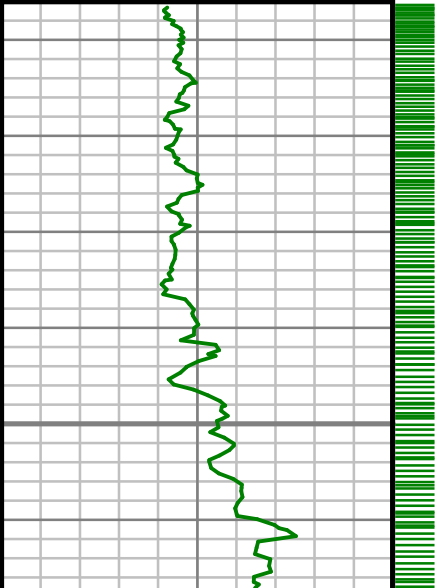
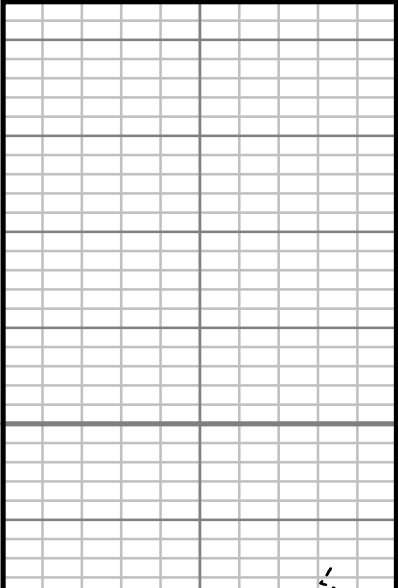
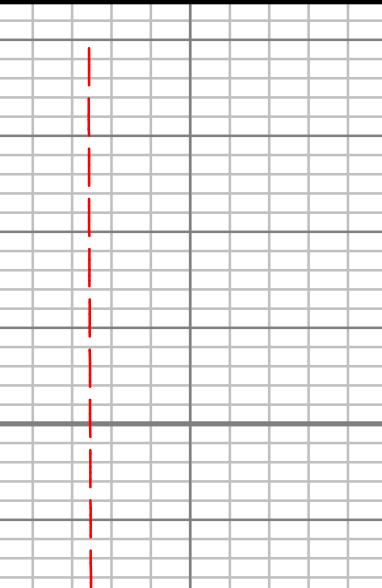
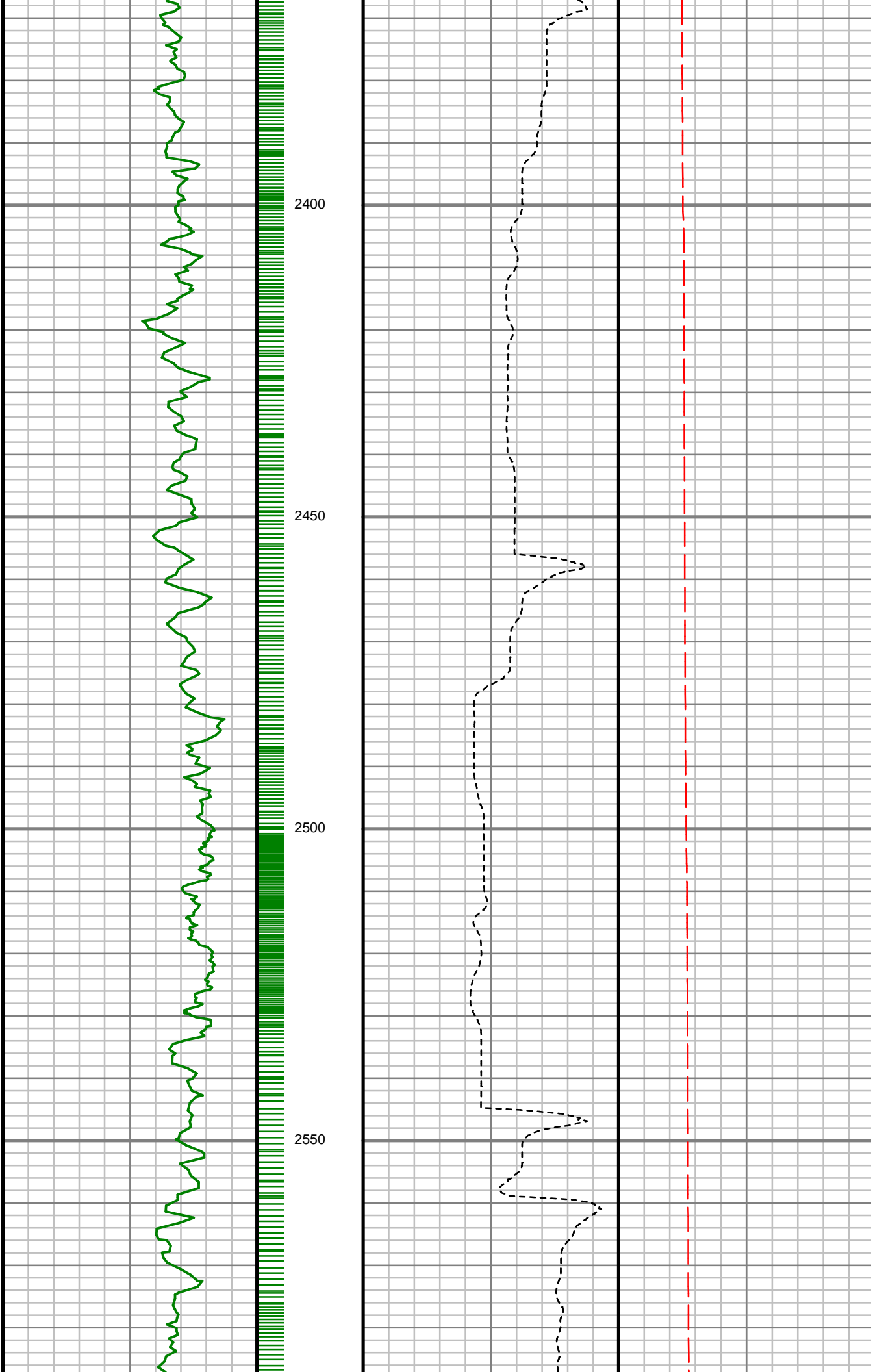


[illegible]

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.

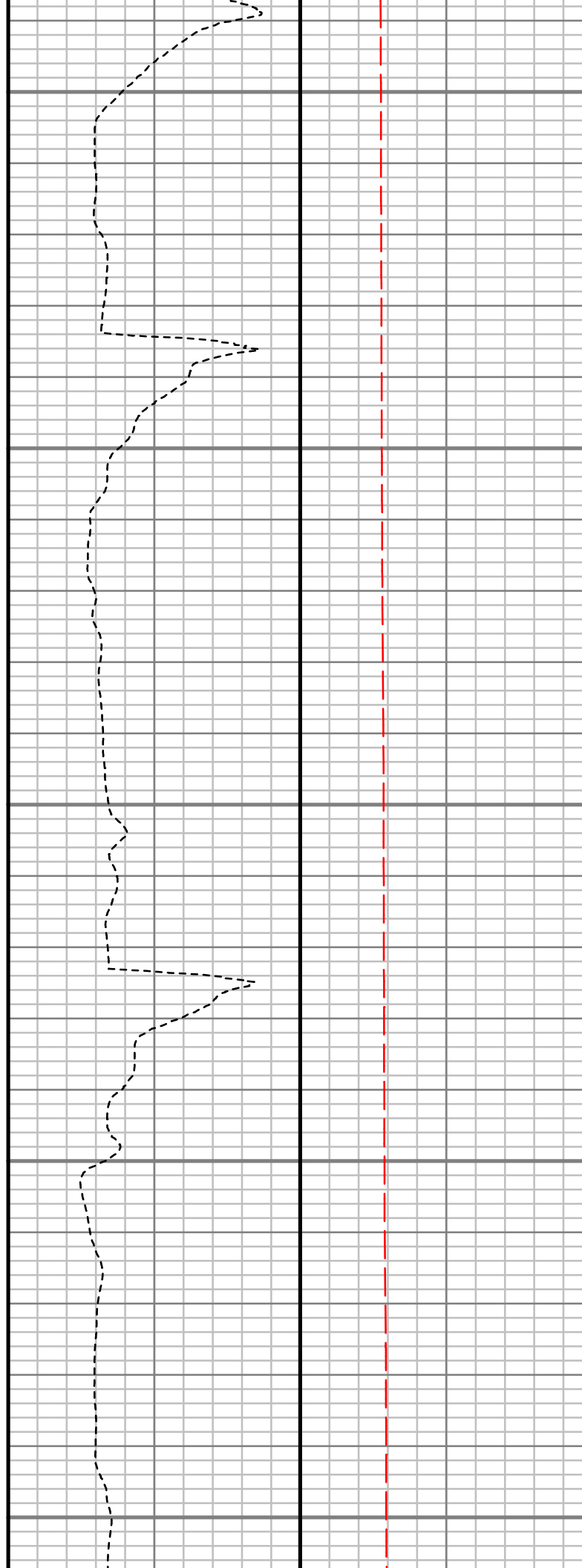
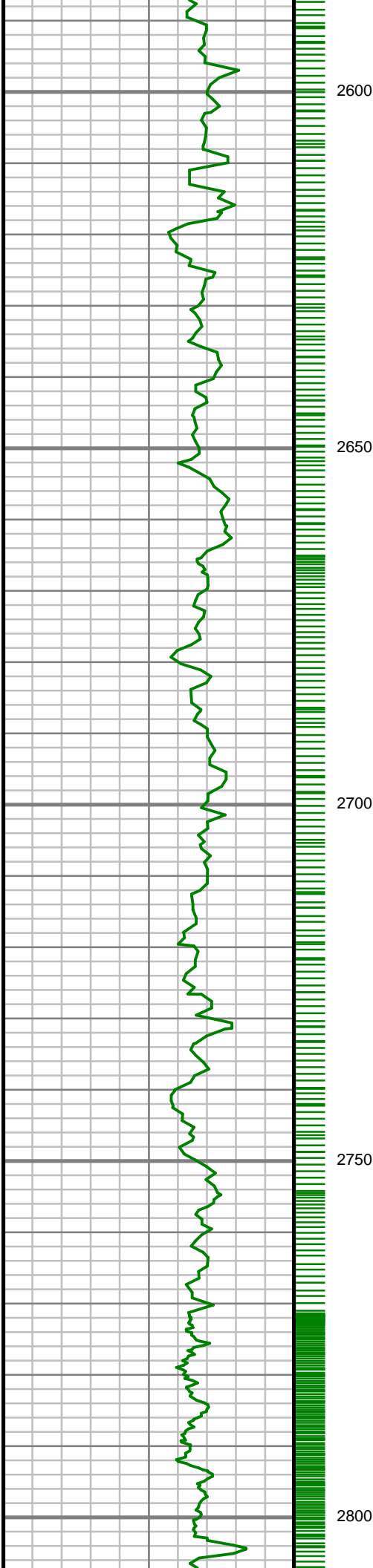
ANADARKO E&P ONSHORE LLC HERGENREDER 7N-4HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123458590000				
Gamma Ray (GR) 0 Unit = aapi 150	MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP) 1000 Unit = ft/hr 0	Tool Temperature (TEMP) 0 Unit = °F 300	Comments
	2350			S: 68 MD: 2306.00 ft Inc: 21.71 deg Az: 80.87 deg TVD: 2218.52 ft



