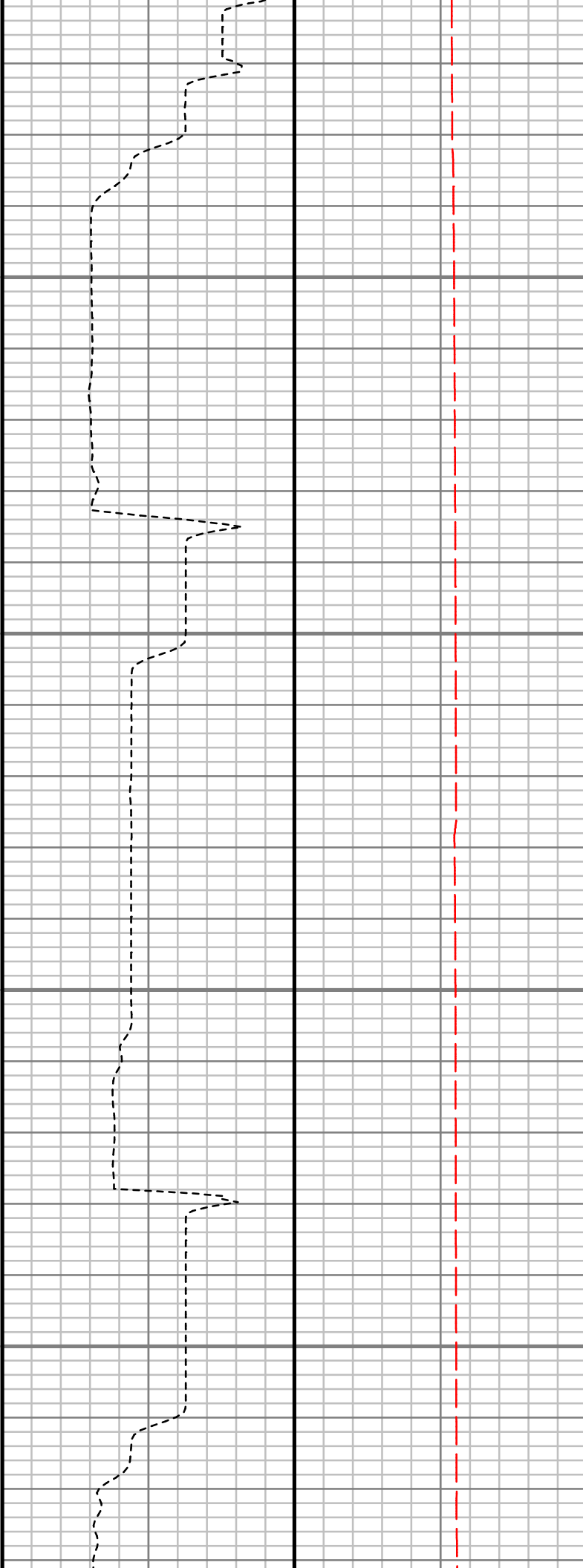
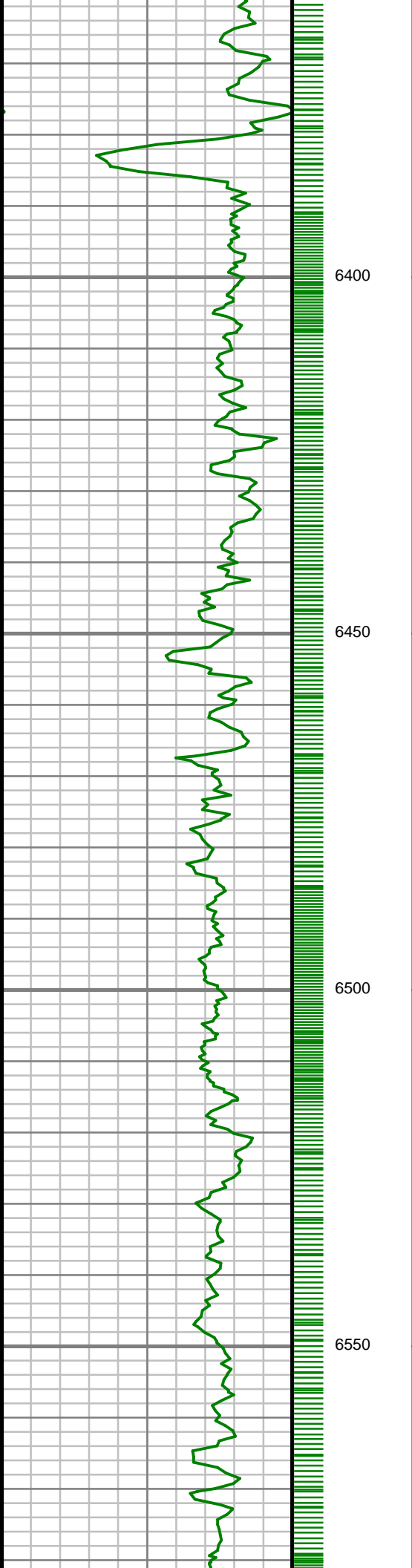
S: 65 MD: 6007.00 ft
Inc: 0.64 deg Az:
108.78 deg TVD:
5971.70 ft

S: 66 MD: 6100.00 ft
Inc: 0.56 deg Az:
105.65 deg TVD:
6064.69 ft



S: 67 MD: 6194.00 ft
Inc: 0.84 deg Az:
123.71 deg TVD:
6158.69 ft

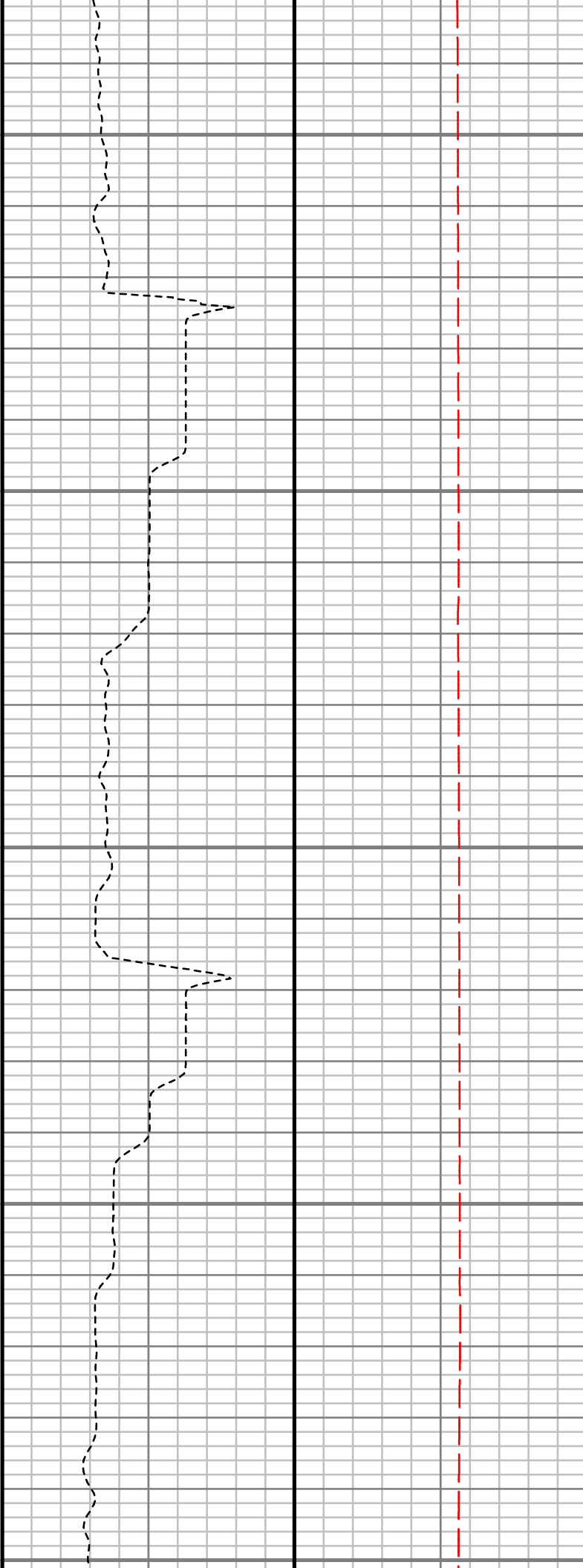
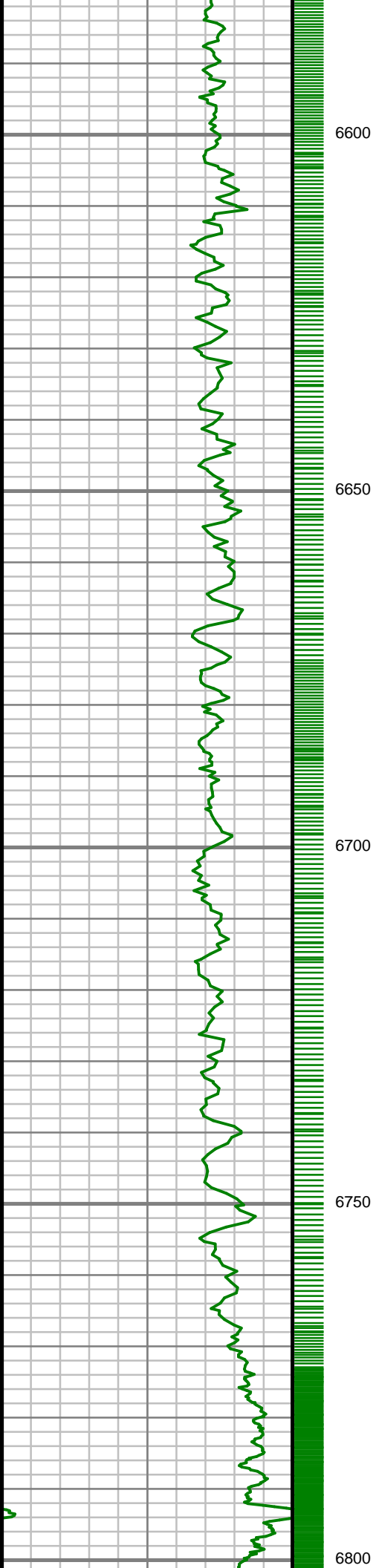
S: 68 MD: 6288.00 ft
Inc: 0.51 deg Az:
109.59 deg TVD:
6252.68 ft



S: 69 MD: 6382.00 ft
Inc: 0.86 deg Az:
260.14 deg TVD:
6346.68 ft

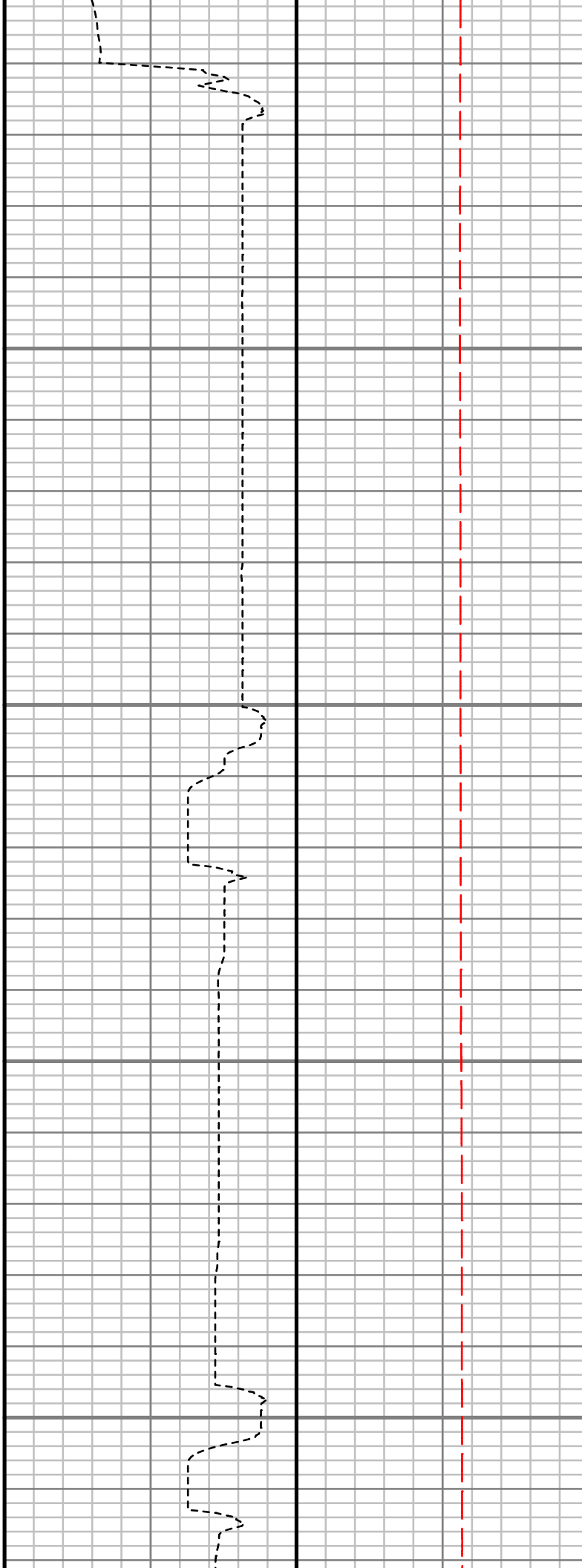
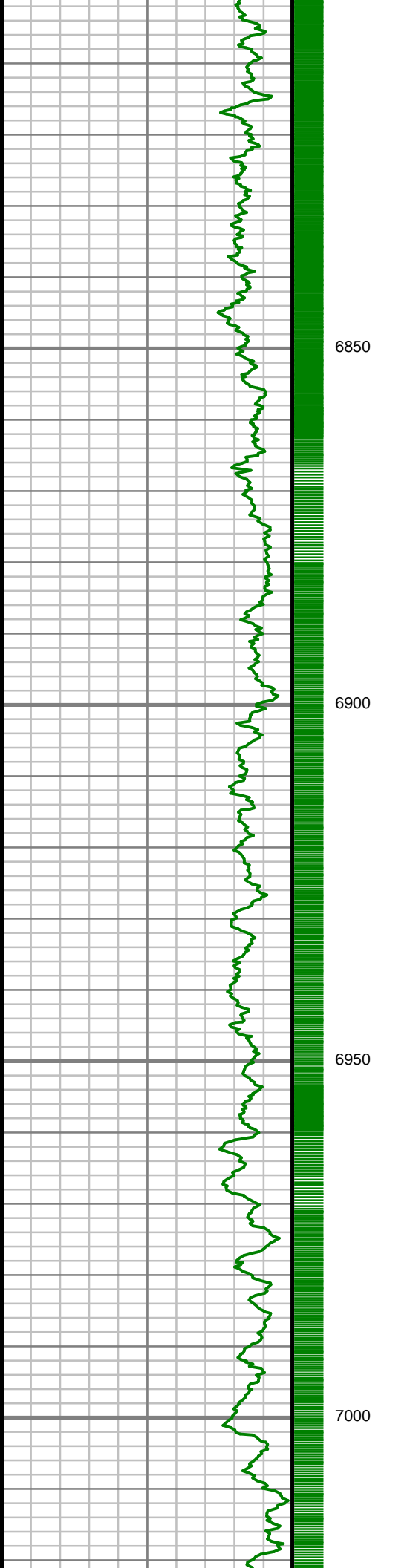
S: 70 MD: 6476.00 ft
Inc: 0.34 deg Az:
274.69 deg TVD:
6440.67 ft

S: 71 MD: 6570.00 ft
Inc: 0.31 deg Az:
279.78 deg TVD:
6534.67 ft



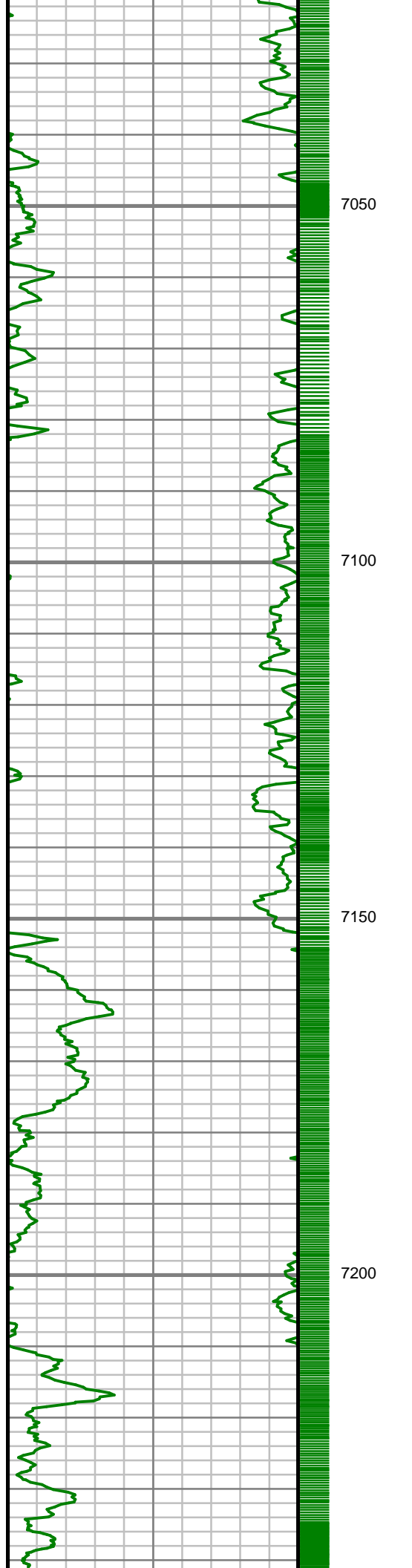
S: 72 MD: 6664.00 ft
Inc: 0.29 deg Az: 68.67
deg TVD: 6628.67 ft

S: 73 MD: 6757.00 ft
Inc: 0.37 deg Az: 59.81
deg TVD: 6721.67 ft



S: 74 MD: 6851.00 ft
Inc: 5.28 deg Az: 12.00
deg TVD: 6815.53 ft

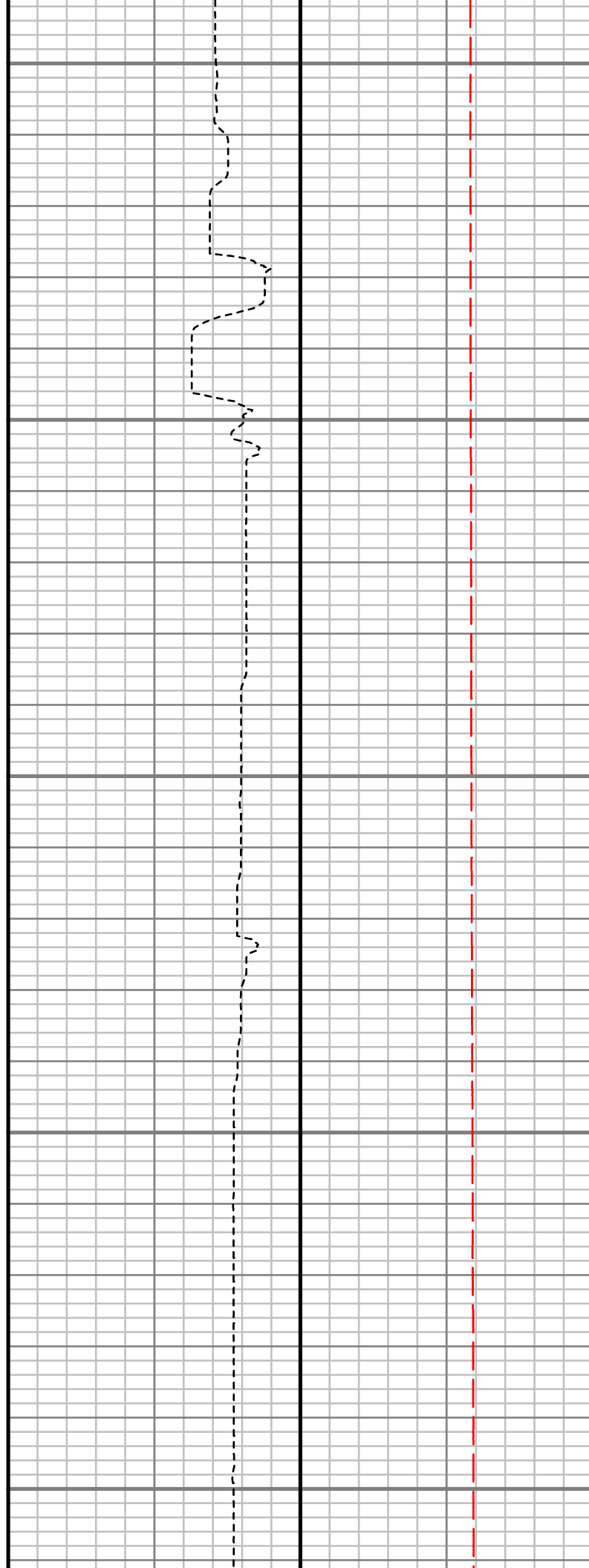
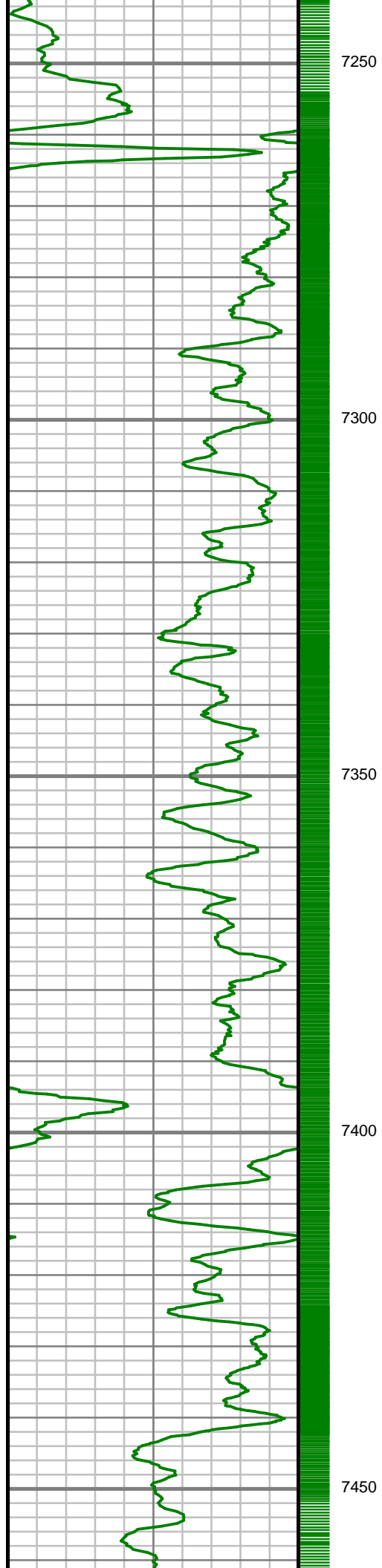
S: 75 MD: 6946.00 ft
Inc: 13.59 deg Az:
13.45 deg TVD:
6909.16 ft



