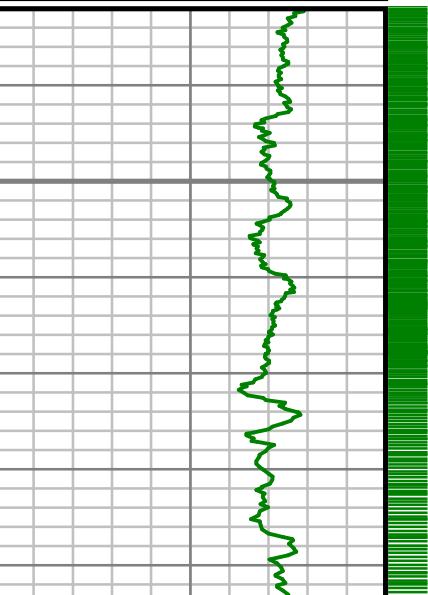
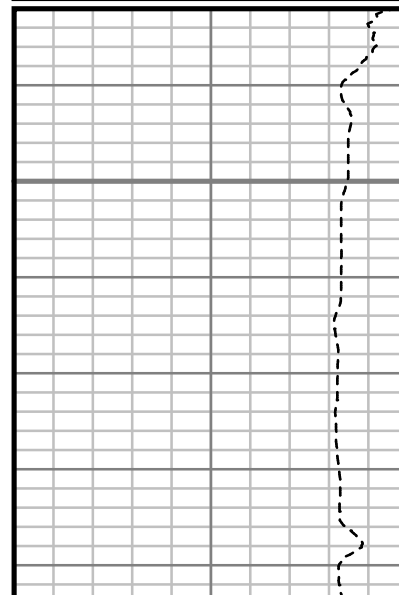

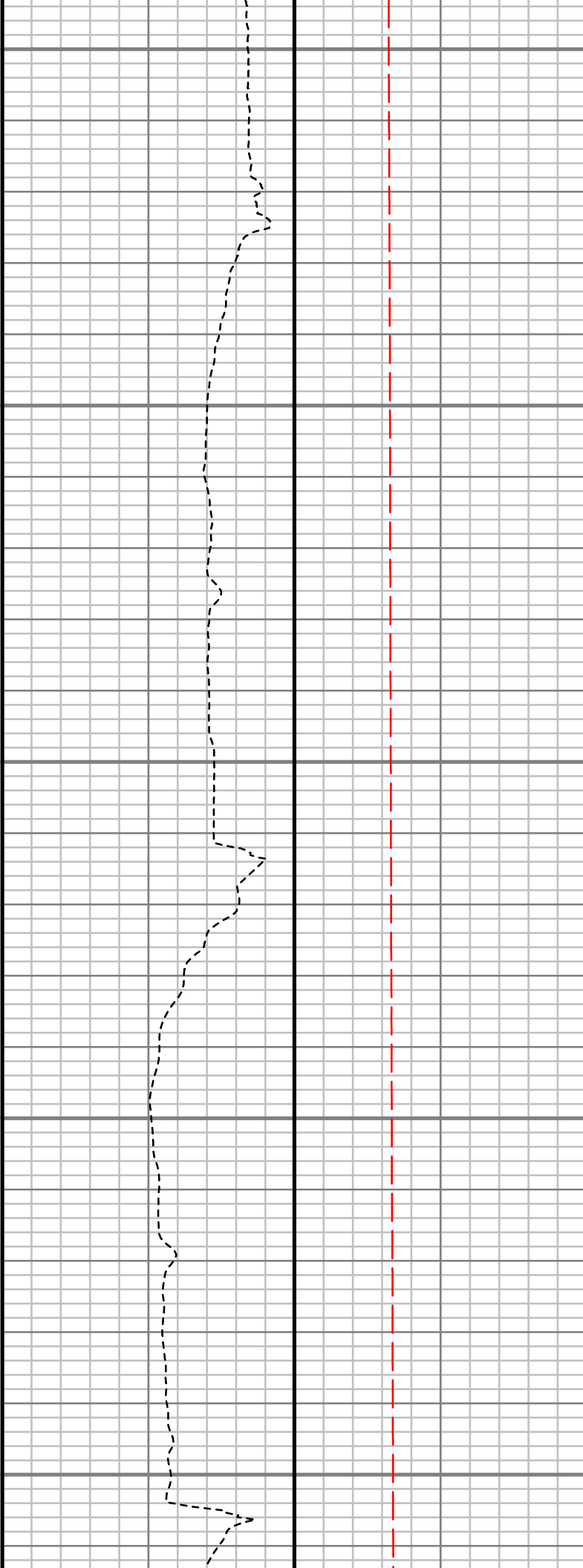
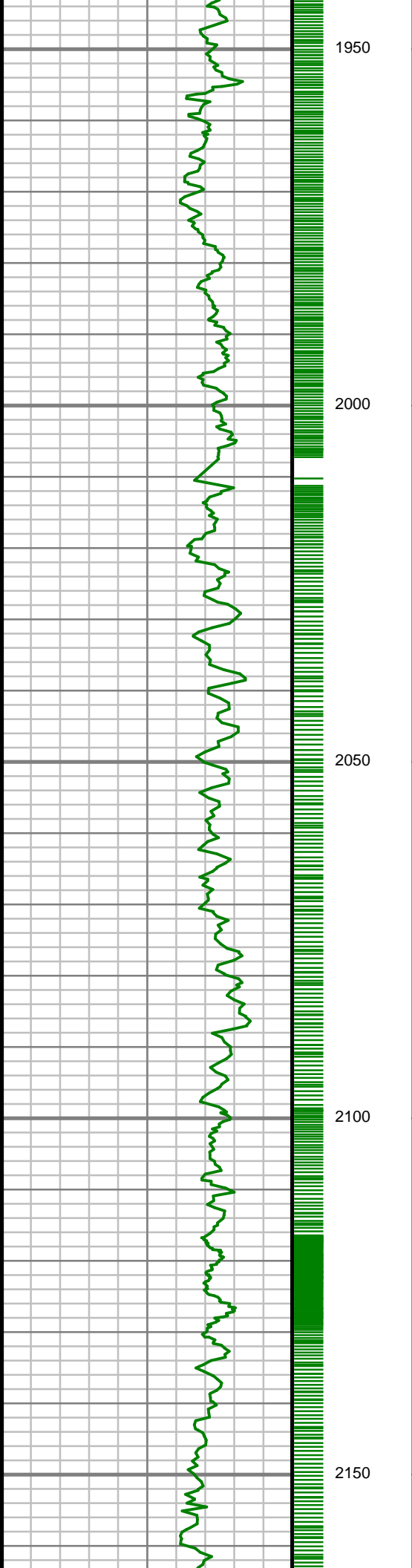




[illegible]

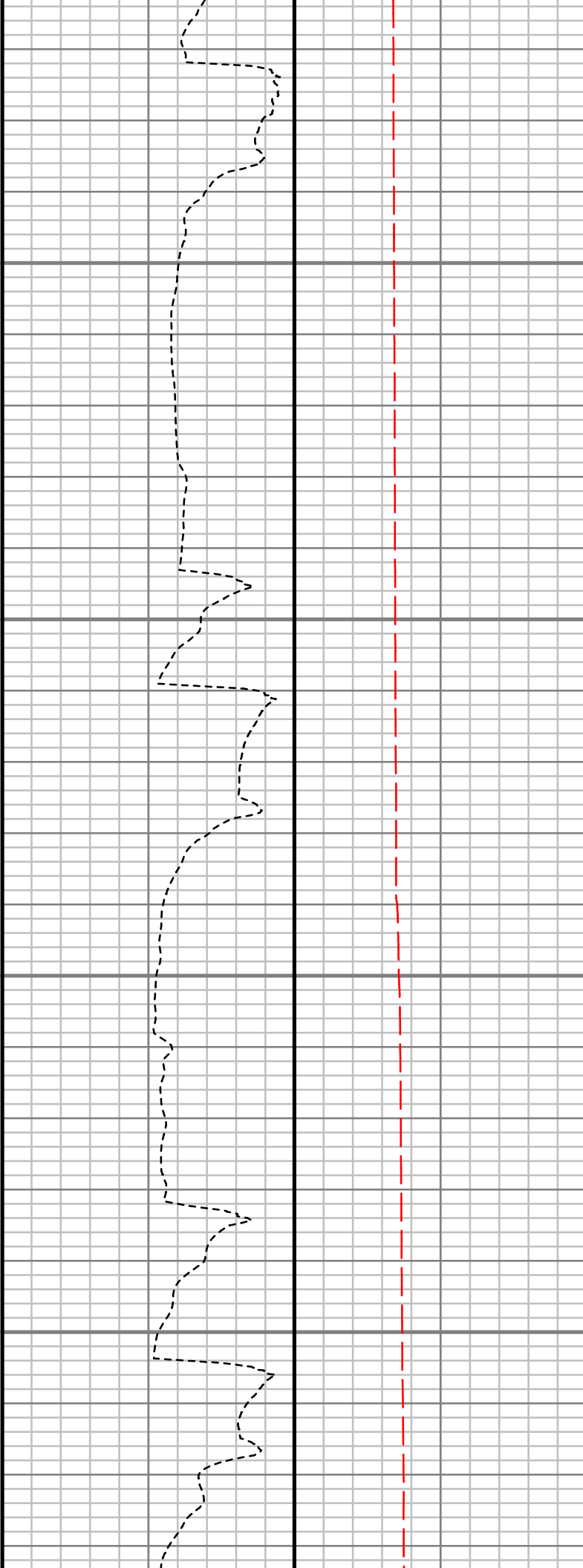
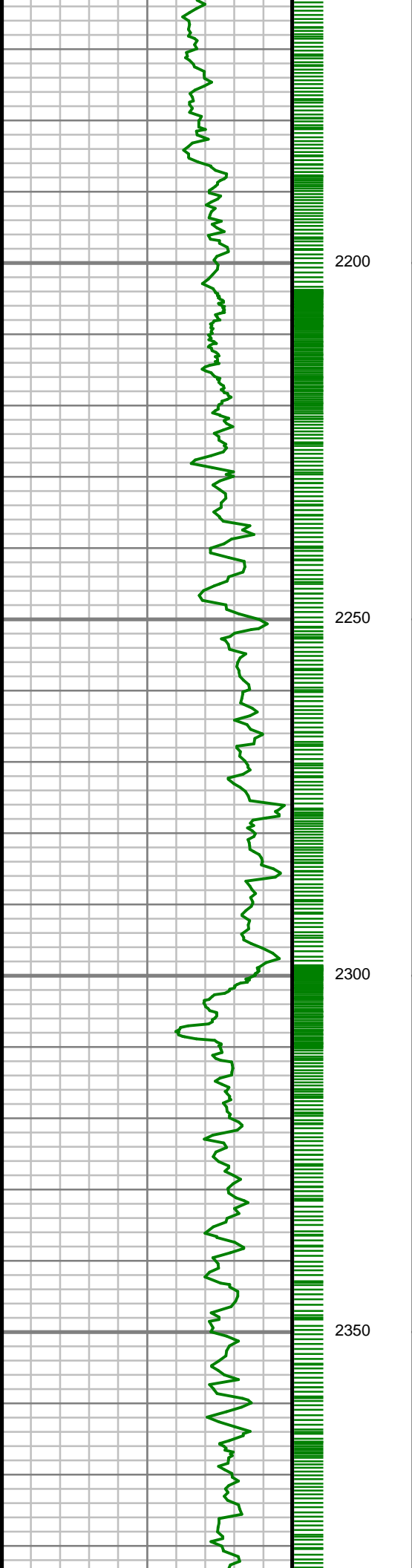
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 E&P ONSHORE LLC HILGERS 12N-22HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123432610000							
Gamma Ray (GR)		MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP)		Tool Temperature (TEMP)		Comments
0	Unit = aapi 150		1000	Unit = ft/hr 0	0	Unit = °F 300	
		1900					



S: 21 MD: 2000.00 ft  
Inc: 16.93 deg Az:  
101.72 deg TVD:  
1968.44 ft

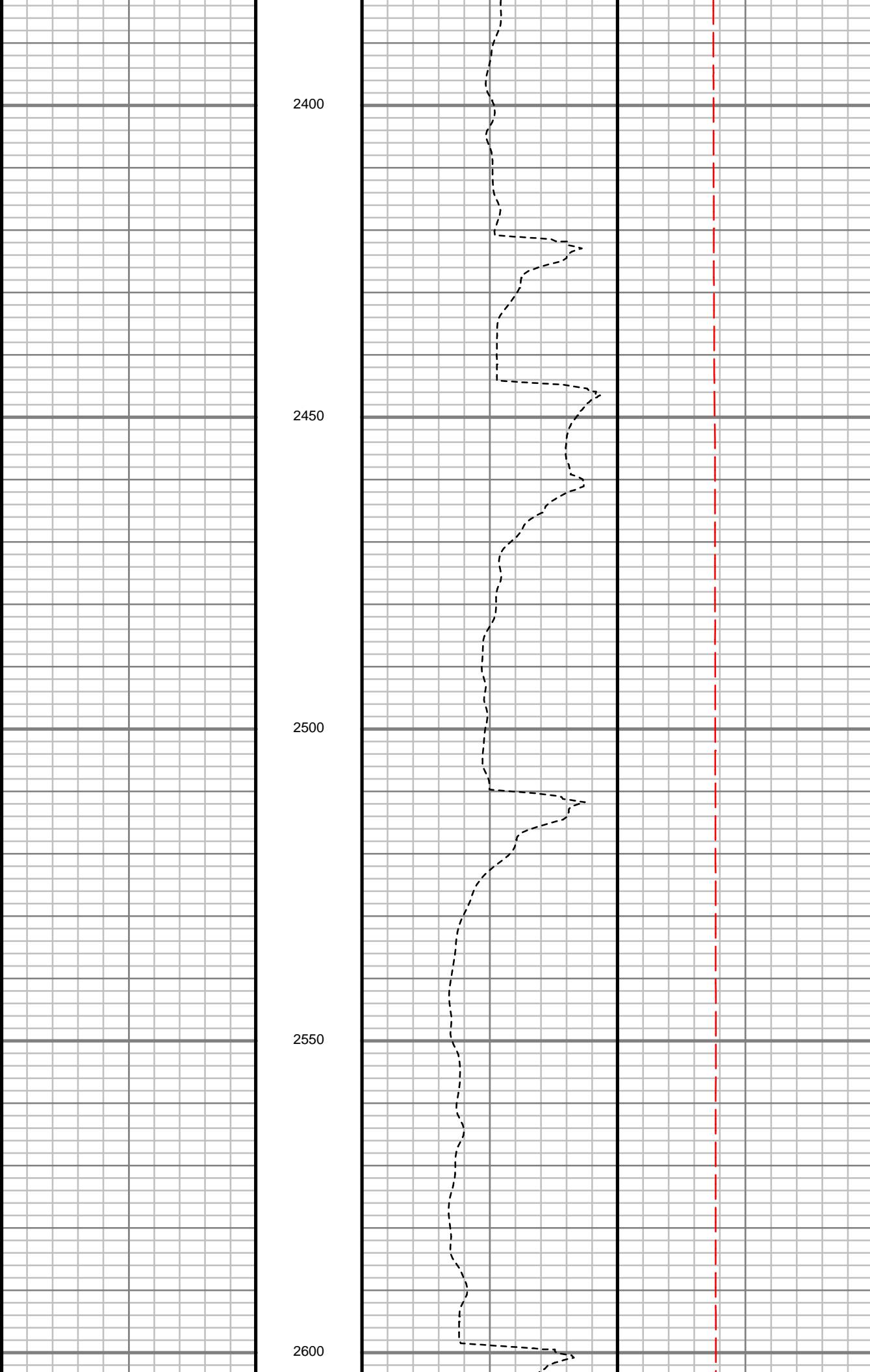
S: 22 MD: 2088.00 ft  
Inc: 15.89 deg Az:  
99.00 deg TVD:  
2052.85 ft



S: 23 MD: 2177.00 ft  
Inc: 14.79 deg Az:  
99.37 deg TVD:  
2138.68 ft

S: 24 MD: 2266.00 ft  
Inc: 15.68 deg Az:  
101.26 deg TVD:  
2224.55 ft

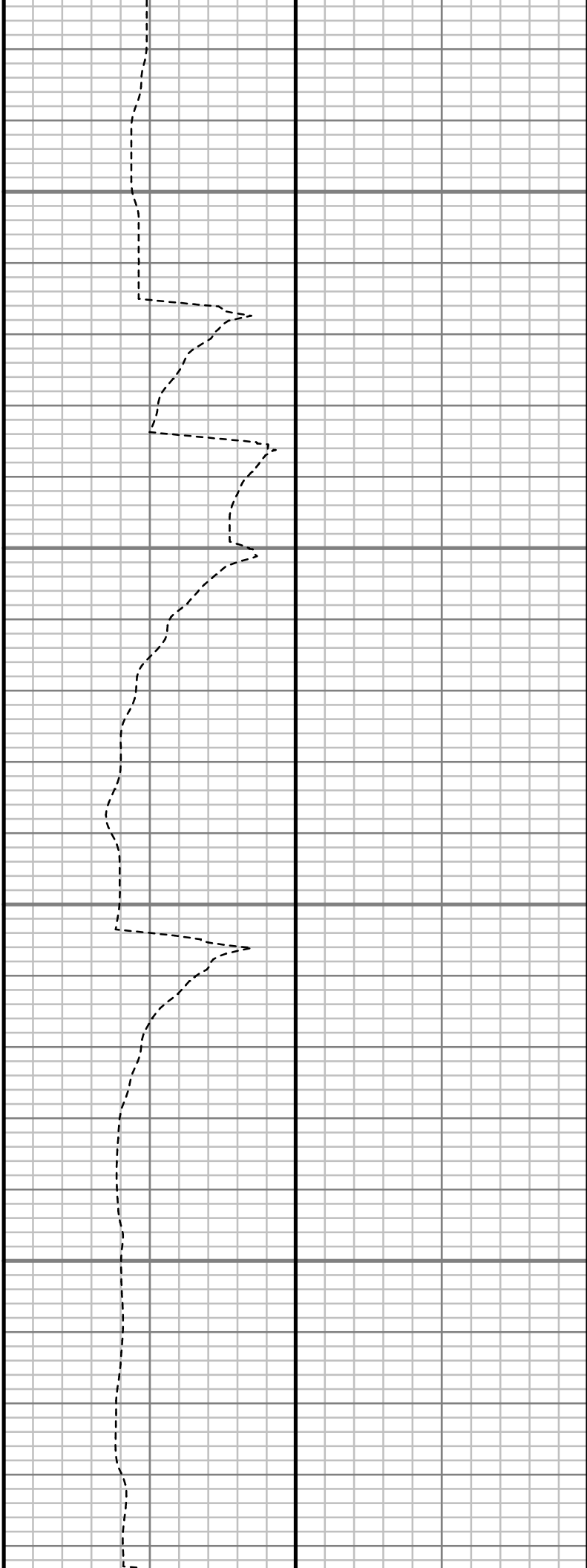
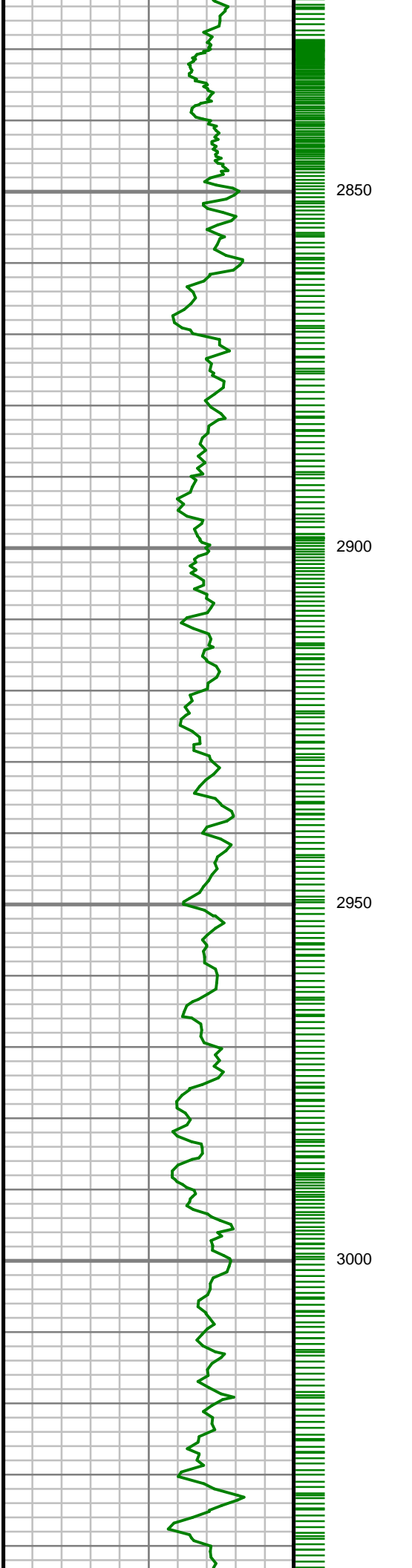
S: 25 MD: 2355.00 ft  
Inc: 16.52 deg Az:  
104.34 deg TVD:  
2310.06 ft



S: 26 MD: 2443.00 ft  
Inc: 17.83 deg Az:  
105.50 deg TVD:  
2394.14 ft

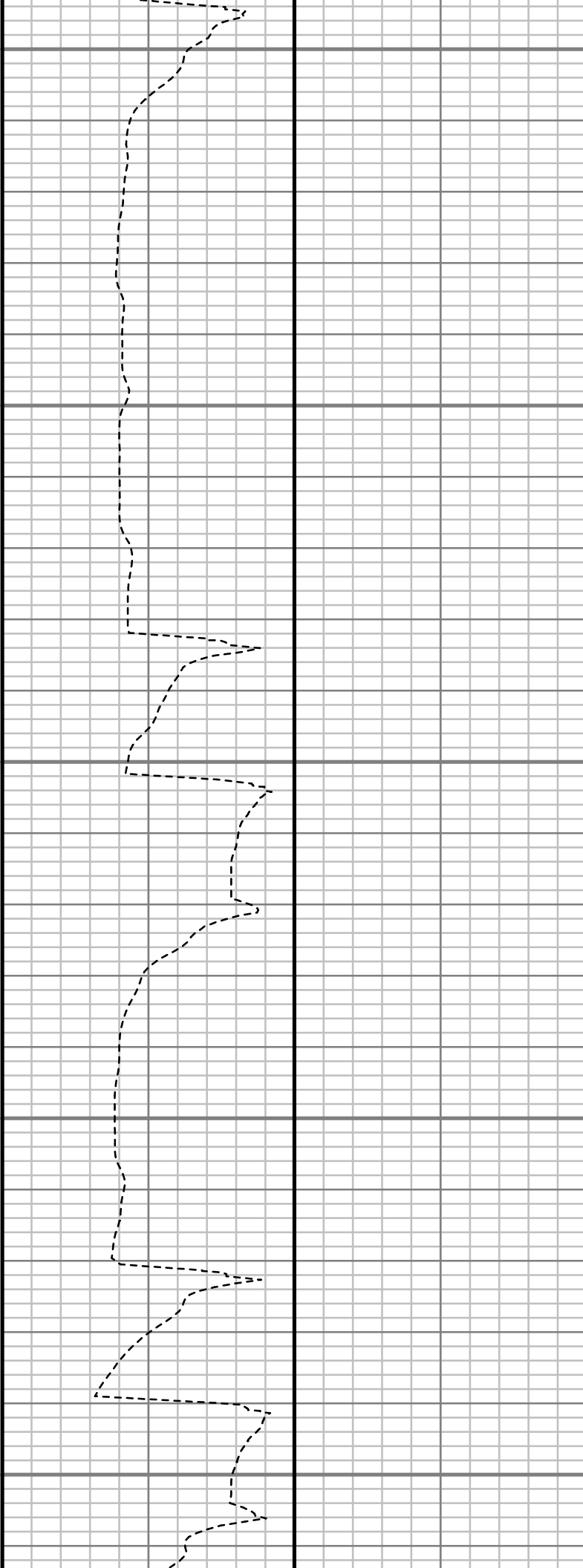
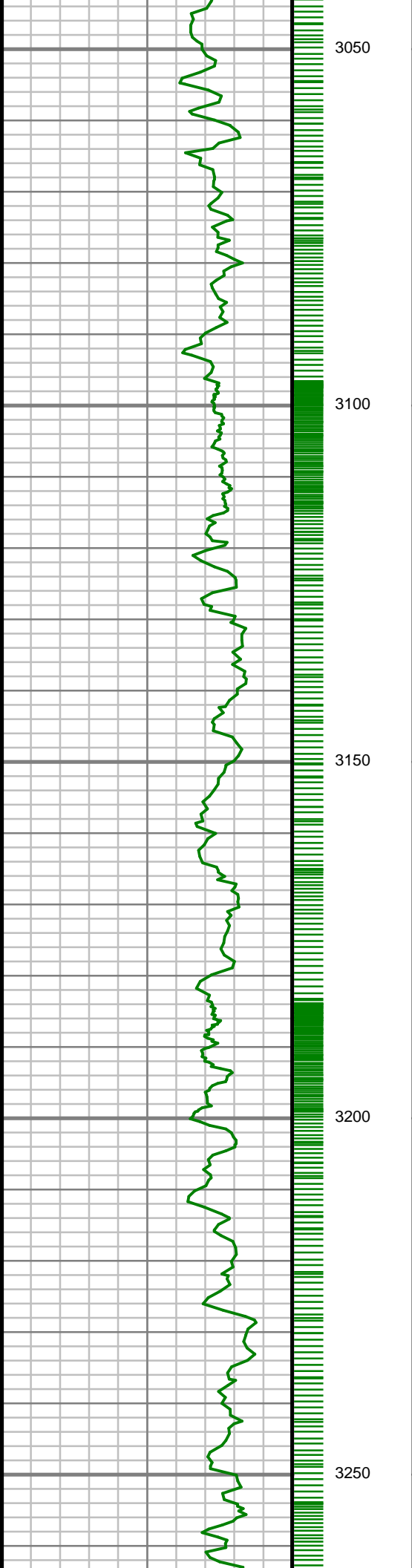
S: 27 MD: 2532.00 ft  
Inc: 18.77 deg Az:  
105.08 deg TVD:  
2478.64 ft