S: 69 MD: 2400.00 ft
Inc: 21.87 deg Az:
79.70 deg TVD:
2305.80 ft

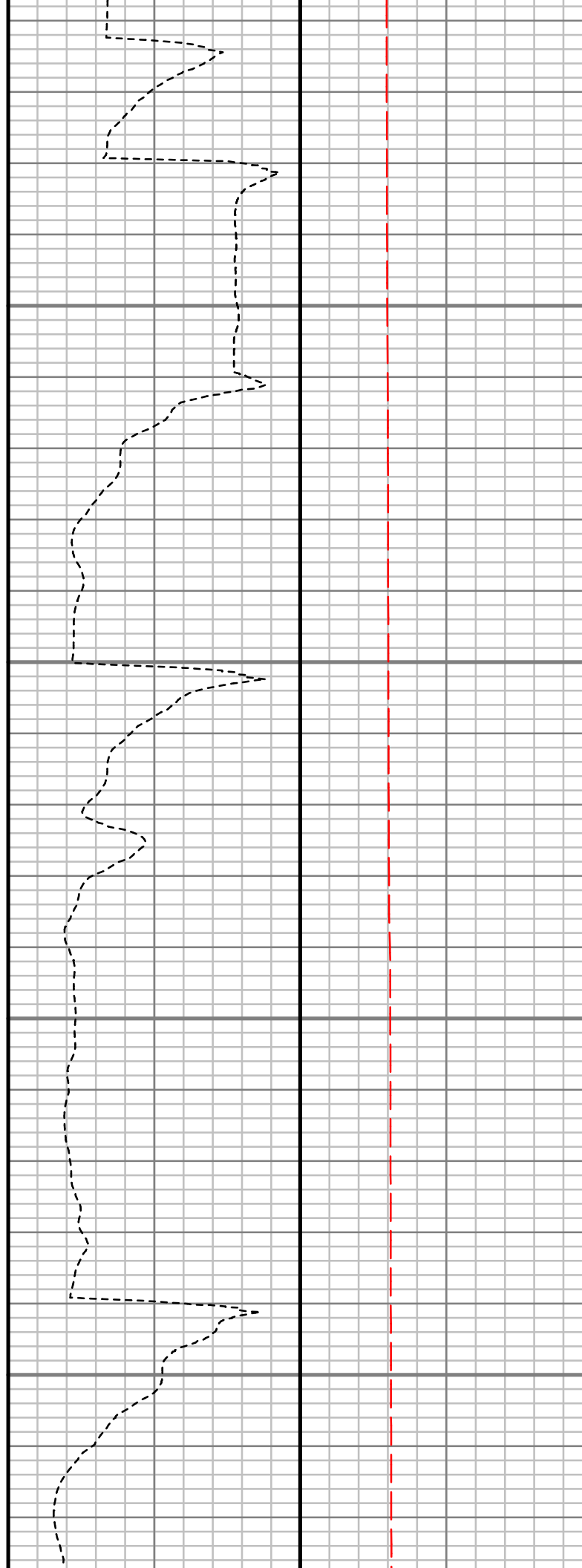
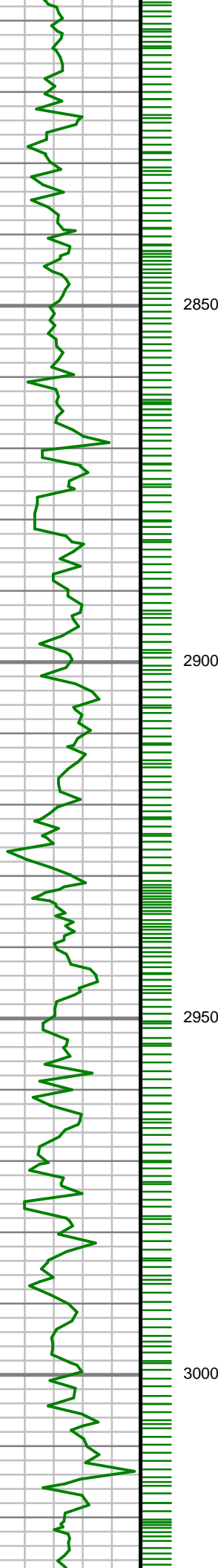
S: 70 MD: 2489.00 ft
Inc: 20.27 deg Az:
77.91 deg TVD:
2388.85 ft

S: 71 MD: 2578.00 ft
Inc: 22.33 deg Az:
80.49 deg TVD:
2471 77 ft



S: 72 MD: 2667.00 ft
Inc: 21.85 deg Az:
82.38 deg TVD:
2554.23 ft

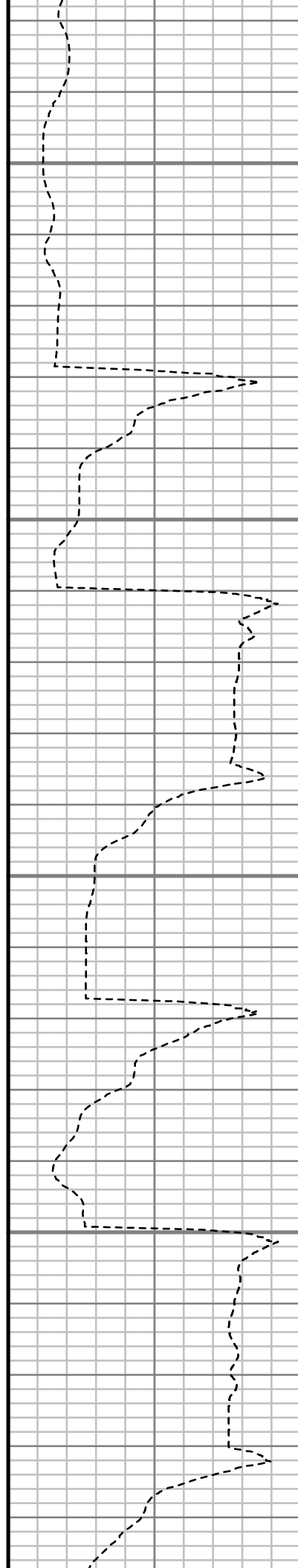
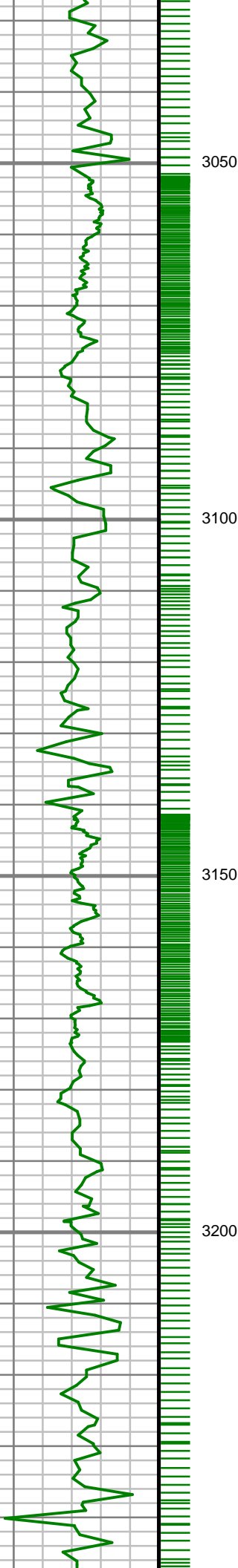
S: 73 MD: 2756.00 ft
Inc: 20.44 deg Az:
80.42 deg TVD:
2637.24 ft