S: 76 MD: 7039.00 ft
Inc: 22.63 deg Az:
10.22 deg TVD:
6997.46 ft

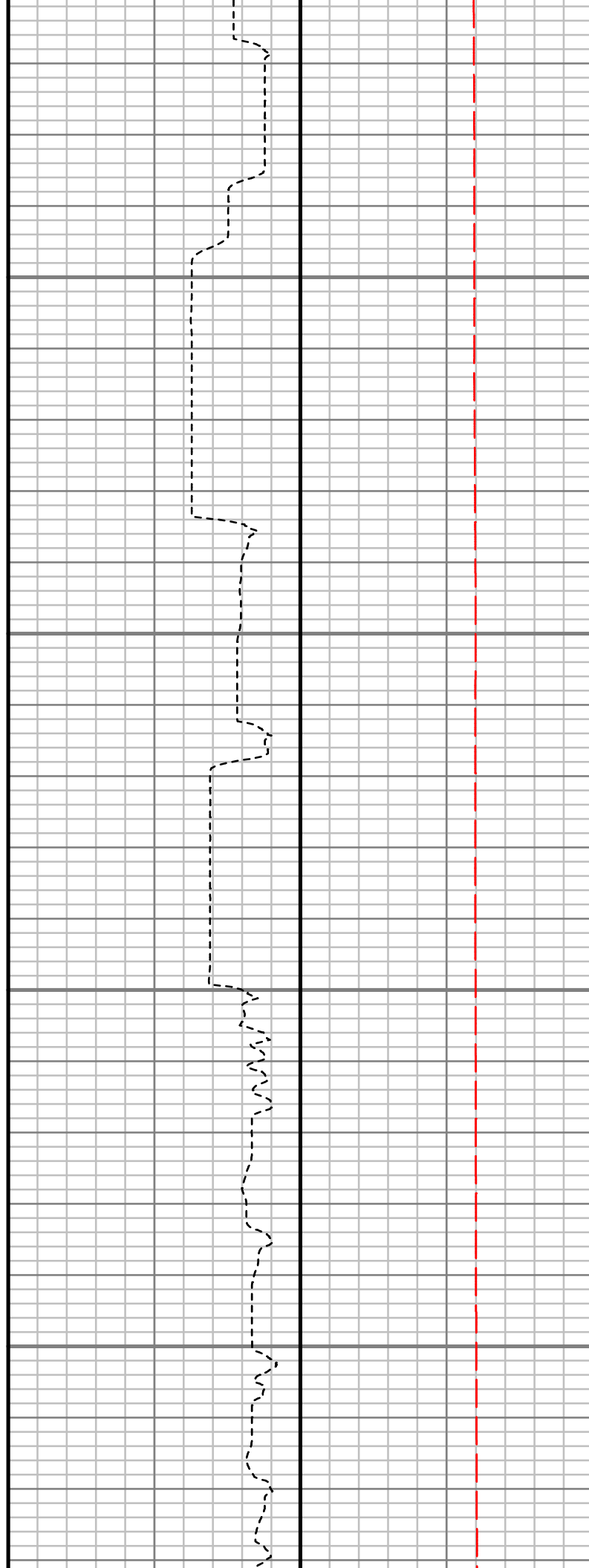
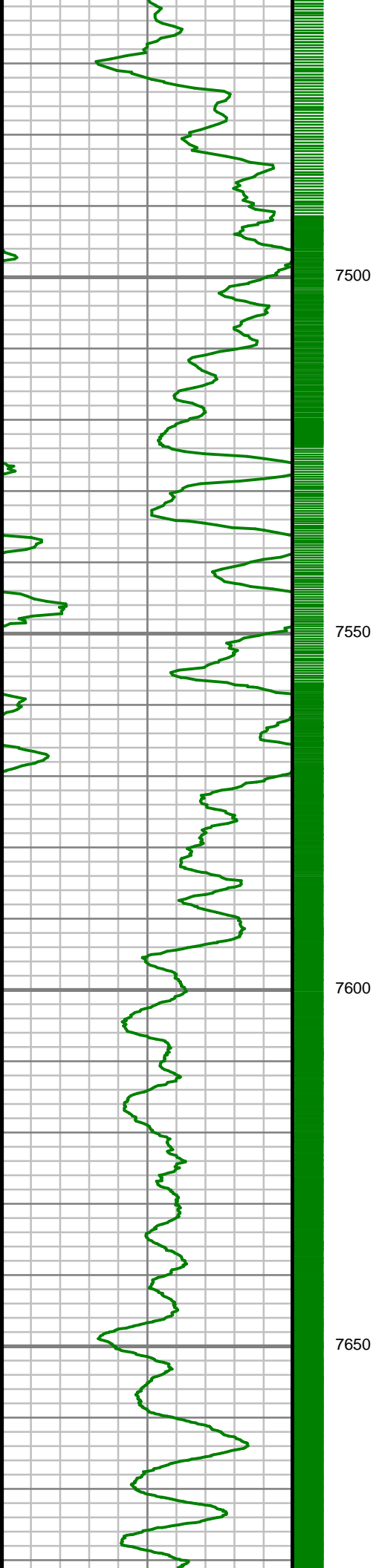
S: 77 MD: 7133.00 ft
Inc: 27.84 deg Az: 4.30
deg TVD: 7082.48 ft

S: 78 MD: 7227.00 ft
Inc: 35.65 deg Az: 6.36
deg TVD: 7162.35 ft



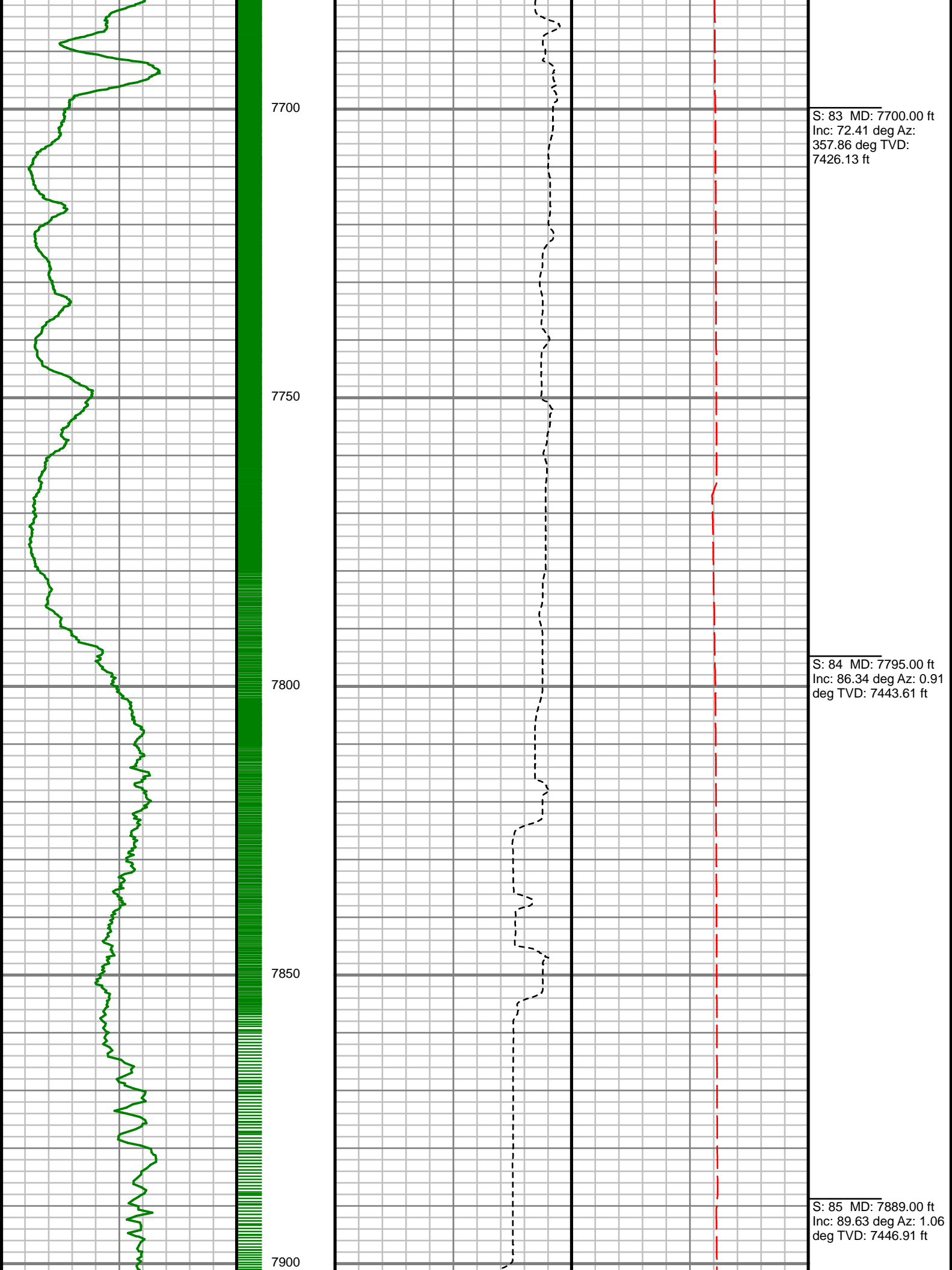
S: 79 MD: 7323.00 ft
Inc: 41.85 deg Az: 1.31
deg TVD: 7237.21 ft

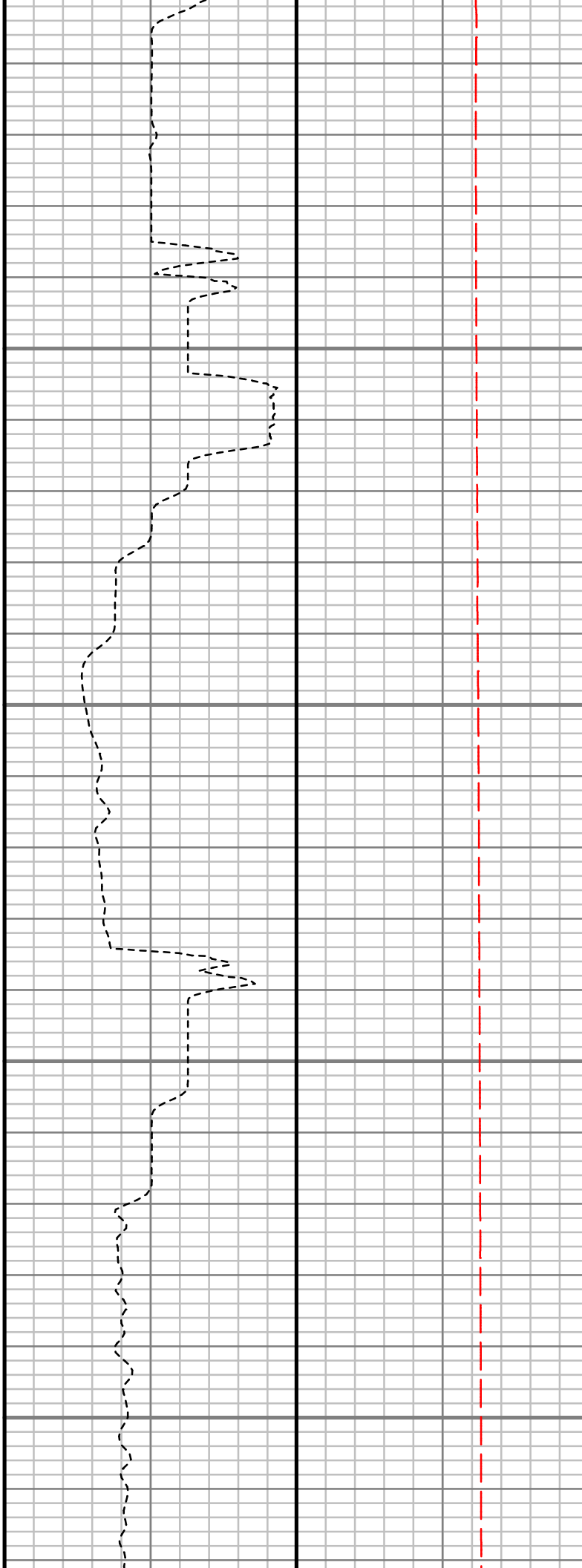
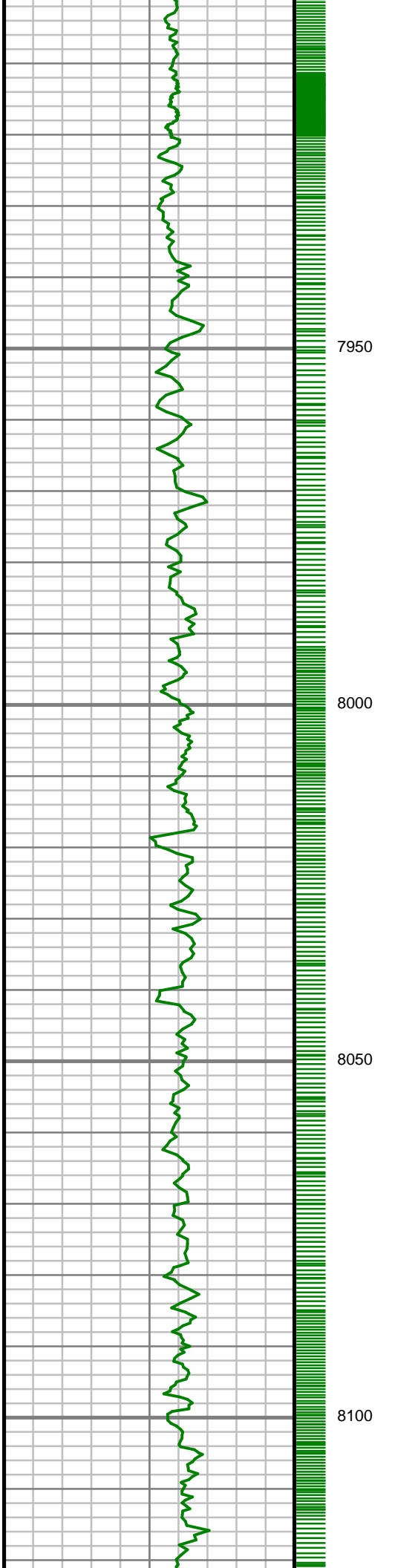
S: 80 MD: 7417.00 ft
Inc: 54.72 deg Az:
356.55 deg TVD:
7299.64 ft



S: 81 MD: 7512.00 ft
Inc: 62.05 deg Az:
355.86 deg TVD:
7349.41 ft

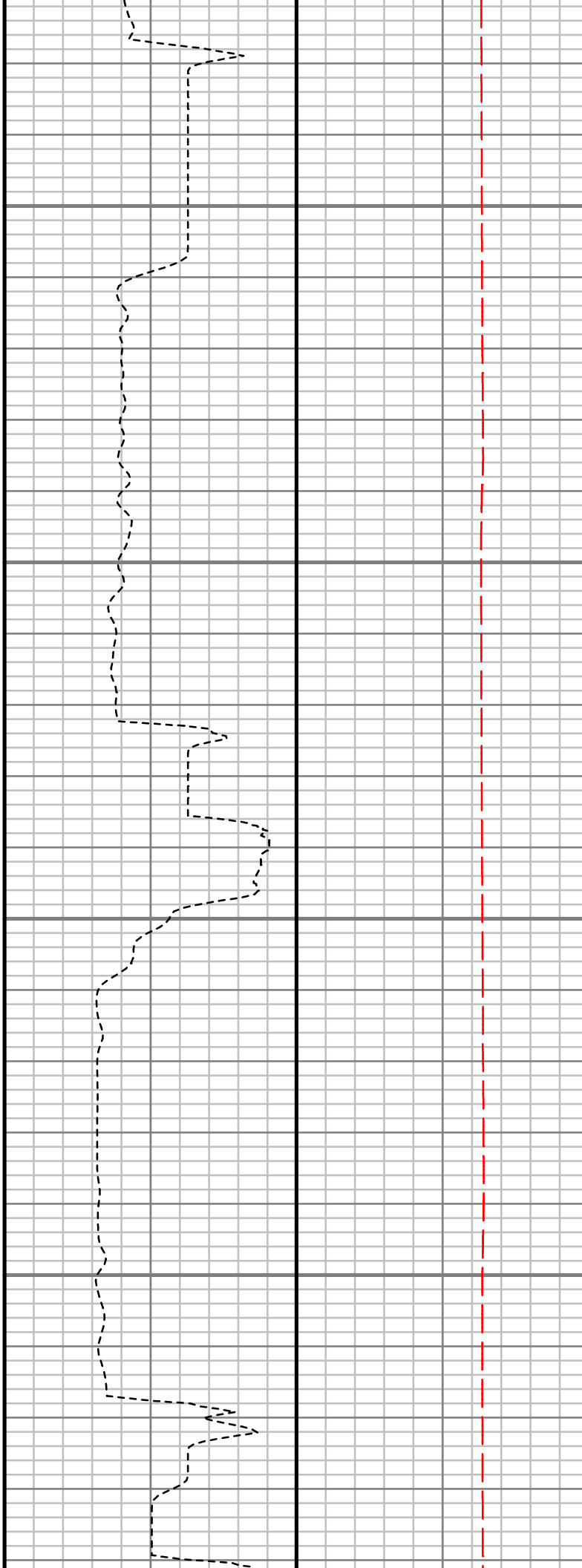
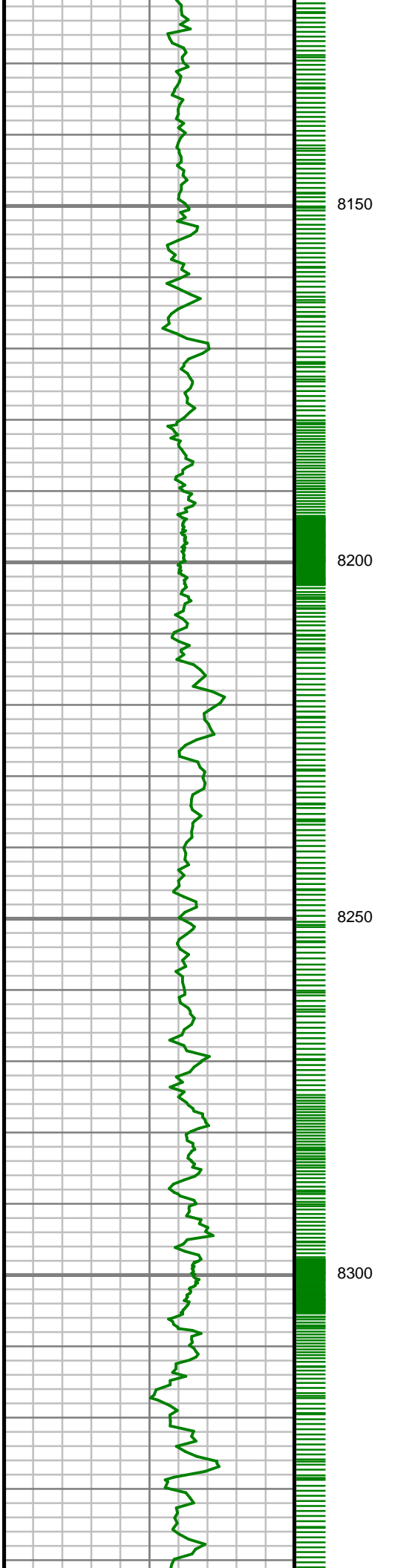
S: 82 MD: 7605.00 ft
Inc: 64.47 deg Az:
356.40 deg TVD:
7391.25 ft





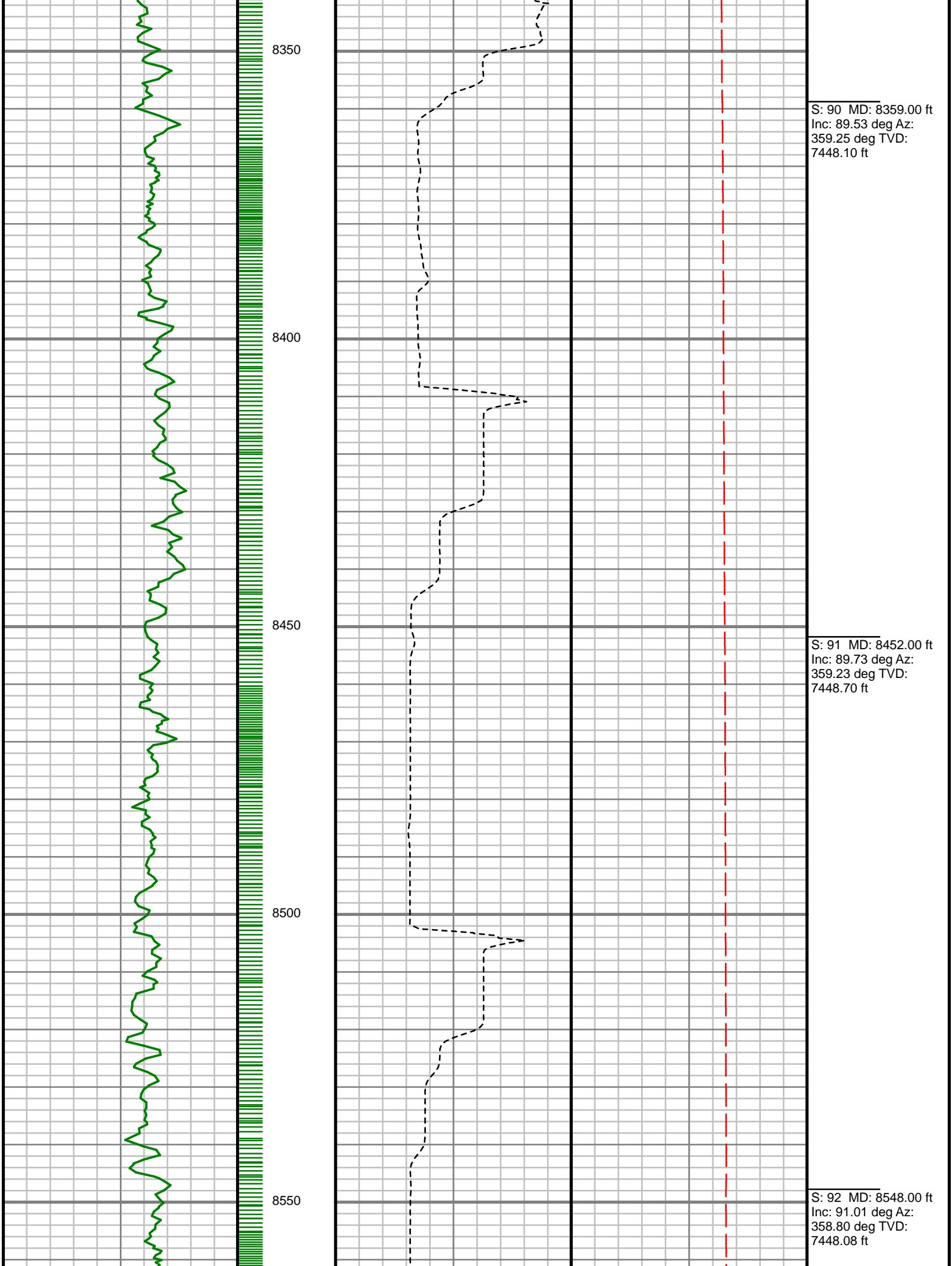
S: 86 MD: 7983.00 ft
Inc: 89.40 deg Az: 0.65
deg TVD: 7447.71 ft

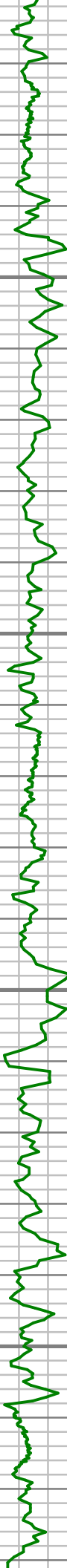
S: 87 MD: 8077.00 ft
Inc: 89.73 deg Az: 0.43
deg TVD: 7448.43 ft