S: 31 MD: 2886.00 ft  
Inc: 18.25 deg Az:  
102.76 deg TVD:  
2815.24 ft

S: 32 MD: 2975.00 ft  
Inc: 18.09 deg Az:  
102.04 deg TVD:  
2899.80 ft

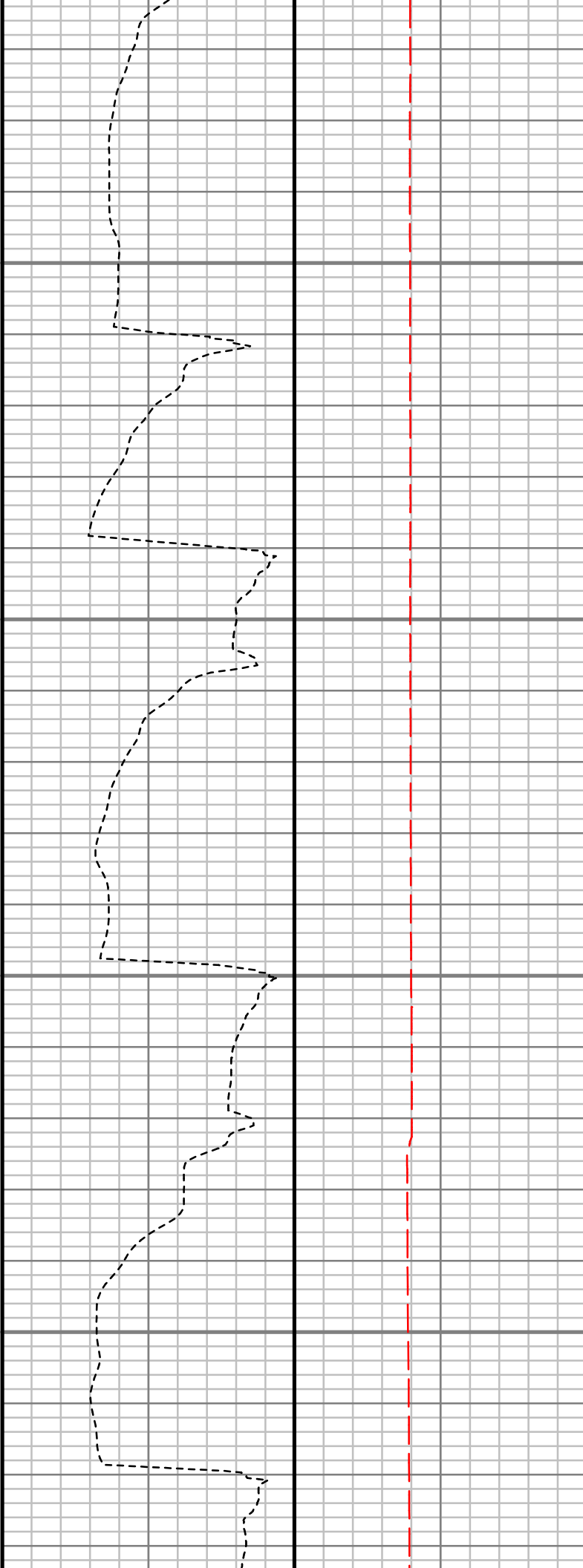
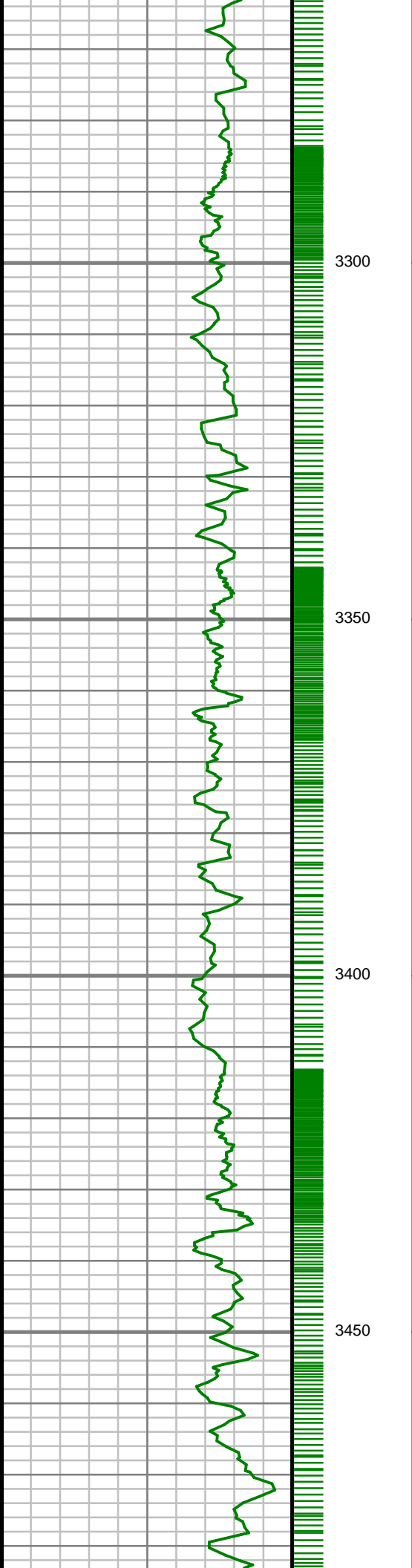


S: 33 MD: 3064.00 ft  
Inc: 16.07 deg Az:  
101.49 deg TVD:  
2984.87 ft

S: 34 MD: 3152.00 ft  
Inc: 15.64 deg Az:  
100.87 deg TVD:  
3069.52 ft

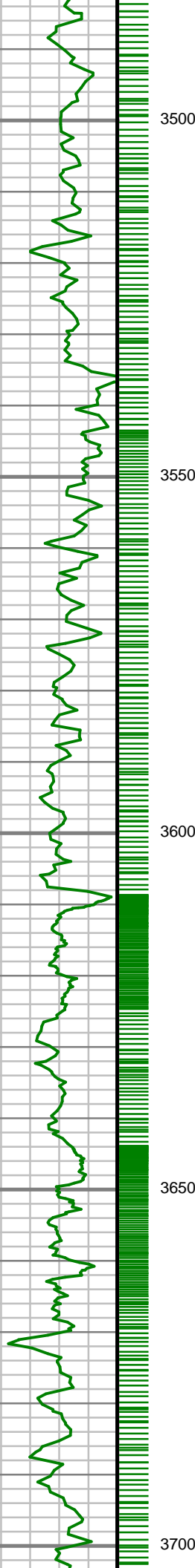
S: 35 MD: 3241.00 ft  
Inc: 17.04 deg Az:  
97.44 deg TVD:  
3154.93 ft





S: 36 MD: 3330.00 ft  
Inc: 16.62 deg Az:  
95.83 deg TVD:  
3240.11 ft

S: 37 MD: 3445.00 ft  
Inc: 18.02 deg Az:  
103.50 deg TVD:  
3349.91 ft



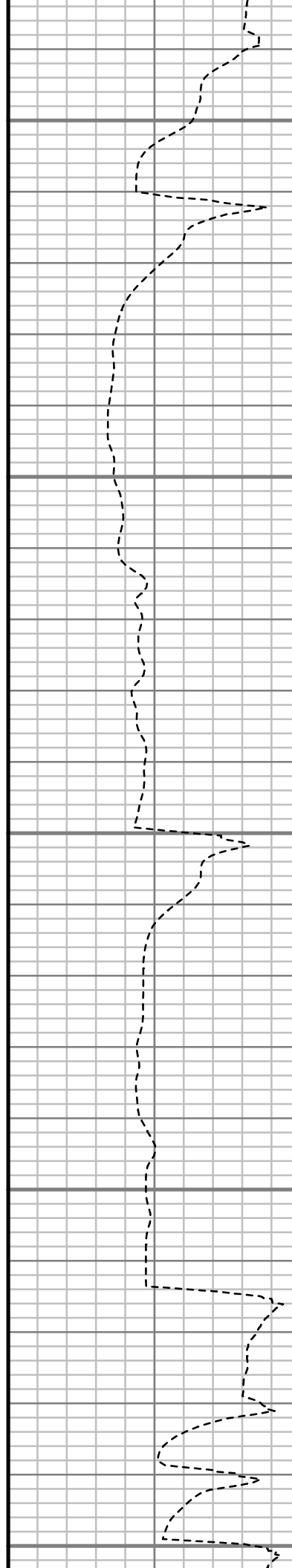
3500

3550

3600

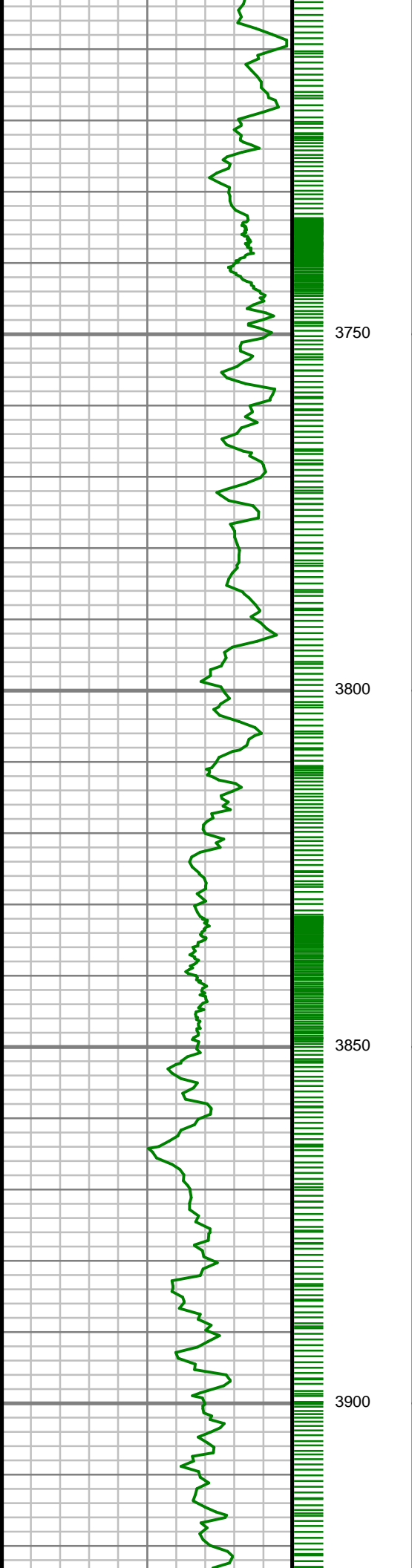
3650

3700



S: 38 MD: 3533.00 ft  
Inc: 18.60 deg Az:  
106.74 deg TVD:  
3433.46 ft

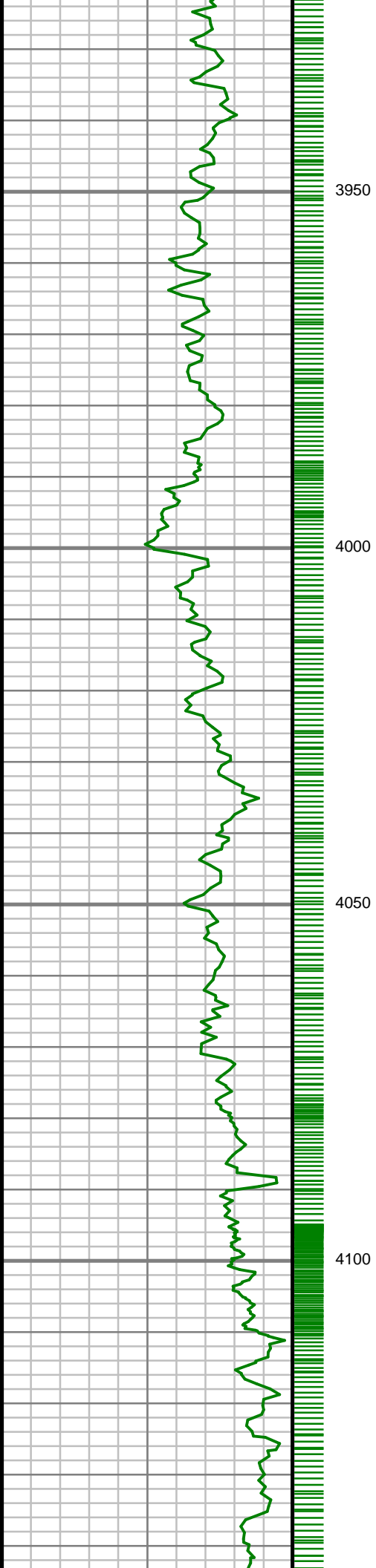
S: 39 MD: 3622.00 ft  
Inc: 15.57 deg Az:  
104.54 deg TVD:  
3518.52 ft



S: 40 MD: 3710.00 ft  
Inc: 18.91 deg Az:  
103.90 deg TVD:  
3602.56 ft

S: 41 MD: 3799.00 ft  
Inc: 18.78 deg Az:  
99.54 deg TVD:  
3686.79 ft

S: 42 MD: 3888.00 ft  
Inc: 19.56 deg Az:  
99.53 deg TVD:  
3770.85 ft

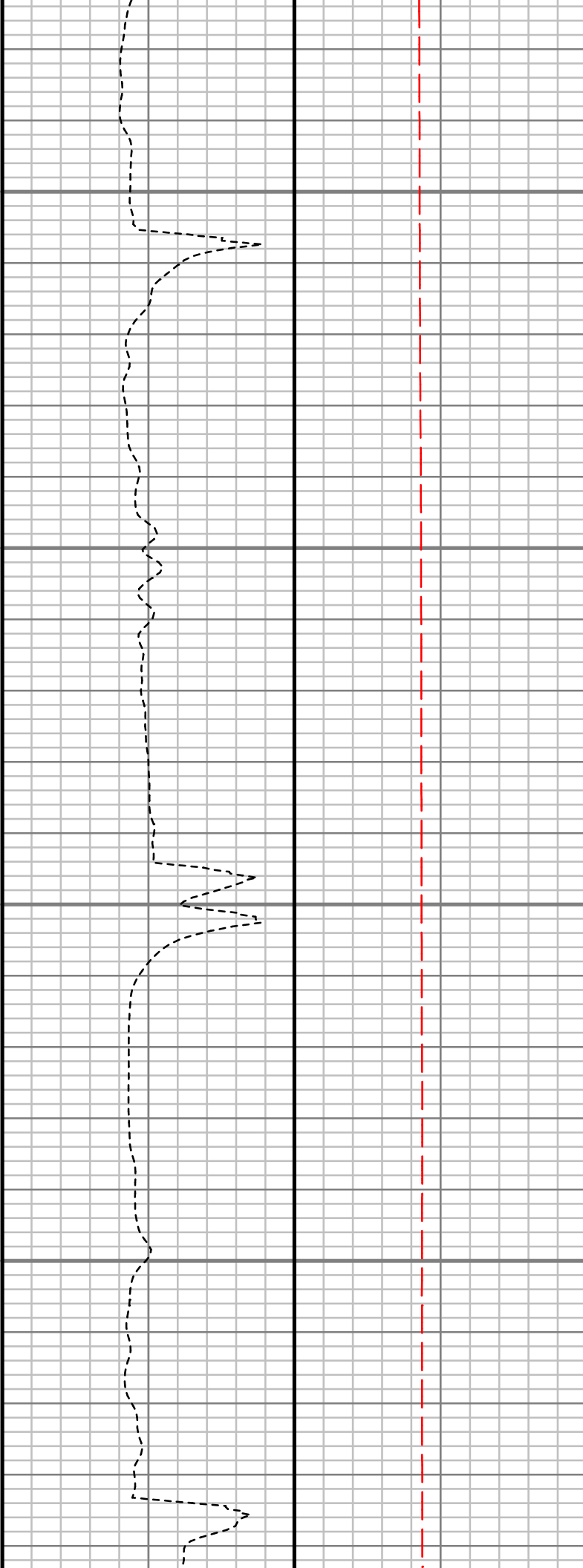


3950

4000

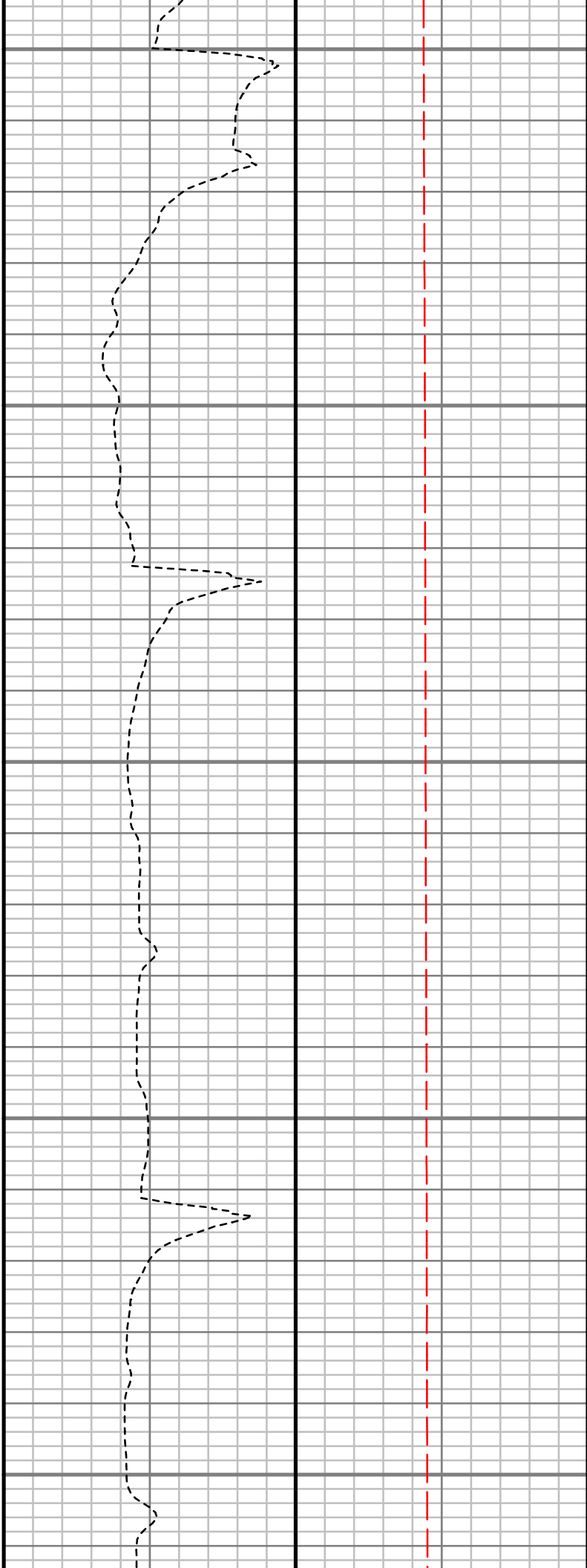
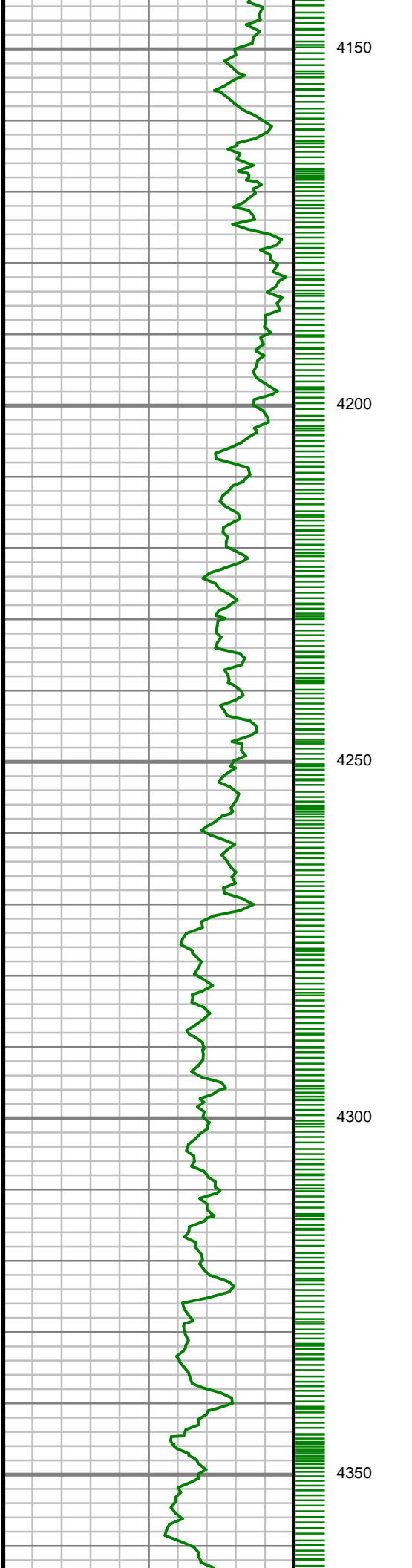
4050

4100



S: 43 MD: 3977.00 ft  
Inc: 20.41 deg Az:  
101.14 deg TVD:  
3854.49 ft

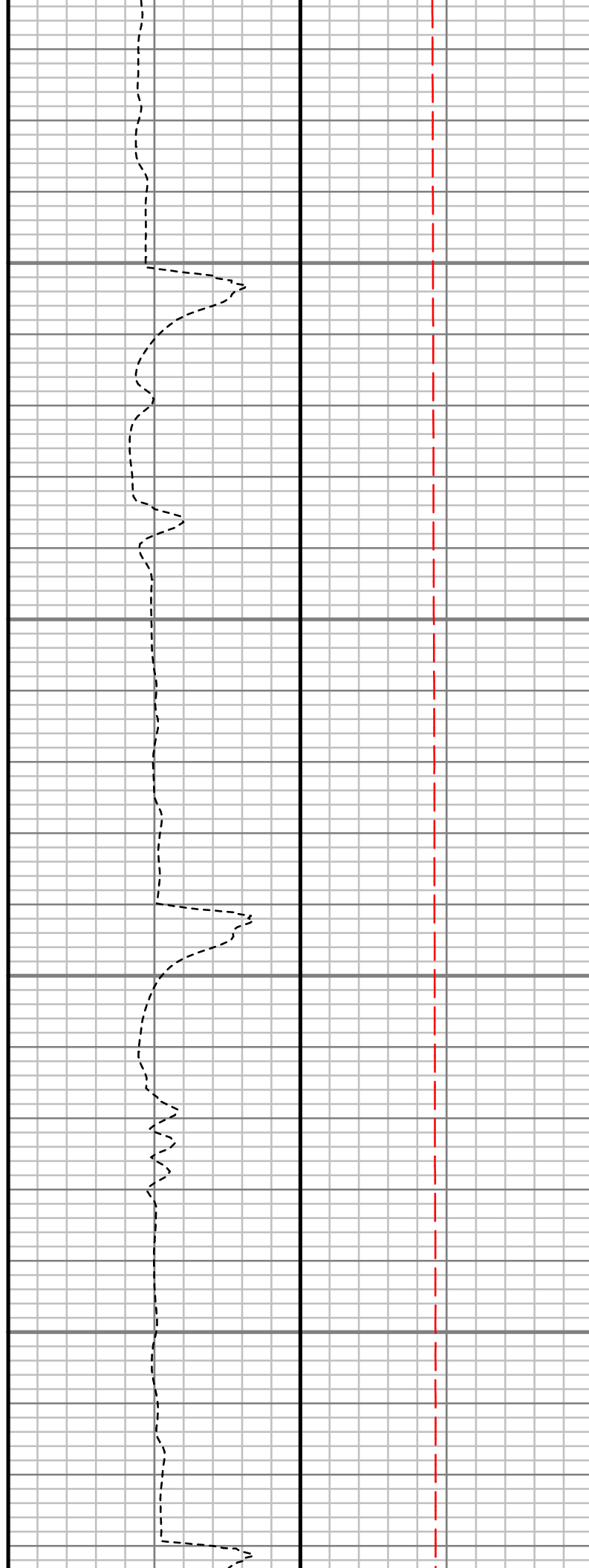
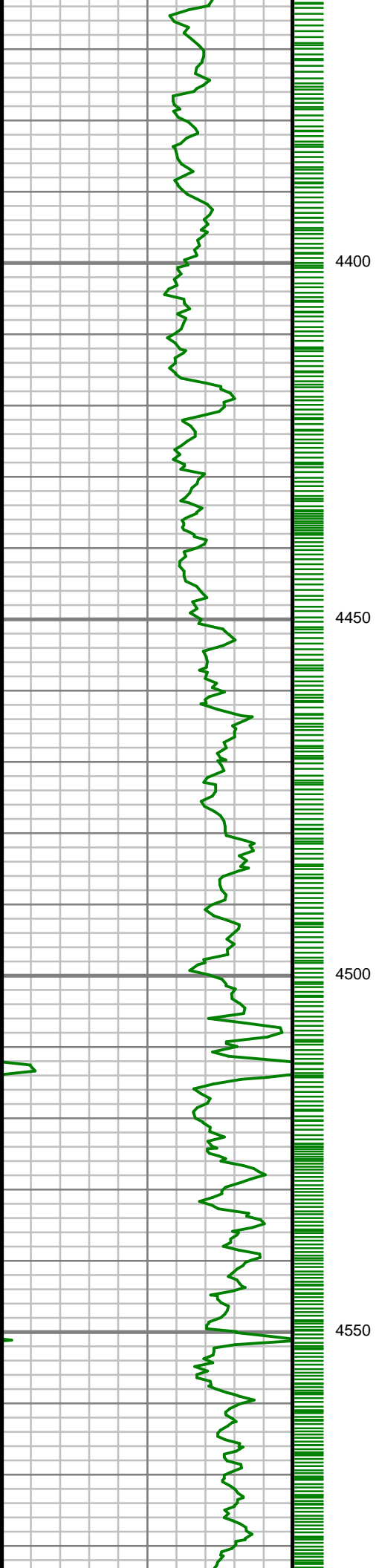
S: 44 MD: 4066.00 ft  
Inc: 19.00 deg Az:  
99.70 deg TVD:  
3938.28 ft



S: 45 MD: 4155.00 ft  
Inc: 17.68 deg Az:  
104.14 deg TVD:  
4022.76 ft

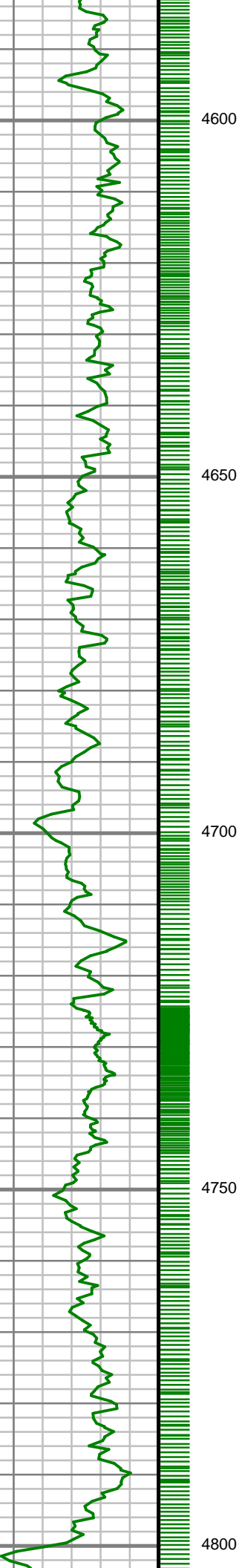
S: 46 MD: 4243.00 ft  
Inc: 15.51 deg Az:  
105.67 deg TVD:  
4107.09 ft