S: 74 MD: 2845.00 ft
Inc: 21.40 deg Az:
82.21 deg TVD:
2720.37 ft

S: 75 MD: 2934.00 ft
Inc: 21.50 deg Az:
82.22 deg TVD:
2803.21 ft

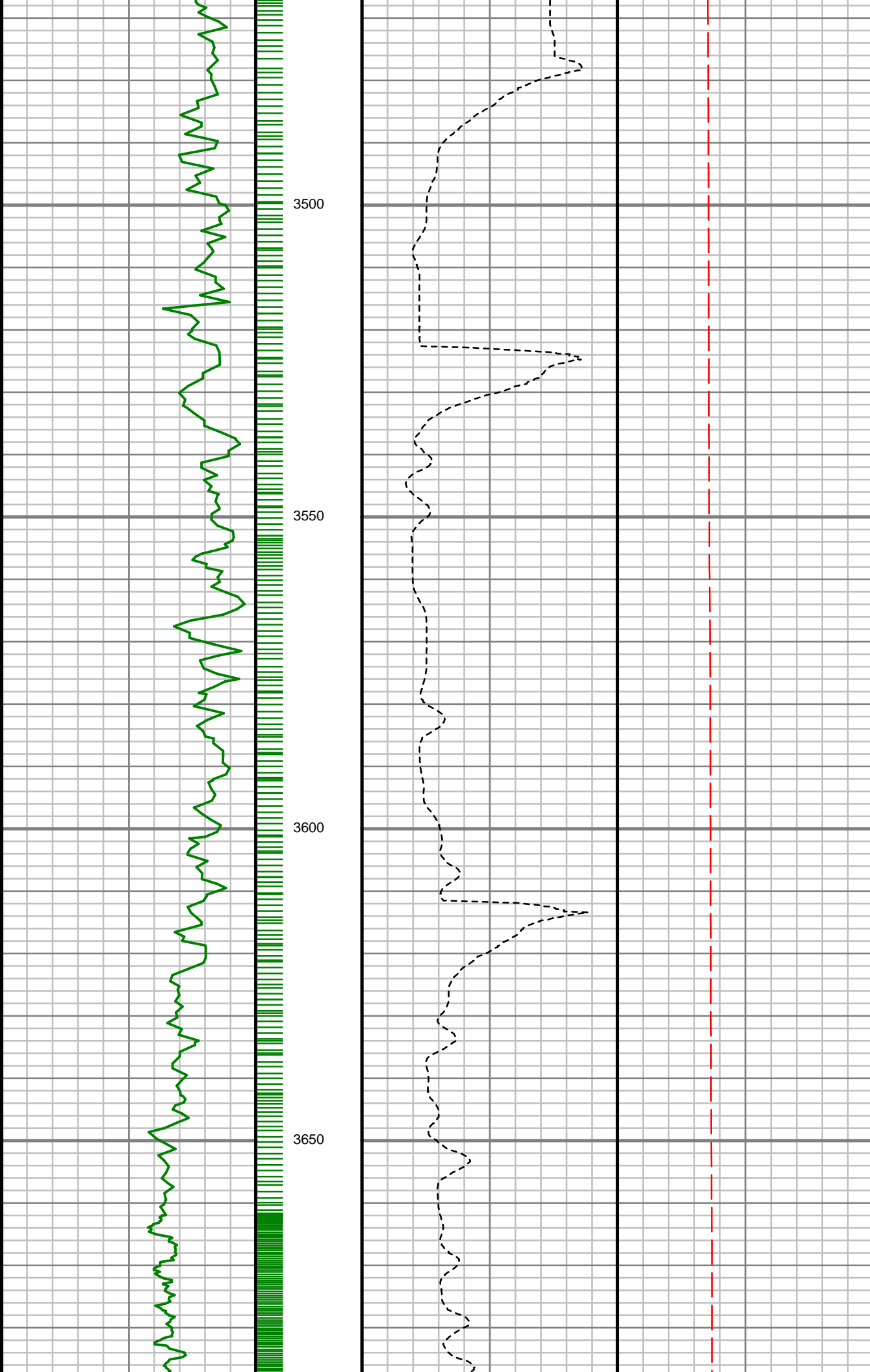
S: 76 MD: 3023.00 ft
Inc: 19.26 deg Az:



82.27 deg TVD:
2886.63 ft

S: 77 MD: 3111.00 ft
Inc: 18.32 deg Az:
81.08 deg TVD:
2969.94 ft

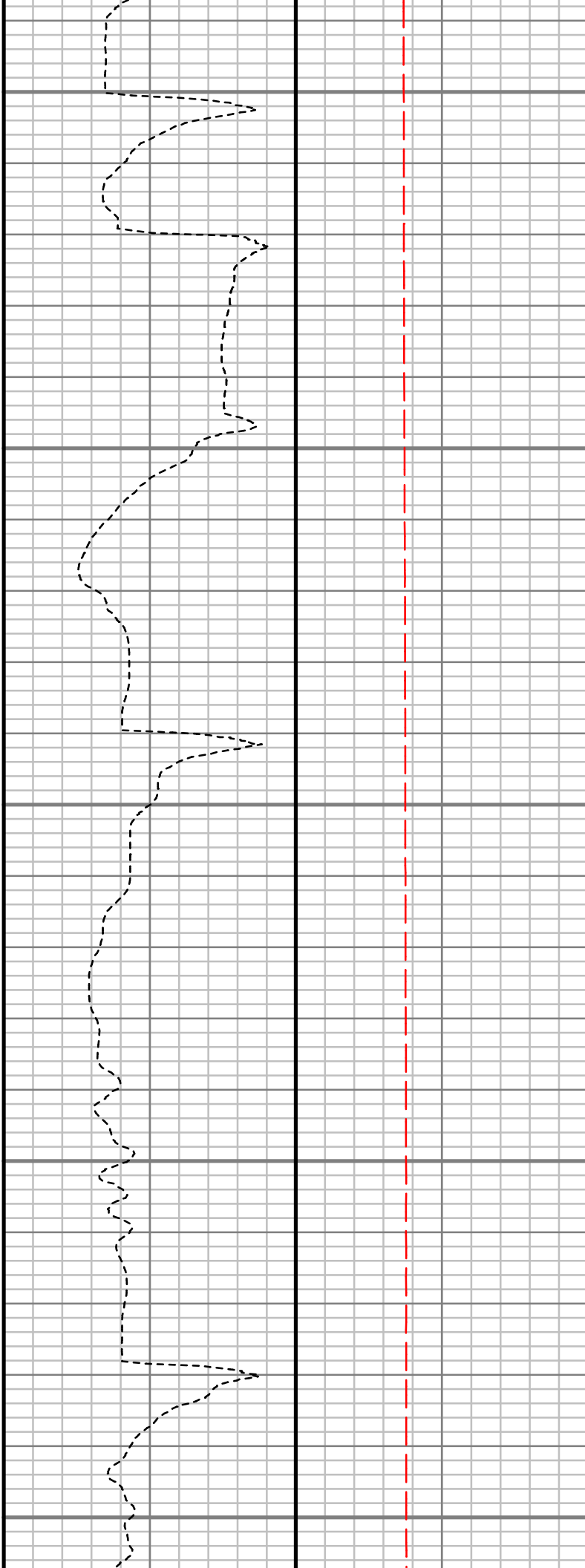
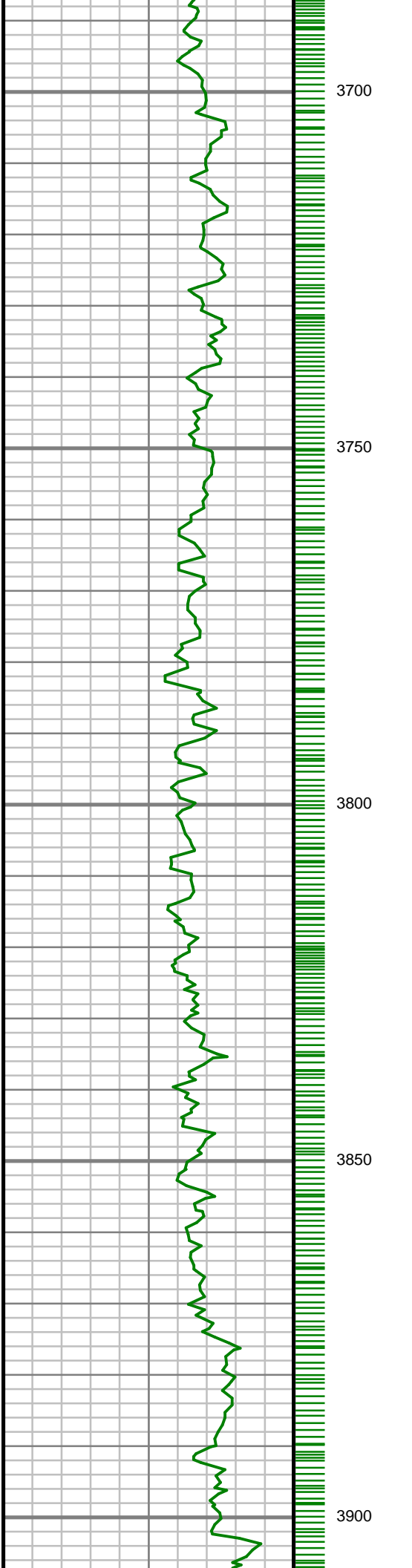
S: 78 MD: 3200.00 ft
Inc: 19.93 deg Az:
81.52 deg TVD:
3054.03 ft