S: 88 MD: 8172.00 ft
Inc: 90.37 deg Az: 0.32
deg TVD: 7448.34 ft

S: 89 MD: 8265.00 ft
Inc: 90.20 deg Az:
359.09 deg TVD:
7447.88 ft



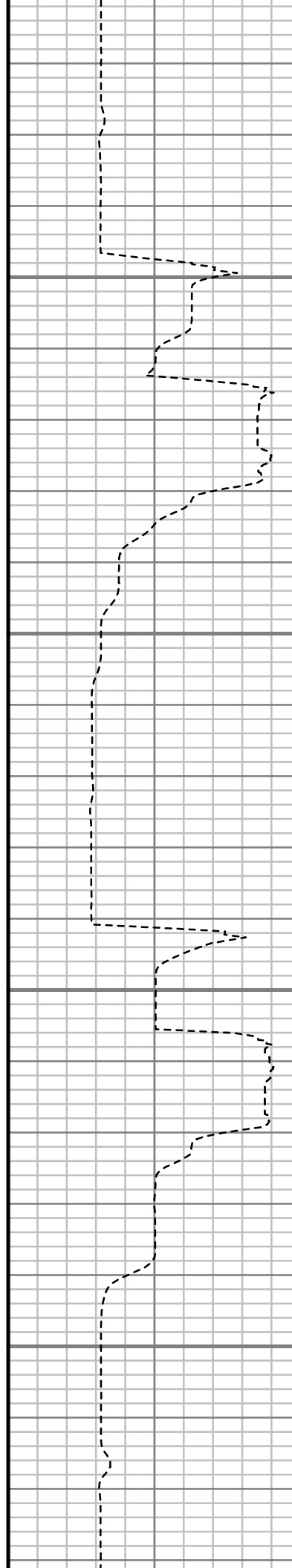


8600

8650

8700

8750



S: 93 MD: 8641.00 ft
Inc: 90.17 deg Az:
357.25 deg TVD:
7447.13 ft

S: 94 MD: 8736.00 ft
Inc: 90.10 deg Az:
358.60 deg TVD:
7446.91 ft



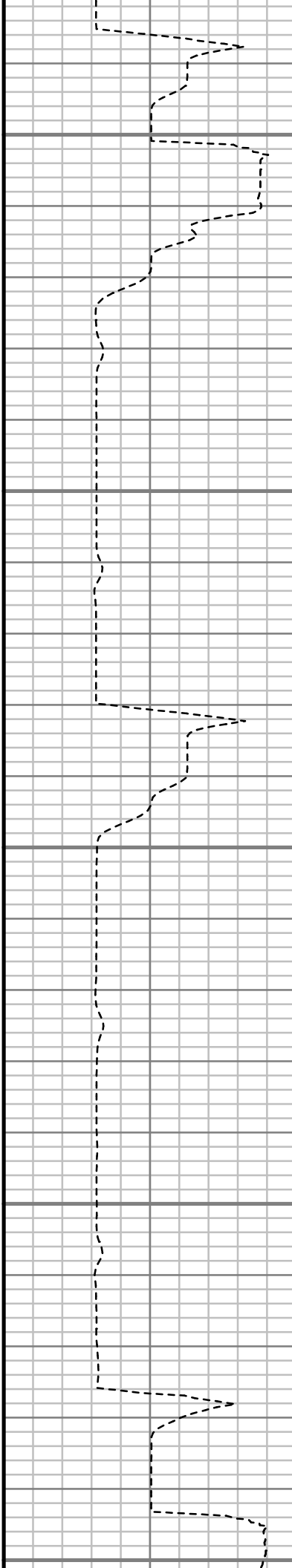
8800

8850

8900

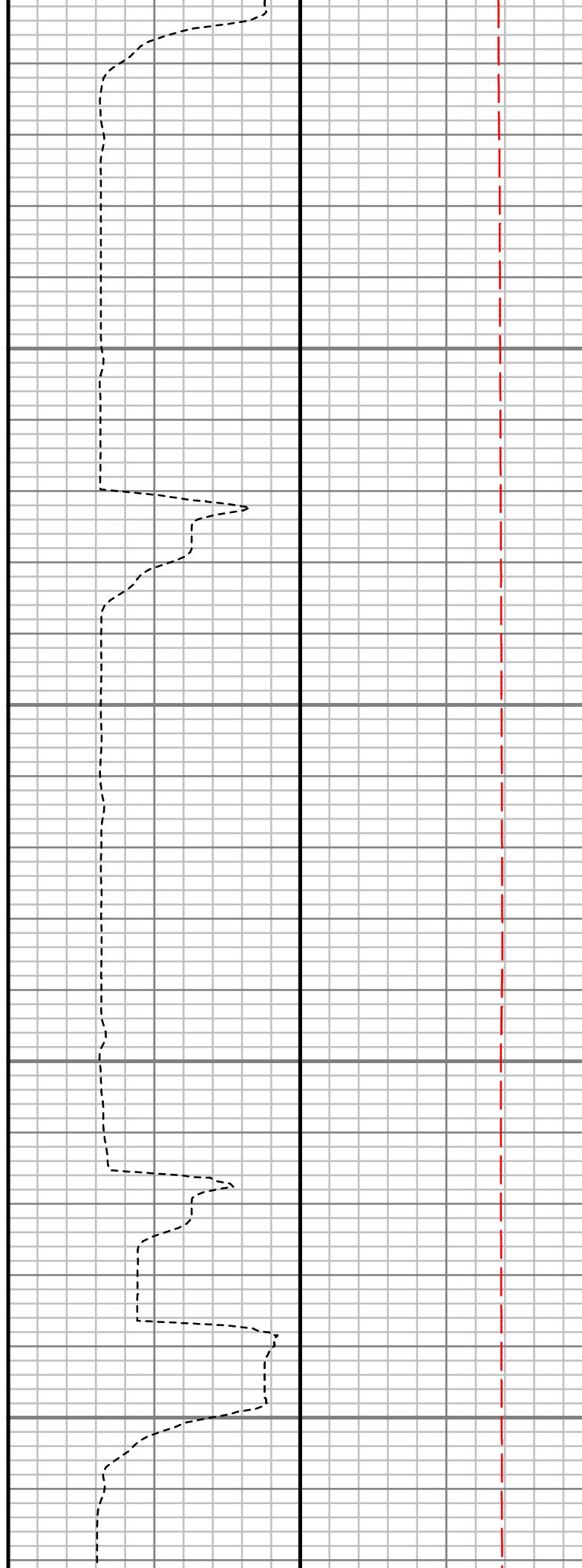
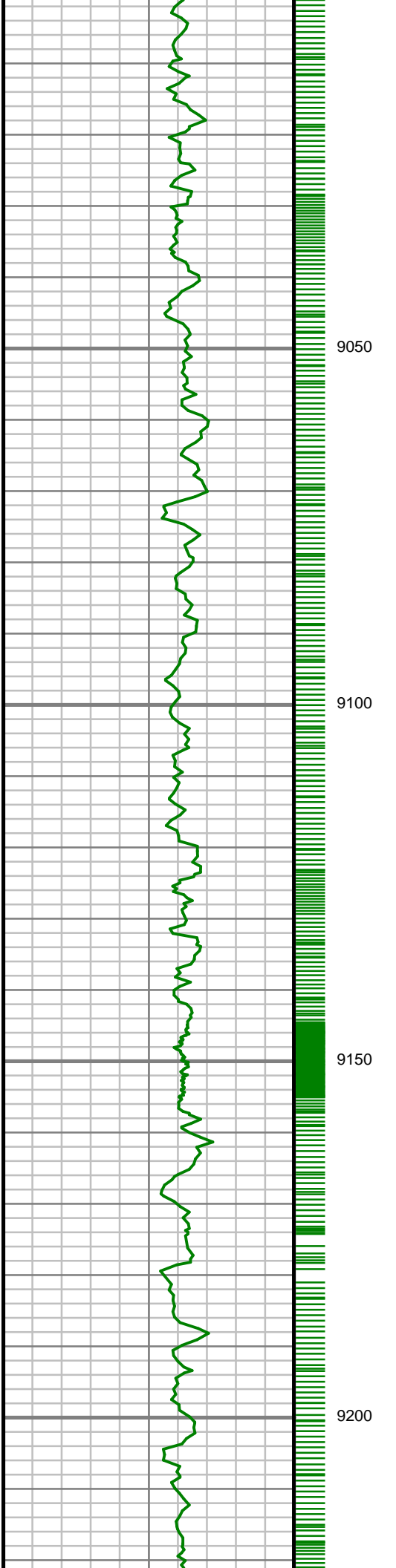
8950

9000



S: 95 MD: 8830.00 ft
Inc: 89.56 deg Az:
359.61 deg TVD:
7447.18 ft

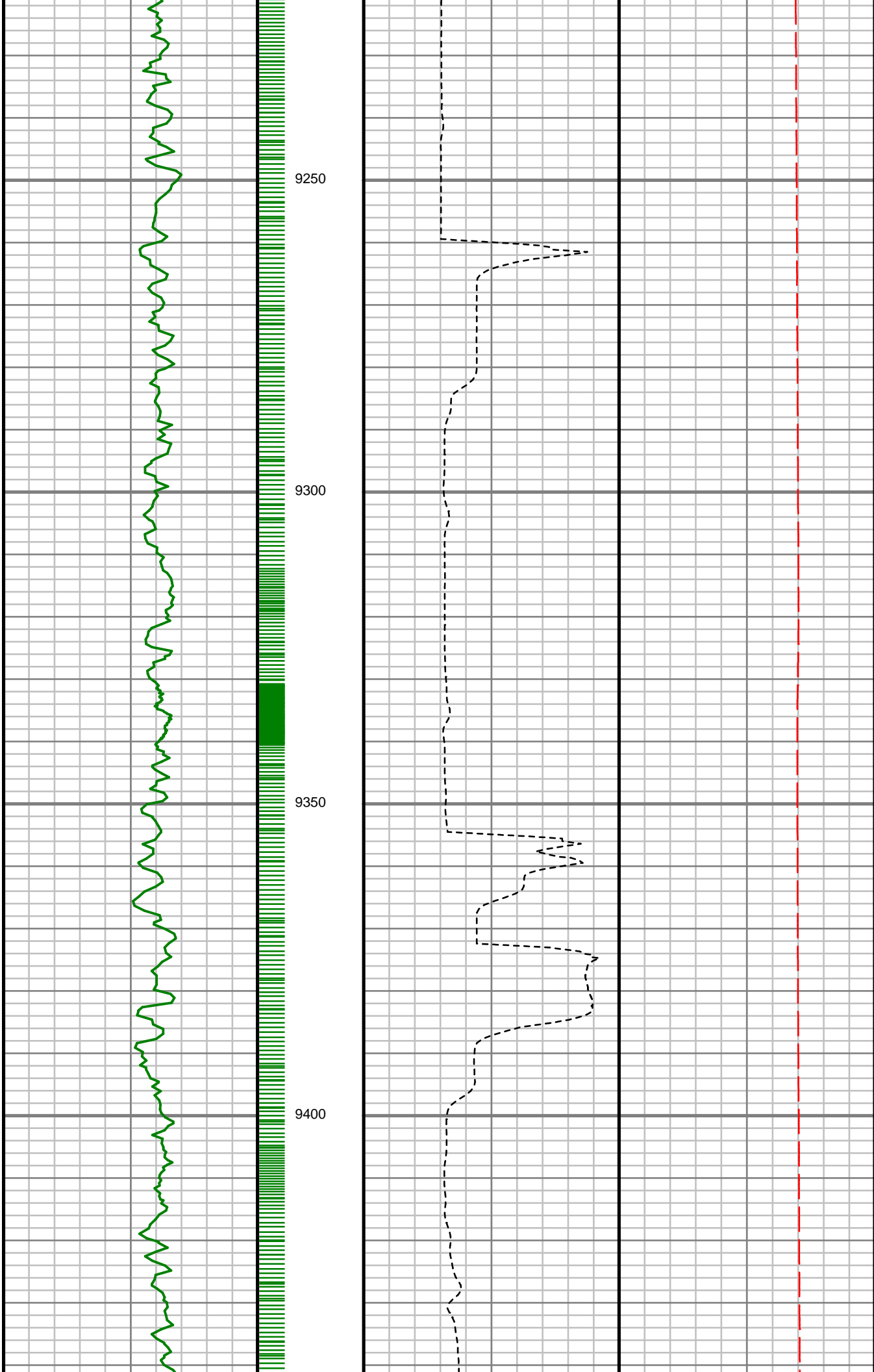
S: 96 MD: 8925.00 ft
Inc: 90.44 deg Az:
359.88 deg TVD:
7447.18 ft



S: 97 MD: 9020.00 ft
Inc: 89.60 deg Az: 0.19
deg TVD: 7447.15 ft

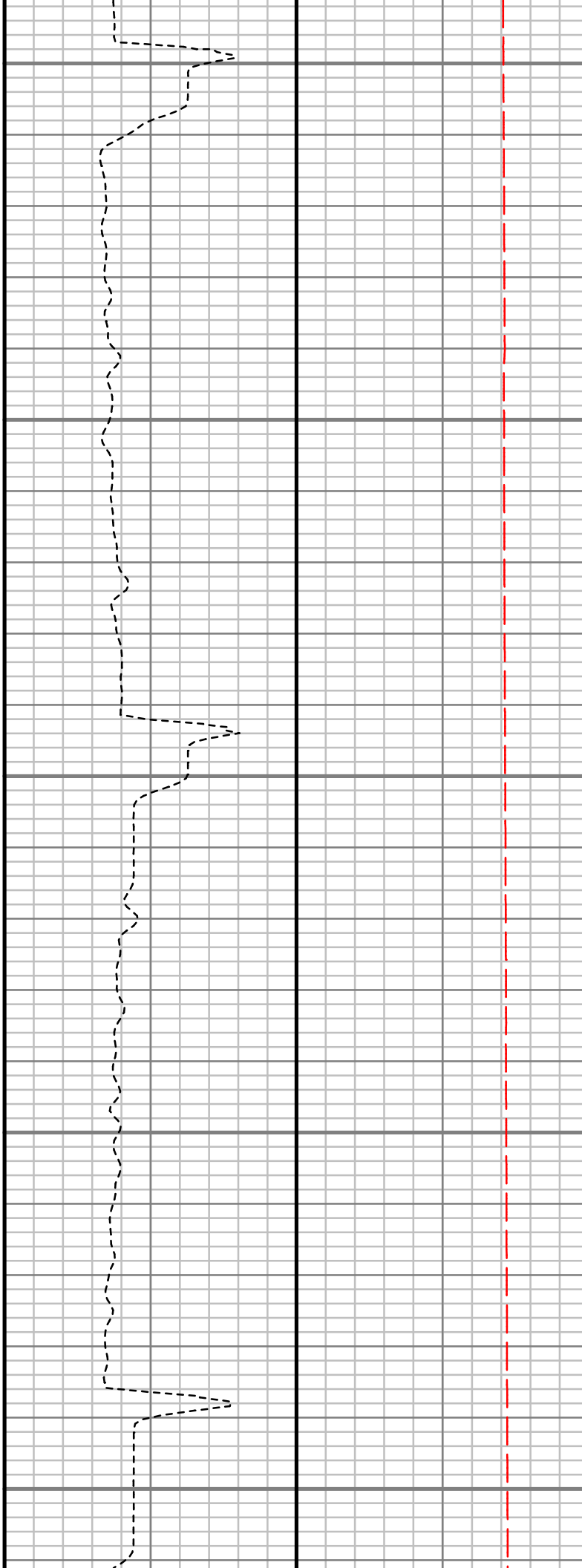
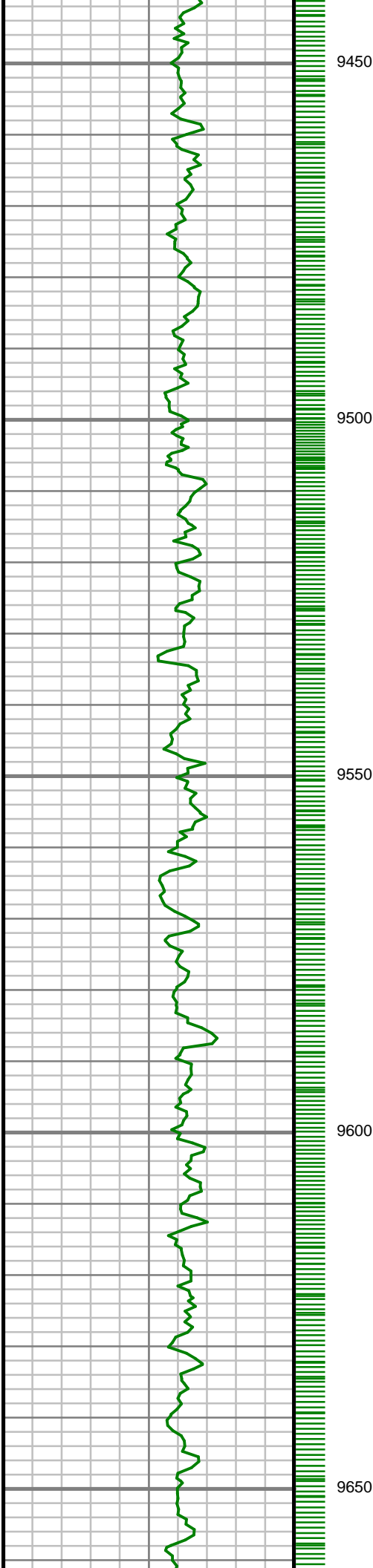
S: 98 MD: 9114.00 ft
Inc: 90.40 deg Az: 0.70
deg TVD: 7447.15 ft

S: 99 MD: 9208.00 ft
Inc: 89.53 deg Az:
359.85 deg TVD:
7447.21 ft



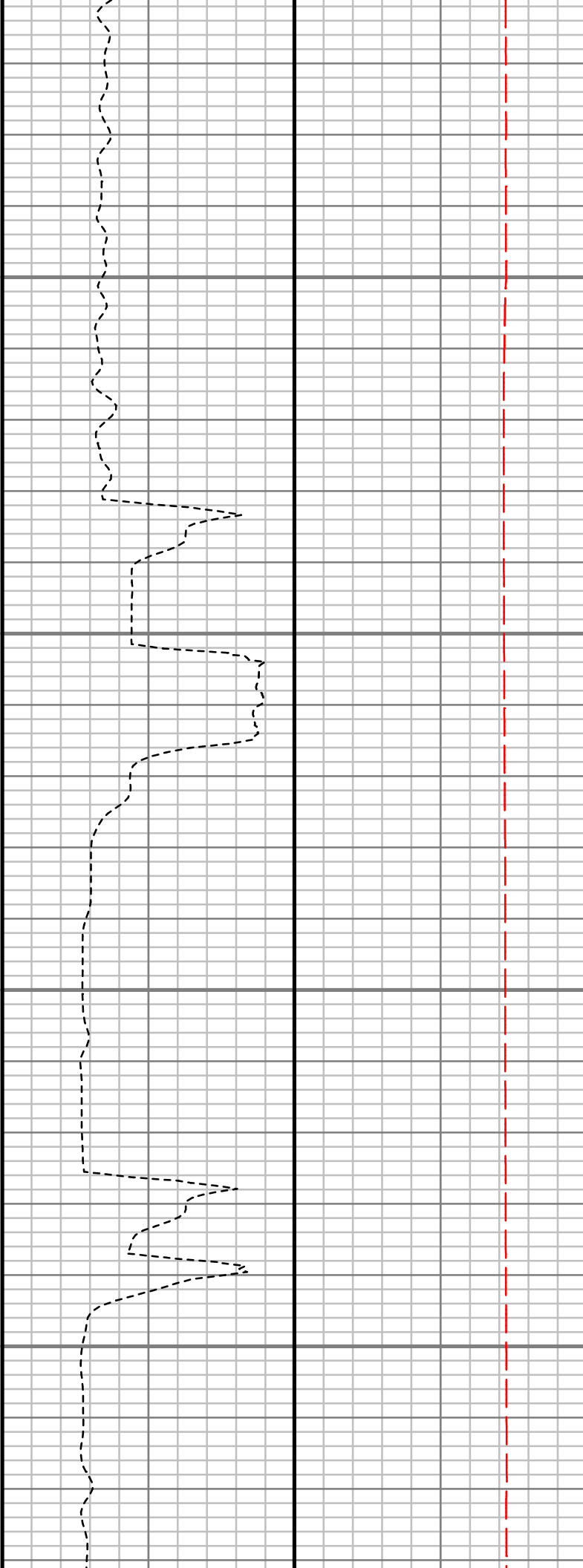
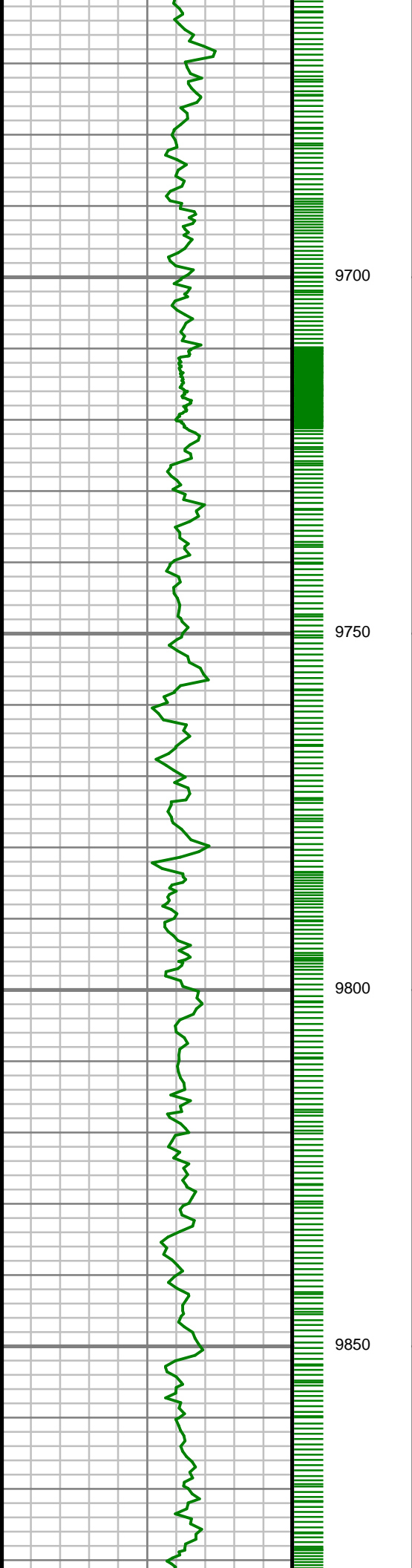
S: 100 MD: 9302.00 ft
Inc: 90.13 deg Az:
359.87 deg TVD:
7447.48 ft

S: 101 MD: 9397.00 ft
Inc: 88.93 deg Az:
359.53 deg TVD:
7448.26 ft



S: 102 MD: 9492.00 ft
Inc: 89.43 deg Az:
359.57 deg TVD:
7449.63 ft

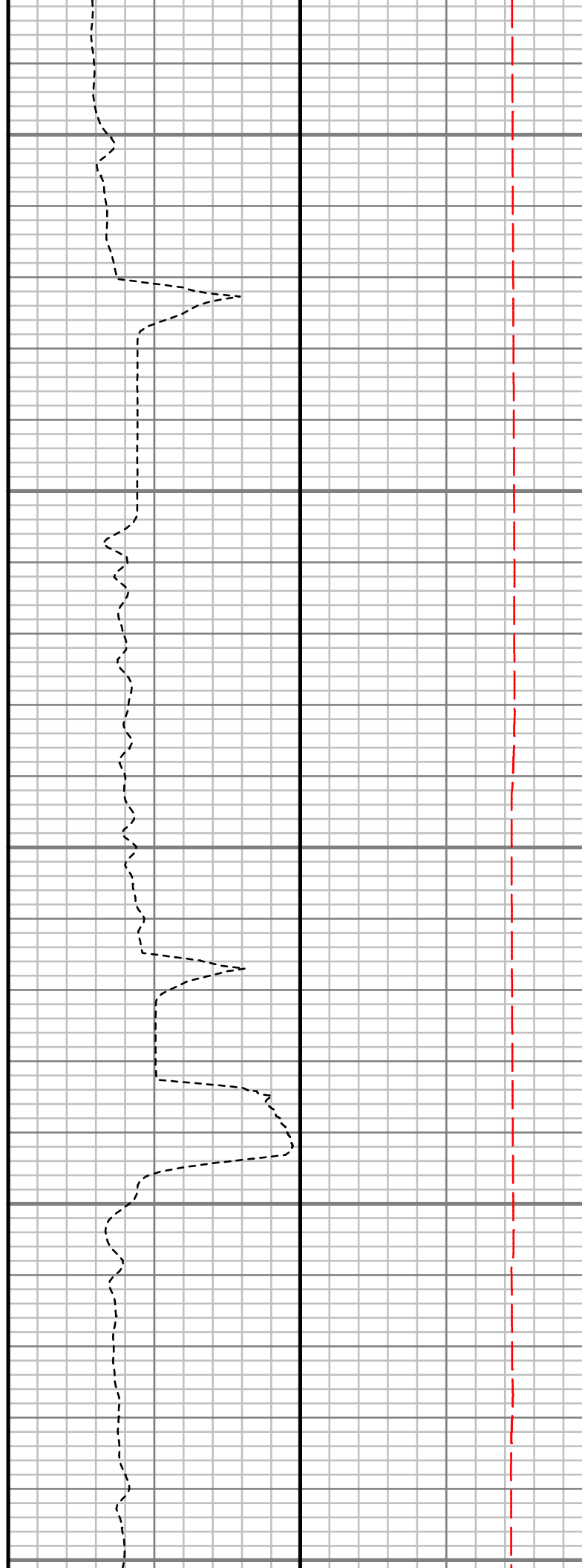
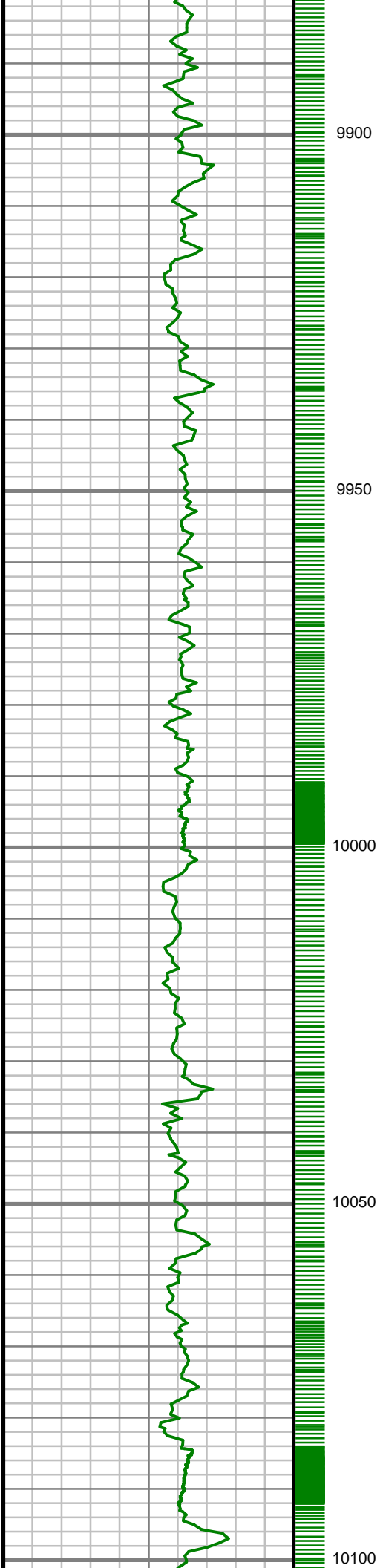
S: 103 MD: 9586.00 ft
Inc: 90.03 deg Az:
359.86 deg TVD:
7450.07 ft