S: 47 MD: 4332.00 ft  
Inc: 13.91 deg Az:  
106.41 deg TVD:  
4193.17 ft



S: 48 MD: 4422.00 ft  
Inc: 13.34 deg Az:  
106.84 deg TVD:  
4280.64 ft

S: 49 MD: 4511.00 ft  
Inc: 12.63 deg Az:  
105.90 deg TVD:  
4367.36 ft



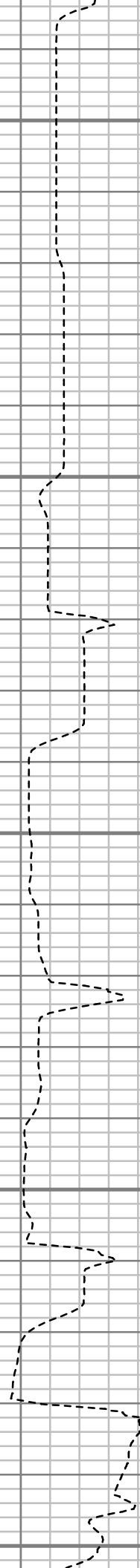
4600

4650

4700

4750

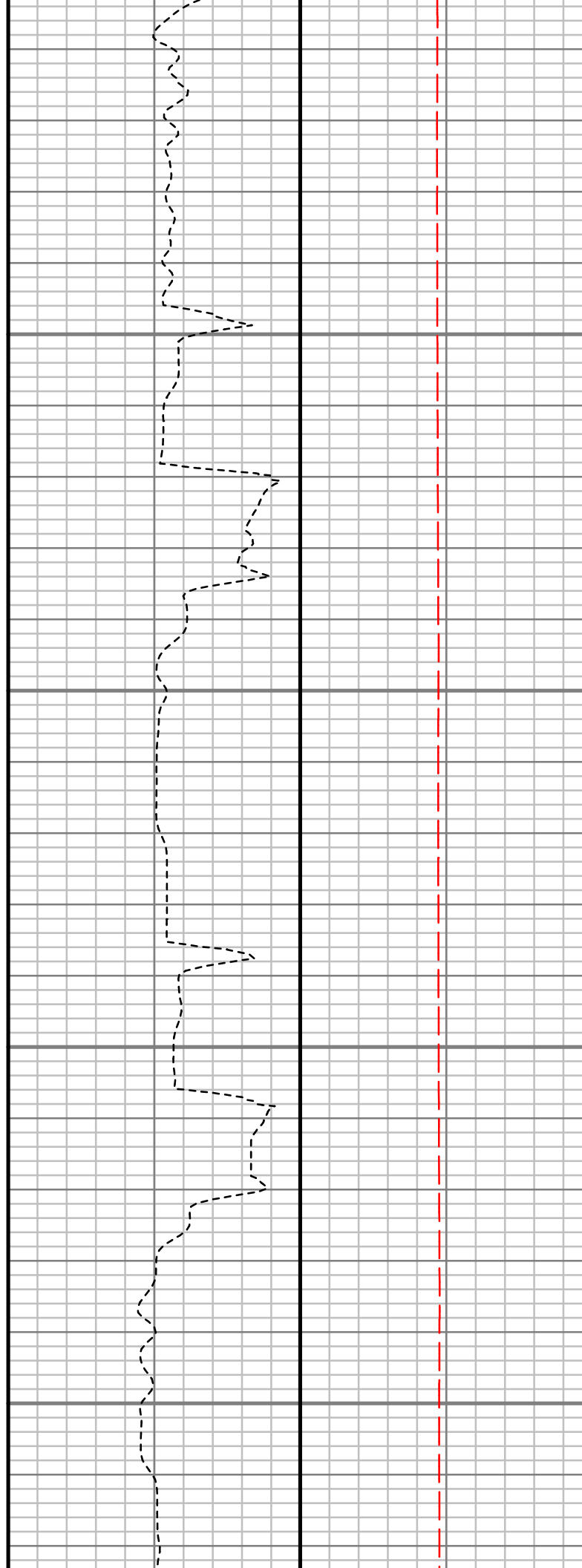
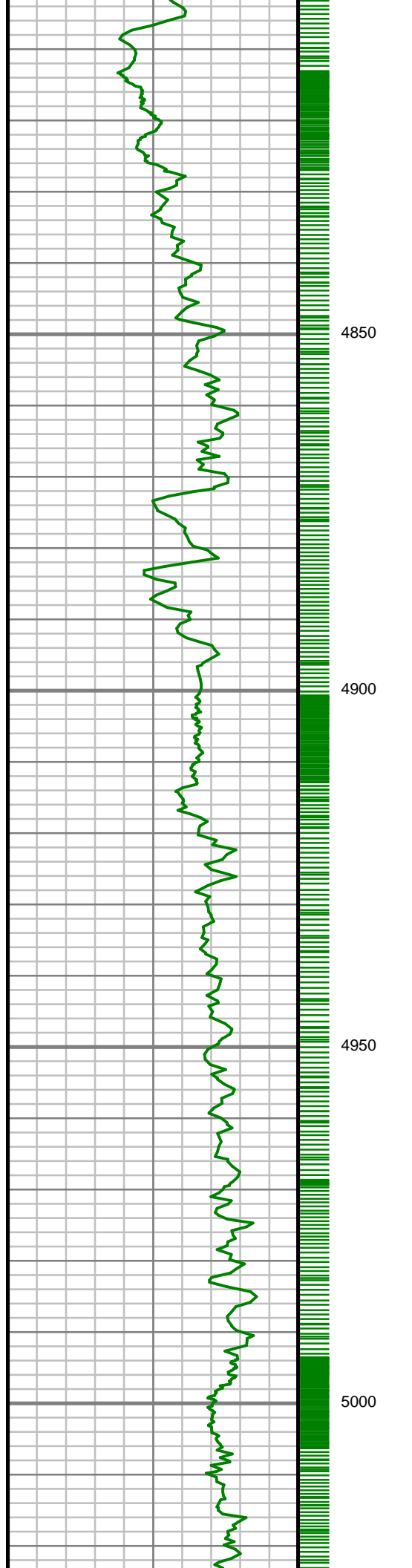
4800



S: 50 MD: 4600.00 ft  
Inc: 11.18 deg Az:  
107.06 deg TVD:  
4454.45 ft

S: 51 MD: 4689.00 ft  
Inc: 10.07 deg Az:  
107.80 deg TVD:  
4541.92 ft

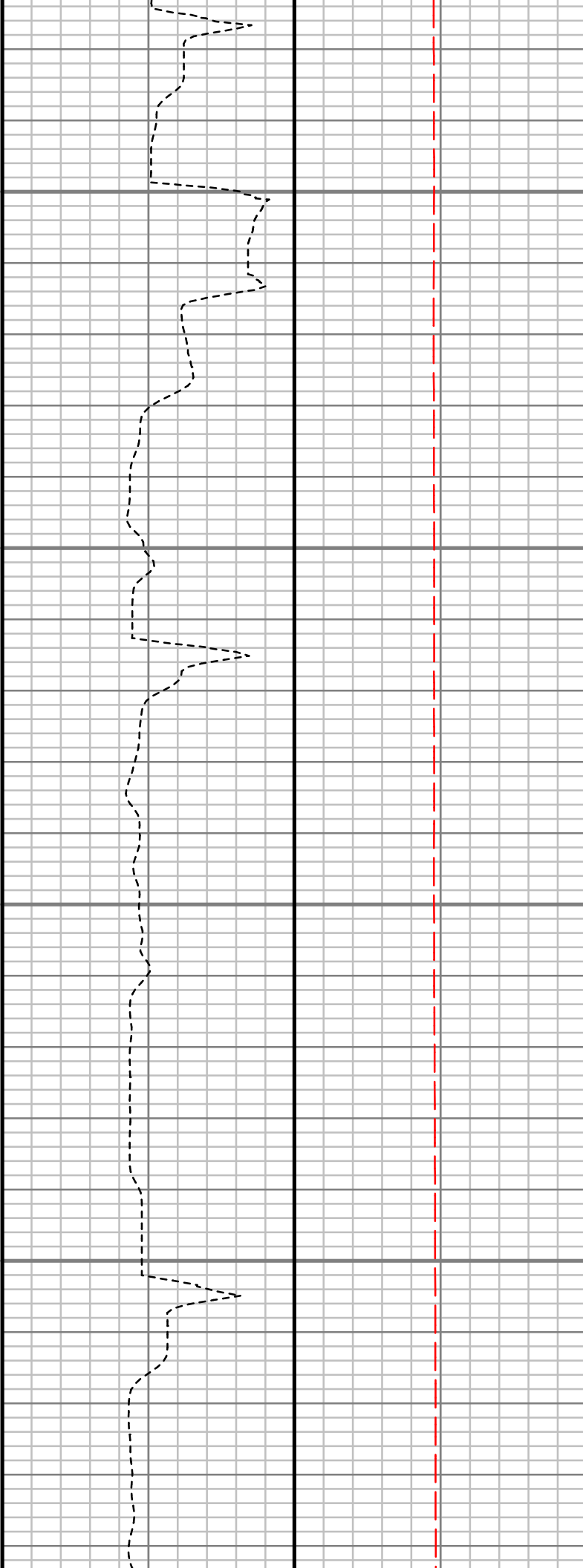
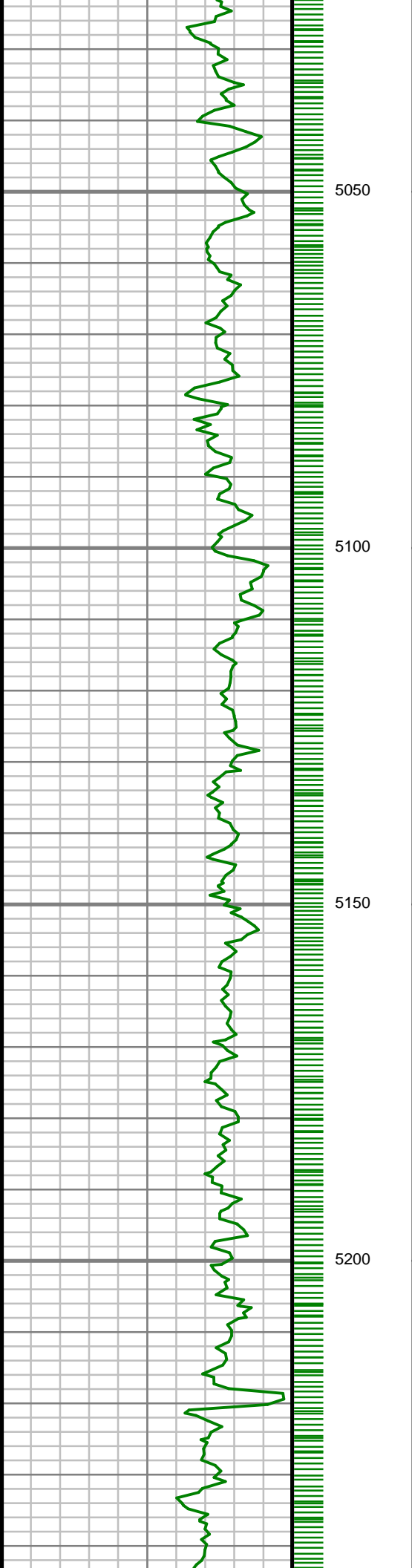
S: 52 MD: 4778.00 ft  
Inc: 8.36 deg Az:  
106.58 deg TVD:  
4629.77 ft



S: 53 MD: 4866.00 ft  
Inc: 5.78 deg Az: 104.89 deg TVD: 4717.09 ft

S: 54 MD: 4955.00 ft  
Inc: 4.12 deg Az: 92.48 deg TVD: 4805.76 ft

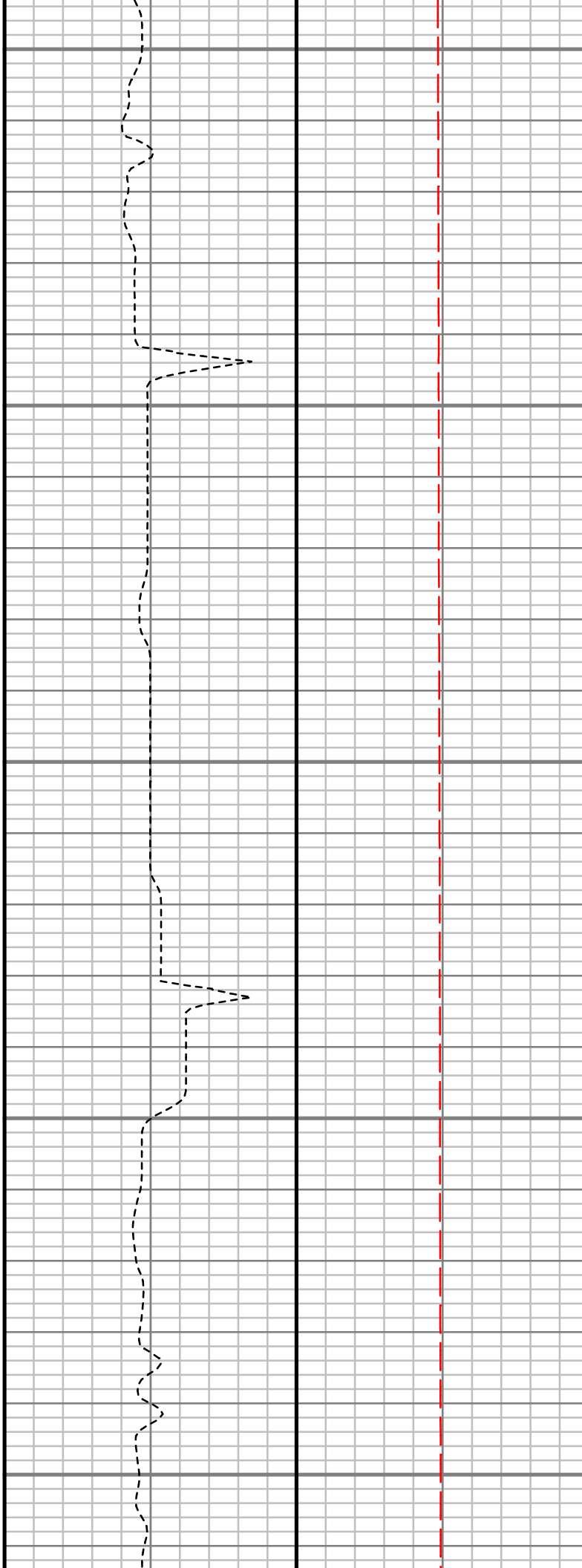
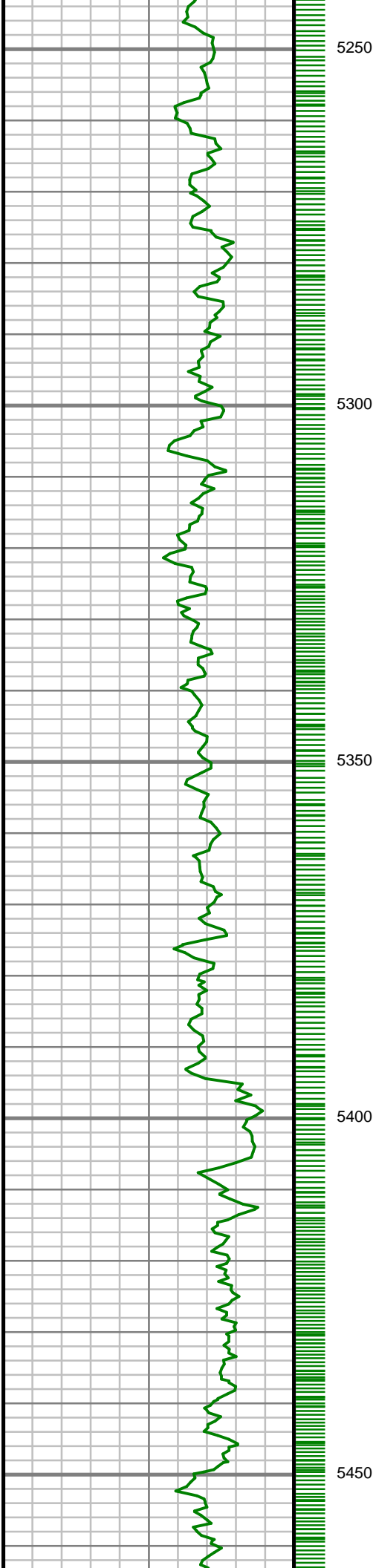




S: 55 MD: 5044.00 ft  
Inc: 2.14 deg Az: 77.38  
deg TVD: 4894.62 ft

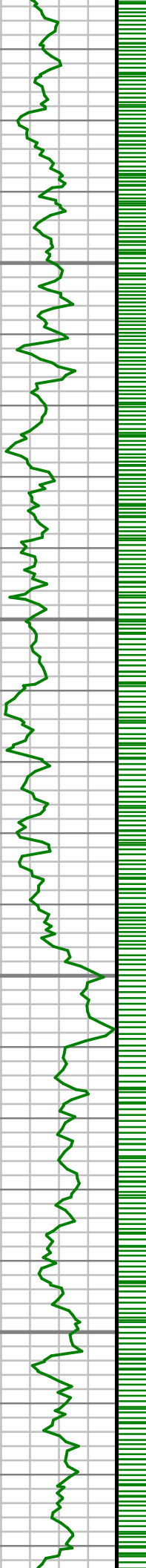
S: 56 MD: 5133.00 ft  
Inc: 1.14 deg Az: 82.87  
deg TVD: 4983.58 ft

S: 57 MD: 5222.00 ft  
Inc: 0.69 deg Az: 71.41  
deg TVD: 5072.57 ft



S: 58 MD: 5311.00 ft  
Inc: 0.62 deg Az: 77.72  
deg TVD: 5161.57 ft

S: 59 MD: 5400.00 ft  
Inc: 0.32 deg Az: 88.01  
deg TVD: 5250.56 ft

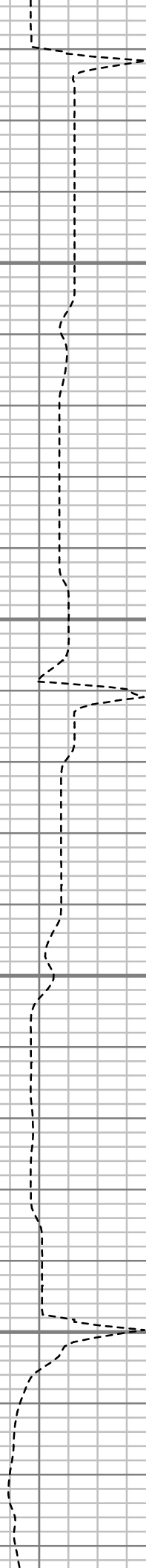


5500

5550

5600

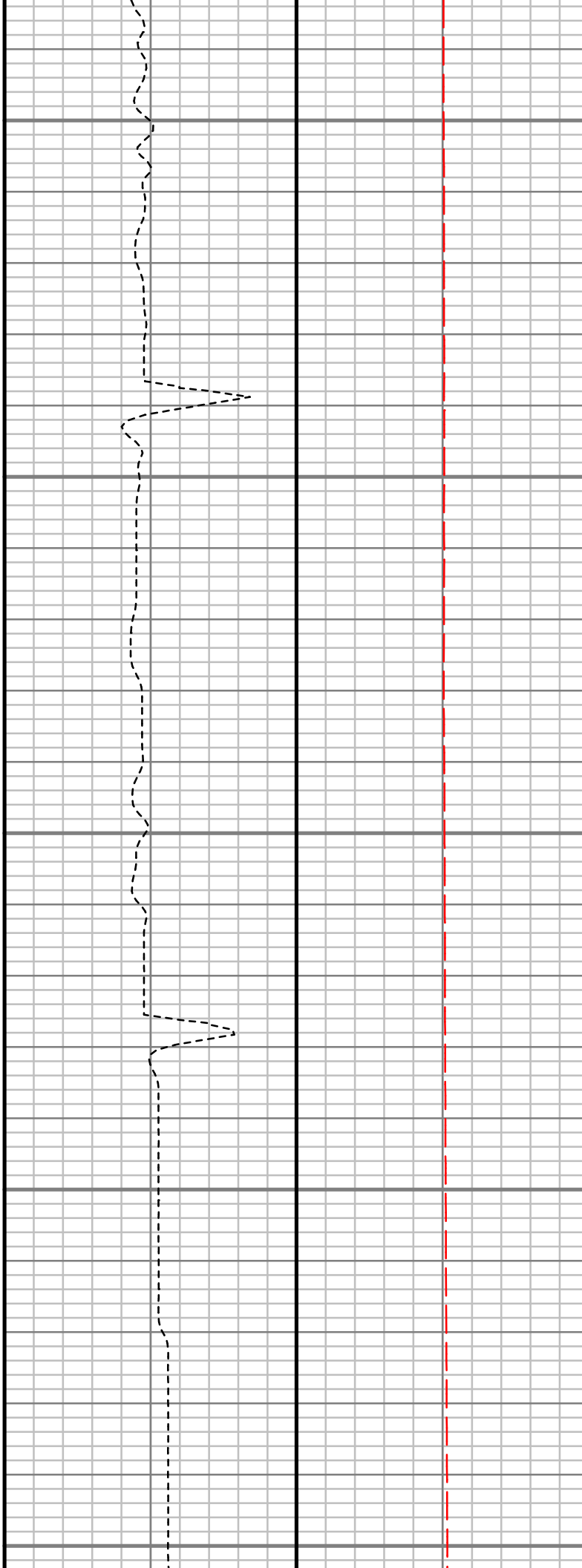
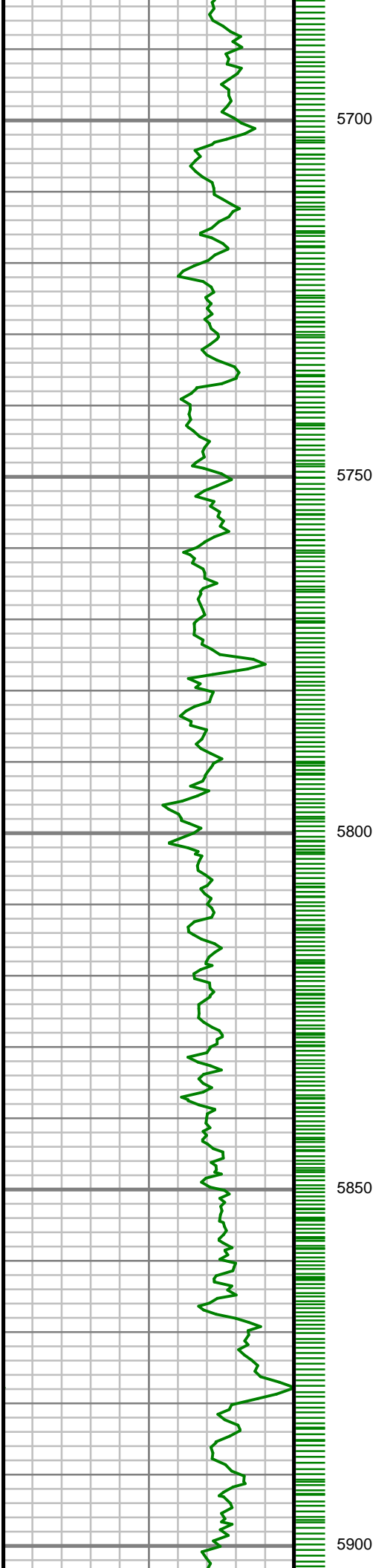
5650



S: 60 MD: 5489.00 ft  
Inc: 0.26 deg Az:  
118.99 deg TVD:  
5339.56 ft

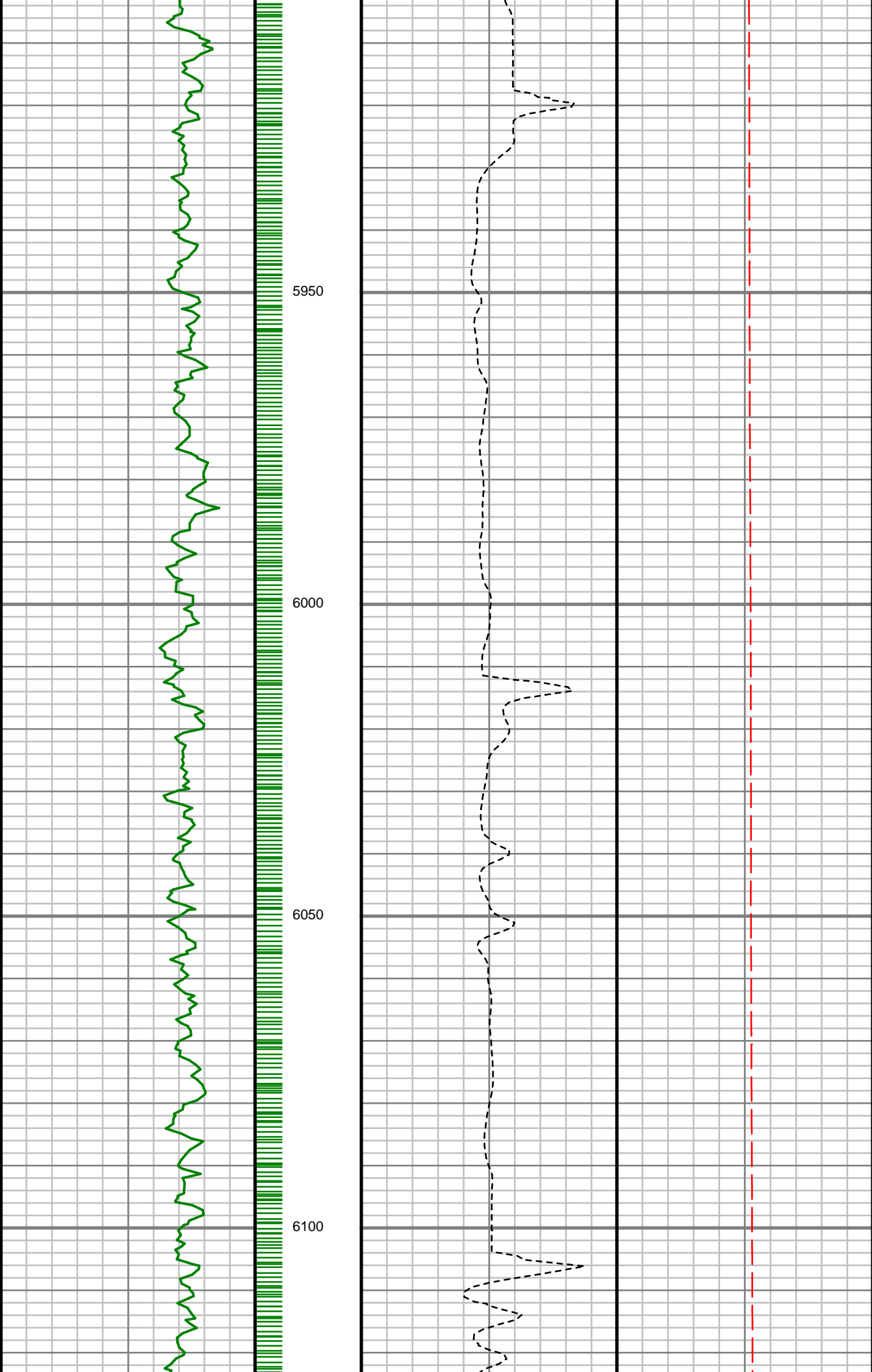
S: 61 MD: 5577.00 ft  
Inc: 0.41 deg Az:  
177.48 deg TVD:  
5427.56 ft

S: 62 MD: 5666.00 ft  
Inc: 0.78 deg Az:  
186.11 deg TVD:  
5516.56 ft



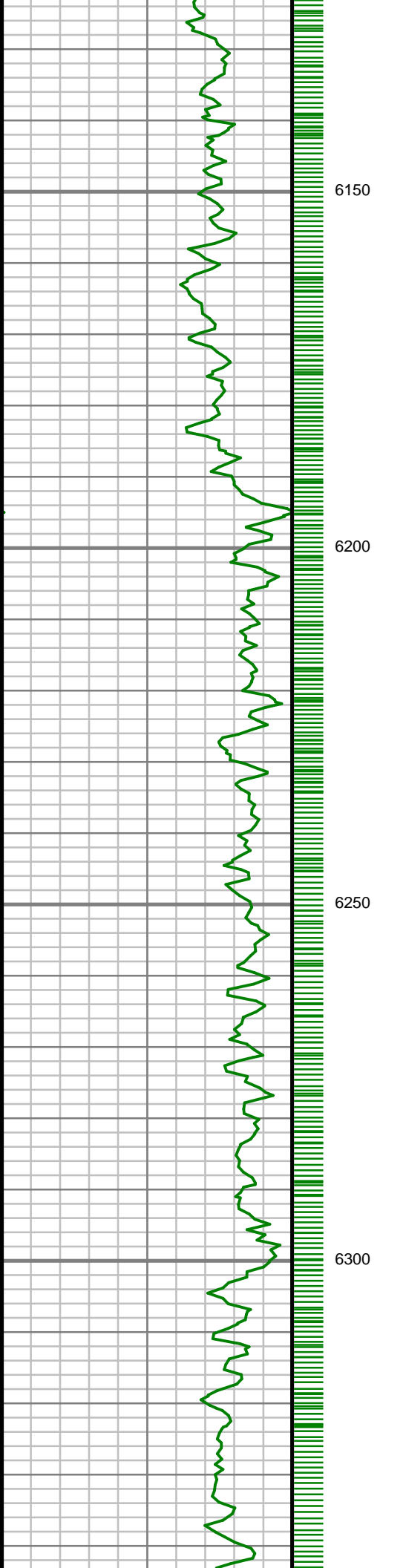
S: 63 MD: 5755.00 ft  
Inc: 1.11 deg Az:  
183.38 deg TVD:  
5605.54 ft