S: 81 MD: 3467.00 ft
Inc: 26.59 deg Az:
80.34 deg TVD:
3300.86 ft

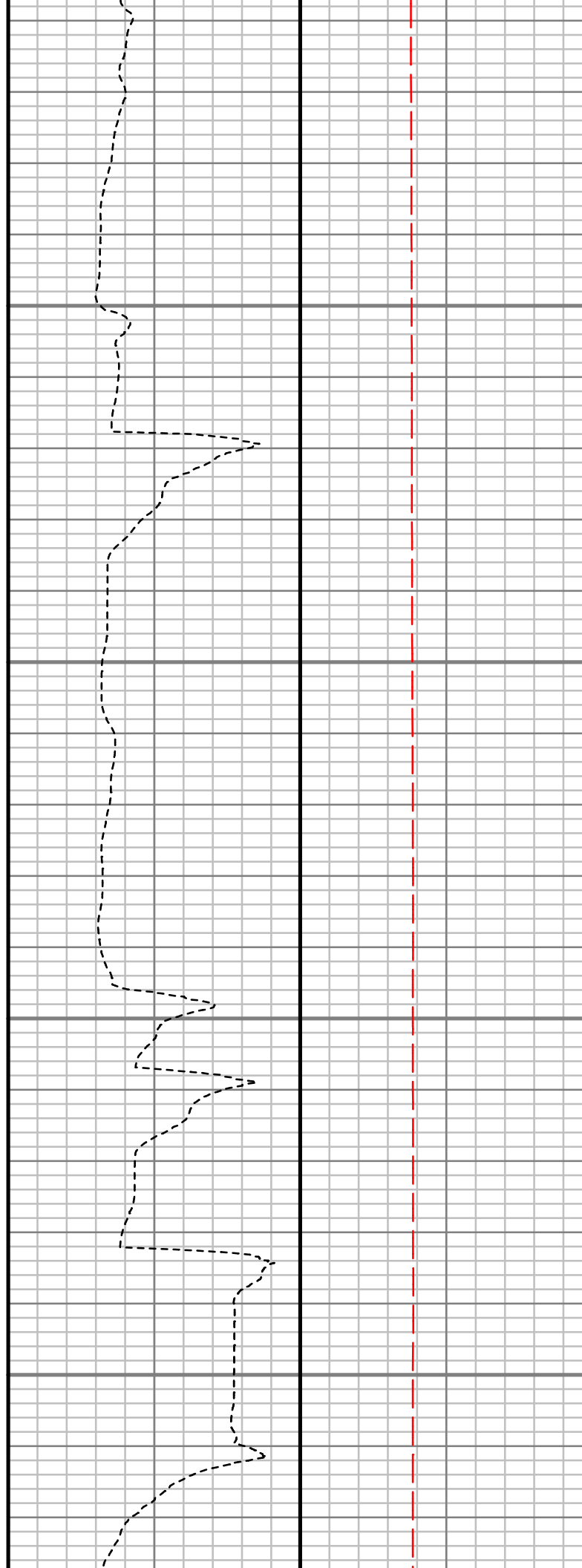
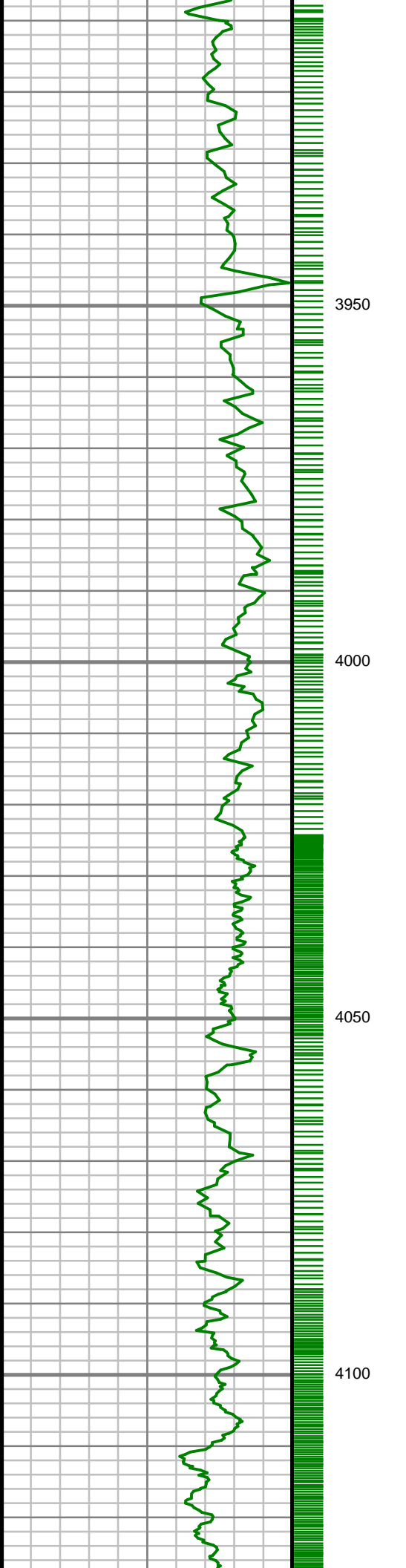
S: 82 MD: 3556.00 ft
Inc: 25.54 deg Az:
80.88 deg TVD:
3380.81 ft

S: 83 MD: 3644.00 ft
Inc: 23.44 deg Az:
80.85 deg TVD:
3460.89 ft



S: 84 MD: 3733.00 ft
Inc: 24.64 deg Az:
80.18 deg TVD:
3542.16 ft

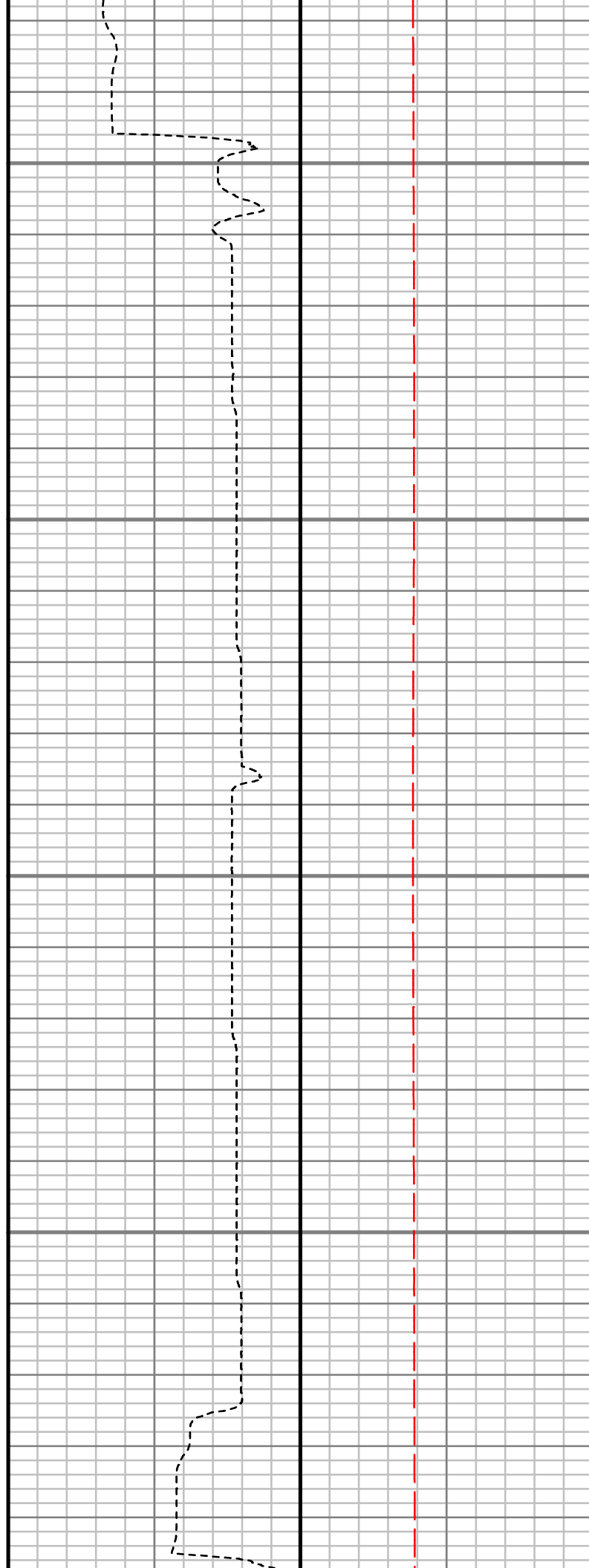
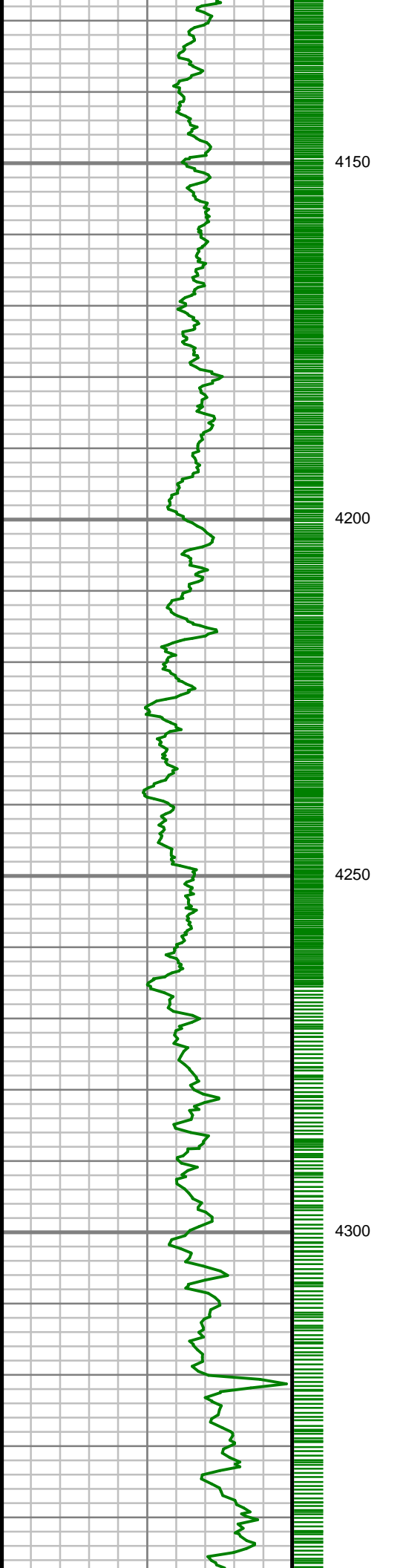
S: 85 MD: 3822.00 ft
Inc: 25.51 deg Az:
80.69 deg TVD:
3622.78 ft