S: 104 MD: 9681.00 ft
Inc: 90.54 deg Az:
359.77 deg TVD:
7449.60 ft

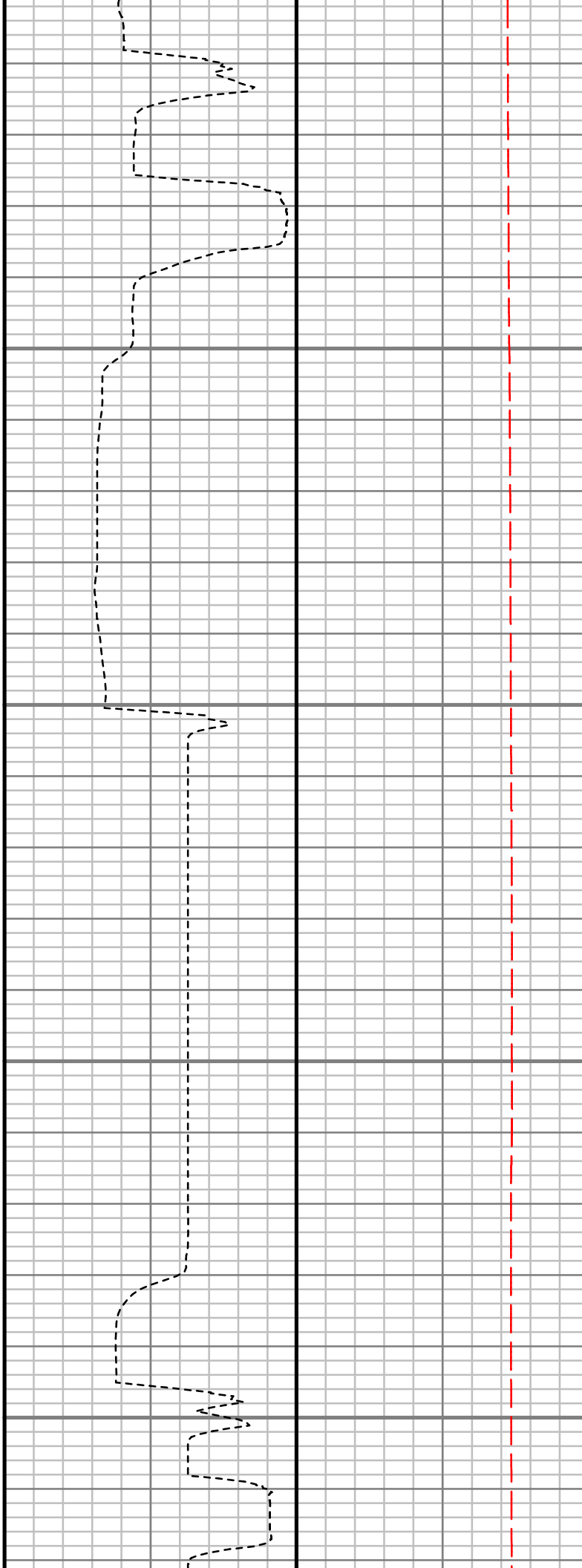
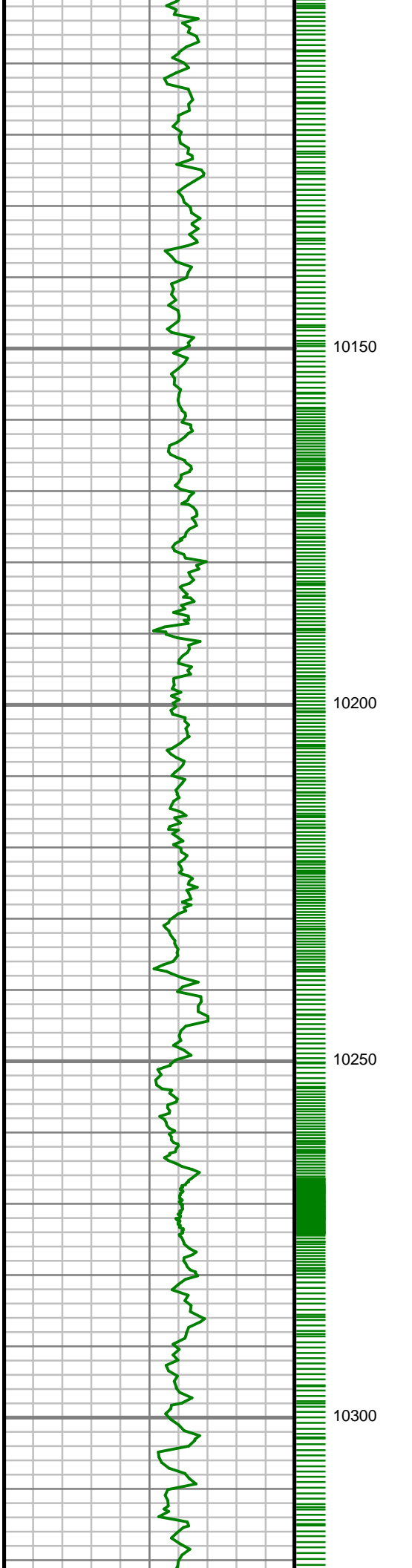
S: 105 MD: 9775.00 ft
Inc: 89.33 deg Az:
359.59 deg TVD:
7449.71 ft

S: 106 MD: 9869.00 ft
Inc: 90.07 deg Az:
359.56 deg TVD:
7450.20 ft



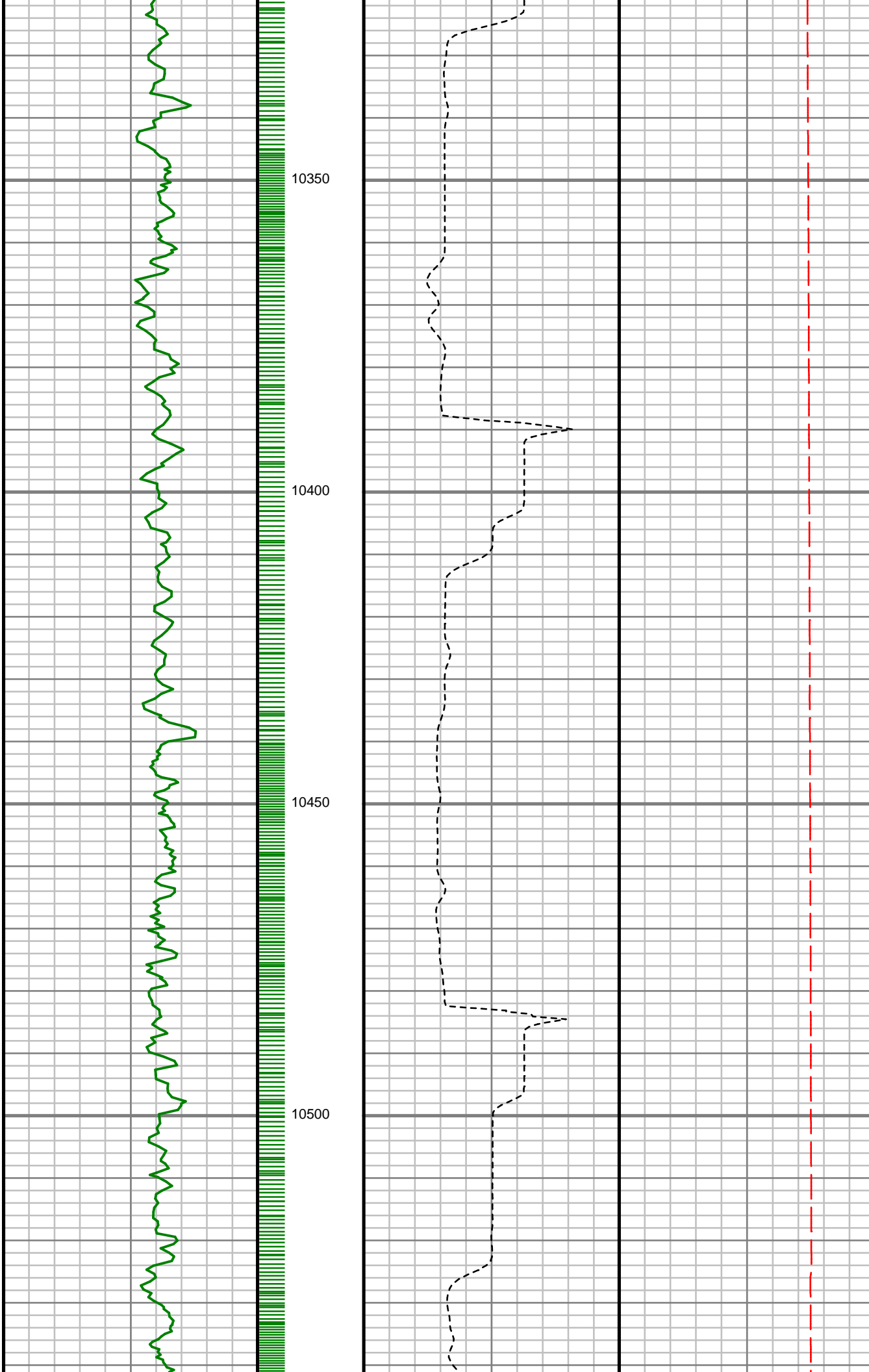
S: 107 MD: 9963.00 ft
Inc: 91.07 deg Az: 0.11
deg TVD: 7449.26 ft

S: 108 MD: 10057.00 ft
Inc: 90.60 deg Az: 0.64
deg TVD: 7447.89 ft



S: 109 MD: 10150.00 ft
Inc: 89.23 deg Az: 0.17
deg TVD: 7448.03 ft

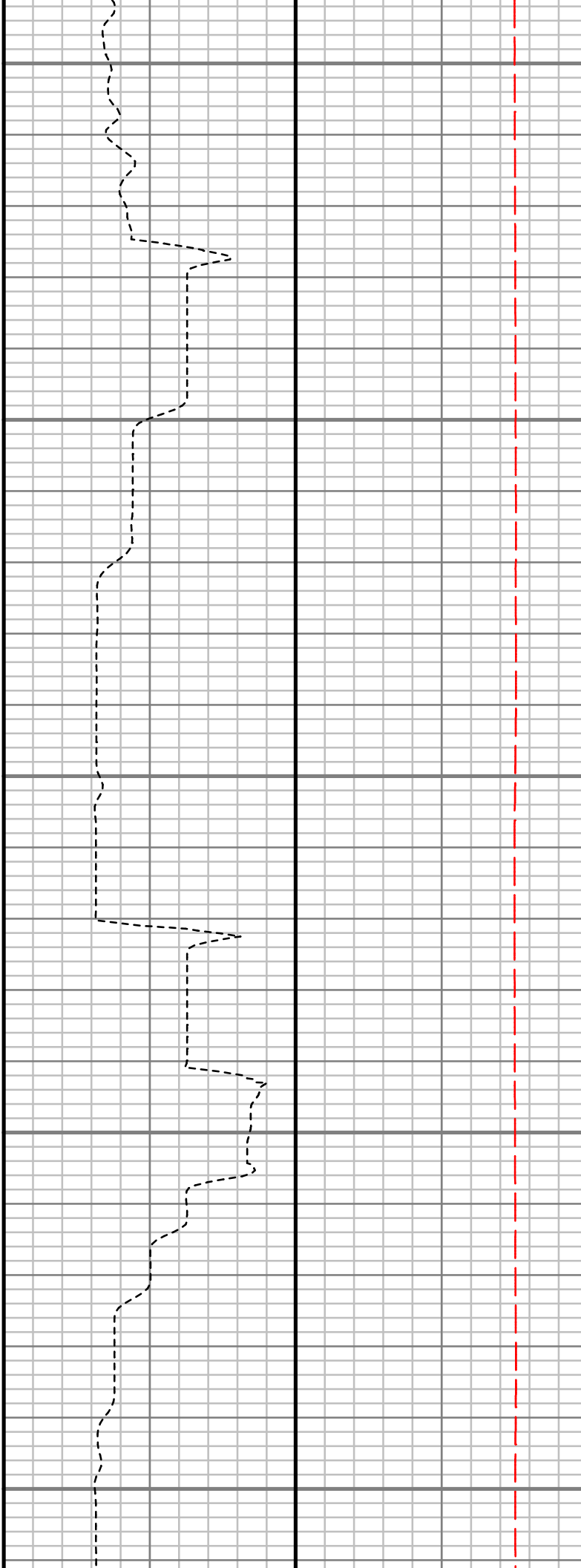
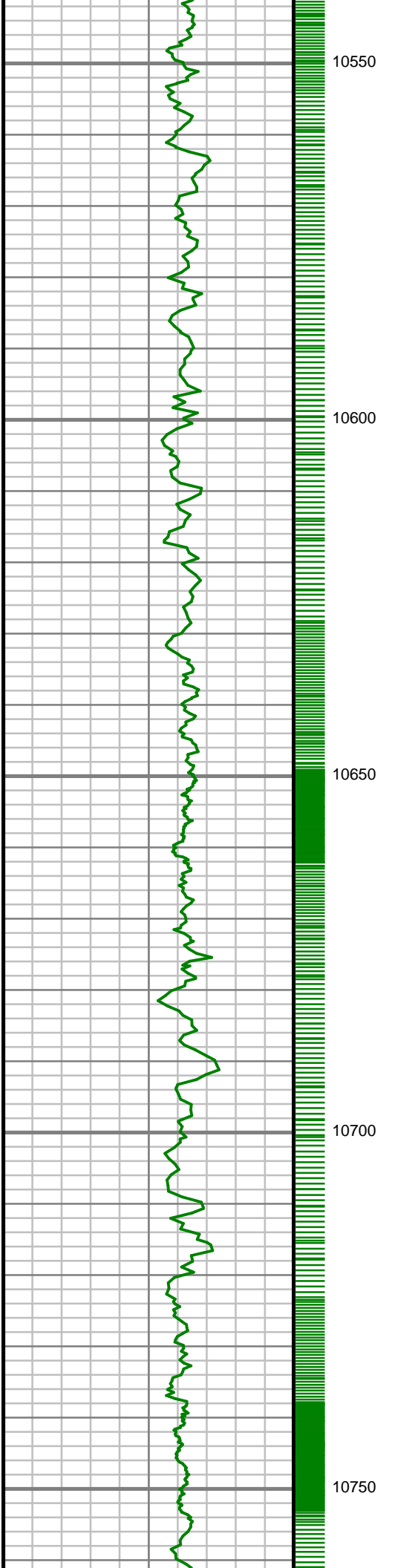
S: 110 MD: 10245.00 ft
Inc: 90.20 deg Az: 0.02
deg TVD: 7448.50 ft



S: 111 MD: 10338.00 ft
Inc: 89.30 deg Az:
359.38 deg TVD:
7448.91 ft

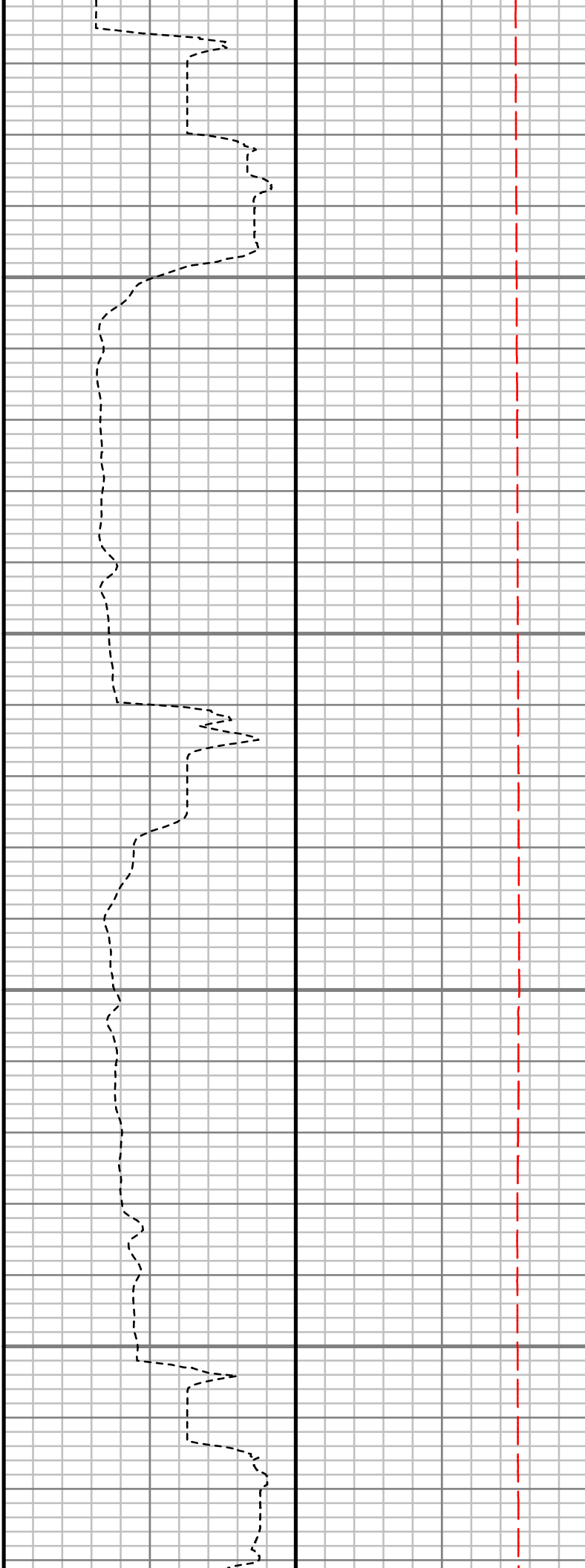
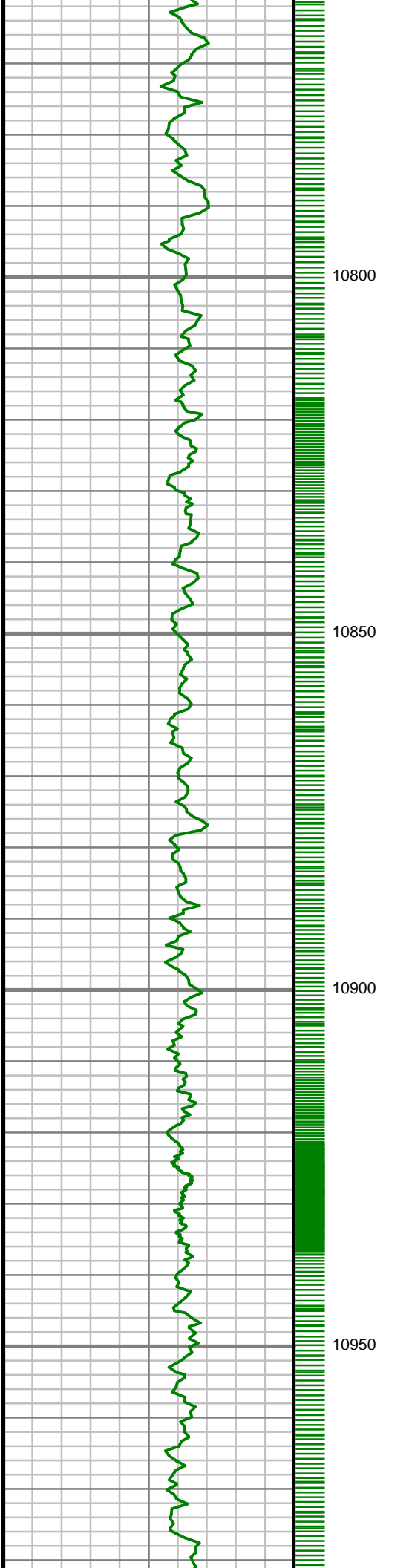
S: 112 MD: 10433.00 ft
Inc: 90.07 deg Az:
358.85 deg TVD:
7449.44 ft

S: 113 MD: 10525.00 ft
Inc: 90.60 deg Az:
358.58 deg TVD:
7448.90 ft



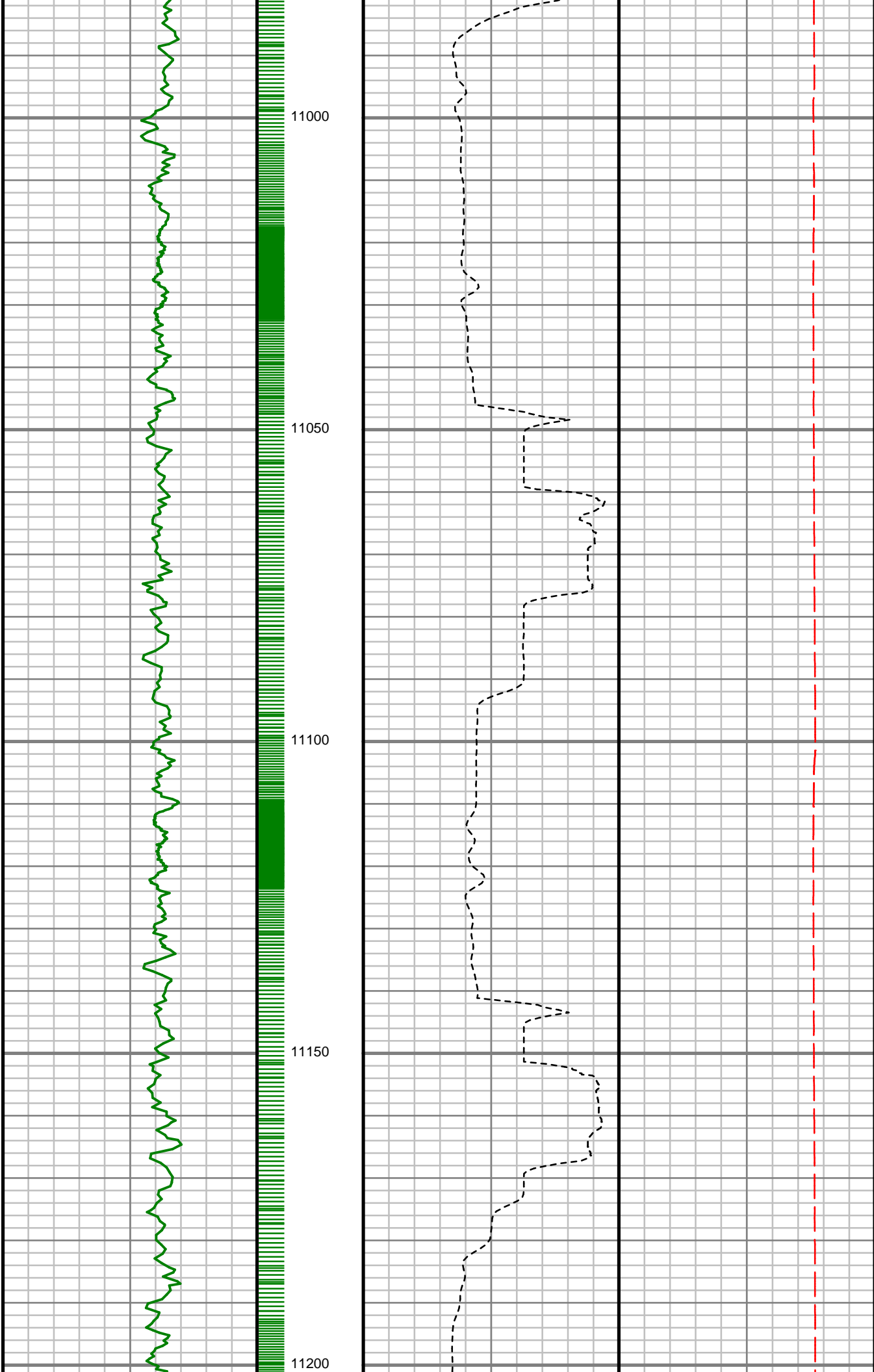
S: 114 MD: 10620.00 ft
Inc: 89.70 deg Az:
356.60 deg TVD:
7448.65 ft

S: 115 MD: 10715.00 ft
Inc: 89.09 deg Az:
357.03 deg TVD:
7449.65 ft



S: 116 MD: 10809.00 ft
Inc: 90.13 deg Az:
358.71 deg TVD:
7450.28 ft

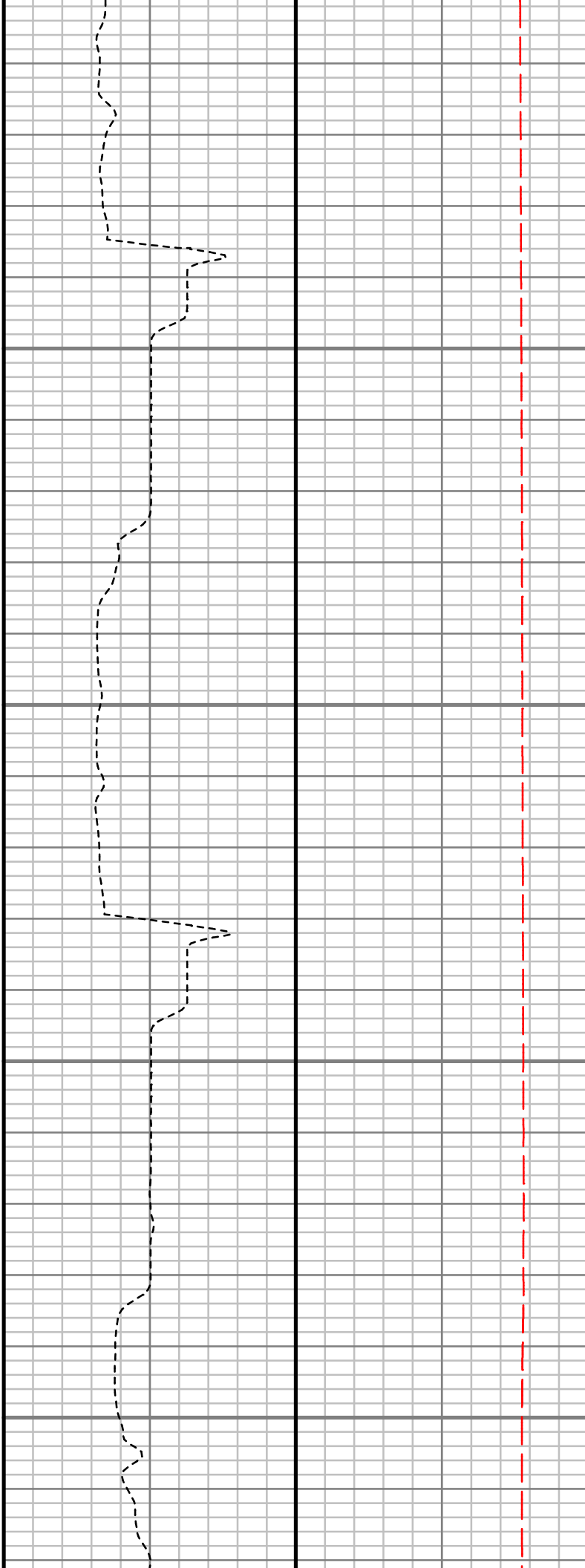
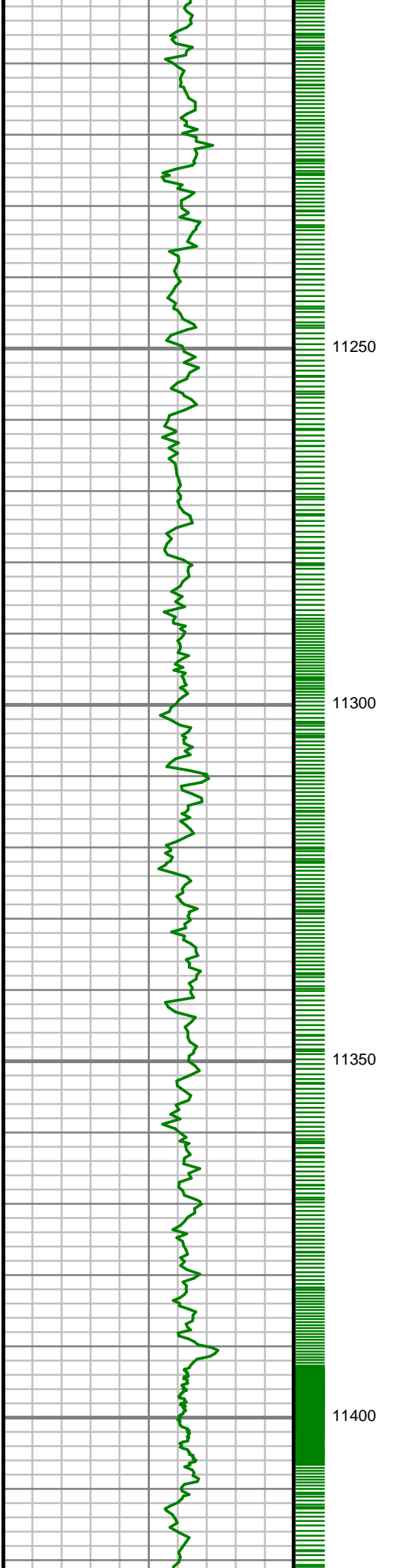
S: 117 MD: 10903.00 ft
Inc: 90.60 deg Az:
358.25 deg TVD:
7449.68 ft