S: 64 MD: 5847.00 ft  
Inc: 0.77 deg Az:  
172.95 deg TVD:  
5697.53 ft



S: 65 MD: 5940.00 ft  
Inc: 0.95 deg Az:  
216.36 deg TVD:  
5790.52 ft

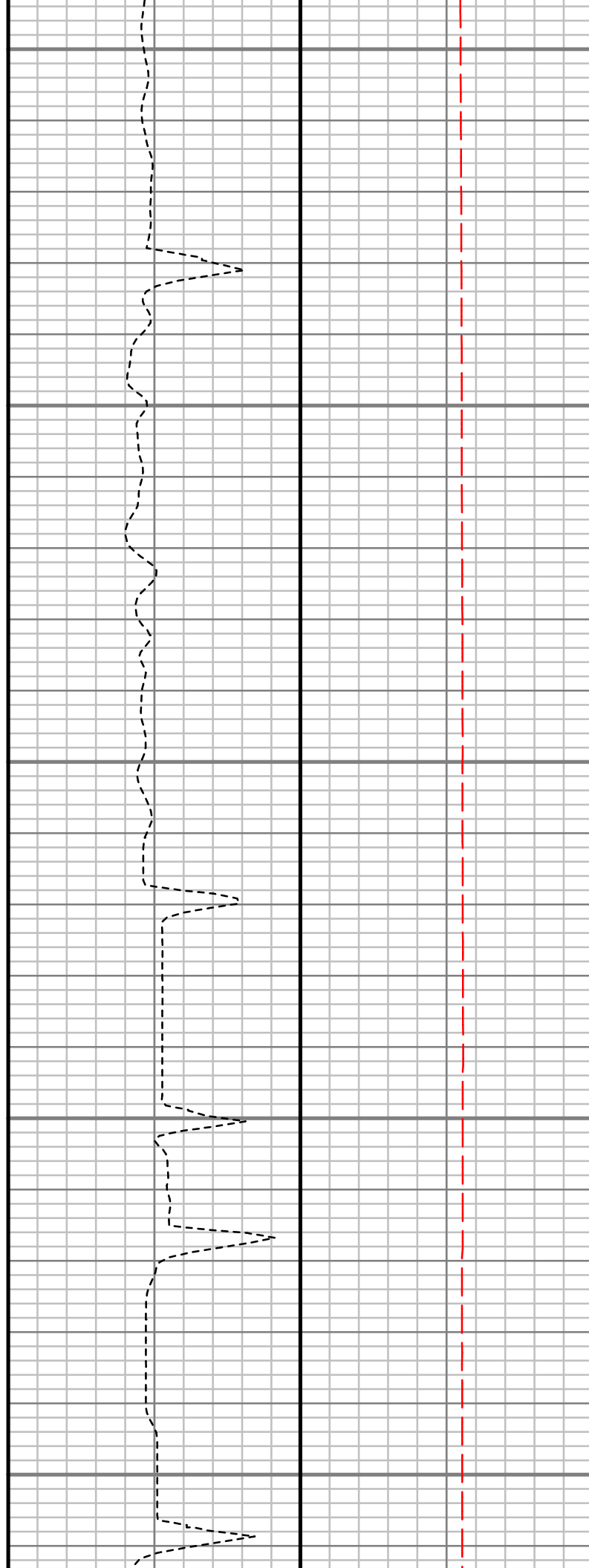
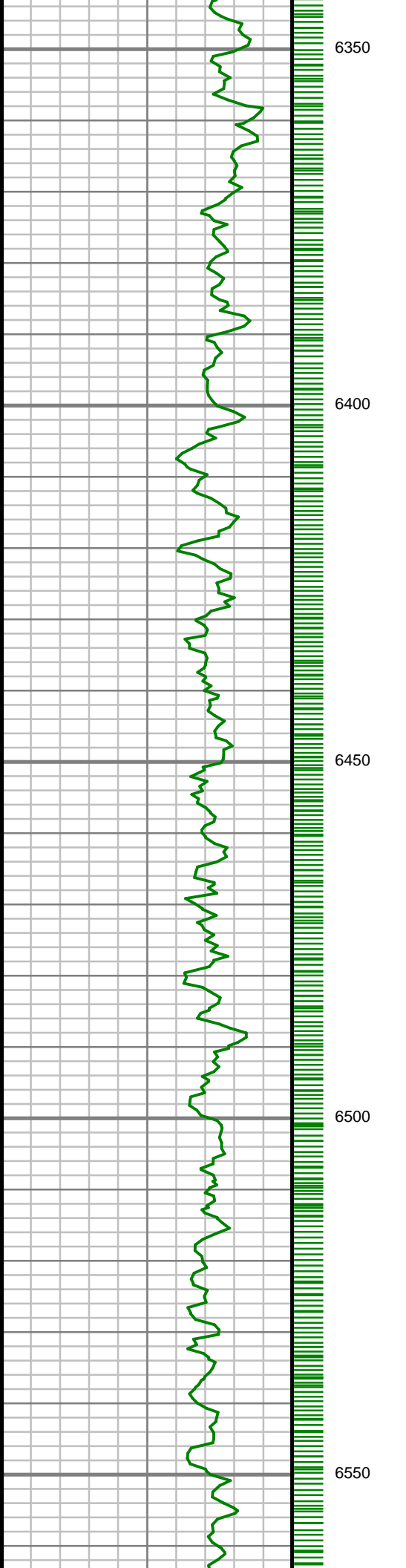
S: 66 MD: 6033.00 ft  
Inc: 0.68 deg Az:  
211.50 deg TVD:  
5883.51 ft



S: 67 MD: 6125.00 ft  
Inc: 0.86 deg Az:  
224.83 deg TVD:  
5975.51 ft

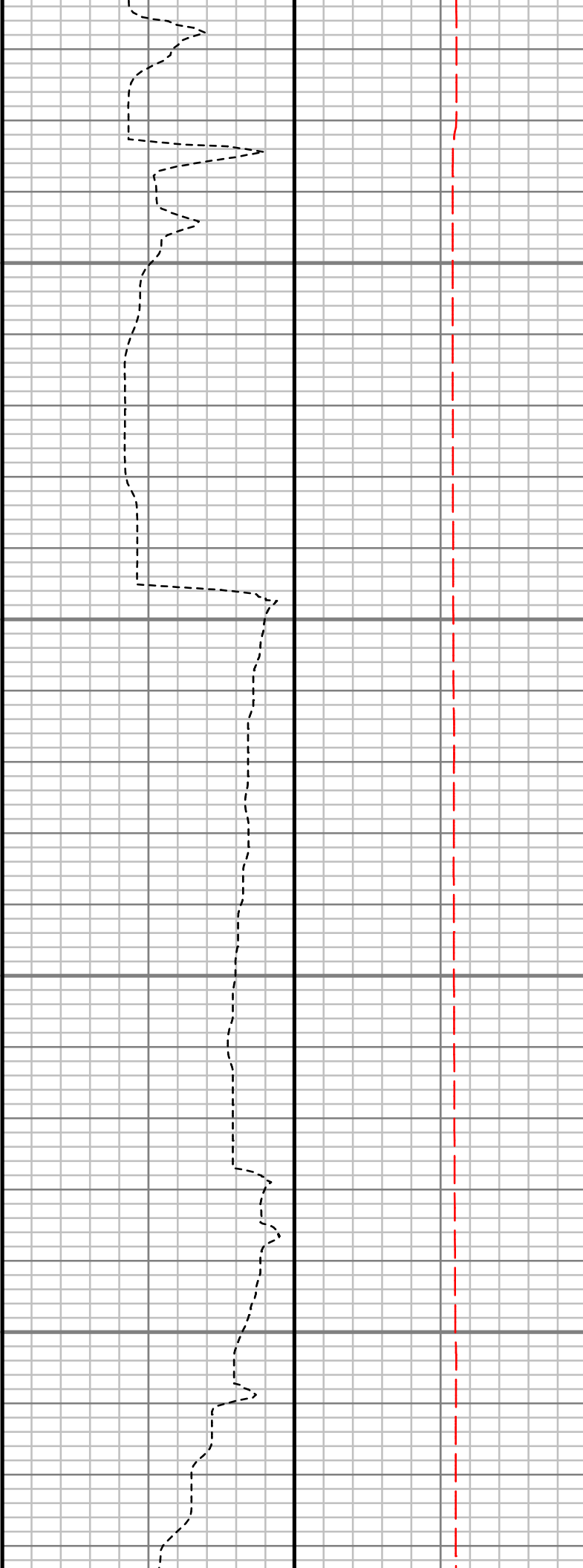
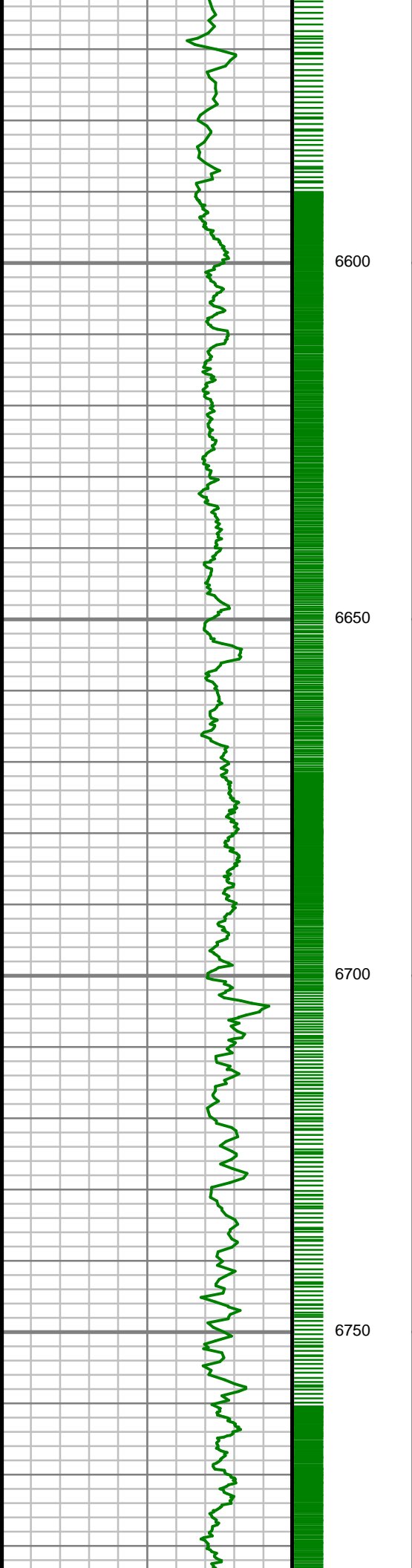
S: 68 MD: 6218.00 ft  
Inc: 1.10 deg Az:  
219.88 deg TVD:  
6068.49 ft

S: 69 MD: 6306.00 ft  
Inc: 0.86 deg Az:  
196.96 deg TVD:  
6156.48 ft



S: 70 MD: 6395.00 ft  
Inc: 0.77 deg Az:  
179.14 deg TVD:  
6245.47 ft

S: 71 MD: 6484.00 ft  
Inc: 0.39 deg Az:  
186.22 deg TVD:  
6334.47 ft

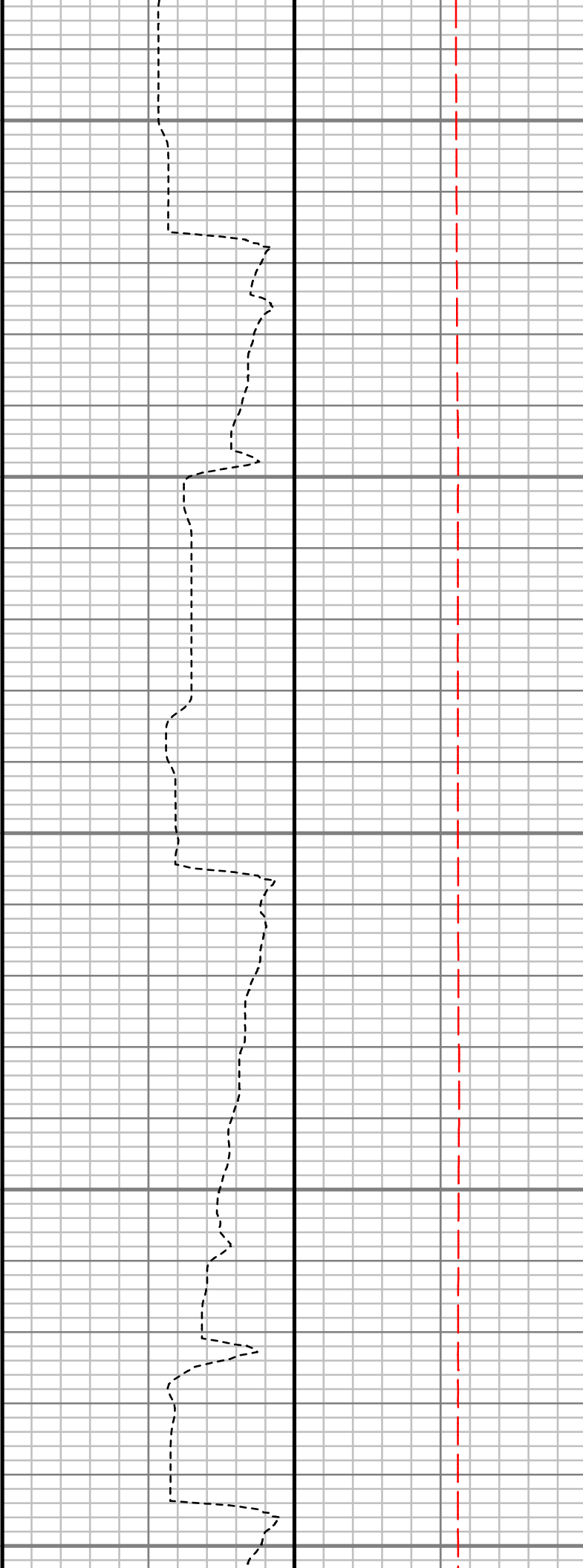
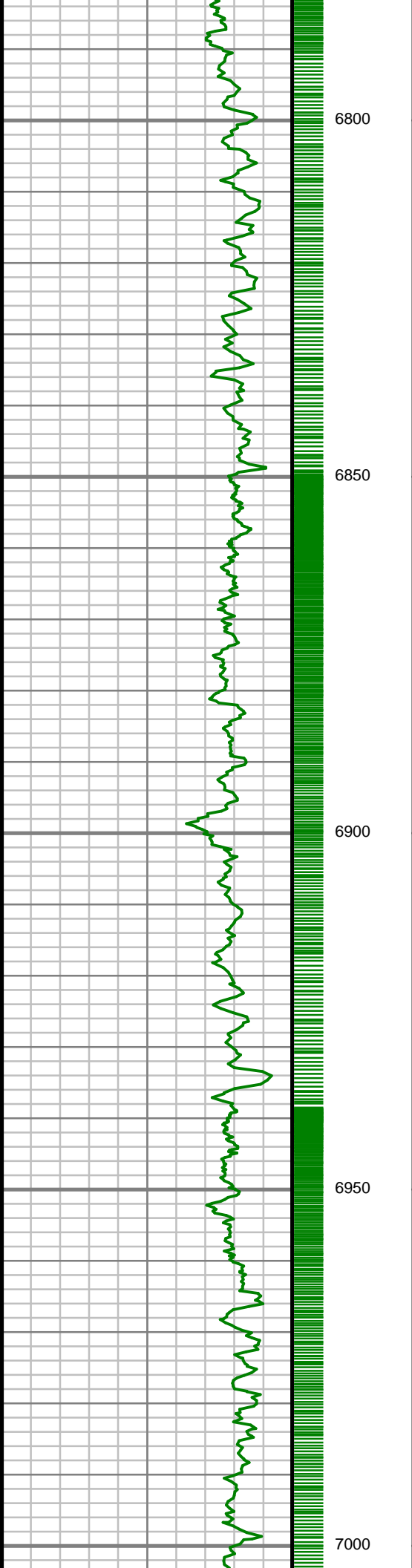


S: 72 MD: 6572.00 ft  
Inc: 0.69 deg Az:  
211.55 deg TVD:  
6422.46 ft

S: 73 MD: 6661.00 ft  
Inc: 2.89 deg Az:  
270.40 deg TVD:  
6511.42 ft

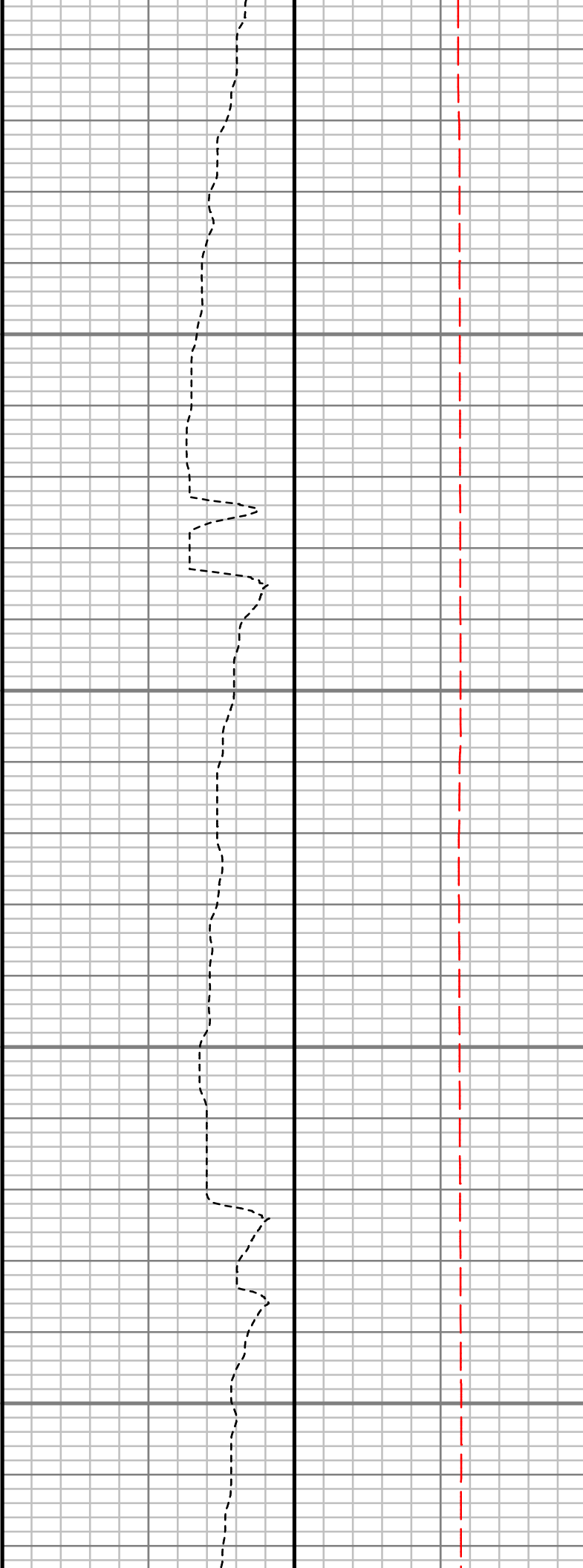
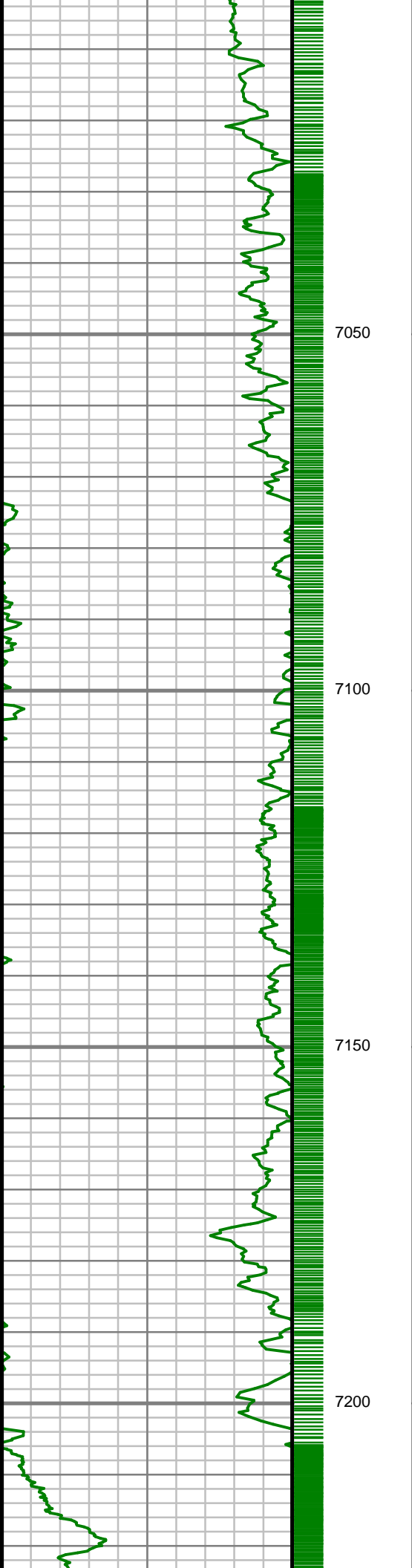
S: 74 MD: 6750.00 ft  
Inc: 15.40 deg Az:  
268.30 deg TVD:  
6599.11 ft





S: 75 MD: 6839.00 ft  
Inc: 17.87 deg Az:  
269.67 deg TVD:  
6684.38 ft

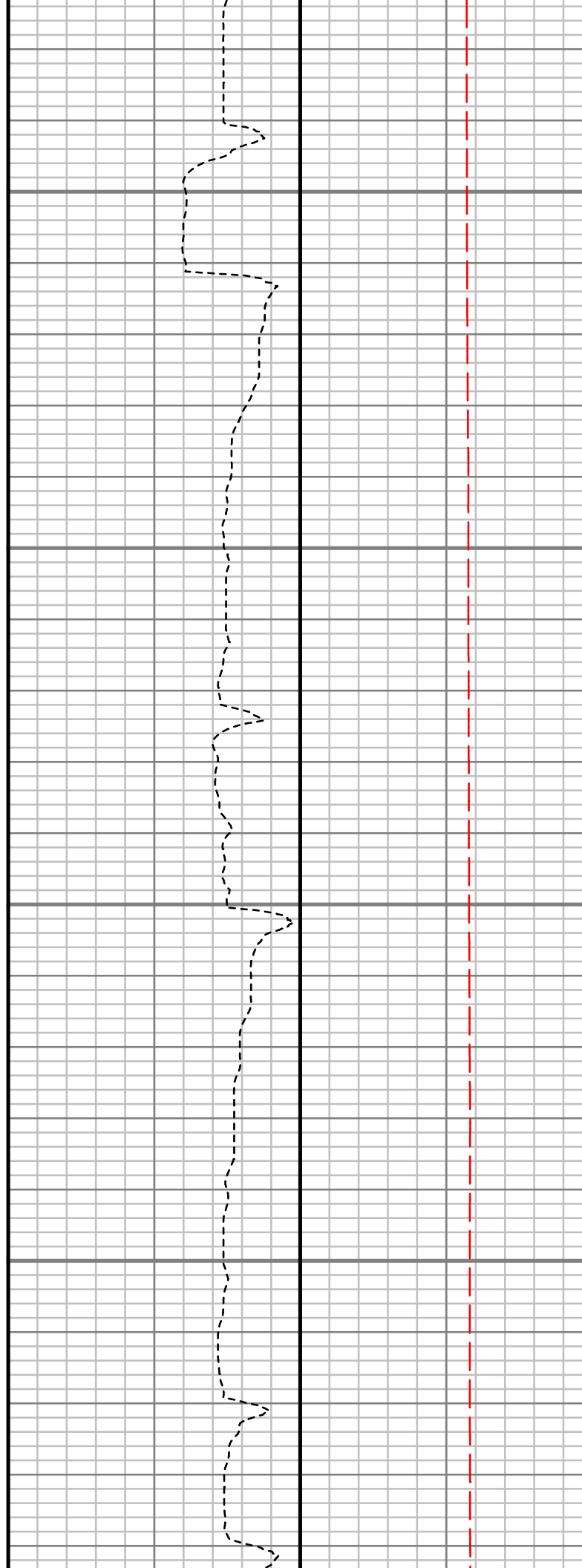
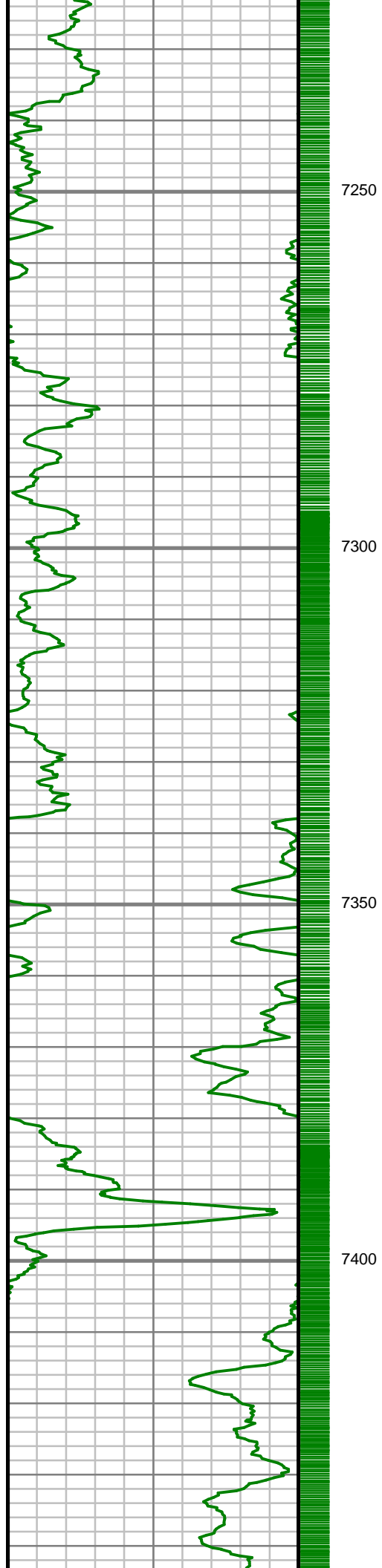
S: 76 MD: 6927.00 ft  
Inc: 21.15 deg Az:  
269.14 deg TVD:  
6767.32 ft



S: 77 MD: 7016.00 ft  
Inc: 27.81 deg Az:  
267.82 deg TVD:  
6848.27 ft

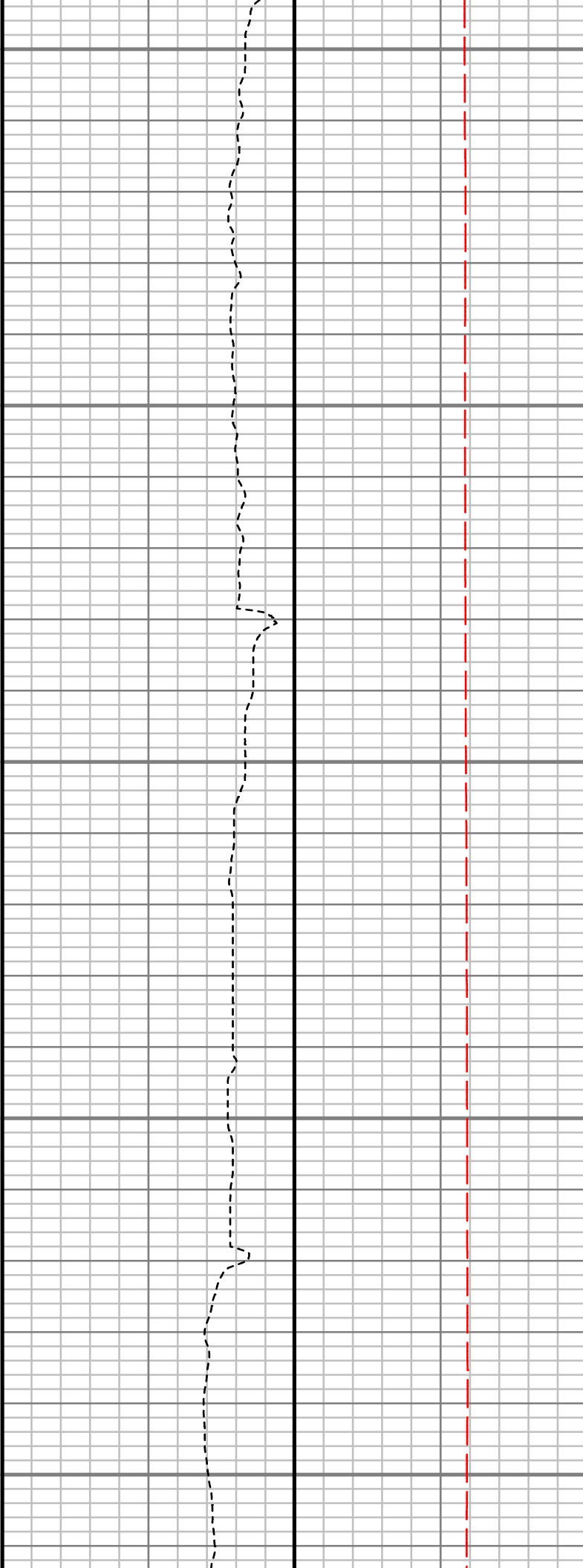
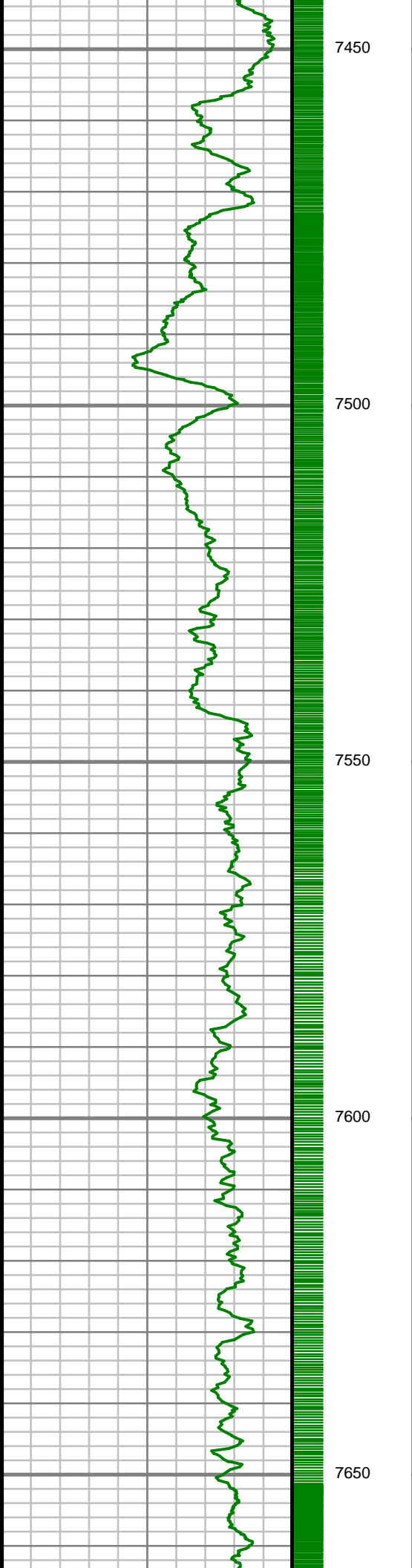
S: 78 MD: 7104.00 ft  
Inc: 36.01 deg Az:  
275.19 deg TVD:  
6922.94 ft