S: 86 MD: 3911.00 ft
Inc: 24.20 deg Az:
78.77 deg TVD:
3703.53 ft

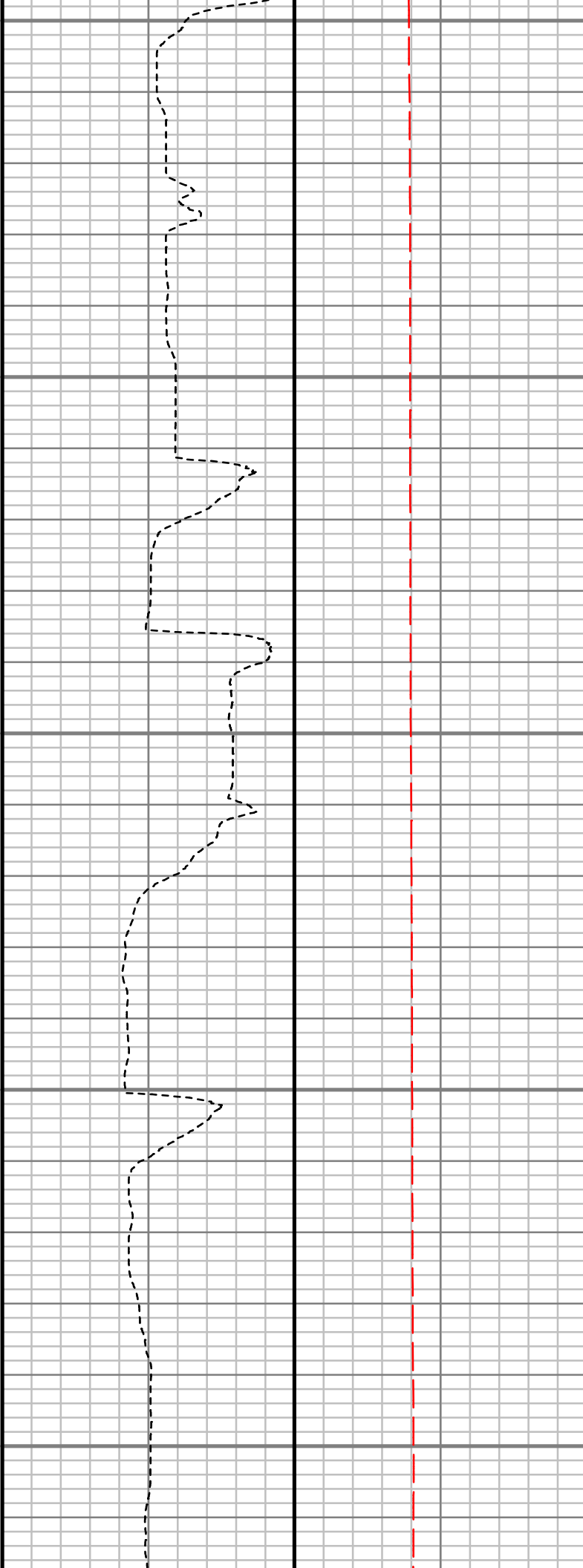
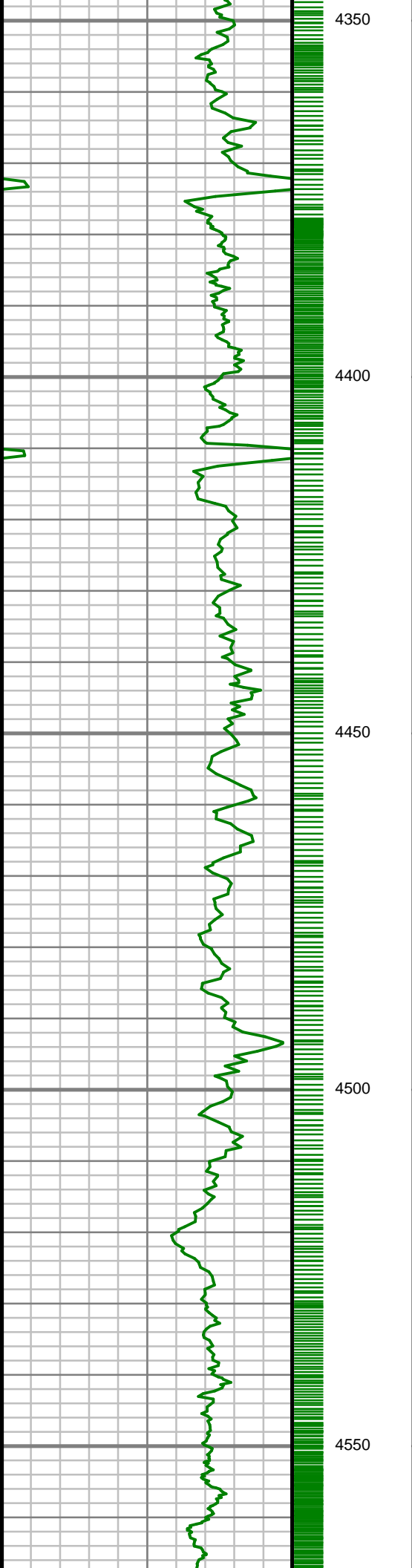
S: 87 MD: 4001.00 ft
Inc: 21.97 deg Az:
77.74 deg TVD:
3786.32 ft

S: 88 MD: 4089.00 ft
Inc: 21.35 deg Az:
79.08 deg TVD:
3868.11 ft



S: 89 MD: 4178.00 ft
Inc: 21.52 deg Az:
82.63 deg TVD:
3950.95 ft

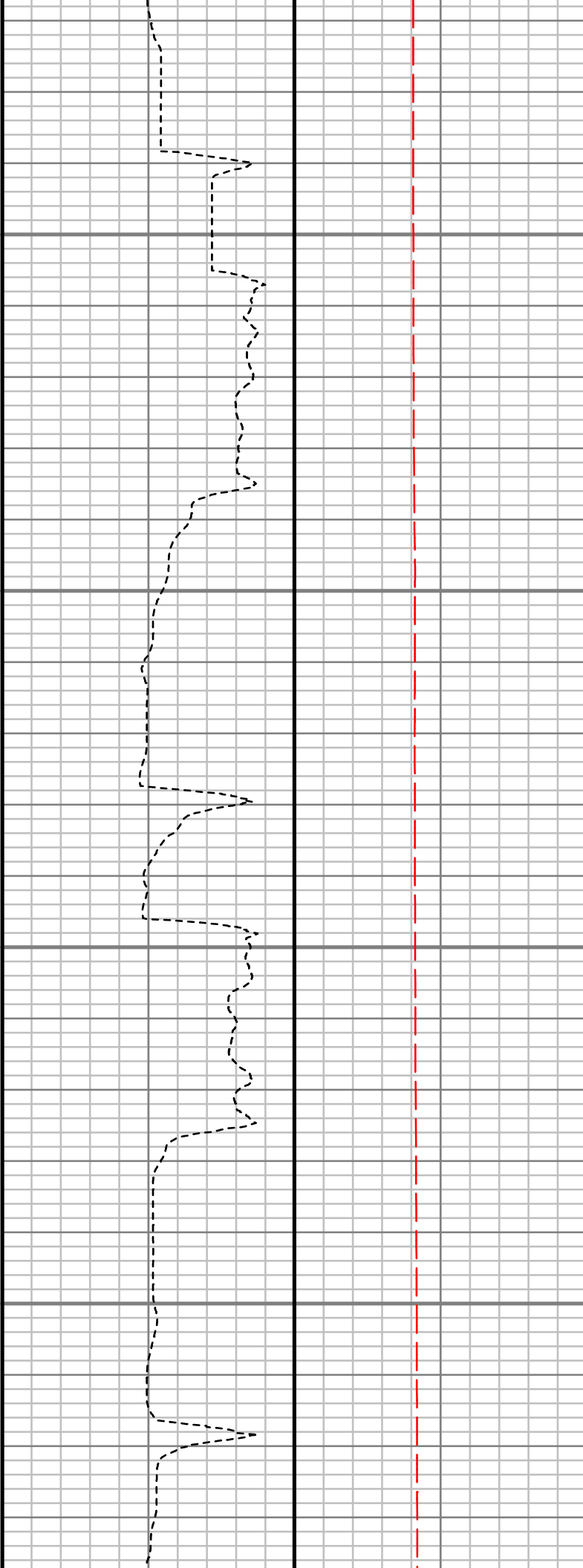
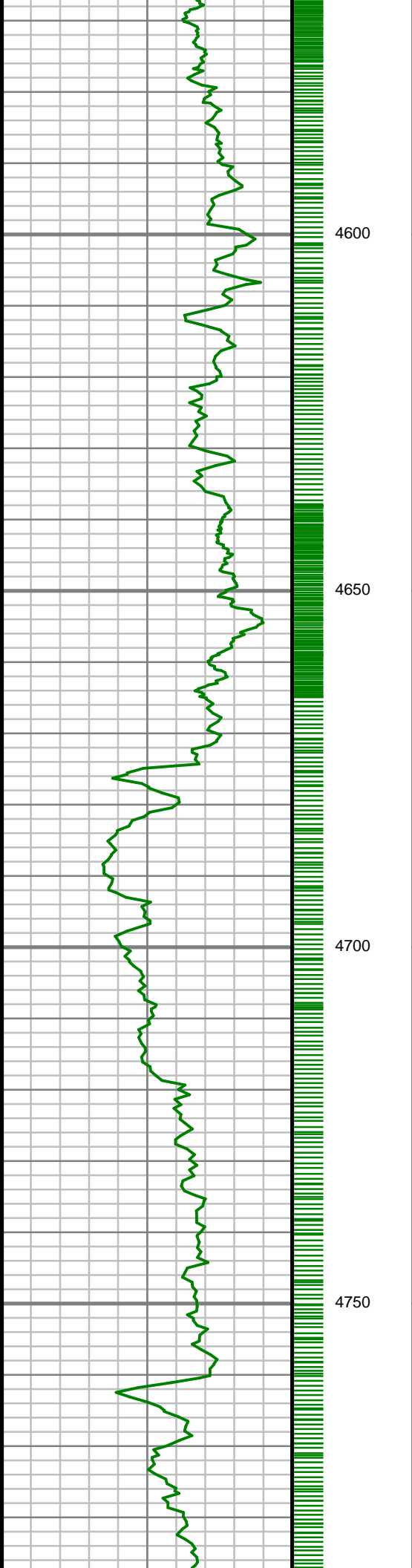
S: 90 MD: 4266.00 ft
Inc: 20.49 deg Az:
82.91 deg TVD:
4033.11 ft