S: 118 MD: 10997.00 ft
Inc: 90.17 deg Az: 359.35 deg TVD: 7449.04 ft

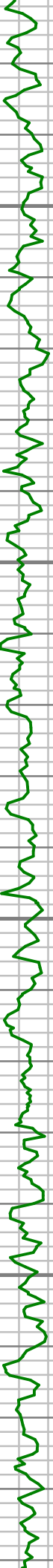
S: 119 MD: 11091.00 ft
Inc: 90.40 deg Az: 0.96 deg TVD: 7448.57 ft

S: 120 MD: 11185.00 ft
Inc: 89.73 deg Az: 1.80 deg TVD: 7448.46 ft



S: 121 MD: 11279.00 ft
Inc: 90.34 deg Az: 1.76
deg TVD: 7448.41 ft

S: 122 MD: 11373.00 ft
Inc: 91.21 deg Az: 1.21
deg TVD: 7447.14 ft

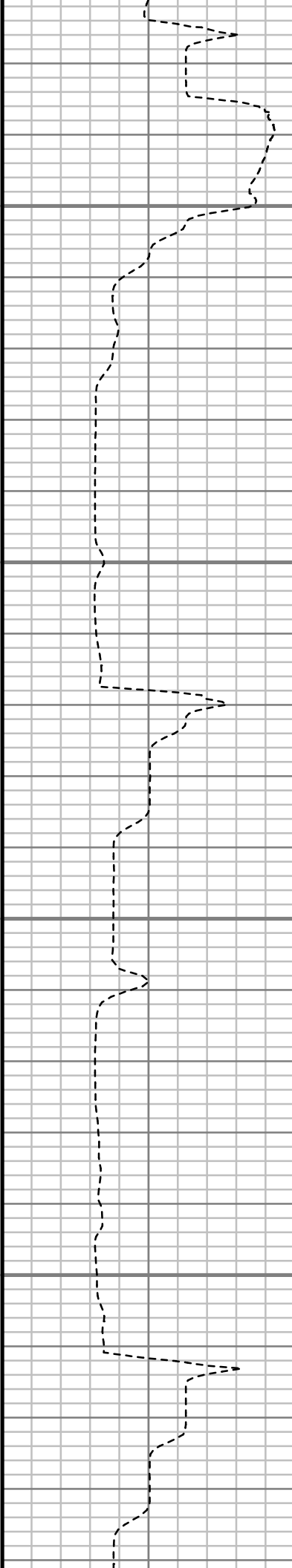


11450

11500

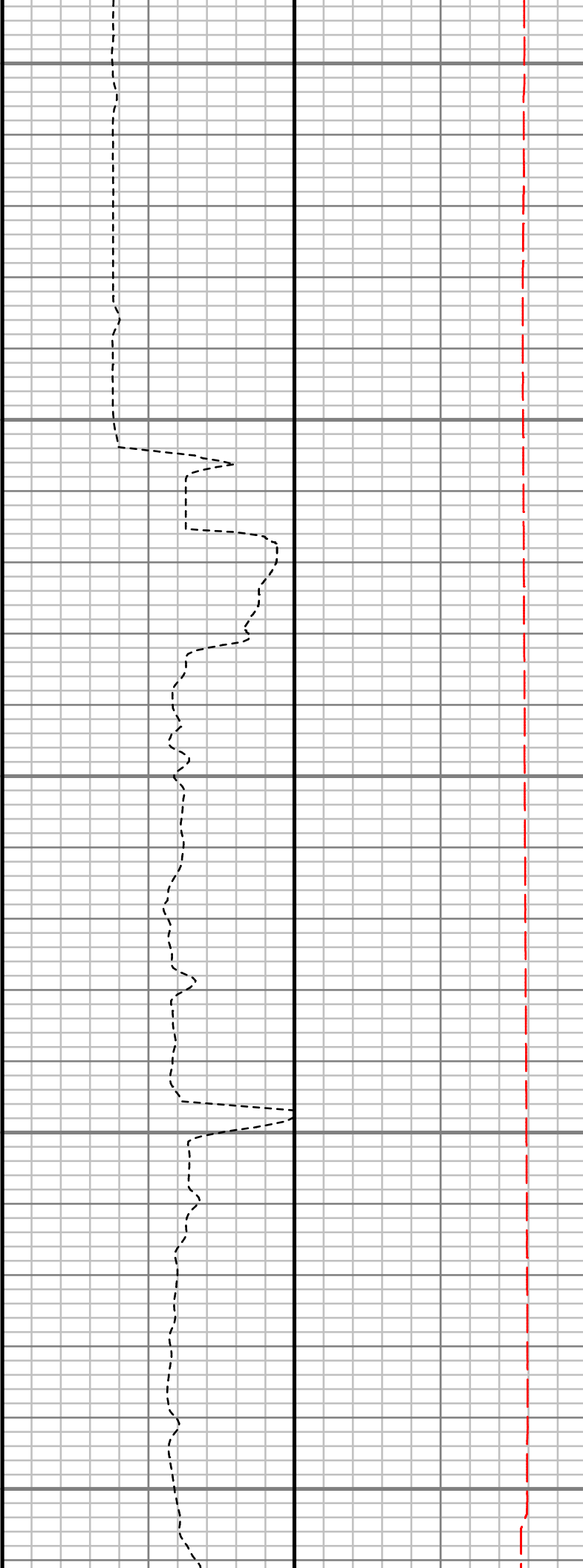
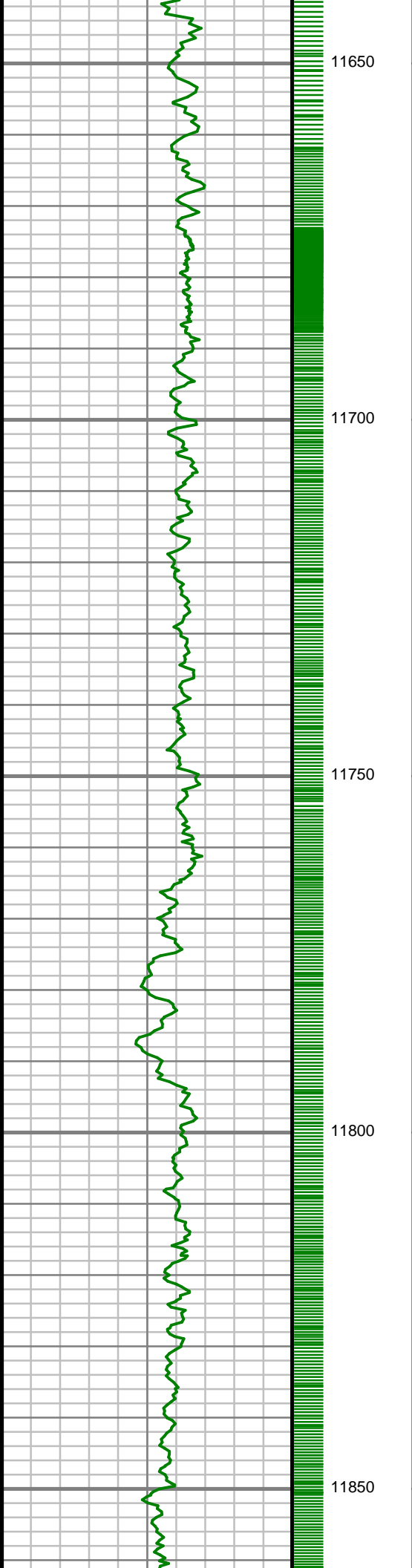
11550

11600



S: 123 MD: 11466.00 ft
Inc: 88.36 deg Az:
359.42 deg TVD:
7447.49 ft

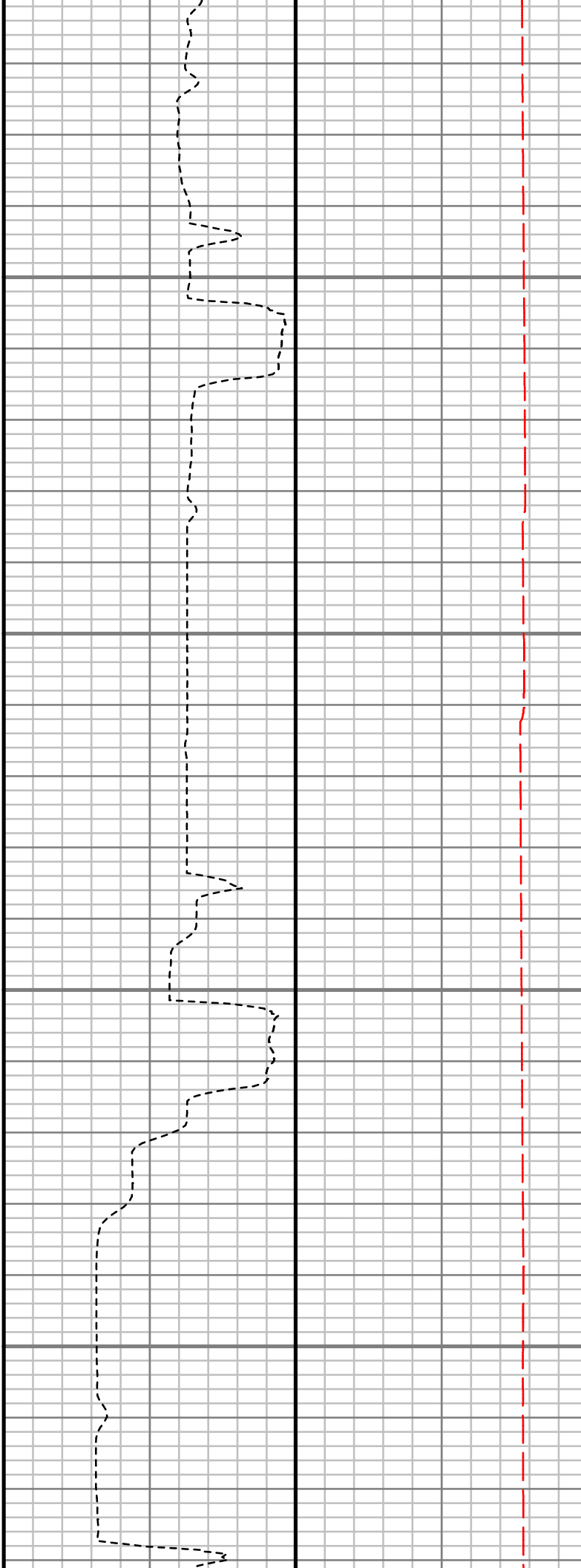
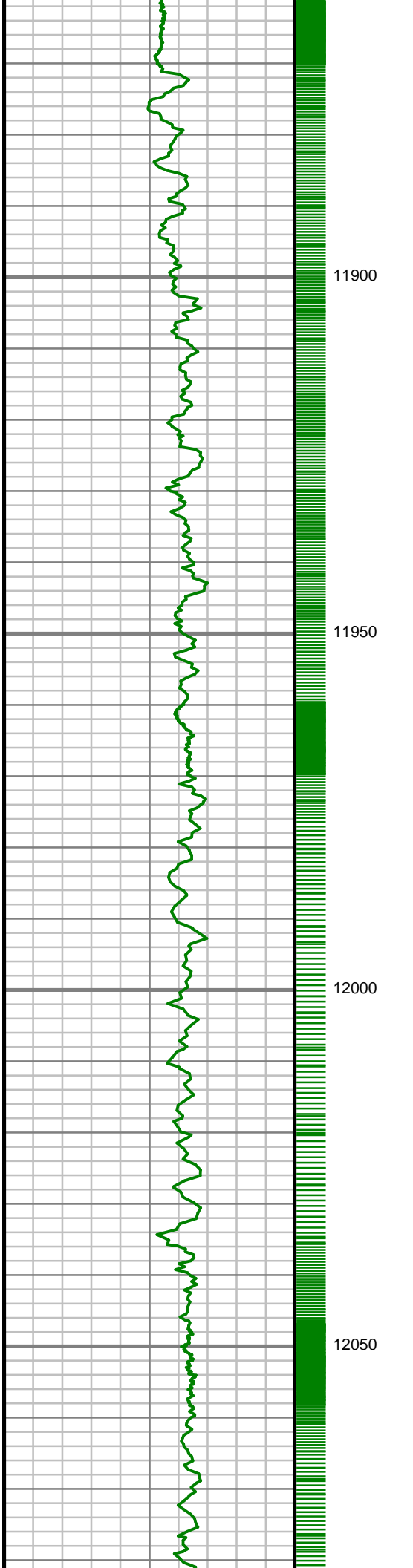
S: 124 MD: 11559.00 ft
Inc: 89.33 deg Az:
359.04 deg TVD:
7449.37 ft



S: 125 MD: 11652.00 ft
Inc: 90.40 deg Az:
358.46 deg TVD:
7449.59 ft

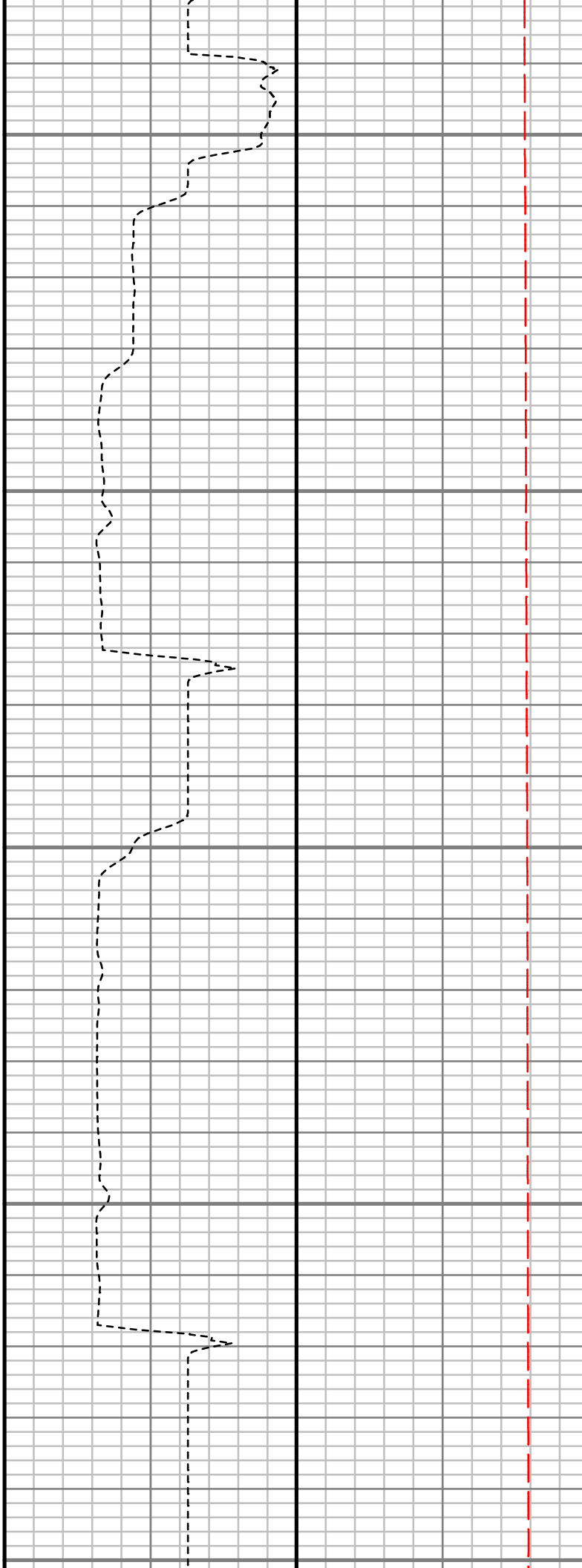
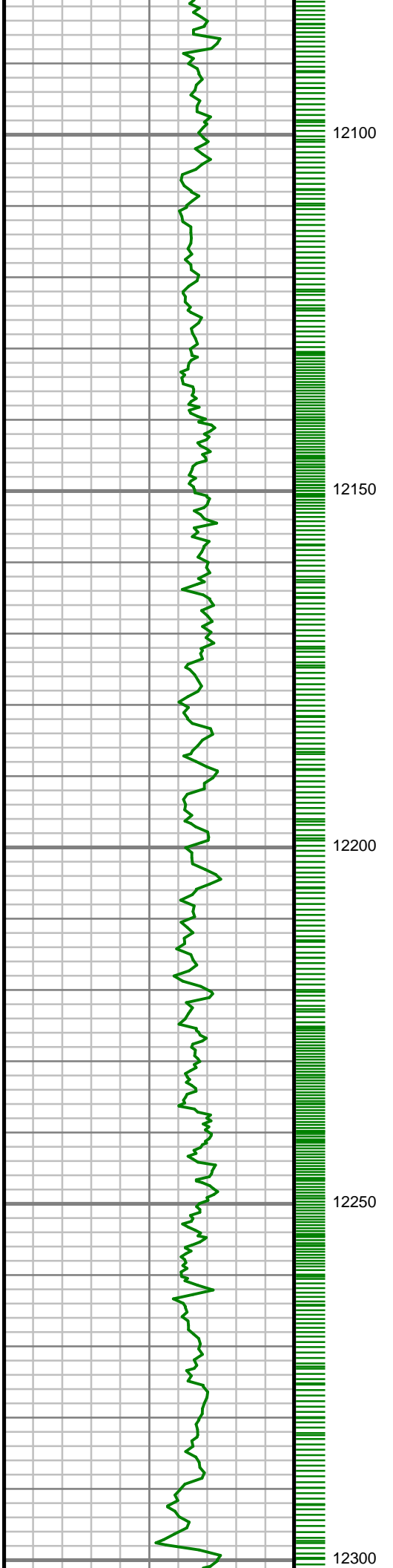
S: 126 MD: 11745.00 ft
Inc: 89.56 deg Az:
359.11 deg TVD:
7449.62 ft

S: 127 MD: 11840.00 ft
Inc: 90.00 deg Az:
359.04 deg TVD:
7449.98 ft



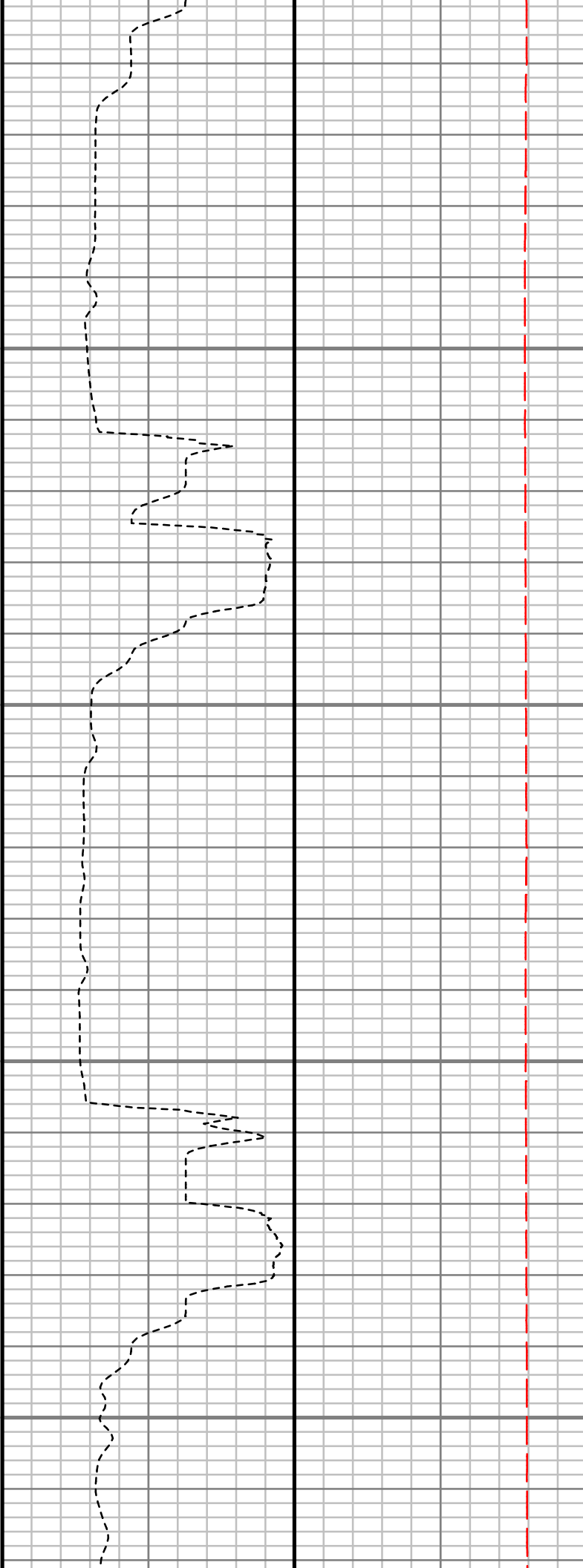
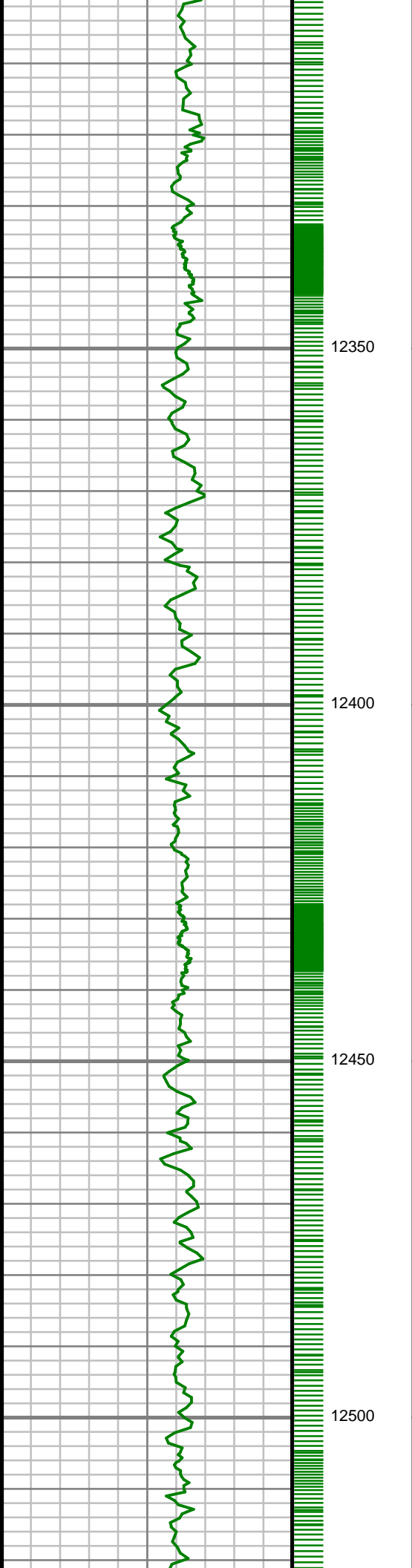
S: 128 MD: 11934.00 ft
Inc: 87.92 deg Az:
359.44 deg TVD:
7451.69 ft