S: 79 MD: 7193.00 ft  
Inc: 47.22 deg Az:  
279.51 deg TVD:  
6989.38 ft



S: 80 MD: 7282.00 ft  
Inc: 54.47 deg Az:  
273.23 deg TVD:  
7045.58 ft

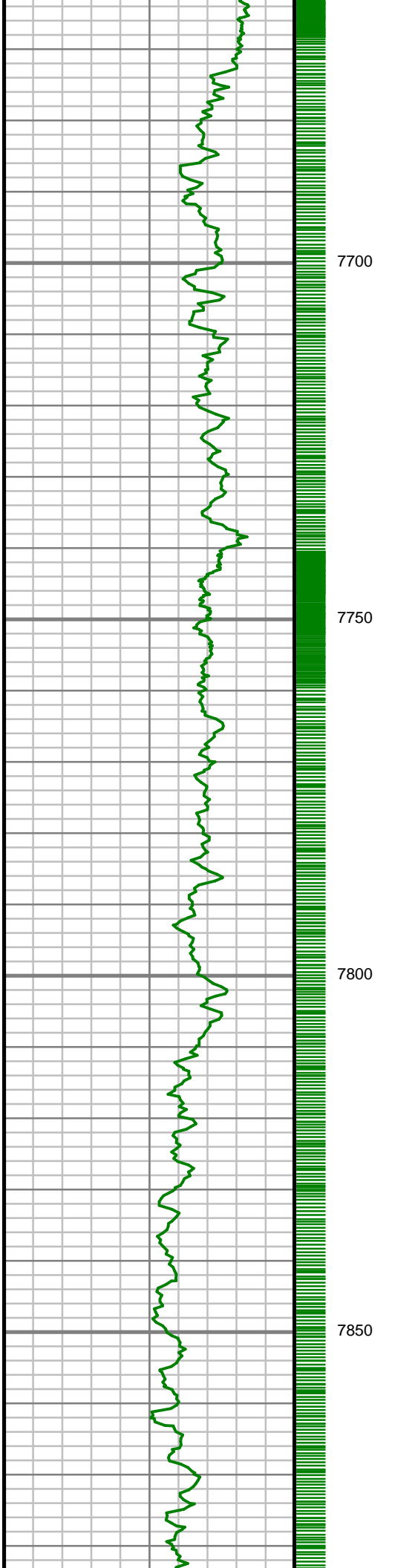
S: 81 MD: 7371.00 ft  
Inc: 61.64 deg Az:  
269.14 deg TVD:  
7092.65 ft



S: 82 MD: 7460.00 ft  
Inc: 71.10 deg Az:  
268.12 deg TVD:  
7128.28 ft

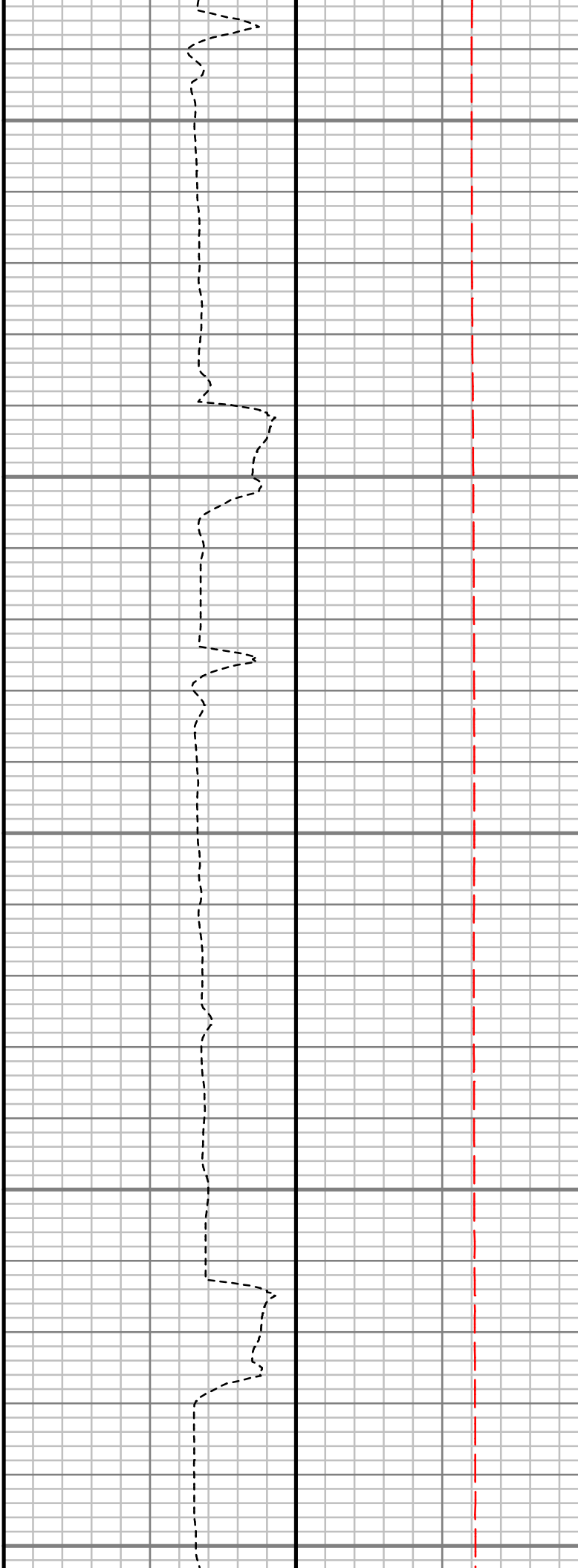
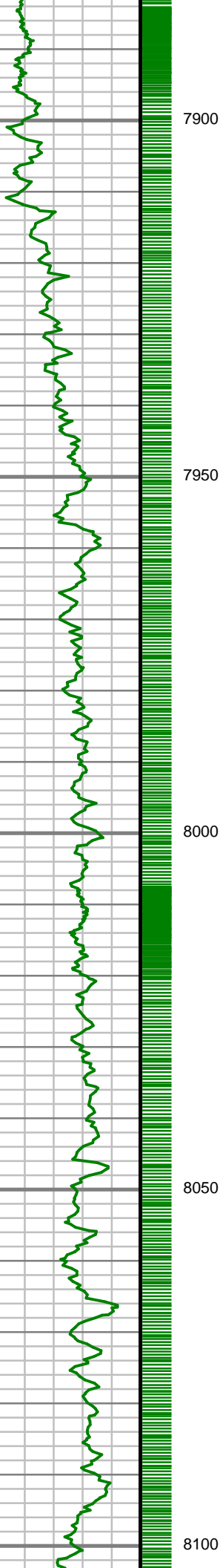
S: 83 MD: 7549.00 ft  
Inc: 83.40 deg Az:  
266.92 deg TVD:  
7147.89 ft

S: 84 MD: 7638.00 ft  
Inc: 93.83 deg Az:  
262.89 deg TVD:  
7150.04 ft



S: 85 MD: 7726.00 ft  
Inc: 92.19 deg Az:  
263.98 deg TVD:  
7145.42 ft

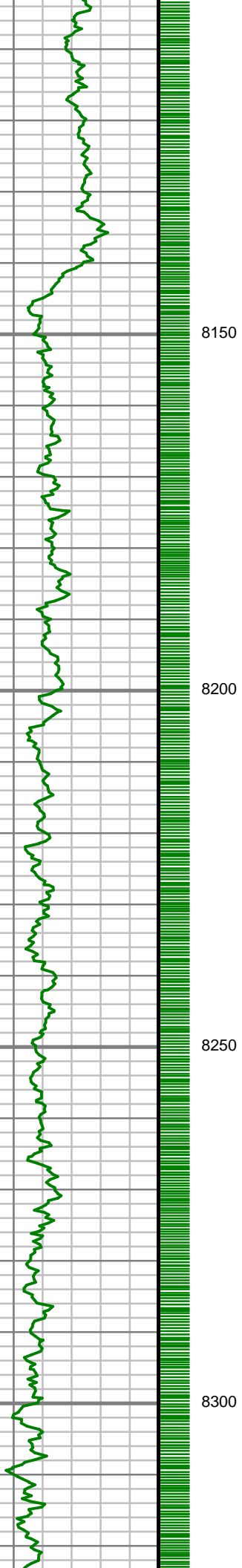
S: 86 MD: 7815.00 ft  
Inc: 91.35 deg Az:  
266.32 deg TVD:  
7142.67 ft



S: 87 MD: 7903.00 ft  
Inc: 91.31 deg Az:  
266.31 deg TVD:  
7140.62 ft

S: 88 MD: 7992.00 ft  
Inc: 90.31 deg Az:  
267.01 deg TVD:  
7139.37 ft

S: 89 MD: 8081.00 ft  
Inc: 89.37 deg Az:  
268.83 deg TVD:  
7139.62 ft

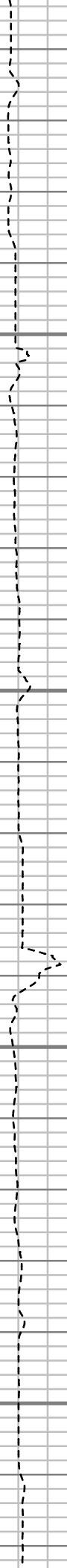


8150

8200

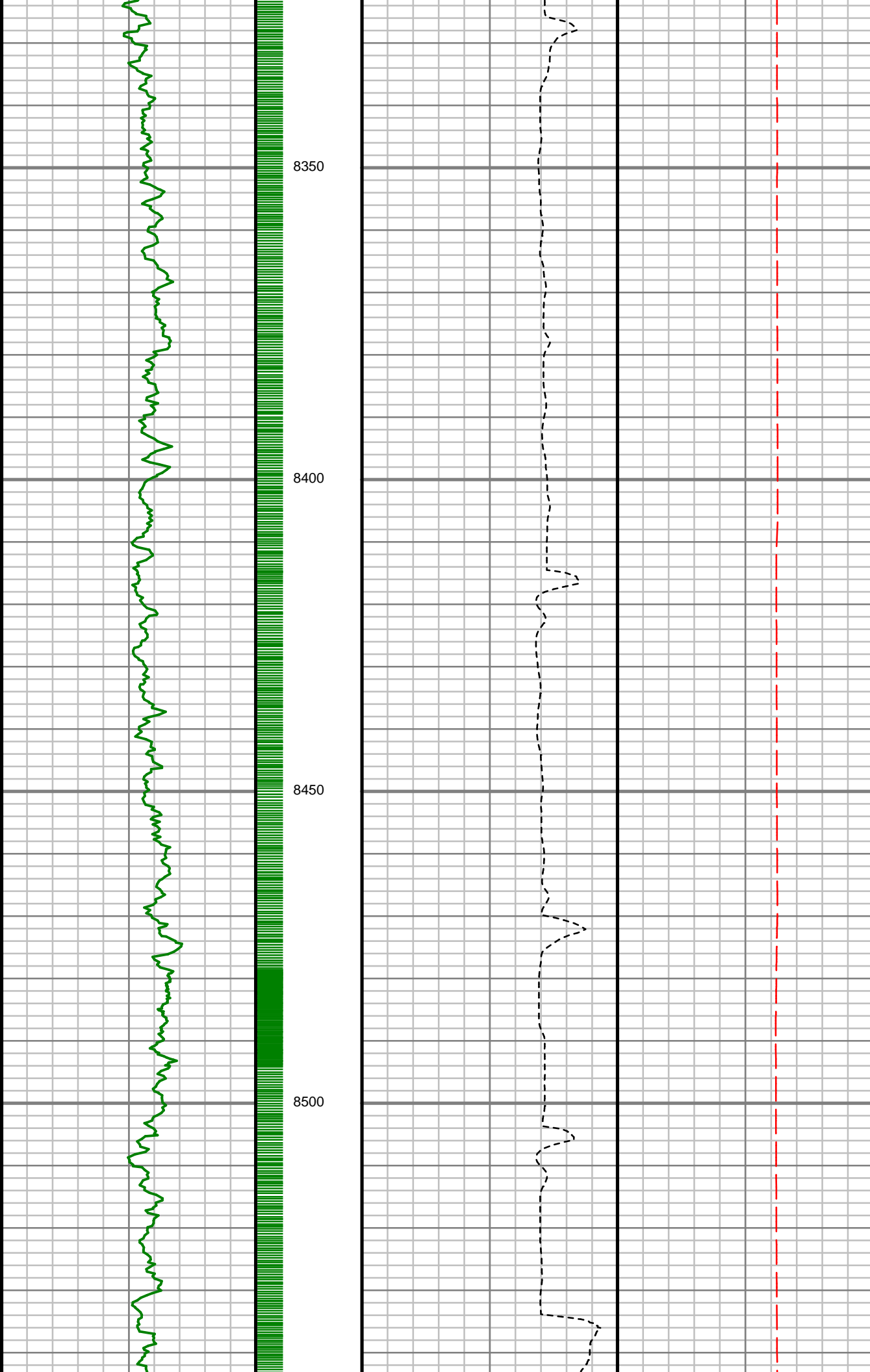
8250

8300



S: 90 MD: 8170.00 ft  
Inc: 89.77 deg Az:  
268.82 deg TVD:  
7140.28 ft

S: 91 MD: 8259.00 ft  
Inc: 89.67 deg Az:  
268.41 deg TVD:  
7140.72 ft

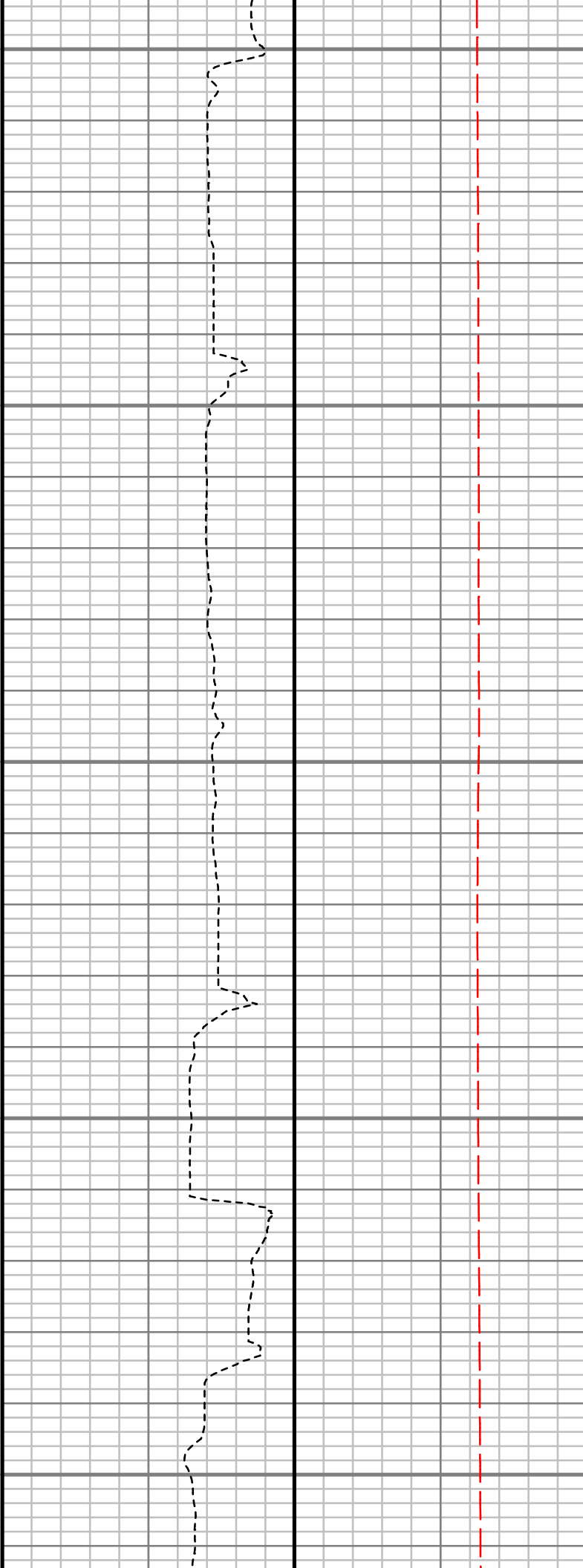
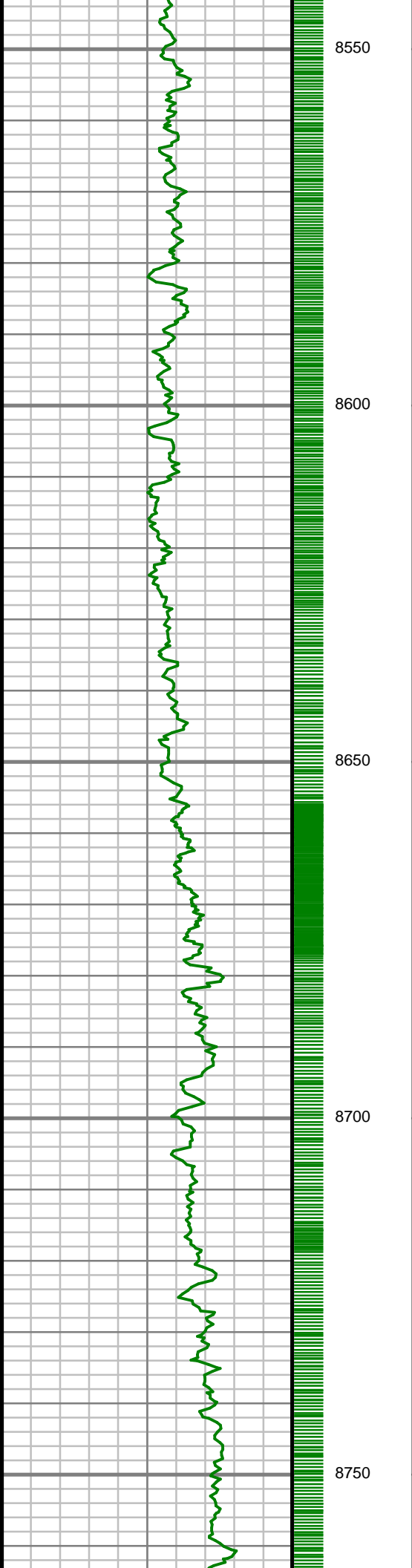


S: 92 MD: 8348.00 ft  
Inc: 89.94 deg Az:  
268.31 deg TVD:  
7141.02 ft

S: 93 MD: 8436.00 ft  
Inc: 90.61 deg Az:  
267.75 deg TVD:  
7140.60 ft

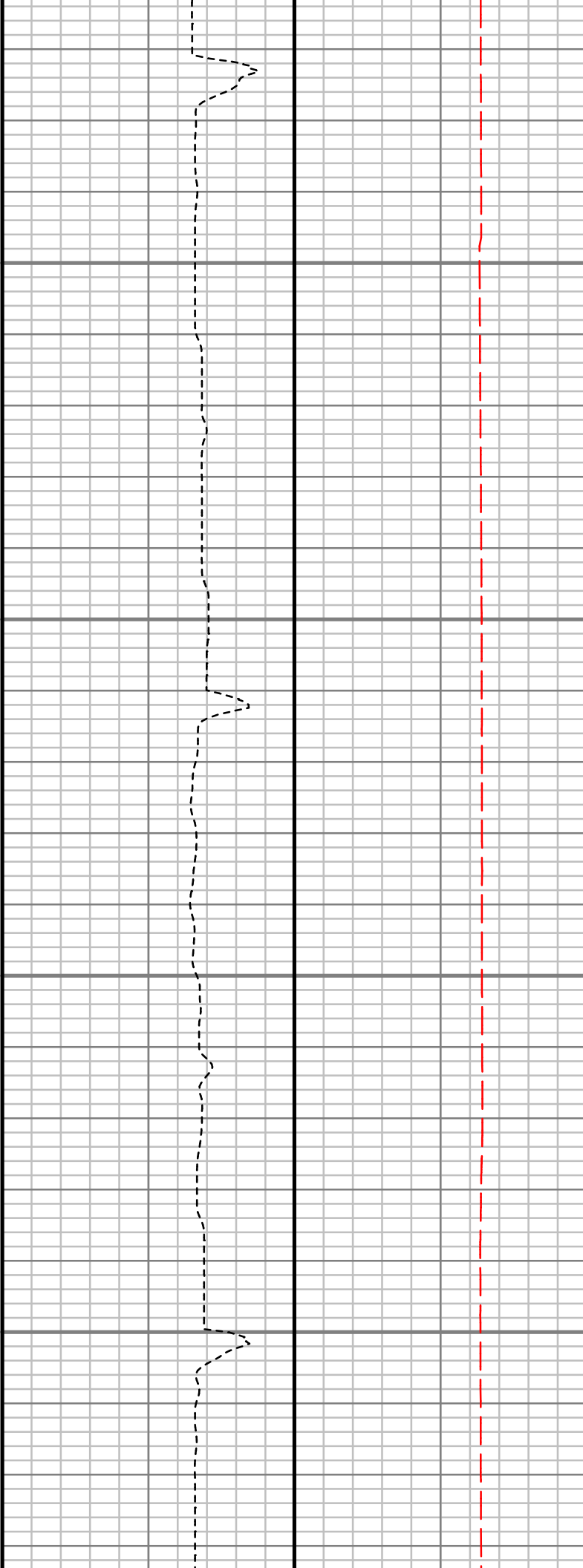
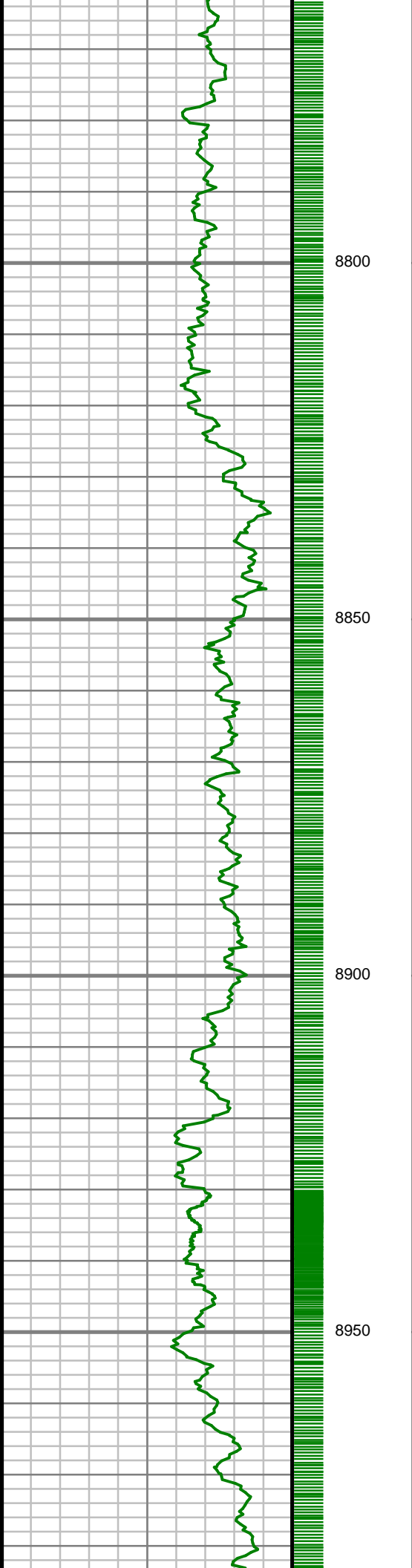
S: 94 MD: 8525.00 ft  
Inc: 90.64 deg Az:  
267.31 deg TVD:  
7139.63 ft