S: 91 MD: 4355.00 ft
Inc: 19.82 deg Az:
81.83 deg TVD:
4116.65 ft

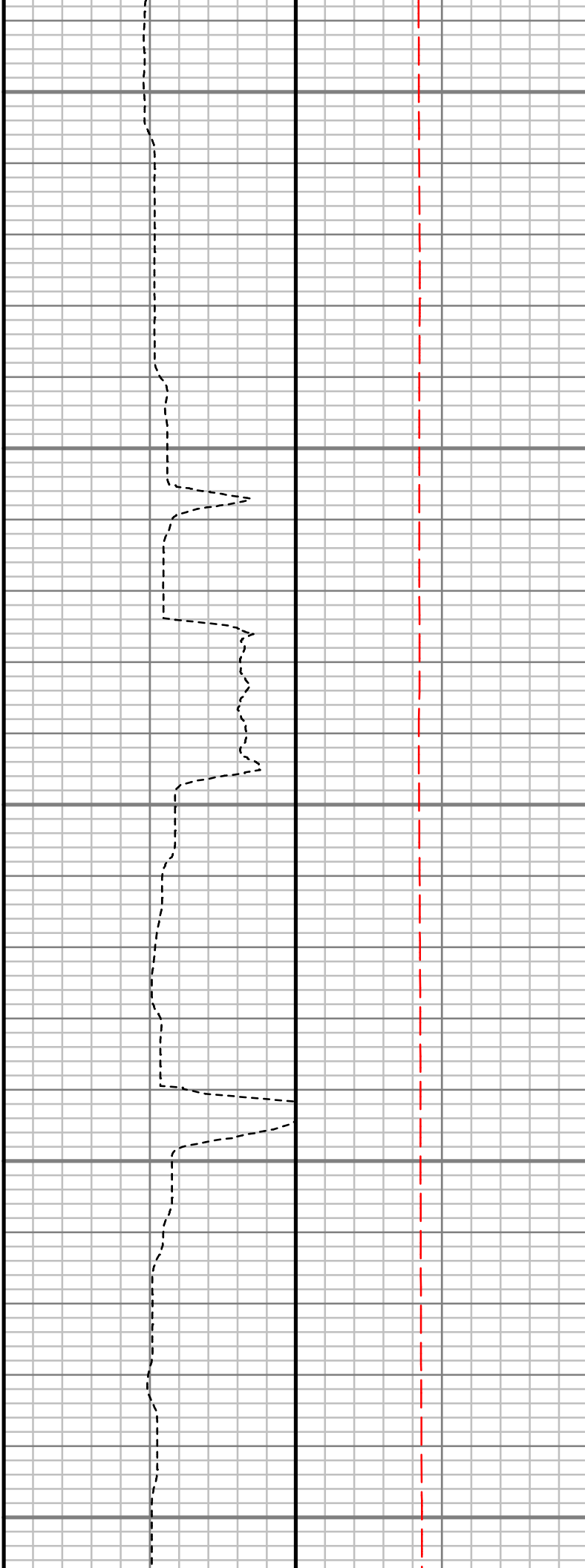
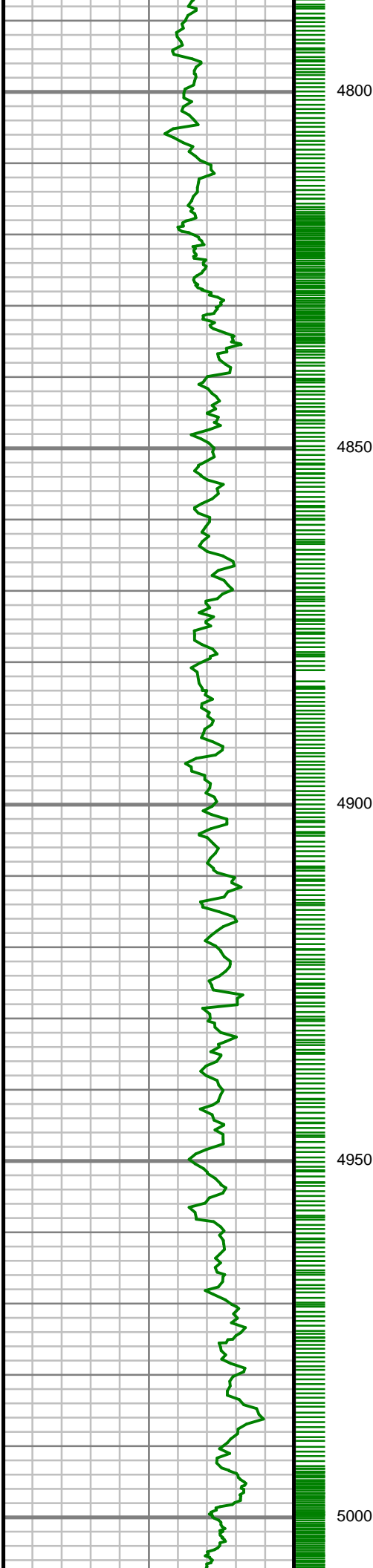
S: 92 MD: 4444.00 ft
Inc: 20.18 deg Az:
79.88 deg TVD:
4200.29 ft

S: 93 MD: 4533.00 ft
Inc: 20.28 deg Az:
76.69 deg TVD:
4283.80 ft



S: 94 MD: 4621.00 ft
Inc: 21.08 deg Az:
75.22 deg TVD:
4366.13 ft

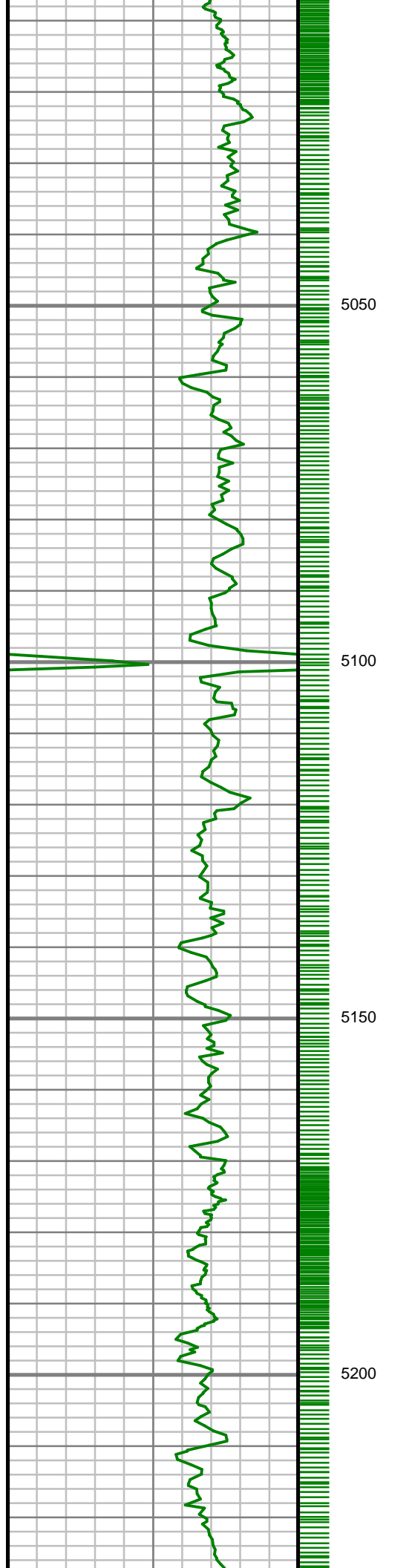
S: 95 MD: 4710.00 ft
Inc: 23.06 deg Az:
78.57 deg TVD:
4448.60 ft