S: 129 MD: 12028.00 ft
Inc: 88.02 deg Az:
359.69 deg TVD:
7455.02 ft



S: 130 MD: 12122.00 ft
Inc: 89.13 deg Az: 1.03
deg TVD: 7457.36 ft

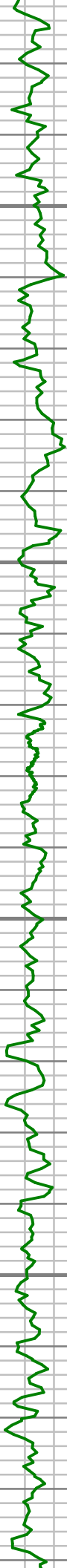
S: 131 MD: 12217.00 ft
Inc: 90.07 deg Az: 0.69
deg TVD: 7458.03 ft



S: 132 MD: 12310.00 ft
Inc: 91.28 deg Az: 0.86
deg TVD: 7456.94 ft

S: 133 MD: 12404.00 ft
Inc: 90.57 deg Az: 0.45
deg TVD: 7455.42 ft

S: 134 MD: 12498.00 ft
Inc: 89.50 deg Az: 0.17
deg TVD: 7455.37 ft

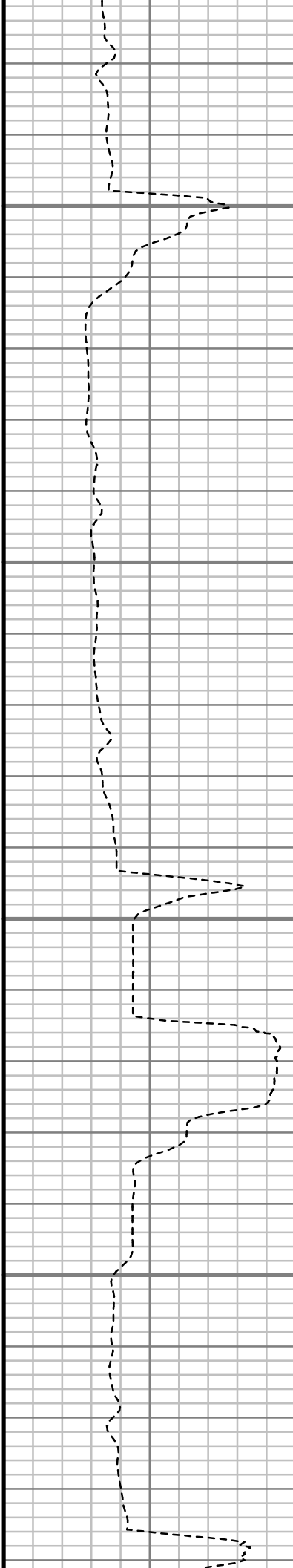


12550

12600

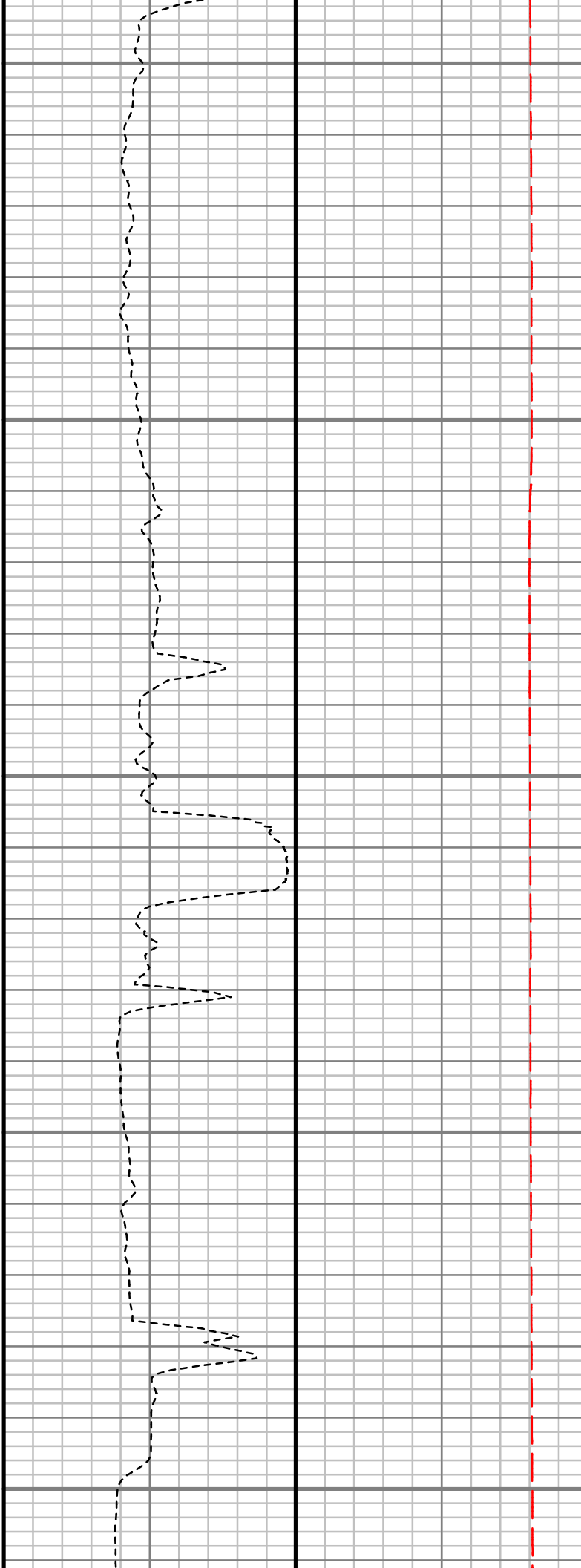
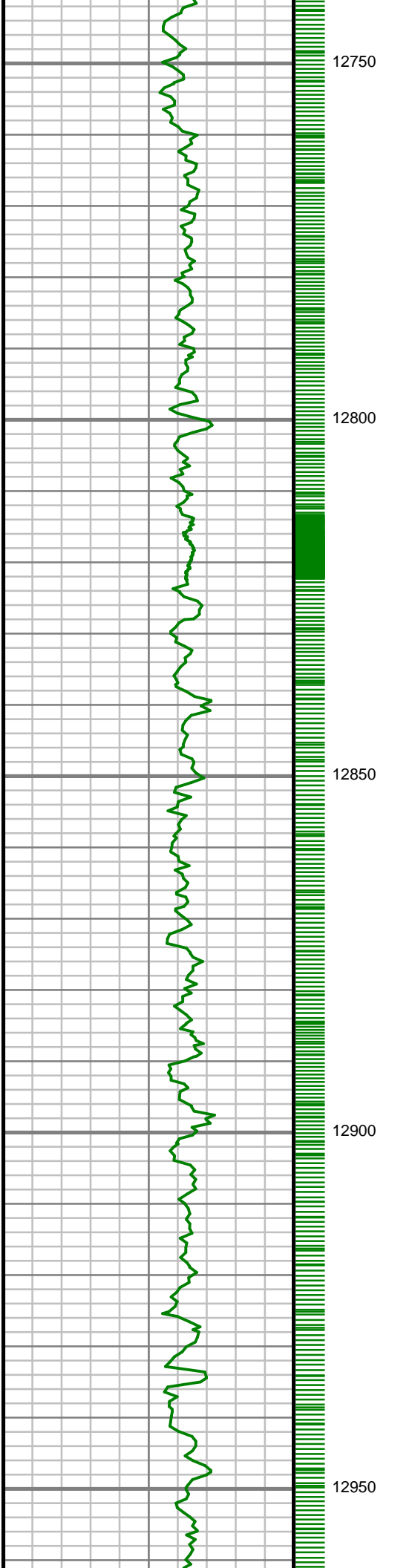
12650

12700



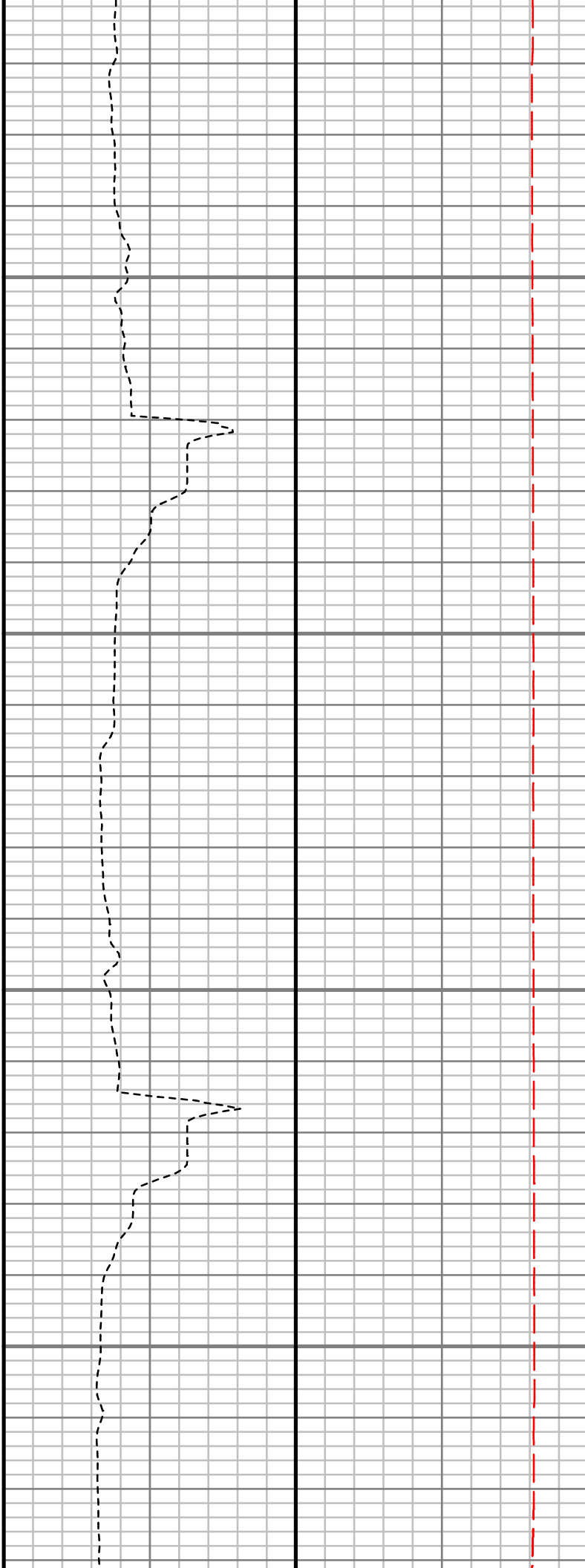
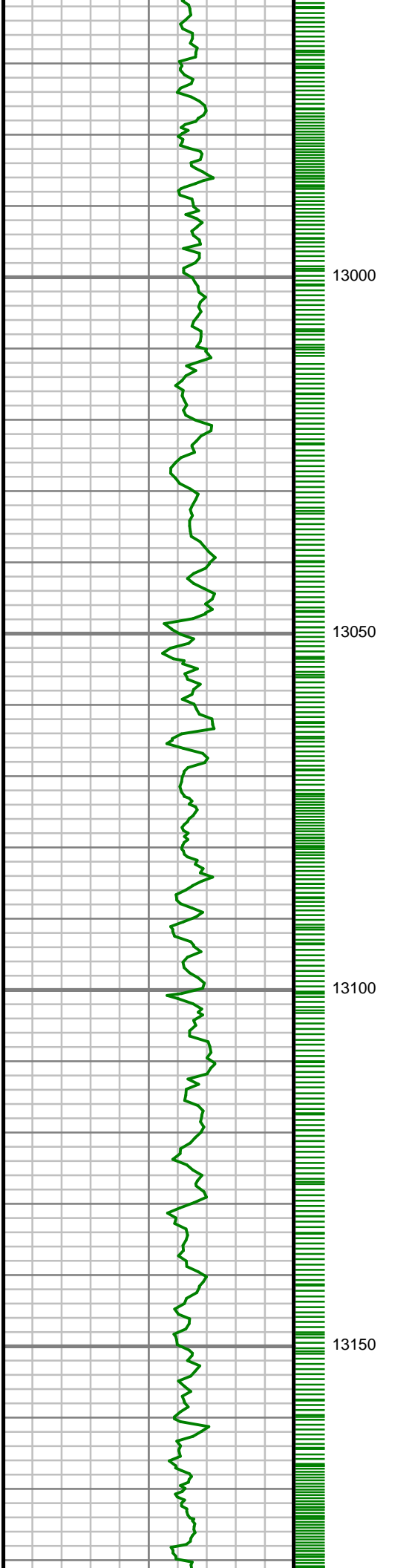
S: 135 MD: 12593.00 ft
Inc: 90.17 deg Az: 359.76 deg TVD: 7455.65 ft

S: 136 MD: 12688.00 ft
Inc: 89.97 deg Az: 0.36 deg TVD: 7455.54 ft



S: 137 MD: 12782.00 ft
Inc: 90.64 deg Az: 0.59
deg TVD: 7455.04 ft

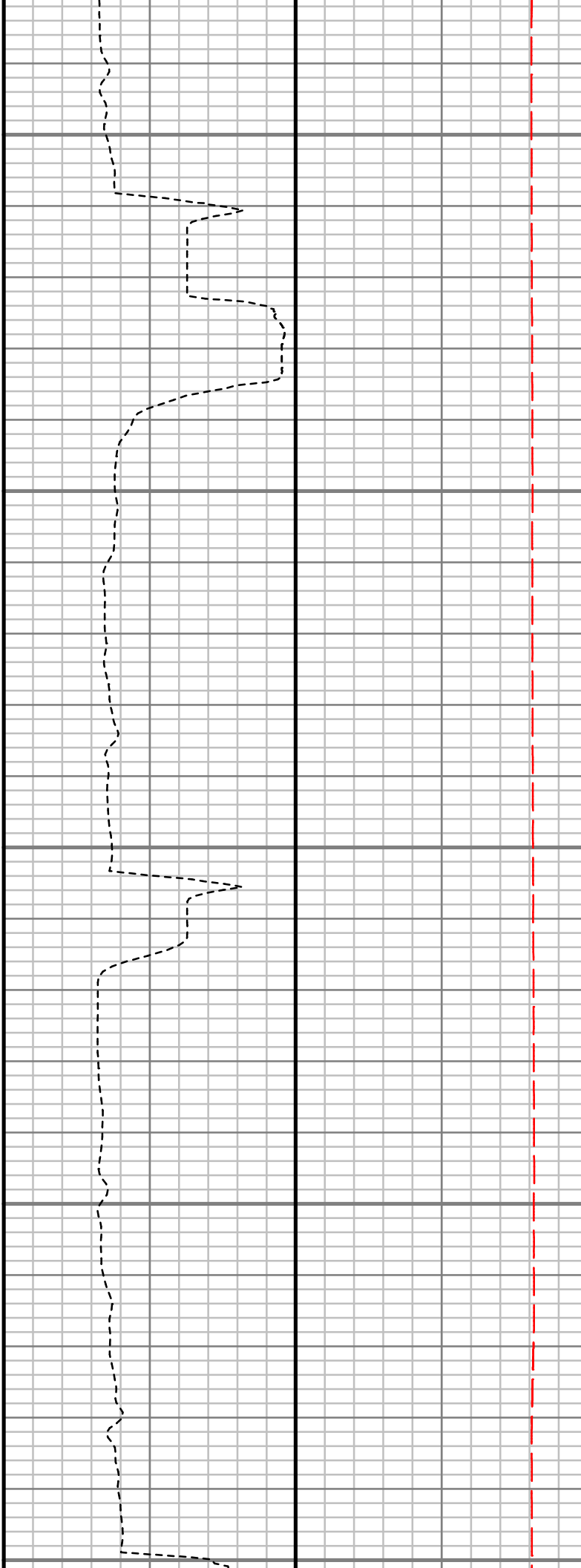
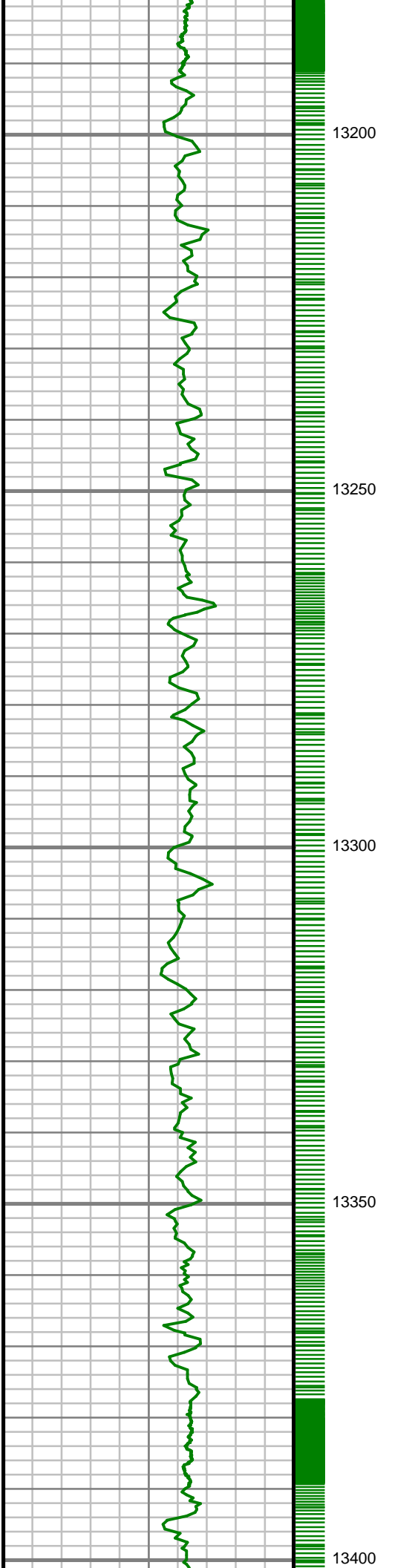
S: 138 MD: 12875.00 ft
Inc: 89.03 deg Az: 0.21
deg TVD: 7455.31 ft



S: 139 MD: 12970.00 ft
Inc: 89.40 deg Az: 0.46
deg TVD: 7456.62 ft

S: 140 MD: 13065.00 ft
Inc: 89.97 deg Az: 0.51
deg TVD: 7457.15 ft

S: 141 MD: 13159.00 ft
Inc: 90.74 deg Az:
359.87 deg TVD:
7456.57 ft



S: 142 MD: 13253.00 ft
Inc: 89.80 deg Az:
359.93 deg TVD:
7456.13 ft

S: 143 MD: 13348.00 ft
Inc: 90.64 deg Az:
359.61 deg TVD:
7455.77 ft

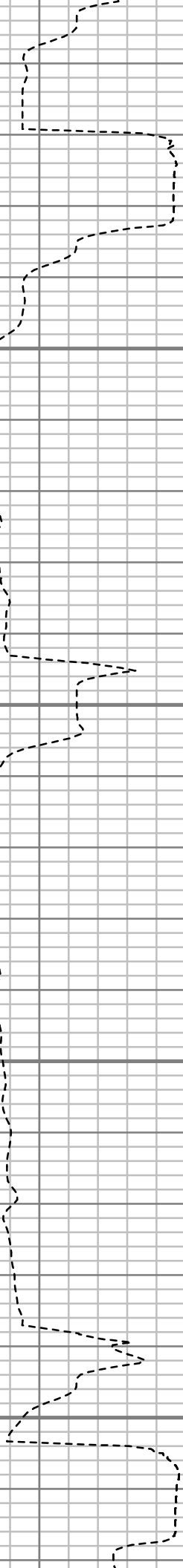


13450

13500

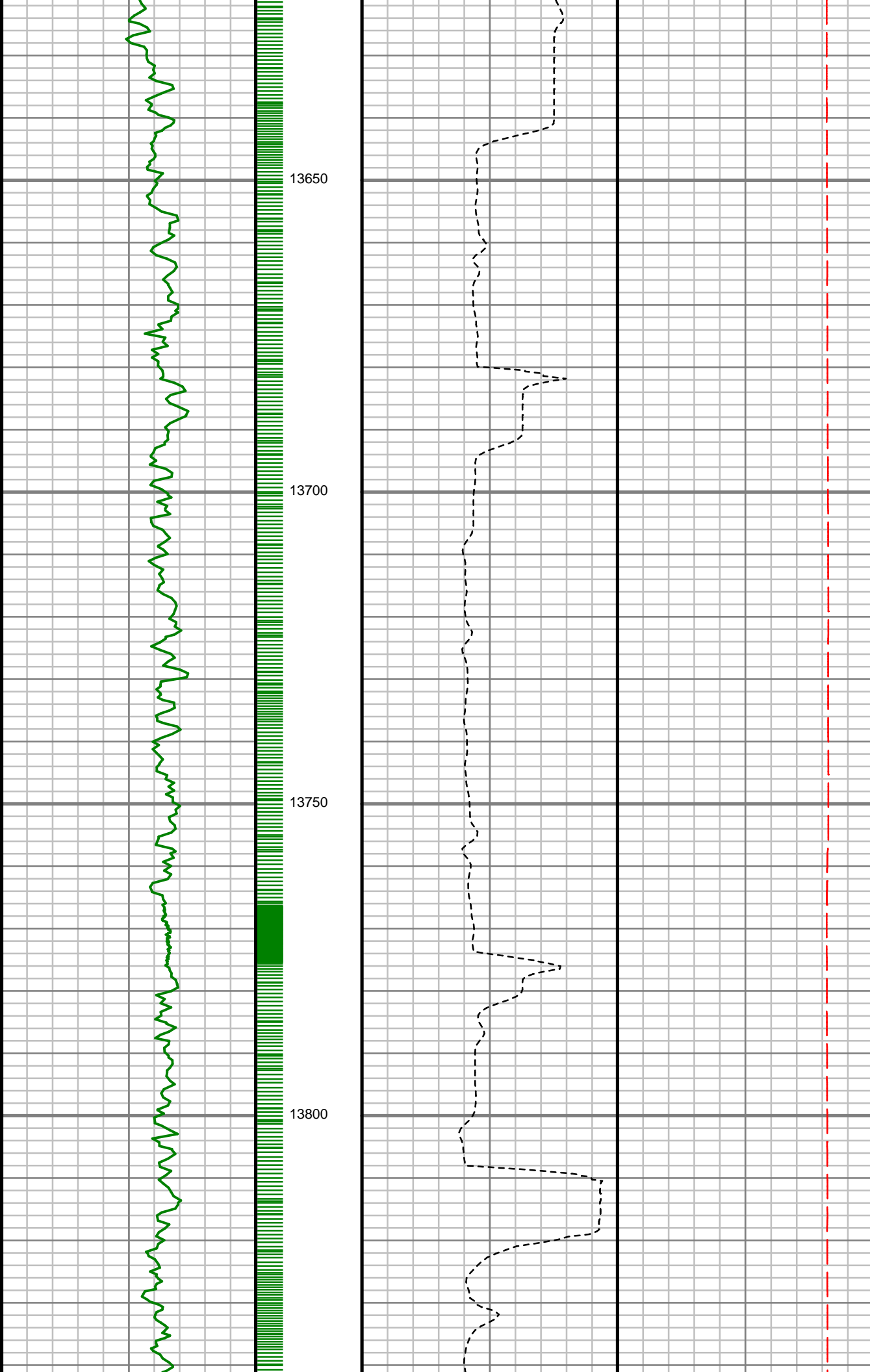
13550

13600



S: 144 MD: 13442.00 ft
Inc: 89.33 deg Az:
359.51 deg TVD:
7455.80 ft

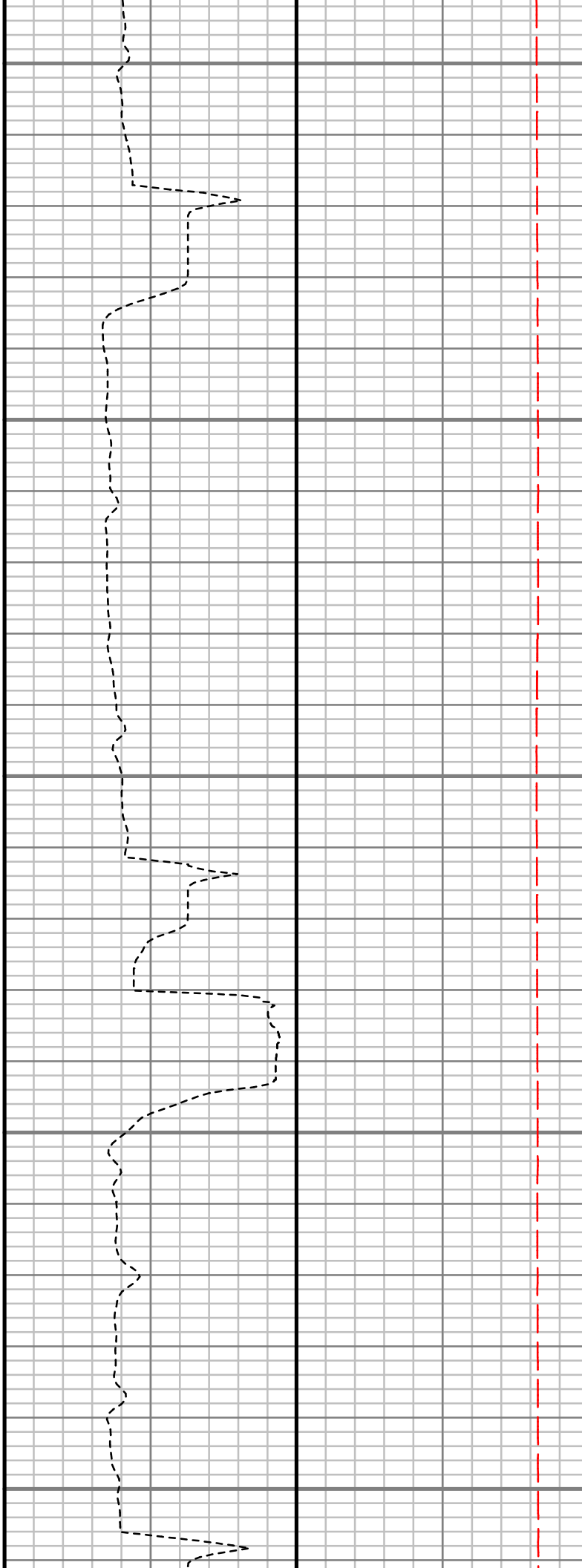
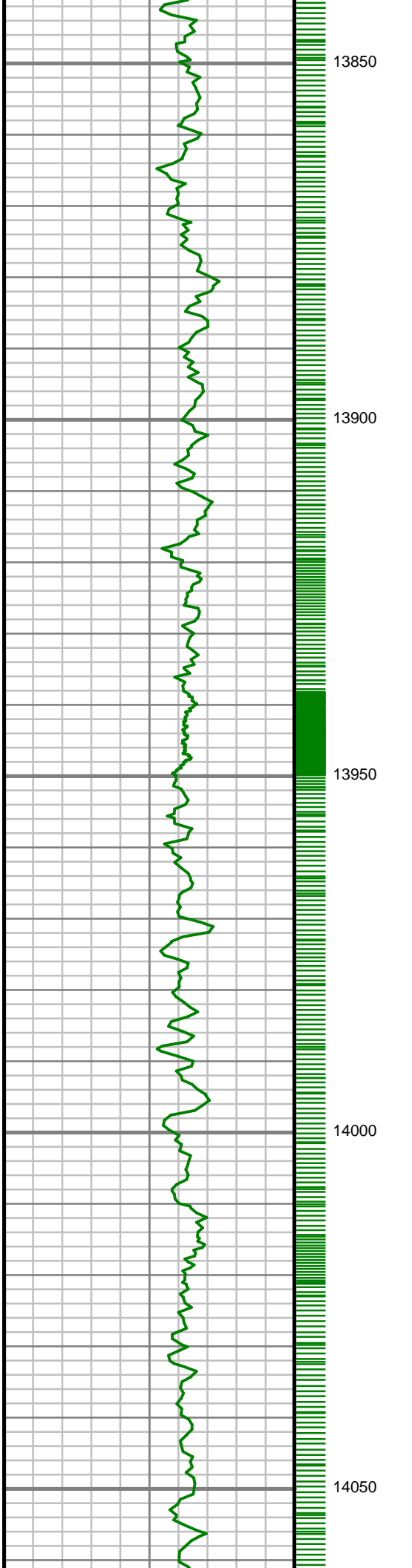
S: 145 MD: 13536.00 ft
Inc: 90.20 deg Az:
359.02 deg TVD:
7456.18 ft