S: 95 MD: 8614.00 ft  
Inc: 89.53 deg Az:  
268.57 deg TVD:  
7139.50 ft

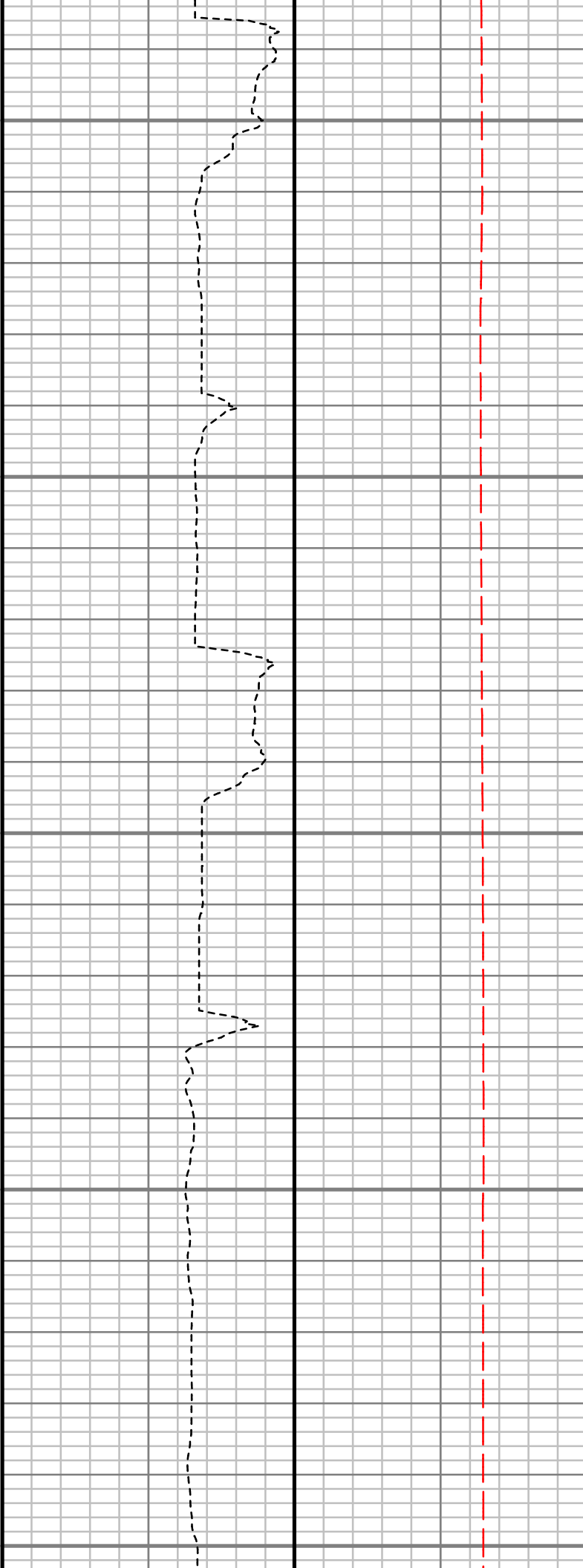
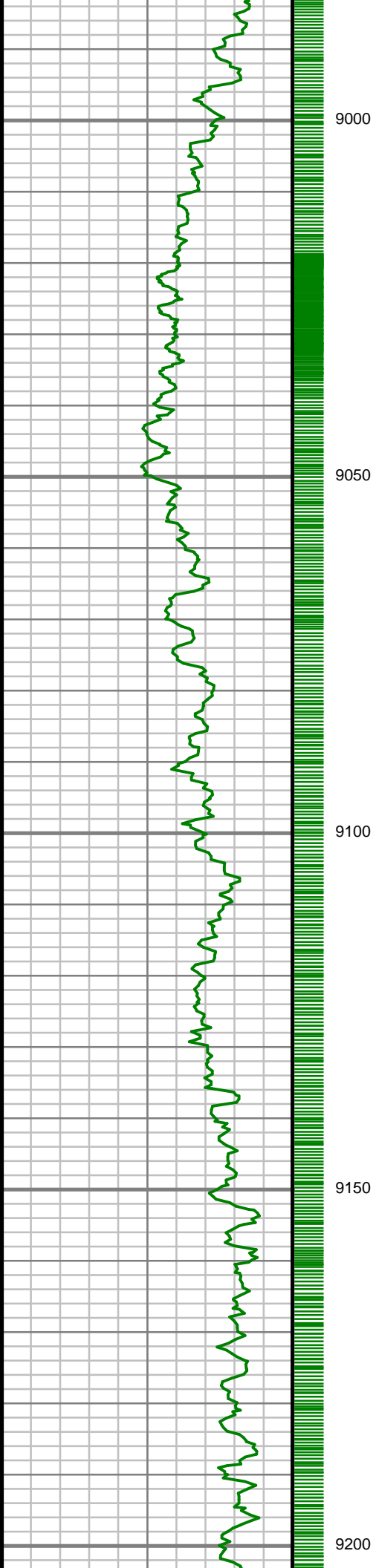
S: 96 MD: 8703.00 ft  
Inc: 89.43 deg Az:  
268.42 deg TVD:  
7140.30 ft



S: 97 MD: 8792.00 ft  
Inc: 87.96 deg Az:  
270.60 deg TVD:  
7142.33 ft

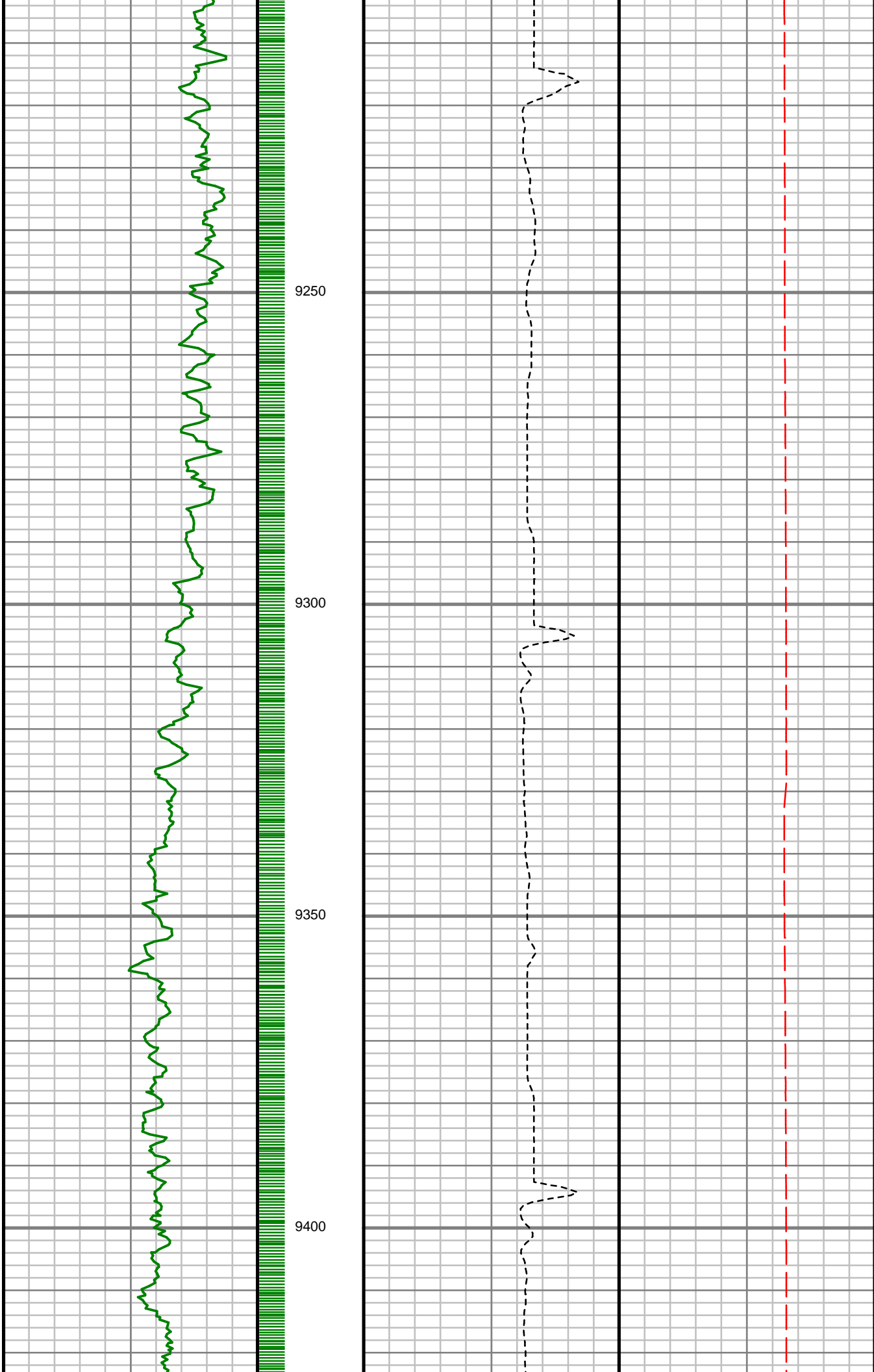
S: 98 MD: 8881.00 ft  
Inc: 87.59 deg Az:  
270.20 deg TVD:  
7145.79 ft

S: 99 MD: 8970.00 ft  
Inc: 87.45 deg Az:  
269.88 deg TVD:  
7149.64 ft



S: 100 MD: 9058.00 ft  
Inc: 88.49 deg Az:  
270.33 deg TVD:  
7152.75 ft

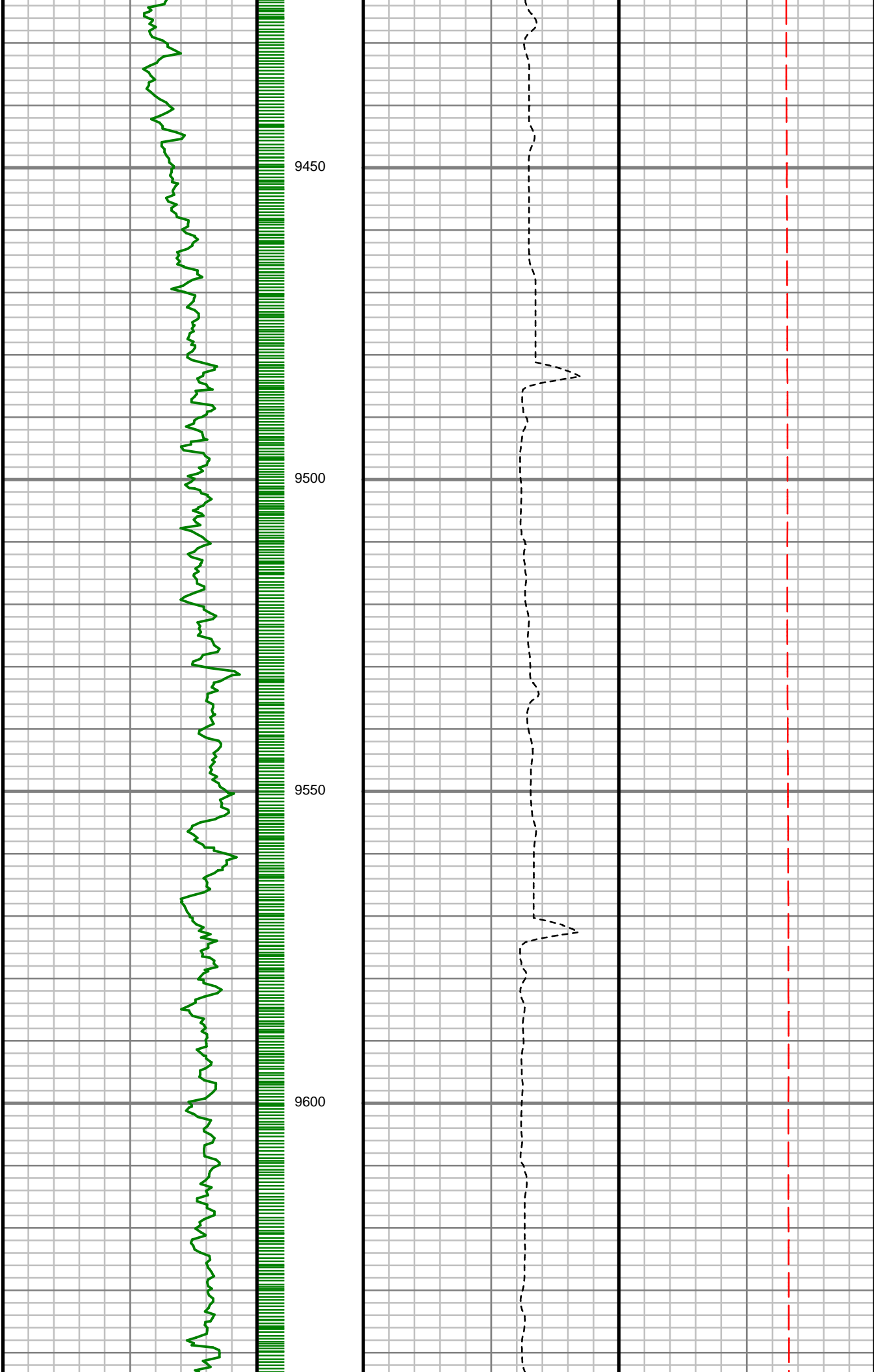
S: 101 MD: 9147.00 ft  
Inc: 89.23 deg Az:  
271.35 deg TVD:  
7154.53 ft



S: 102 MD: 9236.00 ft  
Inc: 89.84 deg Az:  
270.89 deg TVD:  
7155.25 ft

S: 103 MD: 9325.00 ft  
Inc: 90.01 deg Az:  
270.17 deg TVD:  
7155.36 ft

S: 104 MD: 9414.00 ft  
Inc: 90.51 deg Az:  
268.54 deg TVD:  
7154.96 ft



9450

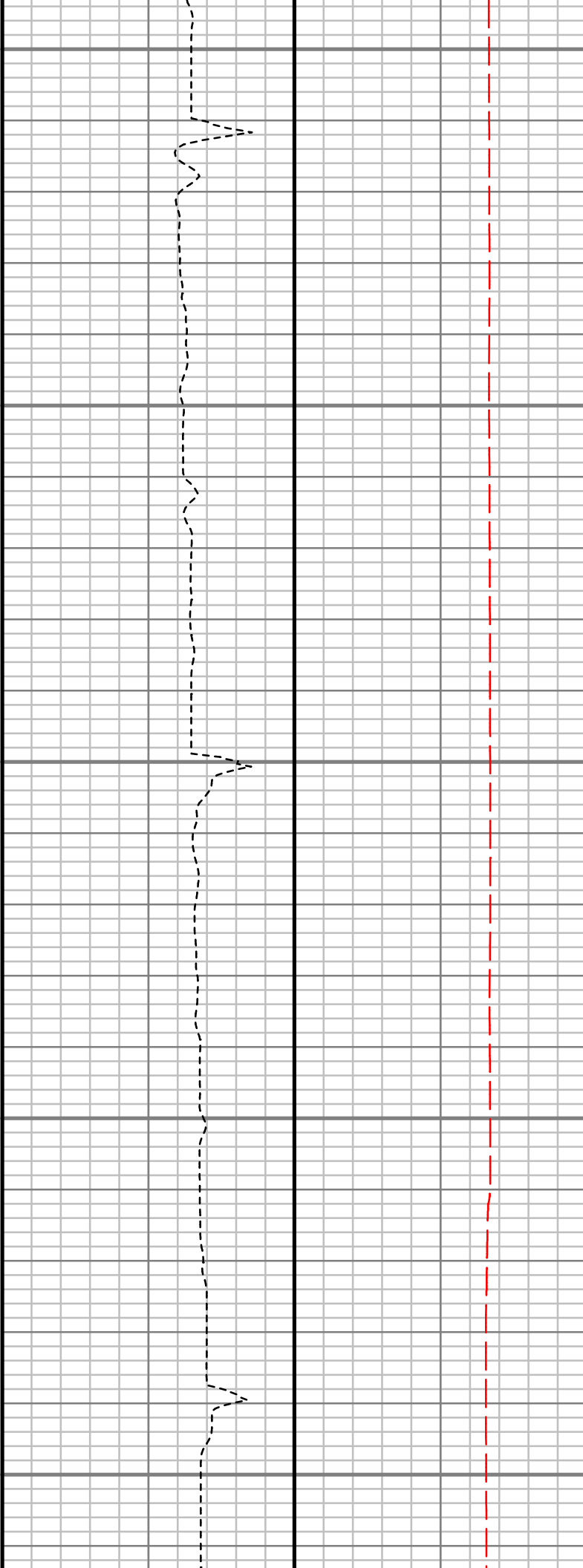
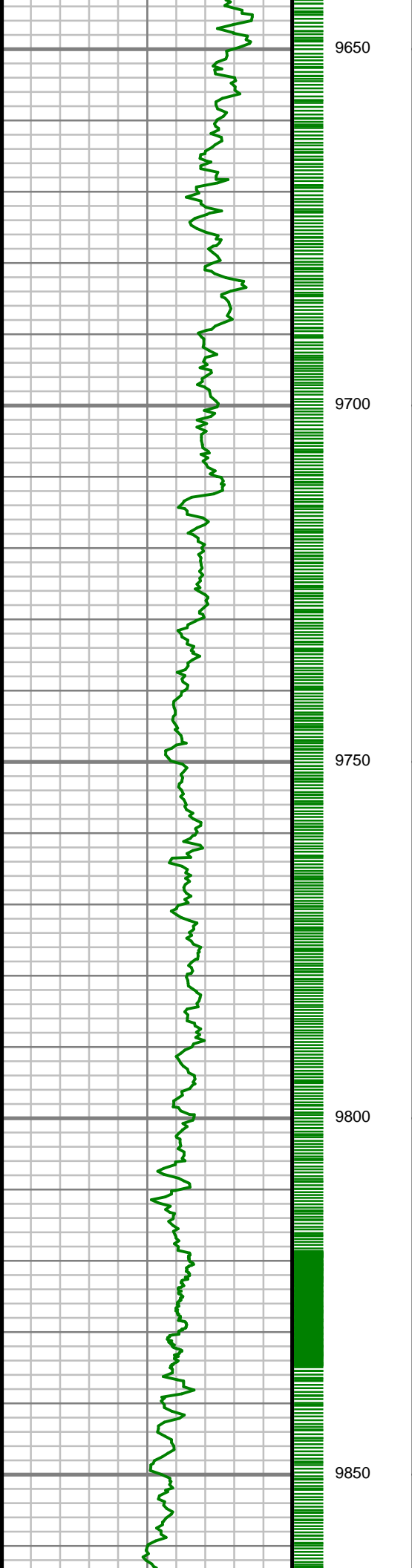
9500

9550

9600

S: 105 MD: 9503.00 ft  
Inc: 91.18 deg Az:  
267.84 deg TVD:  
7153.65 ft

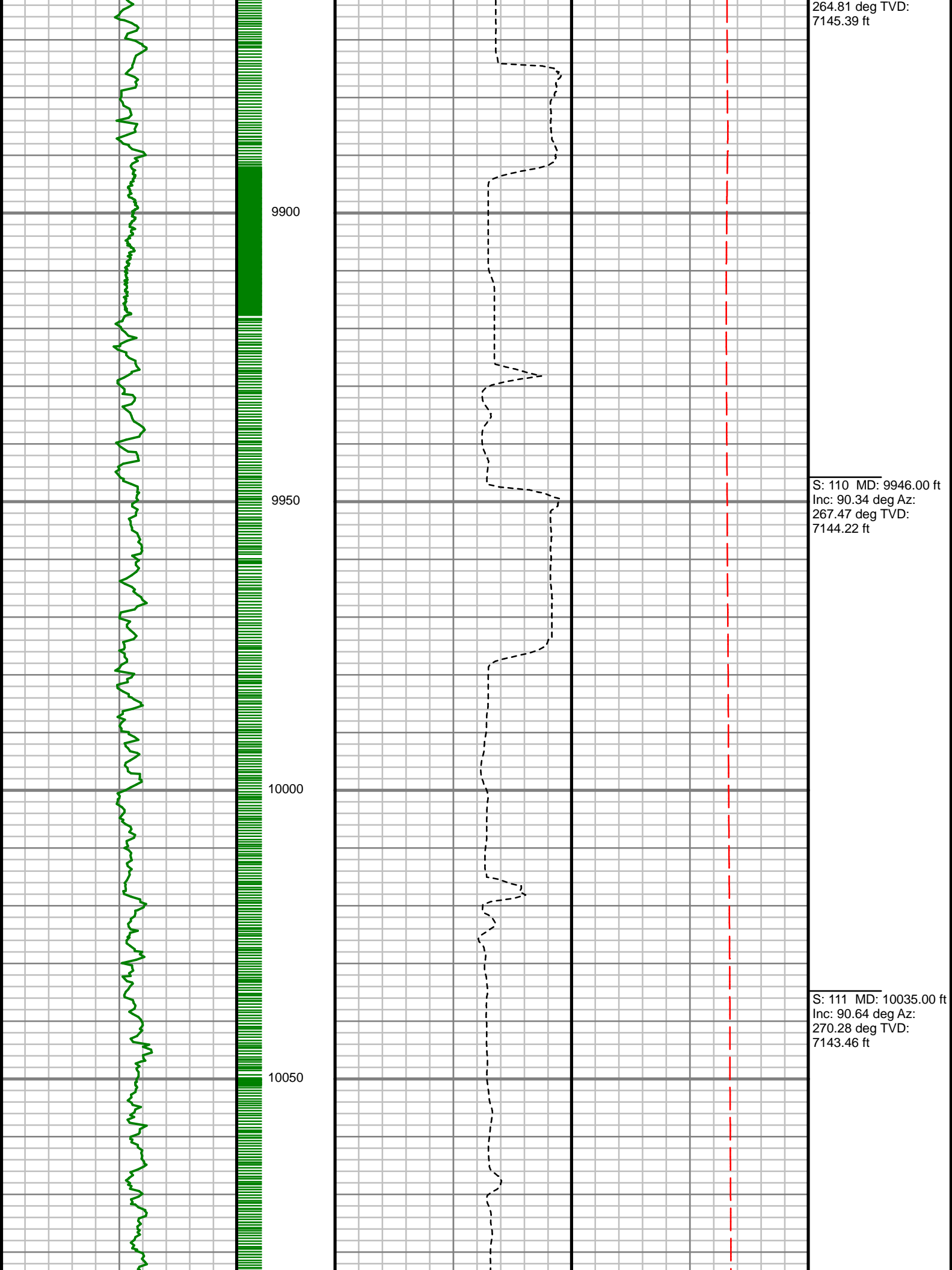
S: 106 MD: 9591.00 ft  
Inc: 91.52 deg Az:  
267.10 deg TVD:  
7151.57 ft

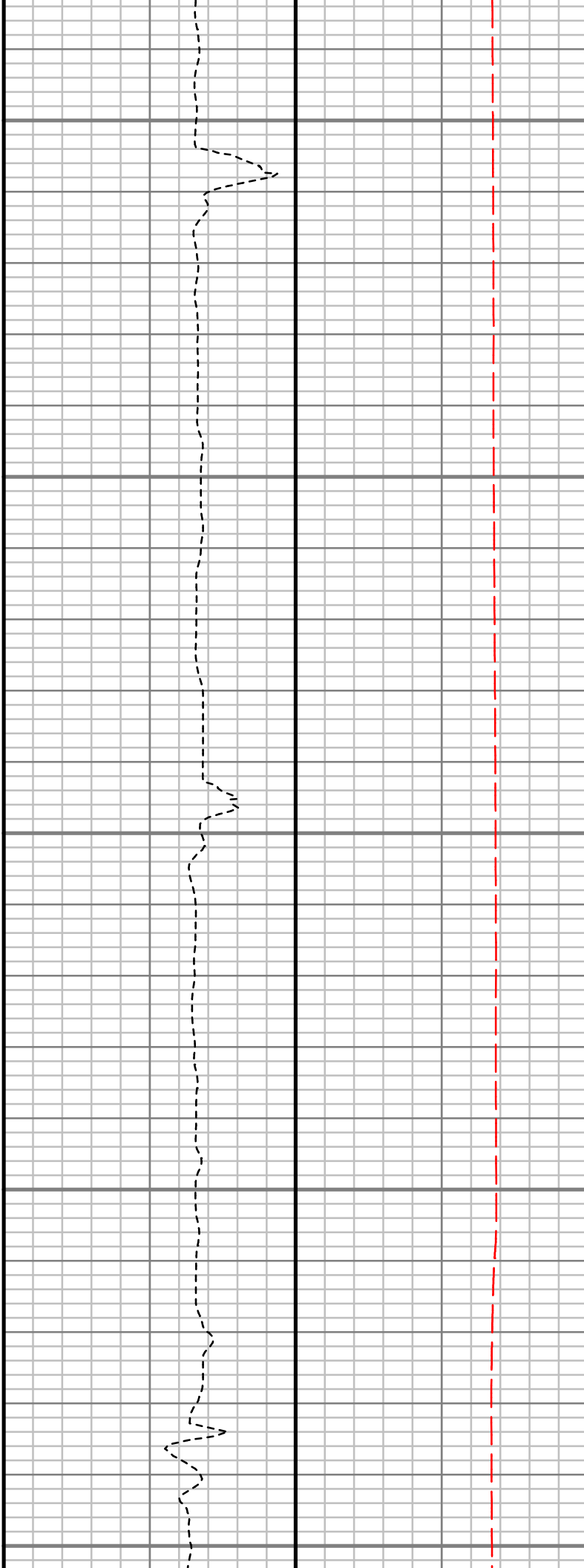
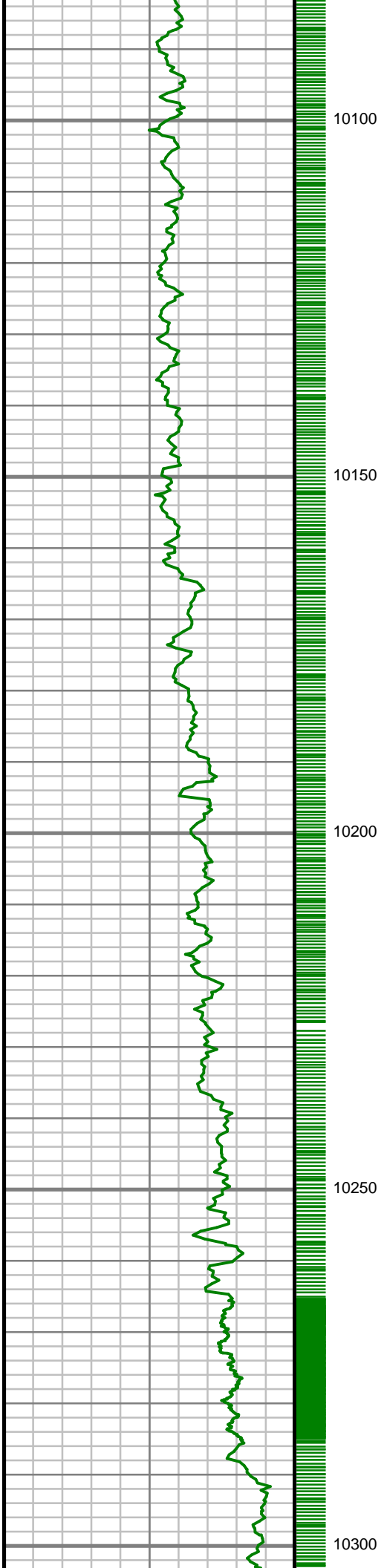


S: 107 MD: 9680.00 ft  
Inc: 91.72 deg Az:  
266.38 deg TVD:  
7149.06 ft

S: 108 MD: 9769.00 ft  
Inc: 90.91 deg Az:  
265.42 deg TVD:  
7147.02 ft

S: 109 MD: 9858.00 ft  
Inc: 91.18 deg Az:

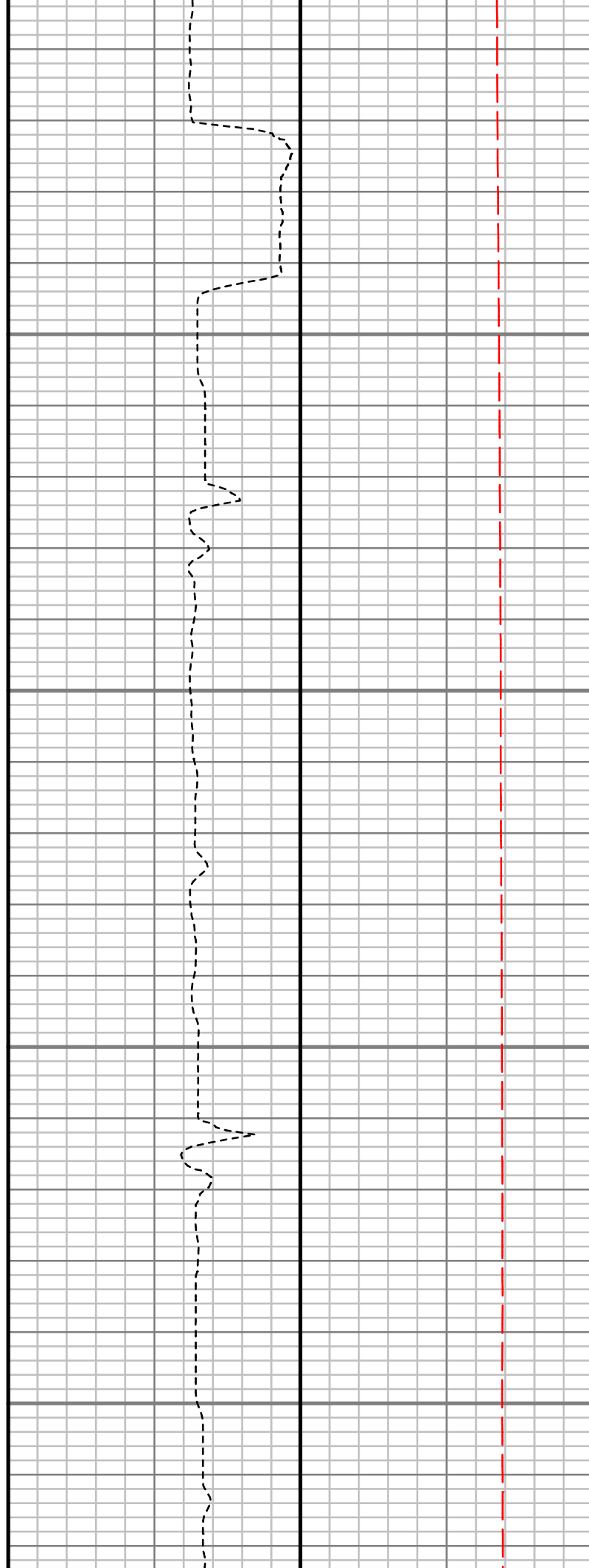
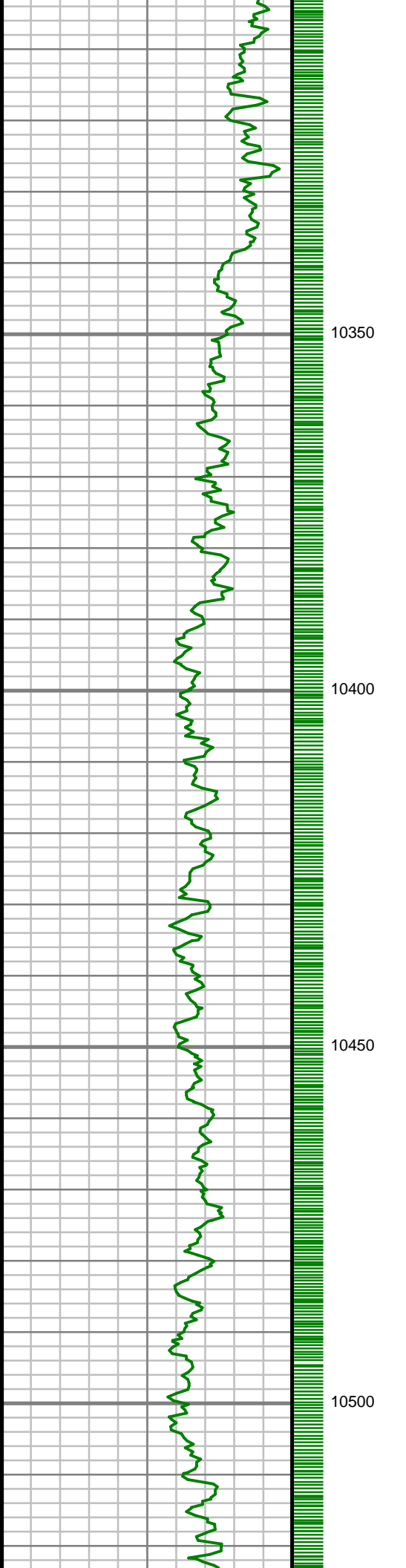