S: 96 MD: 4799.00 ft
Inc: 22.57 deg Az:
81.57 deg TVD:
4530.65 ft

S: 97 MD: 4888.00 ft
Inc: 22.66 deg Az:
81.02 deg TVD:
4612.80 ft

S: 98 MD: 4976.00 ft
Inc: 21.29 deg Az:
82.30 deg TVD:
4694.41 ft



5050

5100

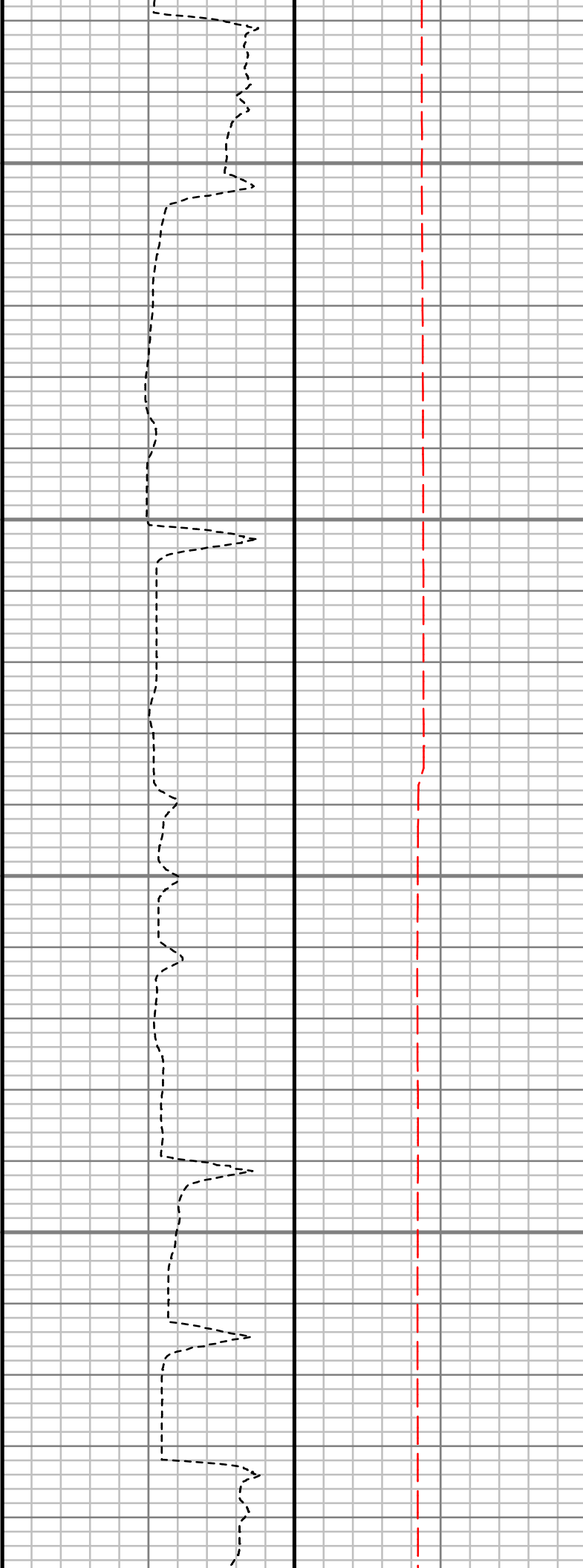
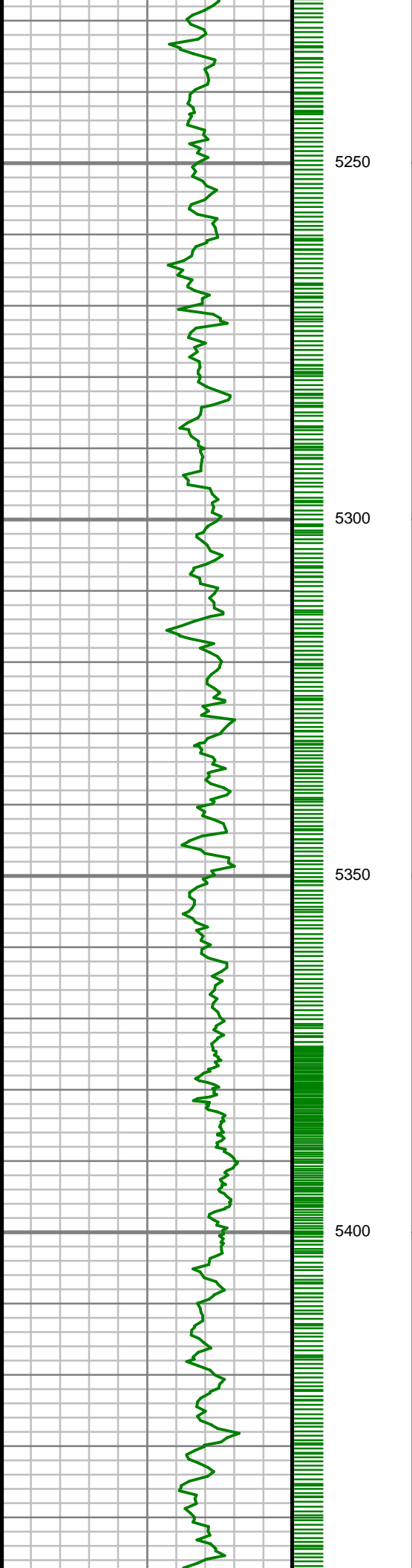
5150

5200



S: 99 MD: 5065.00 ft
Inc: 21.20 deg Az:
79.54 deg TVD:
4777.36 ft

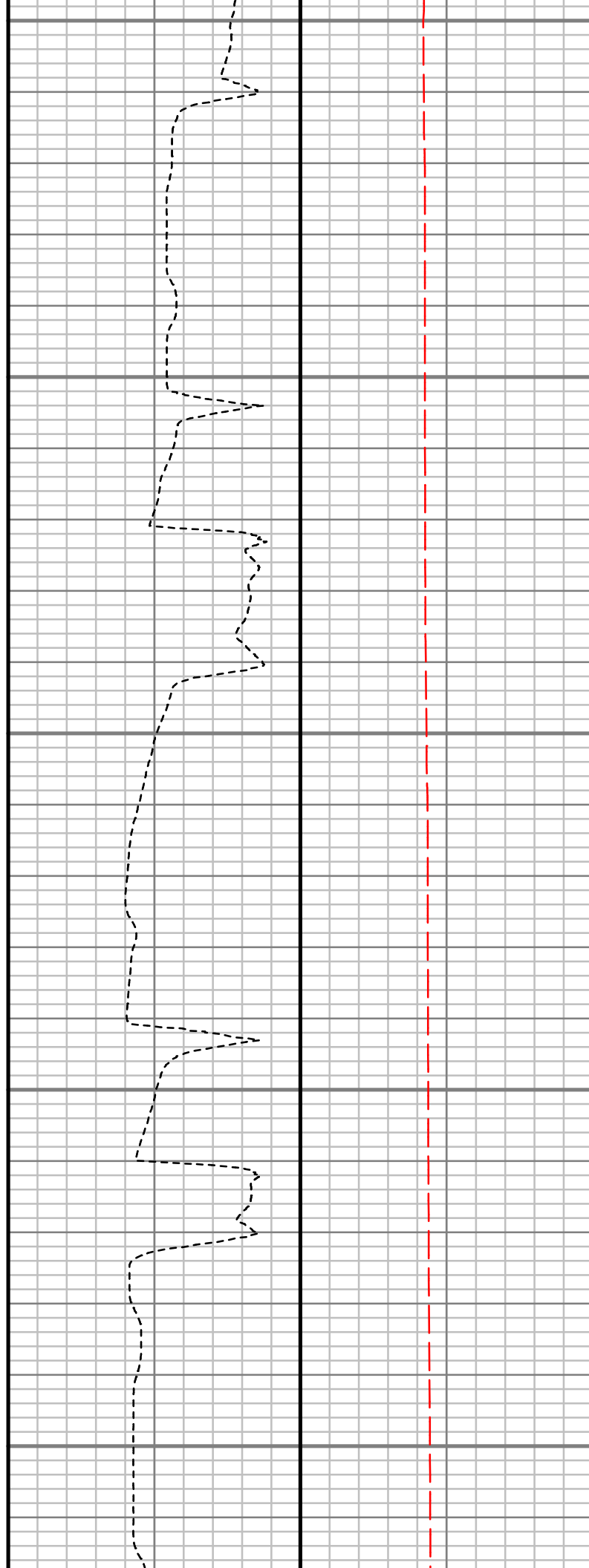
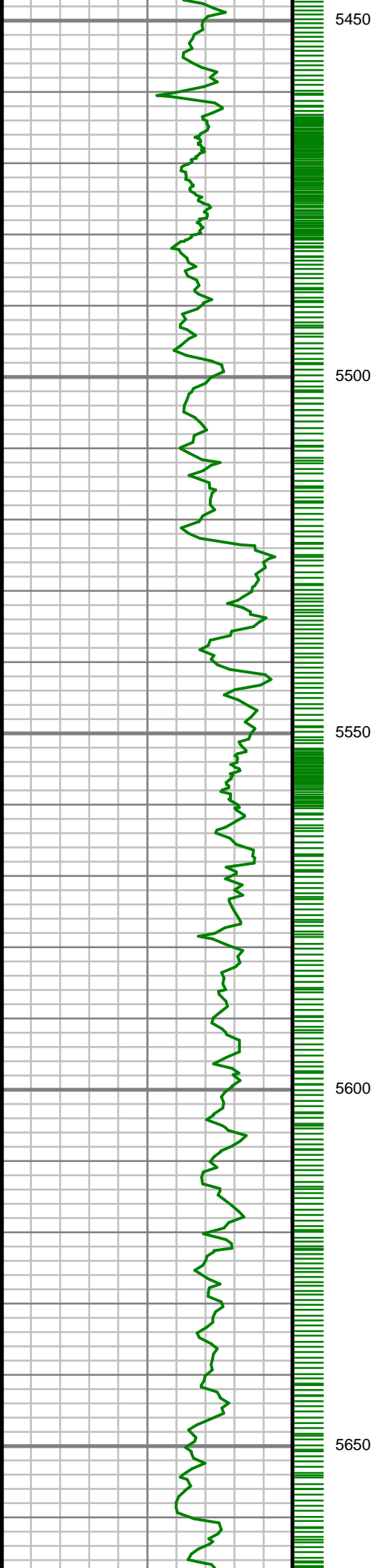
S: 100 MD: 5154.00 ft
Inc: 21.00 deg Az:
79.84 deg TVD:
4860.40 ft