S: 146 MD: 13630.00 ft
Inc: 88.93 deg Az:
359.75 deg TVD:
7456.90 ft

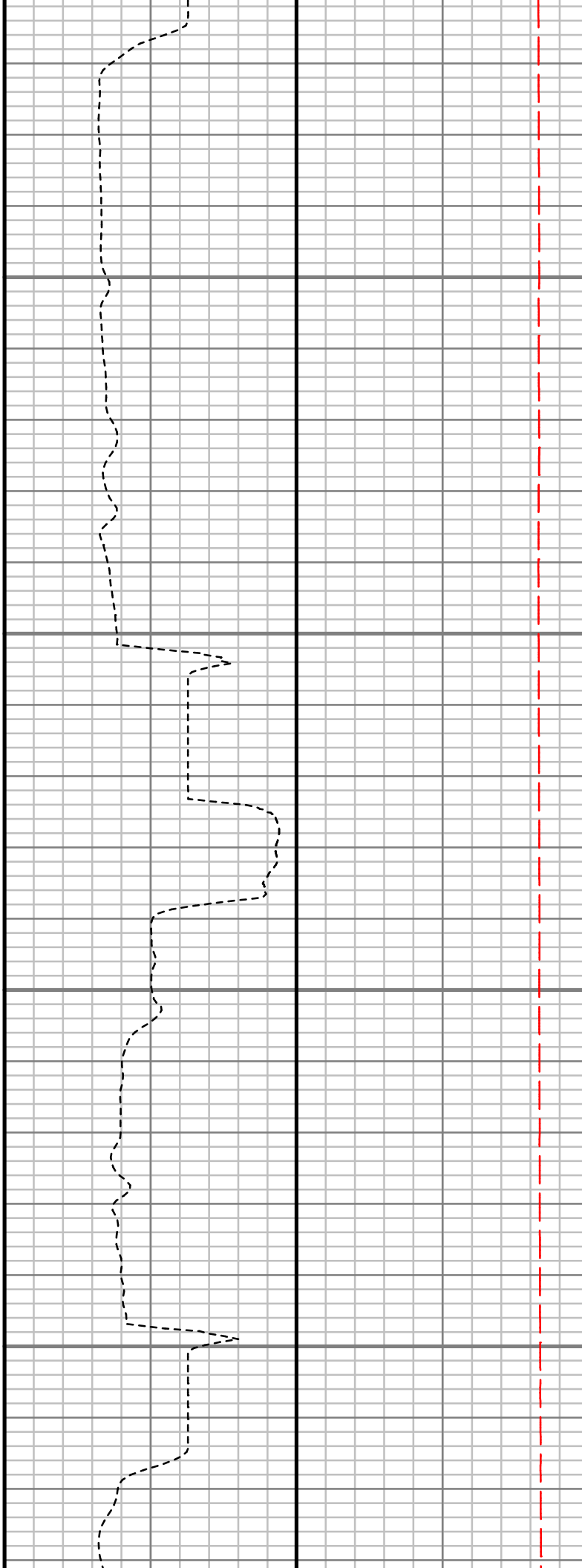
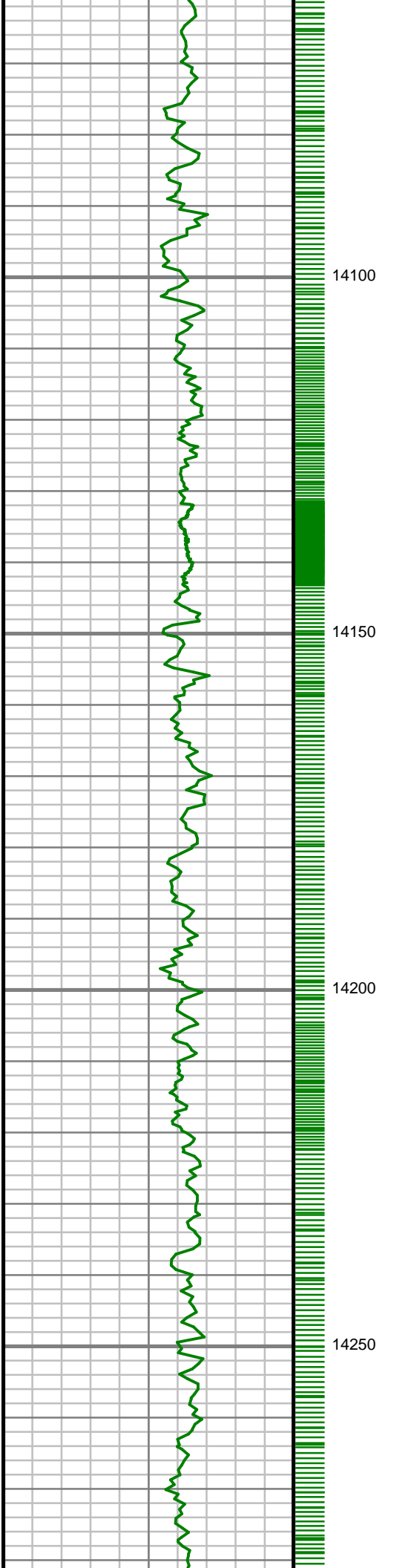
S: 147 MD: 13725.00 ft
Inc: 89.97 deg Az:
359.55 deg TVD:
7457.82 ft

S: 148 MD: 13818.00 ft
Inc: 90.07 deg Az: 0.18
deg TVD: 7457.79 ft



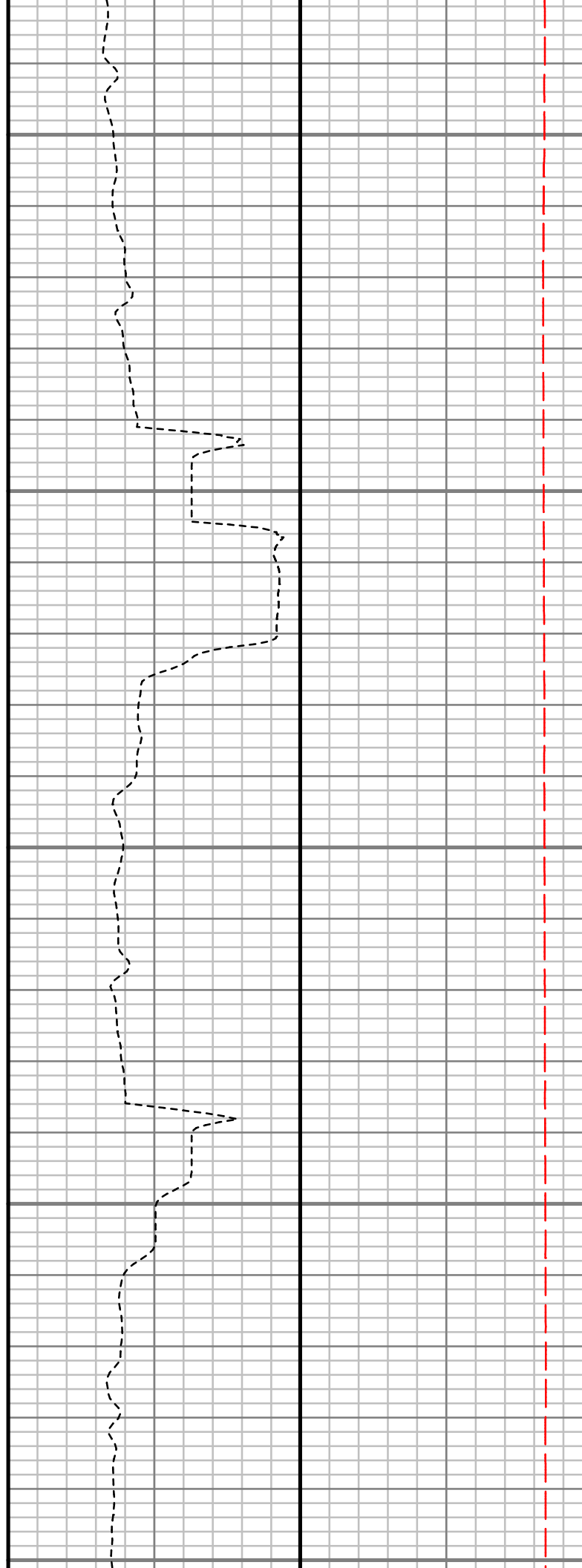
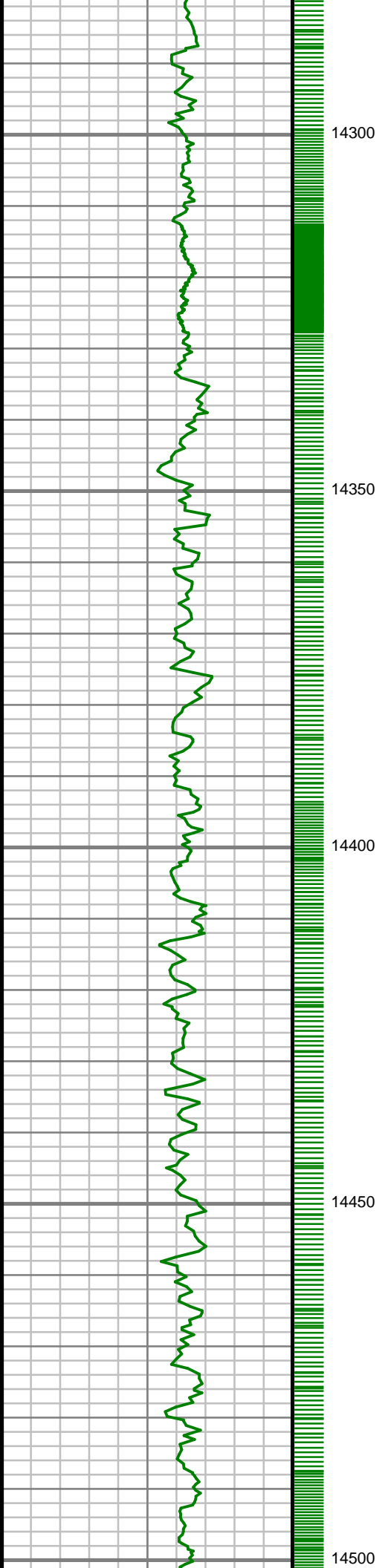
S: 149 MD: 13912.00 ft
Inc: 90.81 deg Az: 0.23
deg TVD: 7457.07 ft

S: 150 MD: 14006.00 ft
Inc: 89.76 deg Az:
359.95 deg TVD:
7456.60 ft



S: 151 MD: 14101.00 ft
Inc: 90.47 deg Az:
359.55 deg TVD:
7456.41 ft

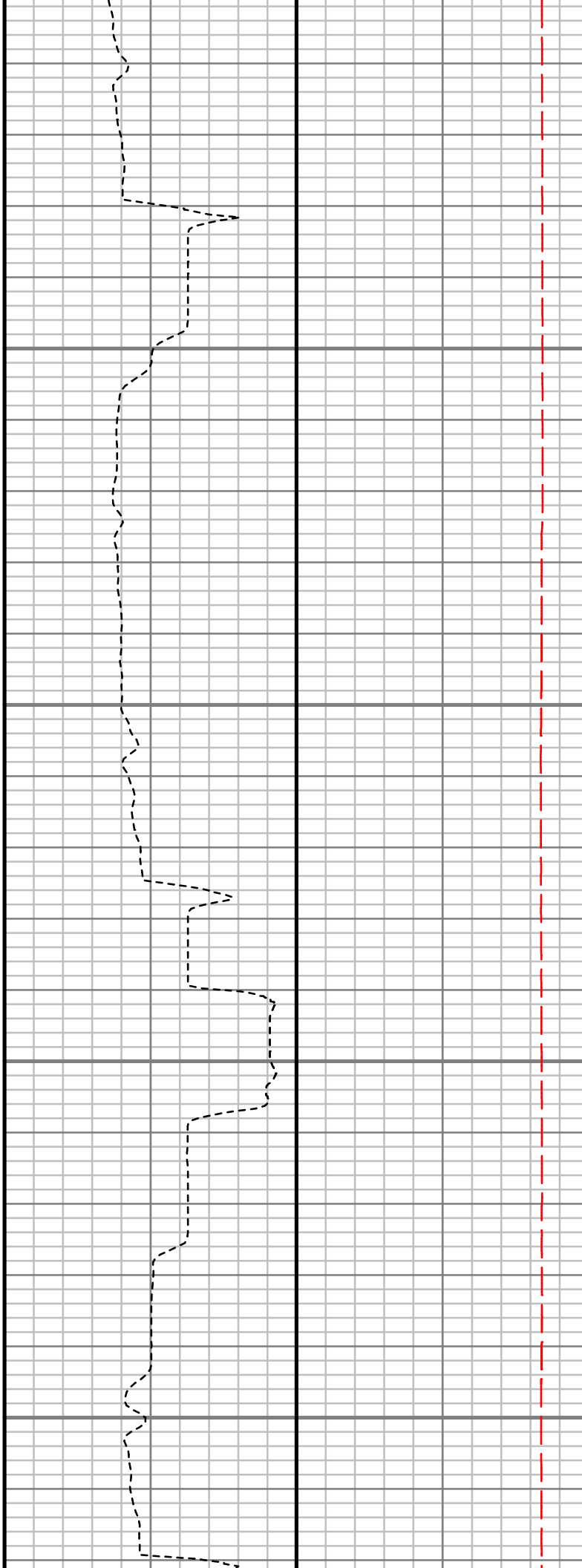
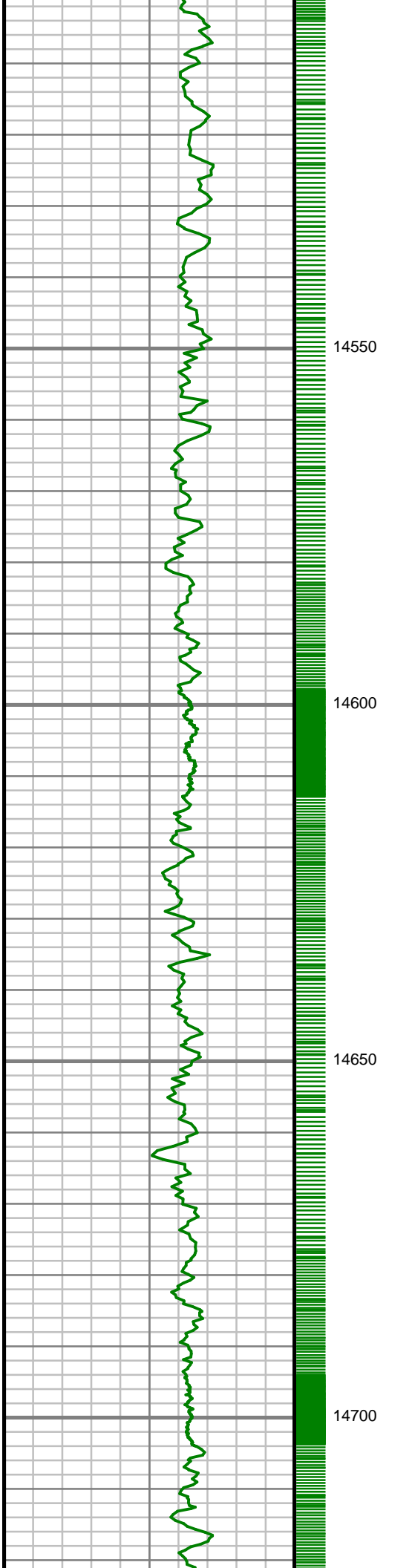
S: 152 MD: 14196.00 ft
Inc: 90.17 deg Az: 0.23
deg TVD: 7455.88 ft



S: 153 MD: 14290.00 ft
Inc: 90.67 deg Az:
359.61 deg TVD:
7455.19 ft

S: 154 MD: 14384.00 ft
Inc: 88.66 deg Az:
359.30 deg TVD:
7455.74 ft

S: 155 MD: 14478.00 ft
Inc: 89.36 deg Az:
359.16 deg TVD:
7457.37 ft



S: 156 MD: 14573.00 ft
Inc: 90.77 deg Az:
359.06 deg TVD:
7457.26 ft

S: 157 MD: 14667.00 ft
Inc: 90.50 deg Az:
359.78 deg TVD:
7456.21 ft

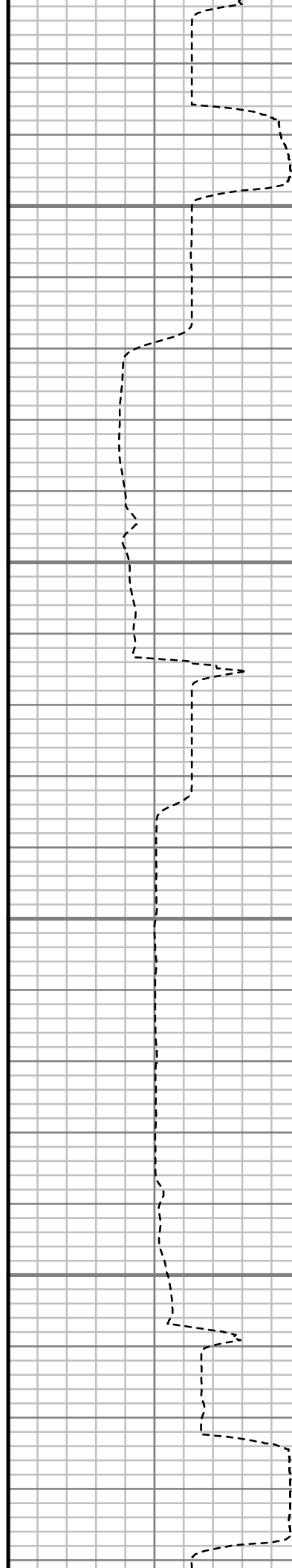


14750

14800

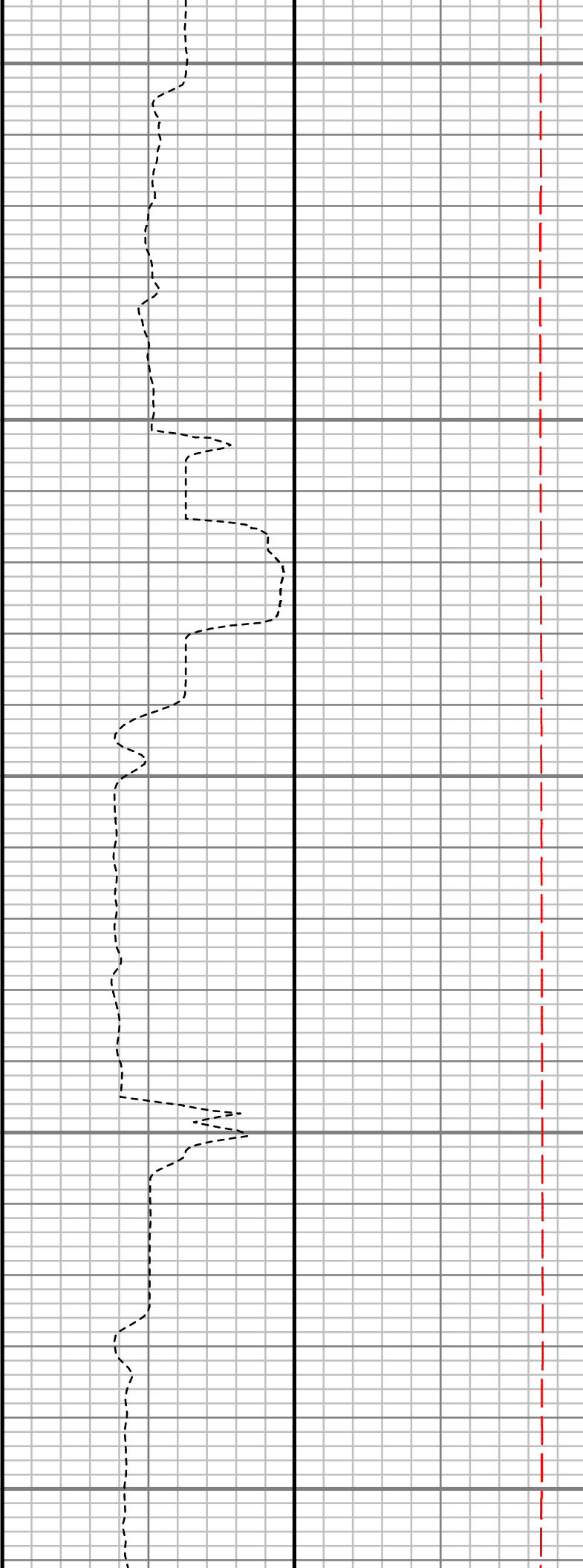
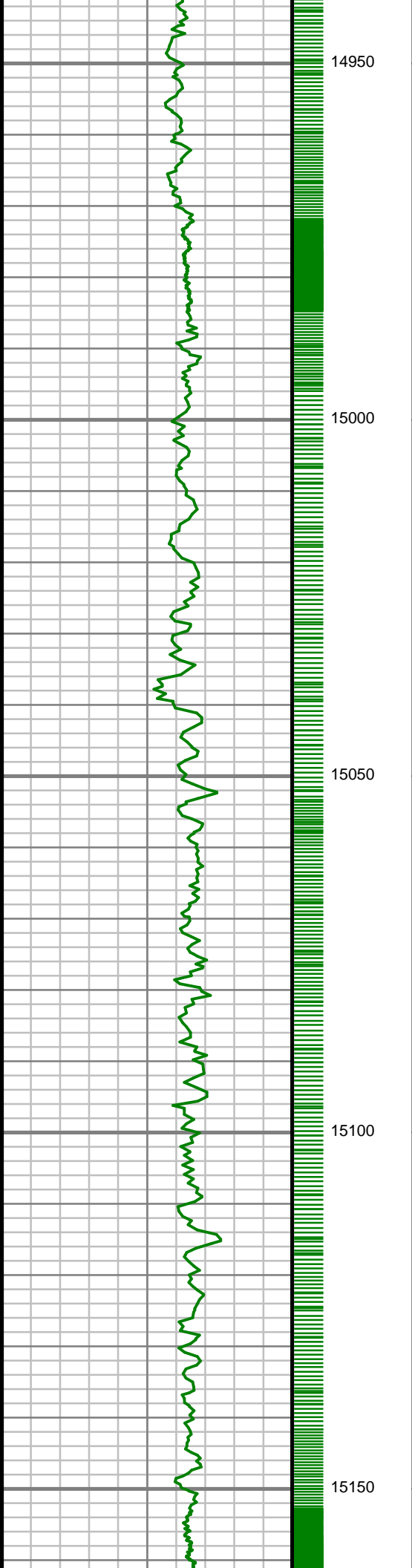
14850