S: 112 MD: 10213.00 ft  
Inc: 90.74 deg Az:  
269.70 deg TVD:  
7141.32 ft

S: 113 MD: 10301.00 ft

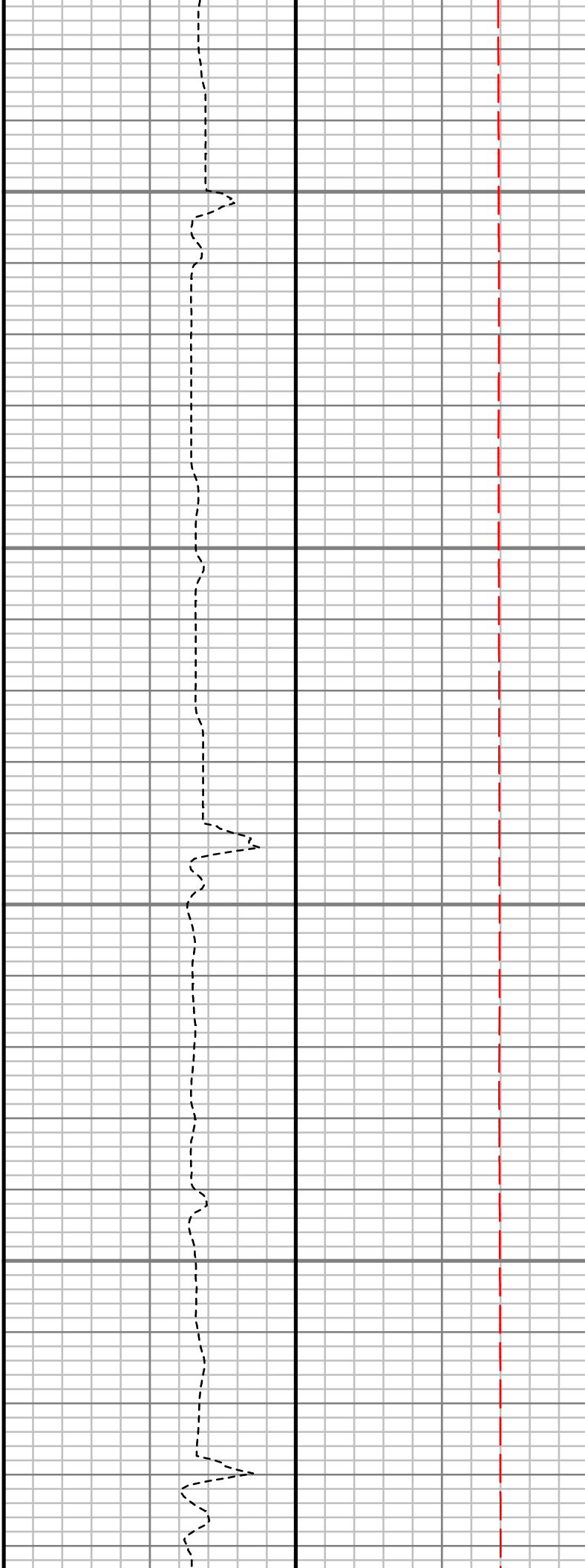
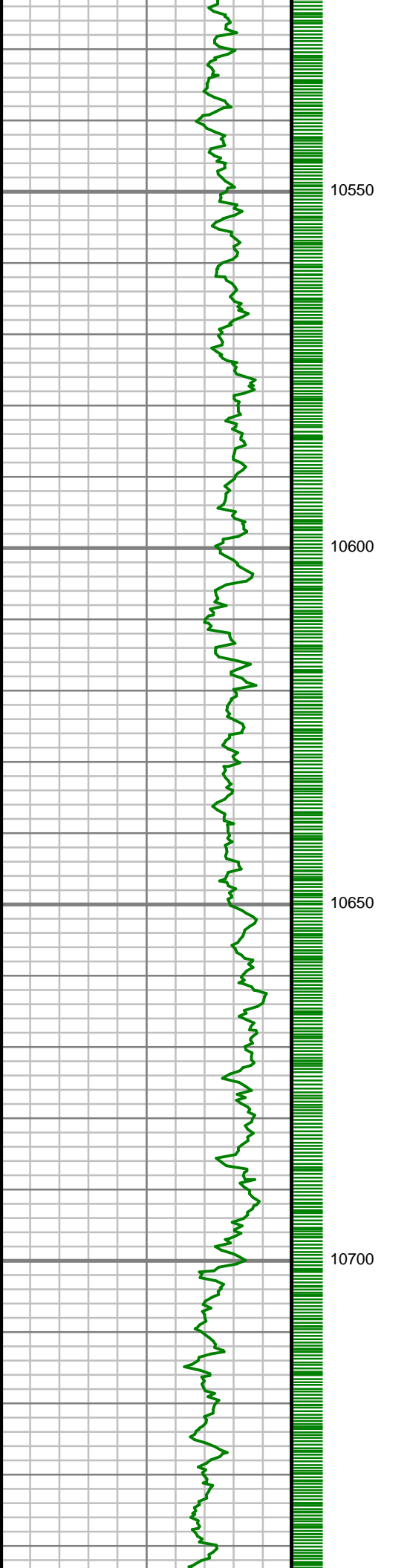




Inc: 91.25 deg Az:  
269.73 deg TVD:  
7139.79 ft

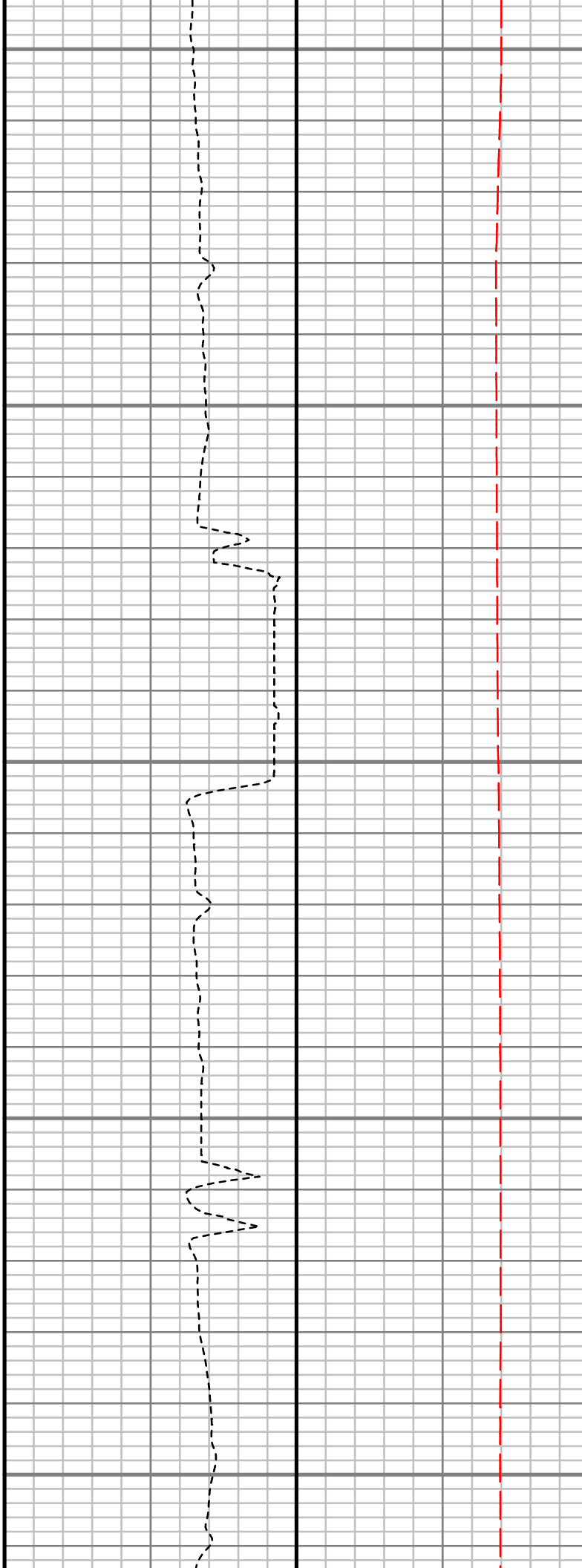
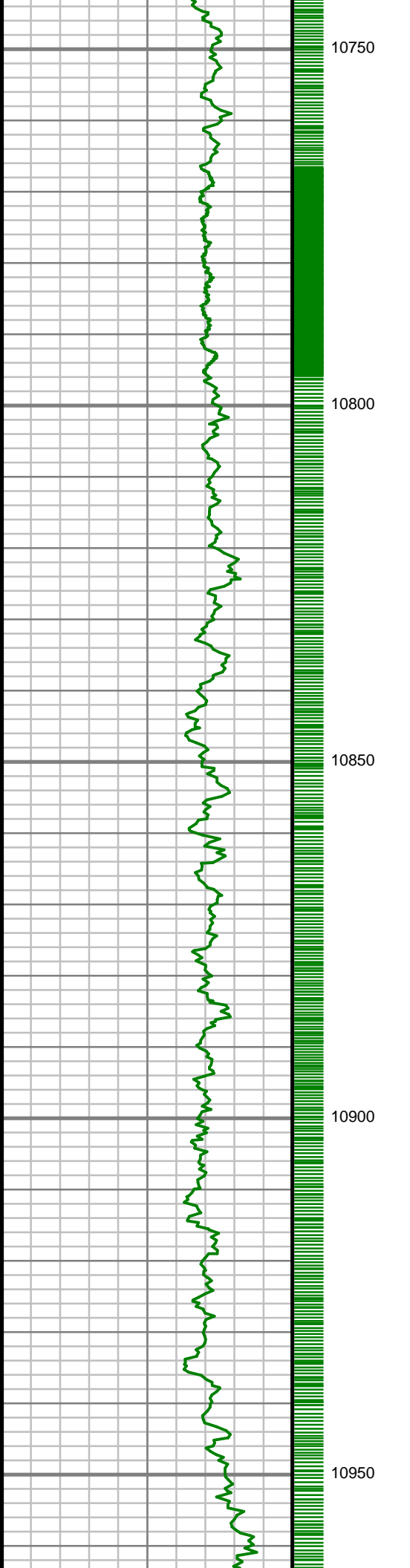
S: 114 MD: 10391.00 ft  
Inc: 91.15 deg Az:  
271.29 deg TVD:  
7137.91 ft

S: 115 MD: 10480.00 ft  
Inc: 91.18 deg Az:  
271.42 deg TVD:  
7136.10 ft



S: 116 MD: 10569.00 ft  
Inc: 91.65 deg Az:  
271.22 deg TVD:  
7133.90 ft

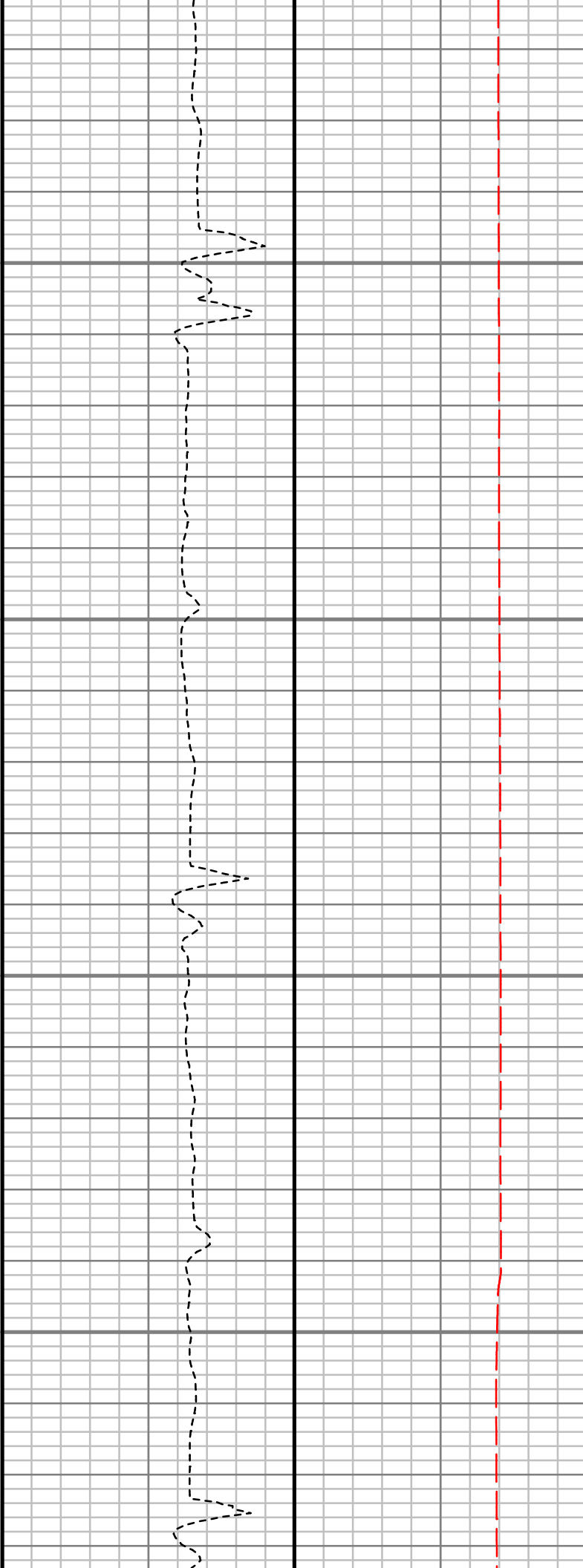
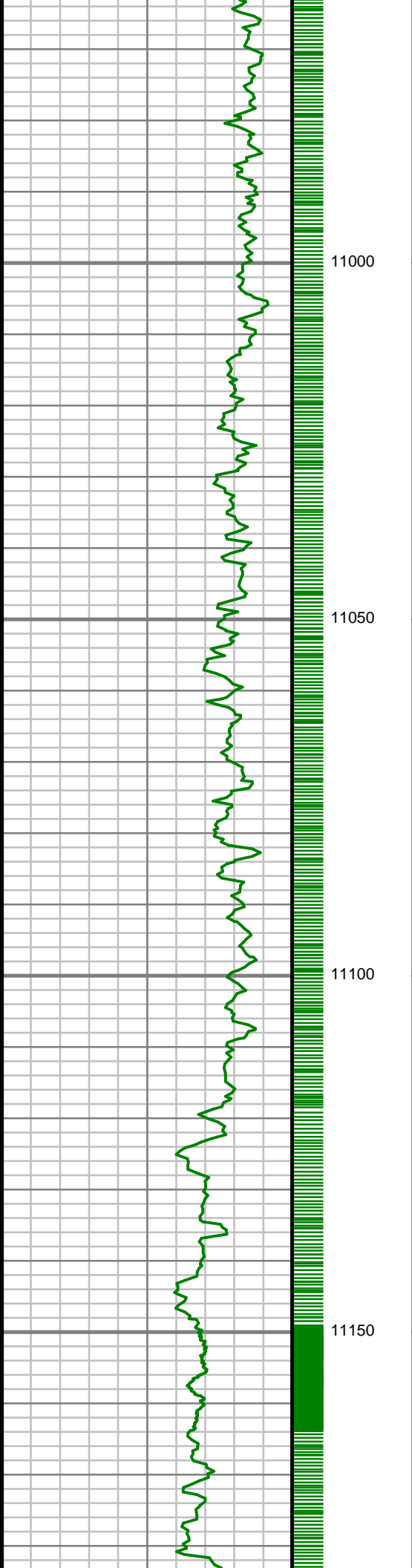
S: 117 MD: 10657.00 ft  
Inc: 91.65 deg Az:  
271.09 deg TVD:  
7131.37 ft



S: 118 MD: 10746.00 ft  
Inc: 91.68 deg Az:  
271.23 deg TVD:  
7128.78 ft

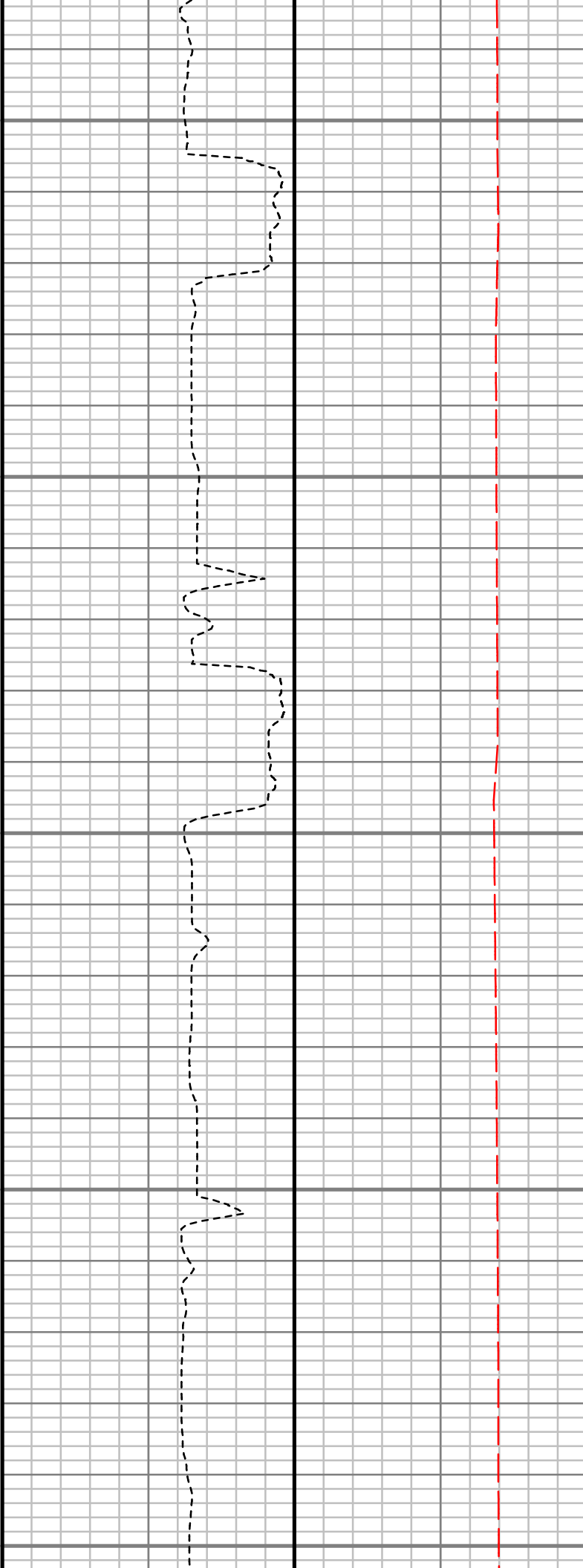
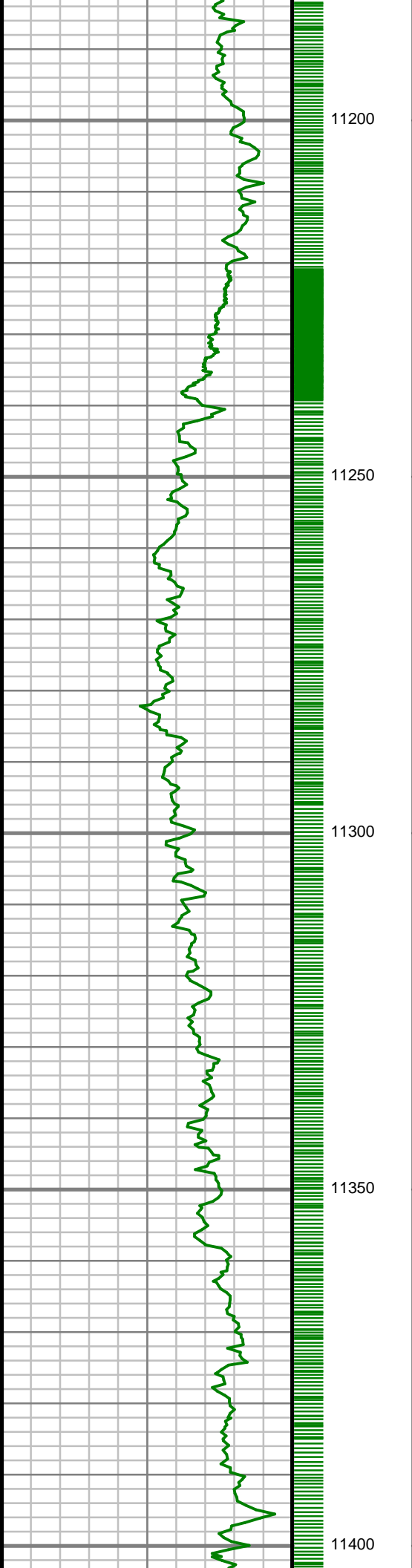
S: 119 MD: 10836.00 ft  
Inc: 88.86 deg Az:  
270.63 deg TVD:  
7128.36 ft

S: 120 MD: 10924.00 ft  
Inc: 88.86 deg Az:  
270.65 deg TVD:  
7130.11 ft



S: 121 MD: 11013.00 ft  
Inc: 88.56 deg Az:  
270.23 deg TVD:  
7132.11 ft

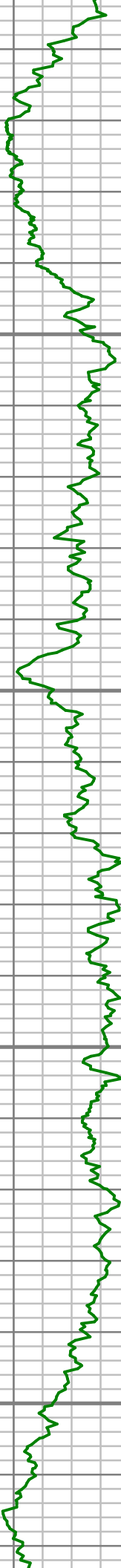
S: 122 MD: 11102.00 ft  
Inc: 88.19 deg Az:  
269.96 deg TVD:  
7134.63 ft



S: 123 MD: 11191.00 ft  
Inc: 87.82 deg Az:  
269.40 deg TVD:  
7137.73 ft

S: 124 MD: 11280.00 ft  
Inc: 89.00 deg Az:  
269.34 deg TVD:  
7140.20 ft

S: 125 MD: 11369.00 ft  
Inc: 89.06 deg Az:  
268.93 deg TVD:  
7141.71 ft



11450

11500

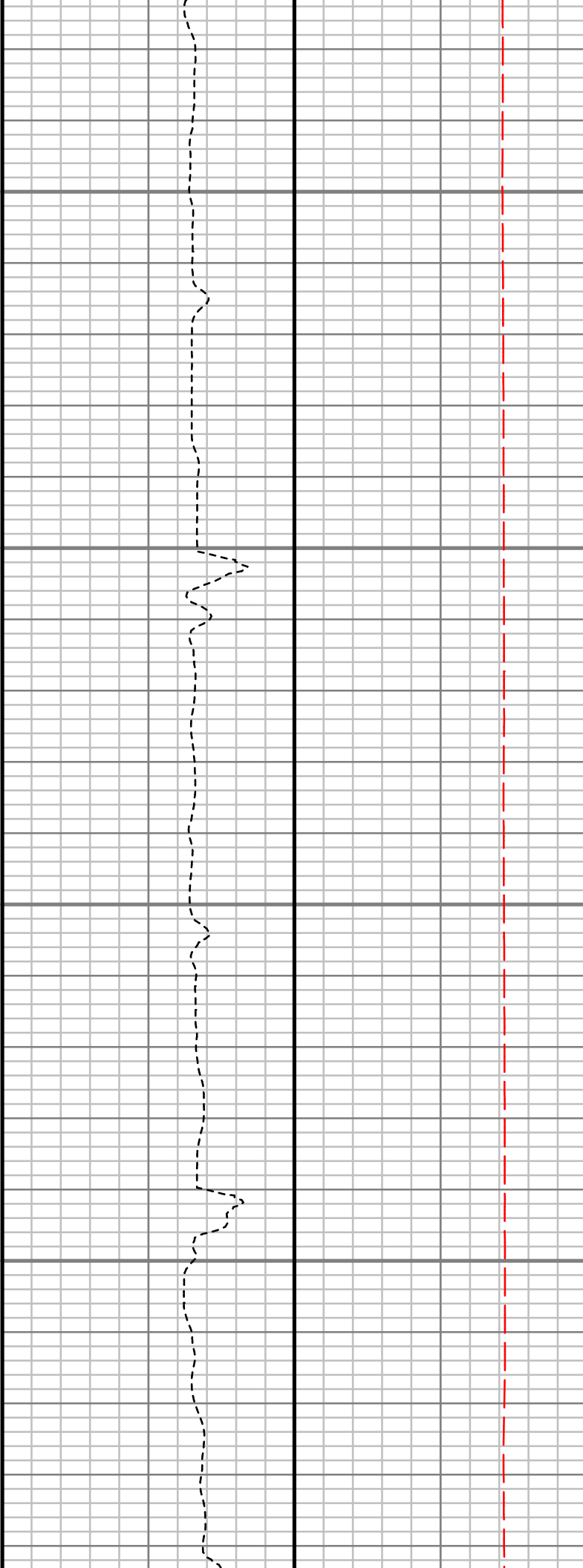
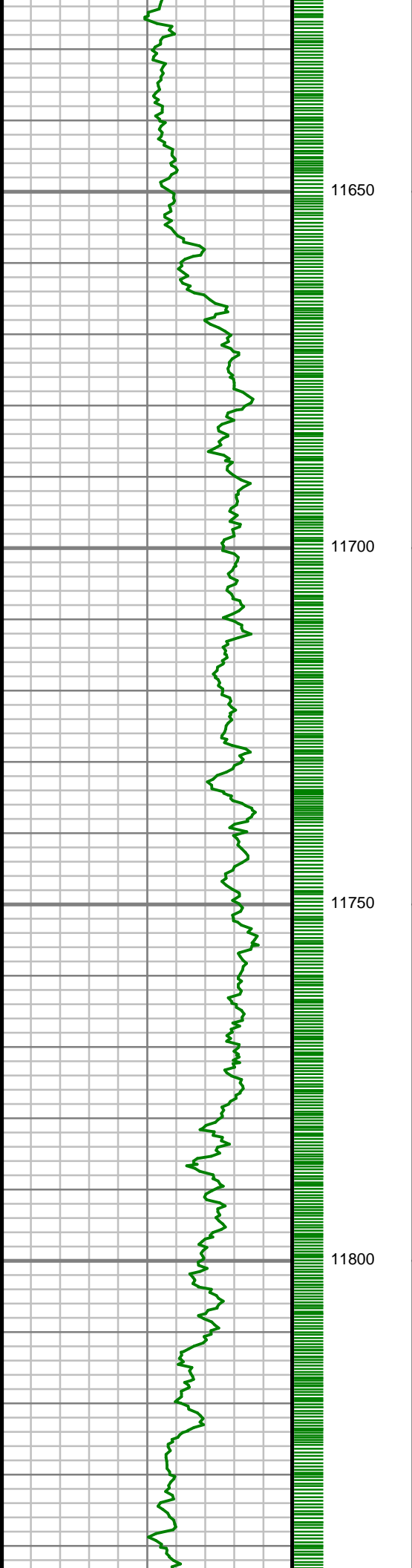
11550