14900



S: 158 MD: 14761.00 ft
Inc: 89.66 deg Az:
359.80 deg TVD:
7456.07 ft

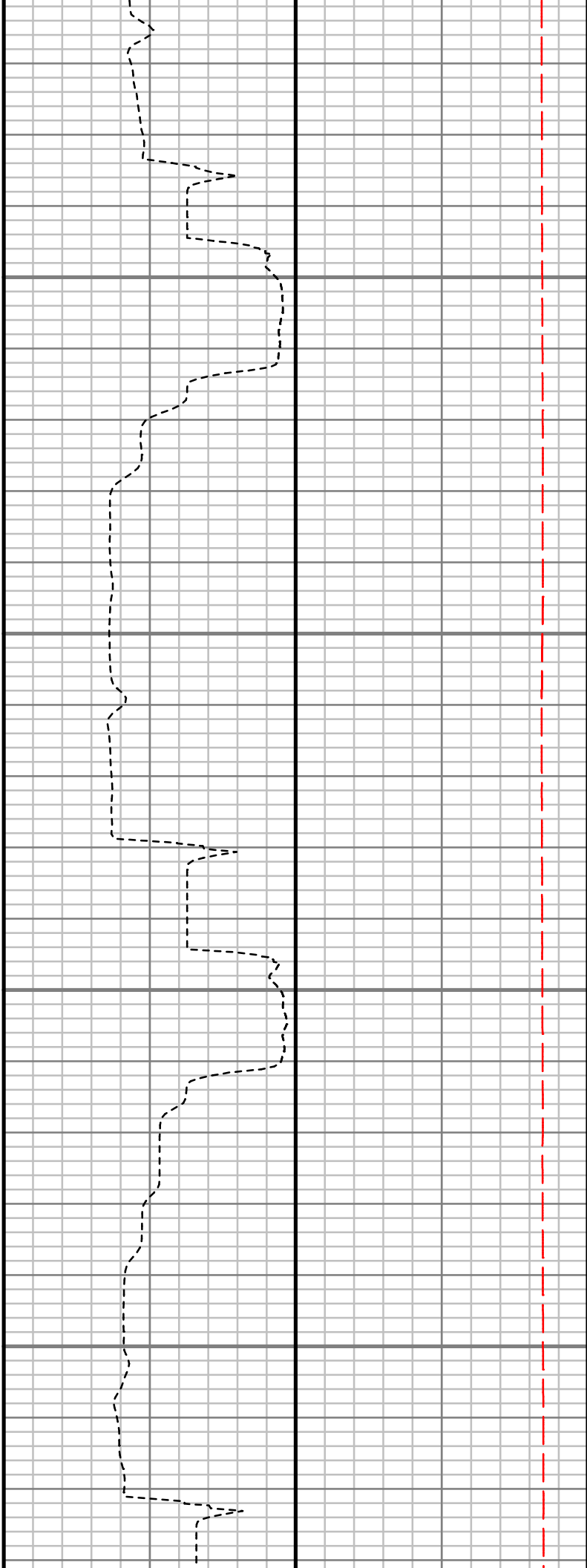
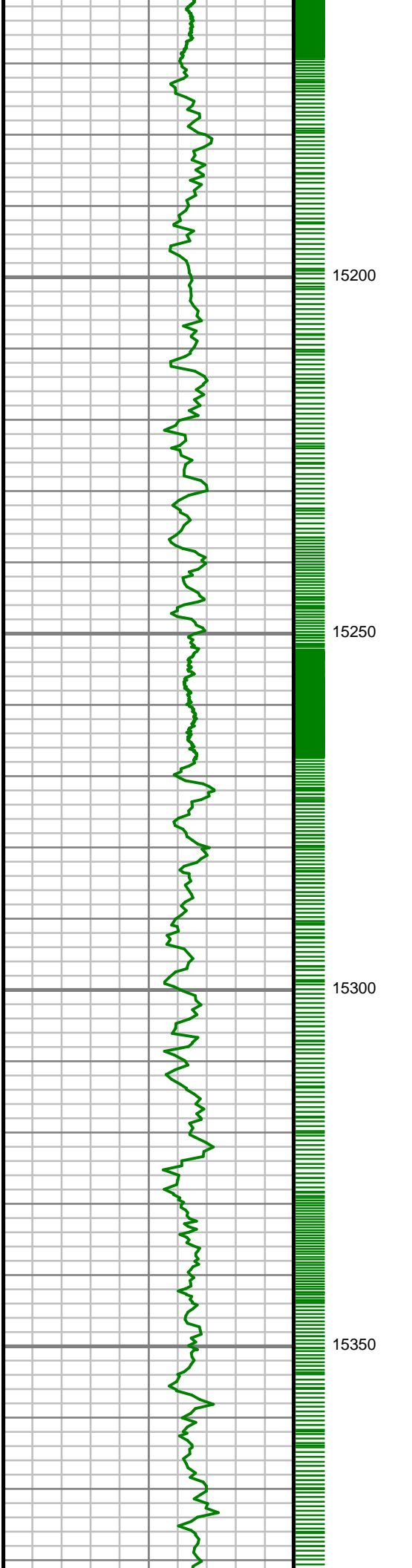
S: 159 MD: 14853.00 ft
Inc: 90.71 deg Az:
359.30 deg TVD:
7455.78 ft



S: 160 MD: 14947.00 ft
Inc: 90.44 deg Az: 0.13
deg TVD: 7454.84 ft

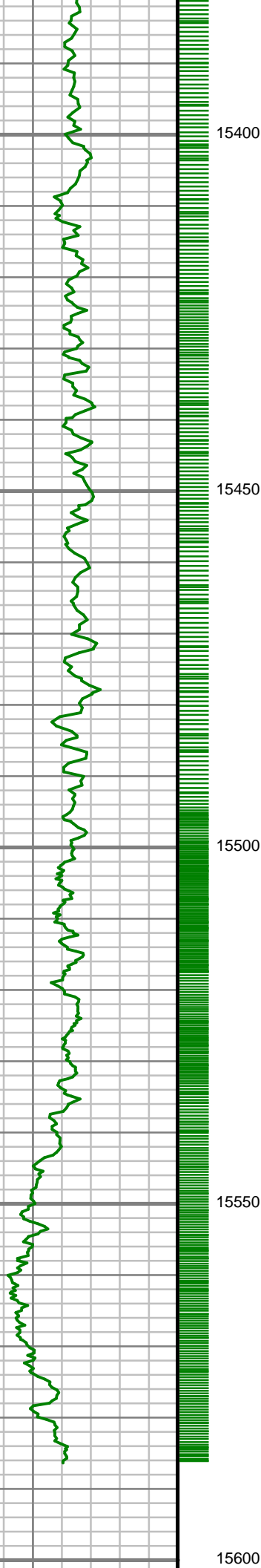
S: 161 MD: 15040.00 ft
Inc: 89.73 deg Az: 0.57
deg TVD: 7454.70 ft

S: 162 MD: 15134.00 ft
Inc: 91.14 deg Az: 0.75
deg TVD: 7453.99 ft



S: 163 MD: 15229.00 ft
Inc: 90.27 deg Az: 1.40
deg TVD: 7452.82 ft

S: 164 MD: 15321.00 ft
Inc: 88.89 deg Az: 1.38
deg TVD: 7453.49 ft



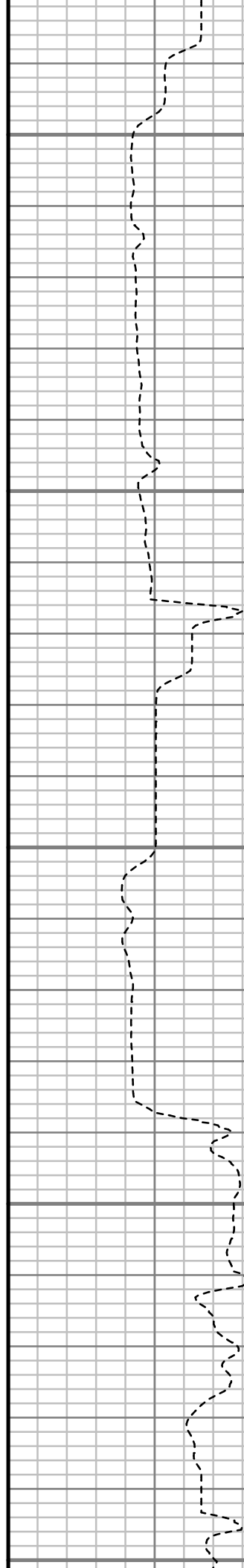
15400

15450

15500

15550

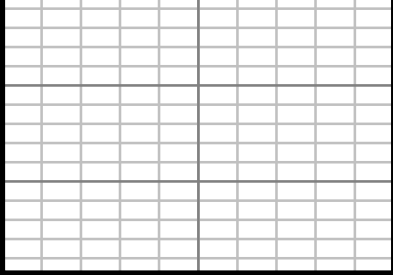
15600



S: 165 MD: 15415.00 ft
Inc: 90.17 deg Az: 1.48
deg TVD: 7454.26 ft

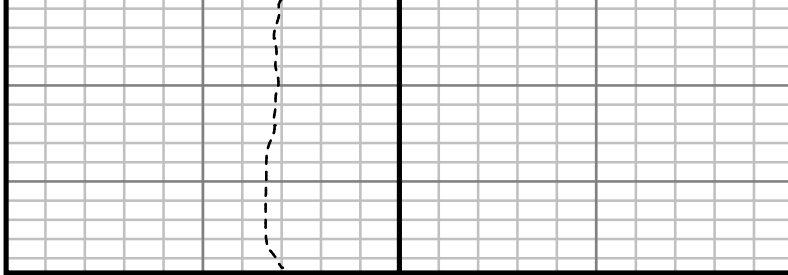
S: 166 MD: 15509.00 ft
Inc: 91.65 deg Az: 1.18
deg TVD: 7452.77 ft

S: 167 MD: 15576.00 ft
Inc: 92.15 deg Az: 0.22
deg TVD: 7450.55 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

Comments

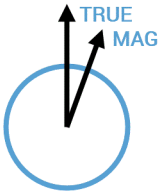
CUSTOMER	ANADARKO PETROLEUM CORPORATION	WELL INFORMATION	
PROJECT	BUTTERBALL	Lat/Long	40.158268° N, 104.86949° W
FIELD	WATTENBERG	Northing	14,584,392.82 ft
		Easting	1,676,881.6 ft
		UWI	05123443190000

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	0.02°
Calculation Method	Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.050 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-4005 ft	ANADARKO MAG VAR	04 May 2017	8.36°	add 8.36°
4005-11745 ft	ANADARKO MAG VAR	04 May 2017	8.37°	add 8.37°
11745-15576 ft	ANADARKO MAG VAR	04 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	0.60	47.41	153.00	0.54	0.54	0.59	0.39
239.00	0.86	99.27	238.99	0.74	0.74	1.56	0.79
328.00	1.56	82.14	327.97	0.80	0.80	3.42	0.88
415.00	2.61	99.72	414.91	0.63	0.63	6.54	1.40
503.00	3.54	86.29	502.79	0.47	0.47	11.23	1.33
592.00	3.96	85.54	591.60	0.89	0.88	17.04	0.48
679.00	5.69	90.79	678.28	1.07	1.06	24.34	2.05
765.00	5.70	88.93	763.86	1.09	1.08	32.88	0.21
854.00	7.32	87.61	852.28	1.41	1.40	42.96	1.83
943.00	8.44	89.64	940.44	1.69	1.67	55.16	1.30
1032.00	8.25	87.19	1028.50	2.05	2.03	68.07	0.45
1121.00	8.56	85.41	1116.54	2.90	2.87	81.05	0.45
1209.00	8.65	82.13	1203.55	4.33	4.30	94.13	0.57
1298.00	8.10	83.94	1291.60	5.92	5.88	106.99	0.69
1382.00	8.70	84.63	1374.70	7.14	7.10	119.20	0.72
1469.00	8.60	82.00	1460.71	8.67	8.62	132.20	0.47
1556.00	7.20	78.54	1546.89	10.66	10.61	143.98	1.70
1640.00	7.42	83.80	1630.20	12.29	12.24	154.53	0.84
1729.00	7.35	85.52	1718.47	13.36	13.31	165.92	0.26

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1773.00	8.06	86.19	1762.07	13.79	13.73	171.81	1.63
1843.00	7.98	82.33	1831.38	14.77	14.71	181.52	0.78
1938.00	7.16	79.03	1925.56	16.78	16.71	193.87	0.97
2032.00	6.92	89.47	2018.85	17.95	17.88	205.29	1.38
2127.00	7.22	98.55	2113.13	17.12	17.05	216.92	1.22
2222.00	8.82	97.31	2207.20	15.31	15.23	230.04	1.70
2315.00	8.12	93.32	2299.18	14.03	13.94	243.67	0.98
2408.00	9.19	94.69	2391.12	13.05	12.96	257.64	1.17
2503.00	8.47	94.04	2485.00	11.94	11.84	272.18	0.77
2597.00	7.74	89.98	2578.06	11.46	11.36	285.41	0.99
2691.00	7.28	88.68	2671.25	11.60	11.50	297.69	0.52
2785.00	8.71	88.22	2764.34	11.96	11.86	310.76	1.53
2879.00	8.56	87.74	2857.27	12.47	12.35	324.87	0.18
2973.00	7.91	86.26	2950.30	13.17	13.05	338.32	0.73
3068.00	8.23	79.64	3044.36	14.82	14.70	351.53	1.03
3162.00	8.95	84.80	3137.31	16.70	16.57	365.43	1.12
3256.00	8.23	83.44	3230.25	18.13	18.00	379.39	0.80
3349.00	8.45	88.30	3322.27	19.10	18.97	392.83	0.80
3442.00	7.57	87.67	3414.36	19.56	19.42	405.78	0.96
3535.00	8.29	88.27	3506.47	20.02	19.87	418.60	0.78

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3630.00	7.39	87.34	3600.59	20.51	20.36	431.54	0.95
3724.00	8.22	86.77	3693.71	21.17	21.02	444.29	0.88
3818.00	7.39	83.14	3786.84	22.28	22.12	457.00	1.02
3910.00	7.58	101.38	3878.07	21.79	21.63	468.83	2.58
4005.00	8.65	96.56	3972.12	19.74	19.57	482.07	1.33
4100.00	8.16	95.36	4066.10	18.30	18.13	495.88	0.54
4194.00	5.77	96.06	4159.40	17.18	17.00	507.23	2.54
4288.00	3.79	89.39	4253.07	16.72	16.54	515.04	2.19
4383.00	3.42	77.26	4347.88	17.38	17.20	520.95	0.89
4478.00	1.22	85.20	4442.80	18.09	17.91	524.71	2.34
4572.00	1.22	87.37	4536.78	18.22	18.04	526.71	0.05
4666.00	0.43	80.60	4630.77	18.32	18.14	528.06	0.85
4759.00	0.35	343.49	4723.76	18.65	18.47	528.32	0.63
4854.00	0.69	314.25	4818.76	19.33	19.15	527.83	0.44
4948.00	0.48	24.22	4912.76	20.09	19.90	527.58	0.74
5043.00	0.99	18.71	5007.75	21.23	21.05	528.01	0.53
5137.00	0.83	37.84	5101.74	22.53	22.35	528.69	0.36
5256.00	0.47	69.05	5220.73	23.39	23.20	529.67	0.42
5351.00	0.77	79.71	5315.72	23.64	23.46	530.66	0.34
5447.00	0.79	294.04	5411.72	24.03	23.84	530.68	1.55

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5541.00	0.71	299.68	5505.71	24.58	24.39	529.58	0.12
5635.00	0.32	316.69	5599.71	25.05	24.87	528.90	0.44
5727.00	0.41	344.34	5691.71	25.55	25.37	528.64	0.21
5819.00	0.24	342.71	5783.70	26.06	25.87	528.49	0.18
5913.00	0.57	80.87	5877.70	26.32	26.14	528.90	0.70
6007.00	0.64	108.78	5971.70	26.23	26.04	529.86	0.32
6100.00	0.56	105.65	6064.69	25.94	25.75	530.80	0.09
6194.00	0.84	123.71	6158.69	25.43	25.24	531.81	0.38
6288.00	0.51	109.59	6252.68	24.91	24.72	532.78	0.39
6382.00	0.86	260.14	6346.68	24.64	24.46	532.48	1.42
6476.00	0.34	274.69	6440.67	24.54	24.36	531.51	0.58
6570.00	0.31	279.78	6534.67	24.61	24.42	530.99	0.04
6664.00	0.29	68.67	6628.67	24.74	24.55	530.96	0.61
6757.00	0.37	59.81	6721.67	24.97	24.79	531.43	0.11
6851.00	5.28	12.00	6815.53	29.36	29.17	532.60	5.36
6946.00	13.59	13.45	6909.16	44.52	44.33	536.11	8.75
7039.00	22.63	10.22	6997.46	72.82	72.63	541.83	9.78
7133.00	27.84	4.30	7082.48	112.54	112.35	546.69	6.15
7227.00	35.65	6.36	7162.35	161.73	161.54	551.38	8.39
7323.00	41.85	1.31	7237.21	221.62	221.43	555.22	7.25

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7417.00	54.72	356.55	7299.64	291.59	291.39	553.62	14.20
7512.00	62.05	355.86	7349.41	372.26	372.06	548.25	7.74
7605.00	64.47	356.40	7391.25	455.11	454.92	542.64	2.65
7700.00	72.41	357.86	7426.13	543.28	543.09	538.25	8.49
7795.00	86.34	0.91	7443.61	636.40	636.22	537.31	14.99
7889.00	89.63	1.06	7446.91	730.32	730.13	538.93	3.51
7983.00	89.40	0.65	7447.71	824.31	824.12	540.34	0.51
8077.00	89.73	0.43	7448.43	918.30	918.11	541.22	0.43
8172.00	90.37	0.32	7448.34	1013.30	1013.11	541.84	0.68
8265.00	90.20	359.09	7447.88	1106.29	1106.10	541.35	1.33
8359.00	89.53	359.25	7448.10	1200.28	1200.09	539.99	0.74
8452.00	89.73	359.23	7448.70	1293.27	1293.08	538.75	0.22
8548.00	91.01	358.80	7448.08	1389.25	1389.06	537.10	1.40
8641.00	90.17	357.25	7447.13	1482.19	1482.00	533.90	1.90
8736.00	90.10	358.60	7446.91	1577.12	1576.94	530.46	1.42
8830.00	89.56	359.61	7447.18	1671.11	1670.92	528.98	1.21
8925.00	90.44	359.88	7447.18	1766.11	1765.92	528.55	0.96
9020.00	89.60	0.19	7447.15	1861.10	1860.92	528.61	0.94
9114.00	90.40	0.70	7447.15	1955.10	1954.92	529.34	1.01
9208.00	89.53	359.85	7447.21	2049.10	2048.91	529.79	1.29

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9302.00	90.13	359.87	7447.48	2143.10	2142.91	529.57	0.64
9397.00	88.93	359.53	7448.26	2238.09	2237.91	529.07	1.32
9492.00	89.43	359.57	7449.63	2333.08	2332.89	528.34	0.53
9586.00	90.03	359.86	7450.07	2427.07	2426.89	527.87	0.71
9681.00	90.54	359.77	7449.60	2522.07	2521.89	527.56	0.54
9775.00	89.33	359.59	7449.71	2616.07	2615.88	527.03	1.30
9869.00	90.07	359.56	7450.20	2710.06	2709.88	526.33	0.79
9963.00	91.07	0.11	7449.26	2804.06	2803.87	526.05	1.22
10057.00	90.60	0.64	7447.89	2898.04	2897.86	526.67	0.75
10150.00	89.23	0.17	7448.03	2991.04	2990.86	527.33	1.56
10245.00	90.20	0.02	7448.50	3086.04	3085.85	527.48	1.04
10338.00	89.30	359.38	7448.91	3179.03	3178.85	526.99	1.19
10433.00	90.07	358.85	7449.44	3274.02	3273.84	525.52	0.98
10525.00	90.60	358.58	7448.90	3365.99	3365.81	523.46	0.65
10620.00	89.70	356.60	7448.65	3460.90	3460.72	519.46	2.29
10715.00	89.09	357.03	7449.65	3555.75	3555.57	514.19	0.78
10809.00	90.13	358.71	7450.28	3649.67	3649.50	510.70	2.09
10903.00	90.60	358.25	7449.68	3743.64	3743.46	508.20	0.69
10997.00	90.17	359.35	7449.04	3837.61	3837.44	506.24	1.26
11091.00	90.40	0.96	7448.57	3931.61	3931.43	506.49	1.73

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11185.00	89.73	1.80	7448.46	4025.58	4025.40	508.75	1.15
11279.00	90.34	1.76	7448.41	4119.54	4119.36	511.67	0.64
11373.00	91.21	1.21	7447.14	4213.50	4213.32	514.11	1.09
11466.00	88.36	359.42	7447.49	4306.48	4306.30	514.62	3.62
11559.00	89.33	359.04	7449.37	4399.45	4399.27	513.37	1.12
11652.00	90.40	358.46	7449.59	4492.43	4492.25	511.34	1.31
11745.00	89.56	359.11	7449.62	4585.40	4585.23	509.36	1.14
11840.00	90.00	359.04	7449.98	4680.39	4680.21	507.83	0.46
11934.00	87.92	359.44	7451.69	4774.36	4774.18	506.59	2.25
12028.00	88.02	359.69	7455.02	4868.30	4868.12	505.87	0.29
12122.00	89.13	1.03	7457.36	4962.26	4962.09	506.46	1.85
12217.00	90.07	0.69	7458.03	5057.25	5057.07	507.89	1.05
12310.00	91.28	0.86	7456.94	5150.23	5150.06	509.14	1.31
12404.00	90.57	0.45	7455.42	5244.21	5244.04	510.22	0.87
12498.00	89.50	0.17	7455.37	5338.21	5338.03	510.73	1.18
12593.00	90.17	359.76	7455.65	5433.21	5433.03	510.67	0.83
12688.00	89.97	0.36	7455.54	5528.21	5528.03	510.77	0.66
12782.00	90.64	0.59	7455.04	5622.20	5622.03	511.55	0.76
12875.00	89.03	0.21	7455.31	5715.20	5715.02	512.20	1.78
12970.00	89.40	0.46	7456.62	5810.19	5810.01	512.76	0.47

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13065.00	89.97	0.51	7457.15	5905.18	5905.00	513.56	0.60
13159.00	90.74	359.87	7456.57	5999.18	5999.00	513.88	1.07
13253.00	89.80	359.93	7456.13	6093.18	6093.00	513.71	1.00
13348.00	90.64	359.61	7455.77	6188.18	6188.00	513.33	0.94
13442.00	89.33	359.51	7455.80	6282.17	6281.99	512.61	1.40
13536.00	90.20	359.02	7456.18	6376.16	6375.98	511.41	1.06
13630.00	88.93	359.75	7456.90	6470.15	6469.97	510.40	1.56
13725.00	89.97	359.55	7457.82	6565.14	6564.96	509.81	1.12
13818.00	90.07	0.18	7457.79	6658.14	6657.96	509.58	0.68
13912.00	90.81	0.23	7457.07	6752.14	6751.96	509.91	0.79
14006.00	89.76	359.95	7456.60	6846.13	6845.96	510.06	1.15
14101.00	90.47	359.55	7456.41	6941.13	6940.95	509.64	0.86
14196.00	90.17	0.23	7455.88	7036.13	7035.95	509.45	0.78
14290.00	90.67	359.61	7455.19	7130.13	7129.95	509.32	0.85
14384.00	88.66	359.30	7455.74	7224.11	7223.94	508.43	2.17
14478.00	89.36	359.16	7457.37	7318.09	7317.91	507.16	0.76
14573.00	90.77	359.06	7457.26	7413.08	7412.90	505.69	1.49
14667.00	90.50	359.78	7456.21	7507.07	7506.89	504.74	0.81
14761.00	89.66	359.80	7456.07	7601.06	7600.89	504.39	0.89
14853.00	90.71	359.30	7455.78	7693.06	7692.88	503.66	1.26

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
14947.00	90.44	0.13	7454.84	7787.05	7786.88	503.19	0.94
15040.00	89.73	0.57	7454.70	7880.05	7879.87	503.76	0.89
15134.00	91.14	0.75	7453.99	7974.04	7973.86	504.84	1.51
15229.00	90.27	1.40	7452.82	8069.01	8068.84	506.61	1.15
15321.00	88.89	1.38	7453.49	8160.98	8160.81	508.84	1.50
15415.00	90.17	1.48	7454.26	8254.95	8254.77	511.19	1.36
15509.00	91.65	1.18	7452.77	8348.91	8348.73	513.36	1.61
15576.00	92.15	0.22	7450.55	8415.87	8415.69	514.18	1.61

5" = 100' MD