11600



S: 126 MD: 11457.00 ft  
Inc: 89.30 deg Az:  
268.43 deg TVD:  
7142.97 ft

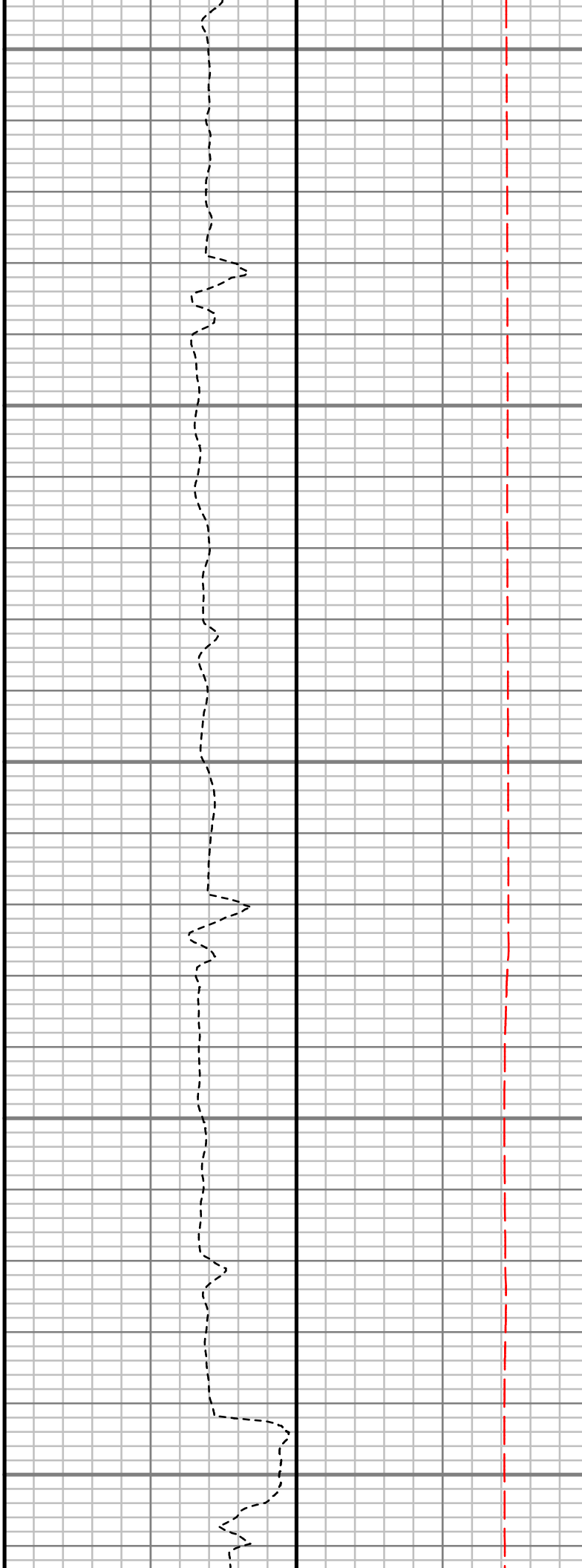
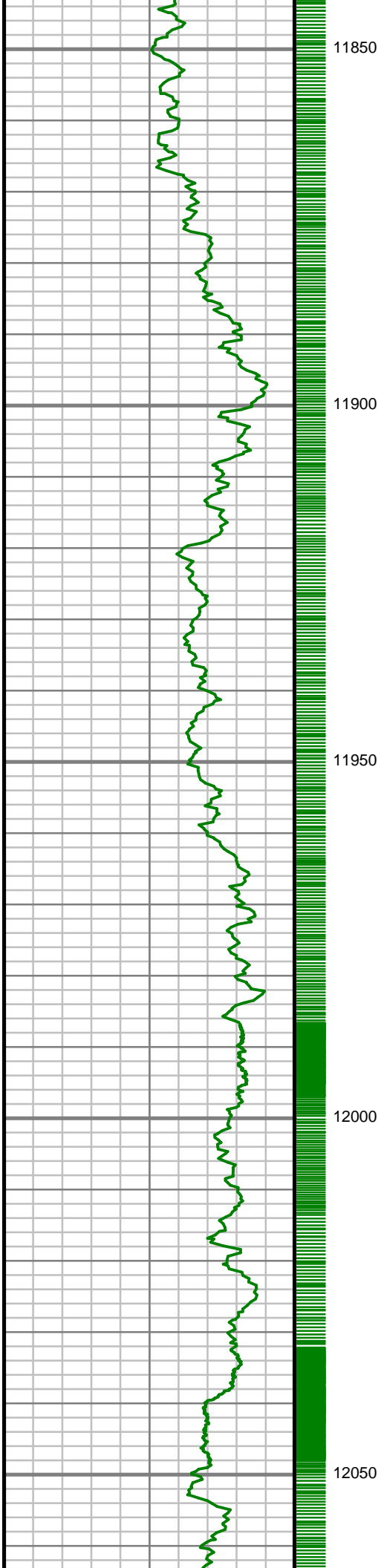
S: 127 MD: 11546.00 ft  
Inc: 90.31 deg Az:  
271.21 deg TVD:  
7143.27 ft



S: 128 MD: 11635.00 ft  
Inc: 91.11 deg Az:  
271.83 deg TVD:  
7142.17 ft

S: 129 MD: 11724.00 ft  
Inc: 91.52 deg Az:  
271.80 deg TVD:  
7140.13 ft

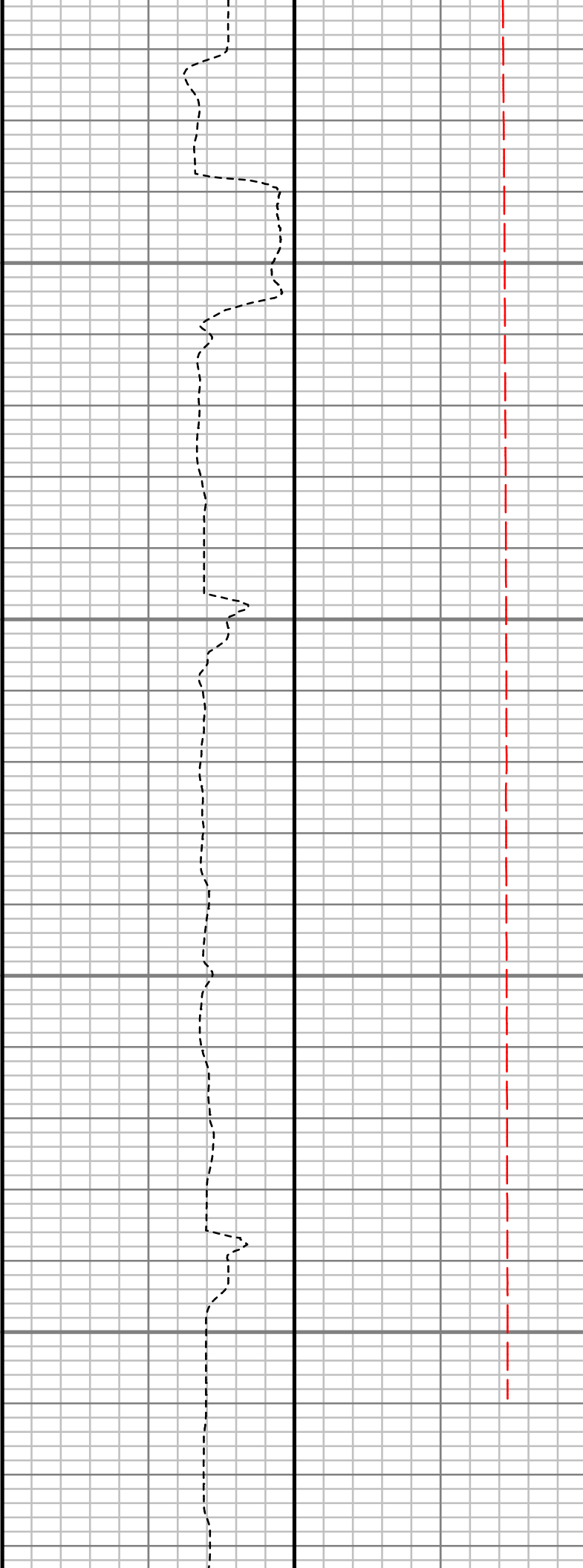
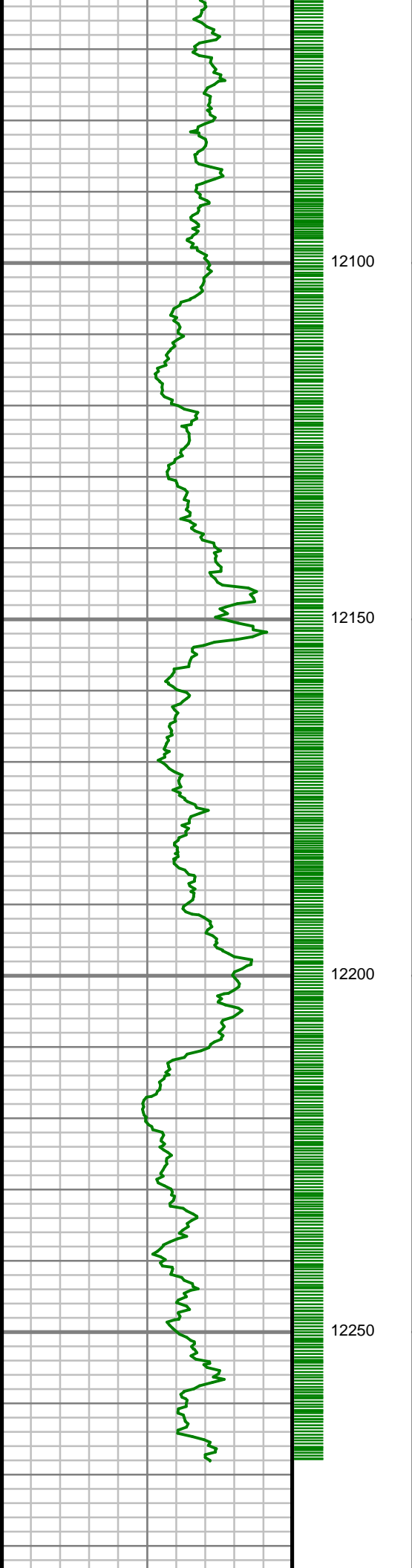
S: 130 MD: 11813.00 ft  
Inc: 91.88 deg Az:  
271.76 deg TVD:  
7137.49 ft



S: 131 MD: 11902.00 ft  
Inc: 92.59 deg Az:  
271.11 deg TVD:  
7134.01 ft

S: 132 MD: 11991.00 ft  
Inc: 93.33 deg Az:  
271.07 deg TVD:  
7129.42 ft

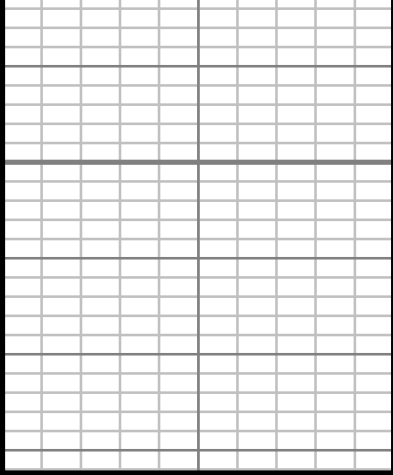




S: 133 MD: 12080.00 ft  
Inc: 93.20 deg Az:  
269.33 deg TVD:  
7124.35 ft

S: 134 MD: 12169.00 ft  
Inc: 93.00 deg Az:  
267.16 deg TVD:  
7119.54 ft

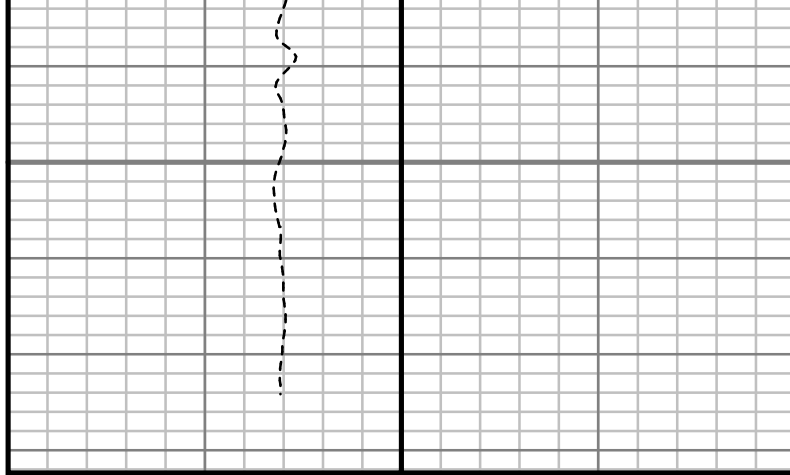
S: 135 MD: 12257.00 ft  
Inc: 93.70 deg Az:  
266.67 deg TVD:  
7114.39 ft



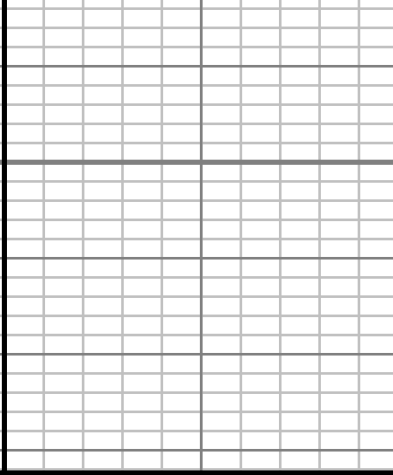
Gamma Ray (GR)		
0	Unit = aapi	150

12300

MEASURED DEPTH  
1,240 (ft)



Rate of Penetration (ROP)		
1000	Unit = ft/hr	0



Tool Temperature (TEMP)		
0	Unit = °F	300

S: 136 MD: 12324.00 ft  
Inc: 93.70 deg Az:  
266.67 deg TVD:  
3416.87 ft

Comments
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SURVEY REPORT

HILGERS 12N-22HZ MSA CORRECTED SURVEYS

CUSTOMER ANADARKO E&P ONSHORE LLC  
PROJECT HILGERS 12N-22HZ  
FIELD WATTENBERG

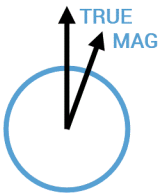
WELL INFORMATION  
Lat/Long 40.210256° N, 104.981563° W  
Northing 14,603,298.11 ft  
Easting 1,645,564.09 ft  
UWI 05123432610000

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 268.89°  
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.047 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-12324 ft	ANADARKO MAG VAR	26 May 2017	8.43°	add 8.43°

WELL NOTES

OPERATORS

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
140.00	0.17	97.03	140.00	-0.21	-0.03	0.21	0.12
227.00	0.09	93.14	227.00	-0.40	-0.04	0.40	0.09
314.00	0.27	16.98	314.00	-0.53	0.15	0.53	0.30
400.00	0.32	352.05	400.00	-0.57	0.58	0.56	0.16
489.00	1.17	102.50	488.99	-1.42	0.63	1.41	1.48
578.00	2.39	106.60	577.95	-4.07	-0.10	4.07	1.38
666.00	3.46	100.77	665.83	-8.42	-1.12	8.44	1.26
755.00	4.75	104.56	754.60	-14.60	-2.55	14.65	1.48
844.00	5.95	106.44	843.21	-22.54	-4.78	22.64	1.36
933.00	7.28	104.42	931.62	-32.37	-7.49	32.52	1.52
1019.00	8.48	106.78	1016.80	-43.66	-10.68	43.87	1.44
1106.00	9.12	106.35	1102.78	-56.34	-14.47	56.63	0.74
1193.00	10.22	104.45	1188.54	-70.35	-18.34	70.72	1.32
1281.00	11.18	102.03	1275.01	-86.18	-22.06	86.63	1.20
1370.00	11.87	102.42	1362.22	-103.48	-25.83	104.00	0.78
1459.00	12.62	102.23	1449.19	-121.84	-29.86	122.44	0.84
1547.00	13.50	100.32	1534.92	-141.27	-33.73	141.95	1.11
1676.00	16.68	102.35	1659.45	-174.04	-40.39	174.85	2.50
1763.00	17.46	103.02	1742.62	-198.84	-46.00	199.77	0.92

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1824.00	18.27	104.75	1800.68	-216.91	-50.50	217.93	1.59
2000.00	16.93	101.72	1968.44	-268.44	-62.73	269.70	0.92
2088.00	15.89	99.00	2052.85	-292.79	-67.22	294.15	1.47
2177.00	14.79	99.37	2138.68	-315.96	-70.97	317.39	1.24
2266.00	15.68	101.26	2224.55	-338.87	-75.17	340.39	1.15
2355.00	16.52	104.34	2310.06	-362.82	-80.65	364.45	1.35
2443.00	17.83	105.50	2394.14	-387.79	-87.35	389.56	1.54
2532.00	18.77	105.08	2478.64	-414.60	-94.72	416.51	1.07
2621.00	17.76	105.30	2563.15	-441.37	-102.03	443.43	1.14
2709.00	18.36	102.45	2646.82	-467.72	-108.56	469.91	1.21
2798.00	17.52	101.71	2731.49	-494.41	-114.30	496.72	0.98
2886.00	18.25	102.76	2815.24	-520.70	-120.03	523.13	0.91
2975.00	18.09	102.04	2899.80	-547.69	-125.99	550.23	0.31
3064.00	16.07	101.49	2984.87	-573.17	-131.33	575.82	2.28
3152.00	15.64	100.87	3069.52	-596.66	-135.99	599.40	0.53
3241.00	17.04	97.44	3154.93	-621.29	-139.94	624.12	1.91
3330.00	16.62	95.83	3240.11	-646.82	-142.92	649.71	0.70
3445.00	18.02	103.50	3349.91	-680.36	-148.75	683.37	2.33
3533.00	18.60	106.74	3433.46	-706.90	-155.97	710.05	1.33
3622.00	15.57	104.54	3518.52	-731.91	-163.06	735.21	3.48

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3710.00	18.91	103.90	3602.56	-757.07	-169.45	760.49	3.80
3799.00	18.78	99.54	3686.79	-785.08	-175.29	788.62	1.59
3888.00	19.56	99.53	3770.85	-813.80	-180.13	817.44	0.88
3977.00	20.41	101.14	3854.49	-843.61	-185.59	847.36	1.14
4066.00	19.00	99.70	3938.28	-873.00	-191.03	876.87	1.68
4155.00	17.68	104.14	4022.76	-900.28	-196.78	904.26	2.16
4243.00	15.51	105.67	4107.09	-924.44	-203.22	928.55	2.52
4332.00	13.91	106.41	4193.17	-946.03	-209.46	950.27	1.81
4422.00	13.34	106.84	4280.64	-966.23	-215.52	970.58	0.64
4511.00	12.63	105.90	4367.36	-985.30	-221.16	989.77	0.83
4600.00	11.18	107.06	4454.45	-1002.80	-226.36	1007.38	1.65
4689.00	10.07	107.80	4541.92	-1018.36	-231.27	1023.03	1.26
4778.00	8.36	106.58	4629.77	-1031.89	-235.49	1036.64	1.93
4866.00	5.78	104.89	4717.09	-1042.24	-238.46	1047.06	2.94
4955.00	4.12	92.48	4805.76	-1049.74	-239.75	1054.59	2.21
5044.00	2.14	77.38	4894.62	-1054.56	-239.52	1059.40	2.39
5133.00	1.14	82.87	4983.58	-1057.07	-239.05	1061.90	1.14
5222.00	0.69	71.41	5072.57	-1058.46	-238.77	1063.29	0.54
5311.00	0.62	77.72	5161.57	-1059.45	-238.50	1064.27	0.11
5400.00	0.32	88.01	5250.56	-1060.17	-238.38	1064.99	0.35

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5489.00	0.26	118.99	5339.56	-1060.59	-238.47	1065.41	0.19
5577.00	0.41	177.48	5427.56	-1060.77	-238.88	1065.60	0.40
5666.00	0.78	186.11	5516.56	-1060.70	-239.81	1065.55	0.43
5755.00	1.11	183.38	5605.54	-1060.56	-241.27	1065.43	0.37
5847.00	0.77	172.95	5697.53	-1060.55	-242.77	1065.46	0.41
5940.00	0.95	216.36	5790.52	-1060.15	-244.01	1065.08	0.71
6033.00	0.68	211.50	5883.51	-1059.38	-245.10	1064.33	0.30
6125.00	0.86	224.83	5975.51	-1058.59	-246.06	1063.56	0.27
6218.00	1.10	219.88	6068.49	-1057.51	-247.24	1062.49	0.27
6306.00	0.86	196.96	6156.48	-1056.75	-248.52	1061.76	0.52
6395.00	0.77	179.14	6245.47	-1056.54	-249.76	1061.57	0.30
6484.00	0.39	186.22	6334.47	-1056.50	-250.65	1061.55	0.43
6572.00	0.69	211.55	6422.46	-1056.17	-251.40	1061.24	0.43
6661.00	2.89	270.40	6511.42	-1053.64	-251.85	1058.72	2.92
6750.00	15.40	268.30	6599.11	-1039.52	-252.18	1044.60	14.06
6839.00	17.87	269.67	6684.38	-1014.05	-252.61	1019.13	2.81
6927.00	21.15	269.14	6767.32	-984.66	-252.93	989.75	3.73
7016.00	27.81	267.82	6848.27	-947.81	-253.96	952.91	7.51
7104.00	36.01	275.19	6922.94	-901.48	-252.40	906.54	10.30
7193.00	47.22	279.51	6989.38	-843.17	-244.61	848.07	13.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7282.00	54.47	273.23	7045.58	-774.83	-237.16	779.57	9.81
7371.00	61.64	269.14	7092.65	-699.43	-235.70	704.13	8.95
7460.00	71.10	268.12	7128.28	-617.99	-237.67	622.71	10.68
7549.00	83.40	266.92	7147.89	-531.38	-241.44	536.16	13.88
7638.00	93.83	262.89	7150.04	-442.76	-249.34	447.68	12.56
7726.00	92.19	263.98	7145.42	-355.29	-259.39	360.38	2.24
7815.00	91.35	266.32	7142.67	-266.53	-266.91	271.75	2.79
7903.00	91.31	266.31	7140.62	-178.64	-272.56	183.95	0.05
7992.00	90.31	267.01	7139.37	-89.72	-277.75	95.11	1.37
8081.00	89.37	268.83	7139.62	-0.73	-280.98	6.18	2.30
8170.00	89.77	268.82	7140.28	88.26	-282.80	-82.80	0.45
8259.00	89.67	268.41	7140.72	177.26	-284.95	-171.77	0.47
8348.00	89.94	268.31	7141.02	266.26	-287.50	-260.74	0.32
8436.00	90.61	267.75	7140.60	354.25	-290.52	-348.68	0.99
8525.00	90.64	267.31	7139.63	443.21	-294.36	-437.59	0.50
8614.00	89.53	268.57	7139.50	532.20	-297.56	-526.53	1.89
8703.00	89.43	268.42	7140.30	621.19	-299.90	-615.50	0.20
8792.00	87.96	270.60	7142.33	710.16	-300.66	-704.47	2.95
8881.00	87.59	270.20	7145.79	799.06	-300.04	-793.40	0.61
8970.00	87.45	269.88	7149.64	887.96	-299.97	-882.31	0.39

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9058.00	88.49	270.33	7152.75	975.88	-299.81	-970.26	1.29
9147.00	89.23	271.35	7154.53	1064.81	-298.51	-1059.23	1.42
9236.00	89.84	270.89	7155.25	1153.74	-296.77	-1148.21	0.86
9325.00	90.01	270.17	7155.36	1242.70	-295.95	-1237.20	0.83
9414.00	90.51	268.54	7154.96	1331.69	-296.95	-1326.19	1.92
9503.00	91.18	267.84	7153.65	1420.68	-299.76	-1415.14	1.09
9591.00	91.52	267.10	7151.57	1508.63	-303.64	-1503.03	0.93
9680.00	91.72	266.38	7149.06	1597.53	-308.70	-1591.85	0.84
9769.00	90.91	265.42	7147.02	1686.38	-315.06	-1680.59	1.41
9858.00	91.18	264.81	7145.39	1775.17	-322.64	-1769.25	0.75
9946.00	90.34	267.47	7144.22	1863.05	-328.56	-1857.04	3.17
10035.00	90.64	270.28	7143.46	1952.04	-330.31	-1946.01	3.18
10213.00	90.74	269.70	7141.32	2130.00	-330.34	-2123.99	0.33
10301.00	91.25	269.73	7139.79	2217.97	-330.78	-2211.98	0.58
10391.00	91.15	271.29	7137.91	2307.91	-329.98	-2301.95	1.74
10480.00	91.18	271.42	7136.10	2396.81	-327.87	-2390.91	0.15
10569.00	91.65	271.22	7133.90	2485.71	-325.82	-2479.86	0.57
10657.00	91.65	271.09	7131.37	2573.60	-324.05	-2567.81	0.15
10746.00	91.68	271.23	7128.78	2662.49	-322.25	-2656.75	0.16
10836.00	88.86	270.63	7128.36	2752.43	-320.79	-2746.73	3.20

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
10924.00	88.86	270.65	7130.11	2840.37	-319.81	-2834.70	0.02
11013.00	88.56	270.23	7132.11	2929.31	-319.12	-2923.68	0.58
11102.00	88.19	269.96	7134.63	3018.26	-318.98	-3012.64	0.51
11191.00	87.82	269.40	7137.73	3107.19	-319.47	-3101.59	0.75
11280.00	89.00	269.34	7140.20	3196.15	-320.45	-3190.55	1.33
11369.00	89.06	268.93	7141.71	3285.14	-321.79	-3279.52	0.47
11457.00	89.30	268.43	7142.97	3373.13	-323.82	-3367.49	0.63
11546.00	90.31	271.21	7143.27	3462.11	-324.10	-3456.48	3.32
11635.00	91.11	271.83	7142.17	3551.01	-321.74	-3545.44	1.14
11724.00	91.52	271.80	7140.13	3639.87	-318.92	-3634.37	0.46
11813.00	91.88	271.76	7137.49	3728.71	-316.16	-3723.29	0.41
11902.00	92.59	271.11	7134.01	3817.56	-313.93	-3812.19	1.08
11991.00	93.33	271.07	7129.42	3906.37	-312.24	-3901.06	0.83
12080.00	93.20	269.33	7124.35	3995.20	-311.93	-3989.91	1.96
12169.00	93.00	267.16	7119.54	4084.06	-314.65	-4078.73	2.44
12257.00	93.70	266.67	7114.39	4171.86	-319.38	-4166.45	0.97
12324.00	93.70	266.67	7110.07	4238.67	-323.26	-4233.20	0.00

5" = 100' MD