S: 101 MD: 5243.00 ft
Inc: 20.10 deg Az:
81.26 deg TVD:
4943.73 ft

S: 102 MD: 5357.00 ft
Inc: 17.28 deg Az:
80.97 deg TVD:
5051.71 ft

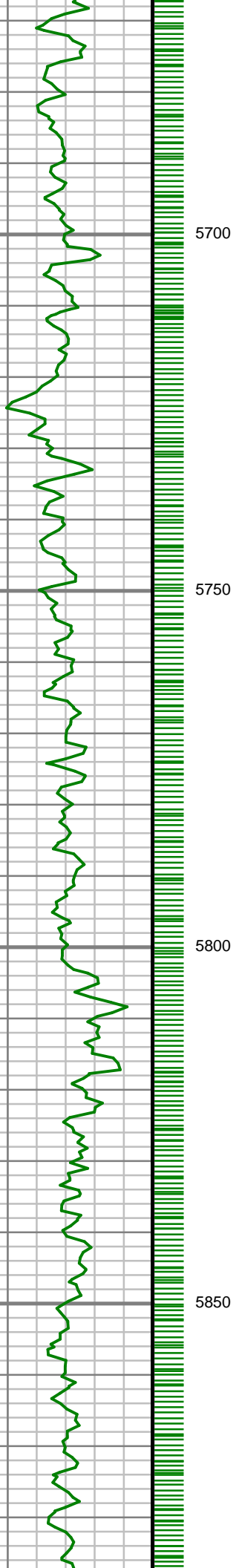
S: 103 MD: 5446.00 ft



S: 103 MD: 5446.00 ft
Inc: 17.41 deg Az:
80.12 deg TVD:
5136.66 ft

S: 104 MD: 5535.00 ft
Inc: 16.83 deg Az:
87.01 deg TVD:
5221.72 ft

S: 105 MD: 5624.00 ft
Inc: 13.03 deg Az:
87.92 deg TVD:
5307.70 ft



5700

5750

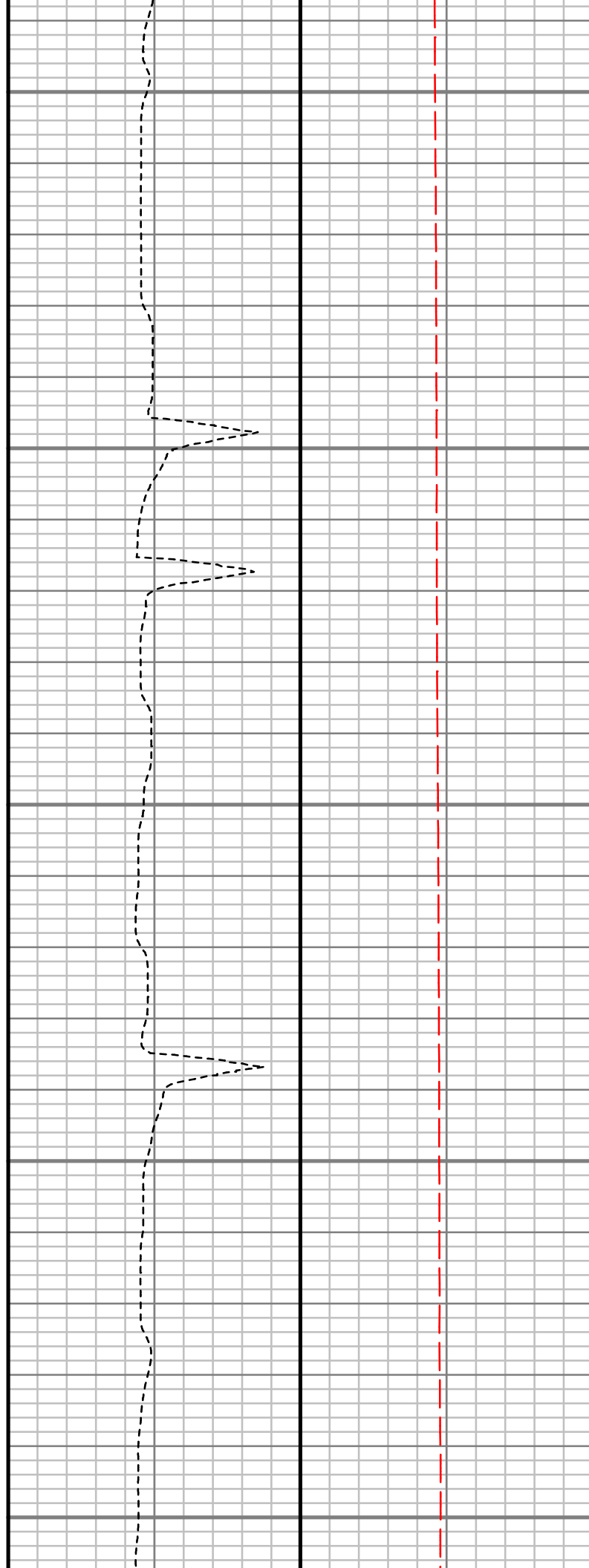
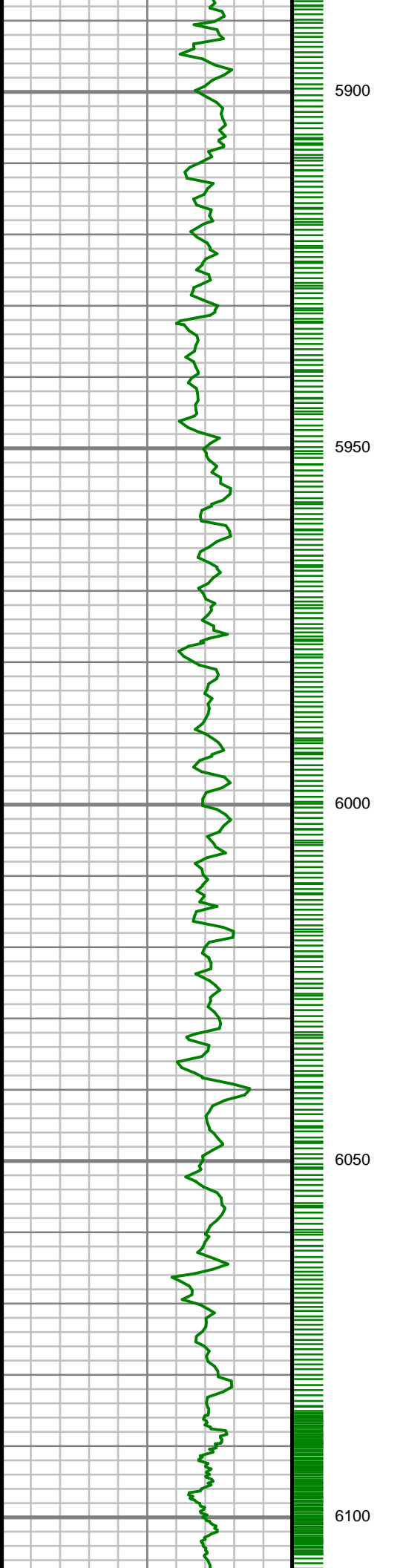
5800

5850



S: 106 MD: 5712.00 ft
Inc: 10.36 deg Az:
86.50 deg TVD:
5393.87 ft

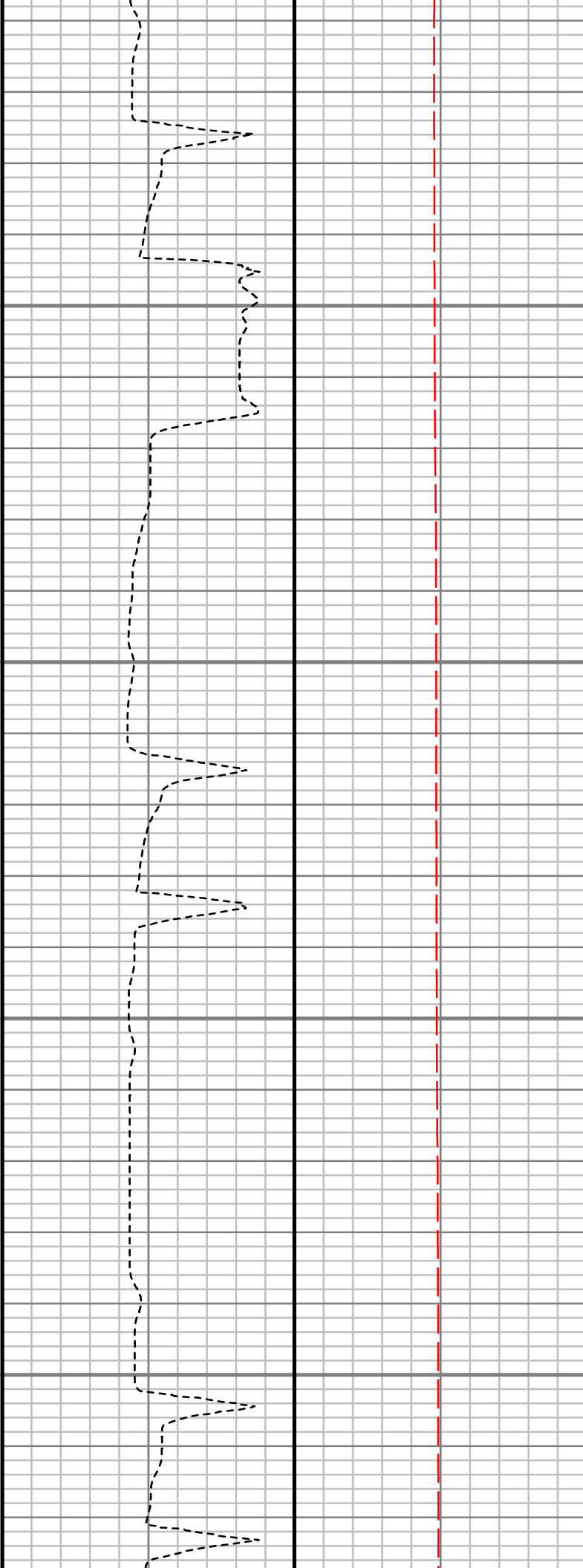
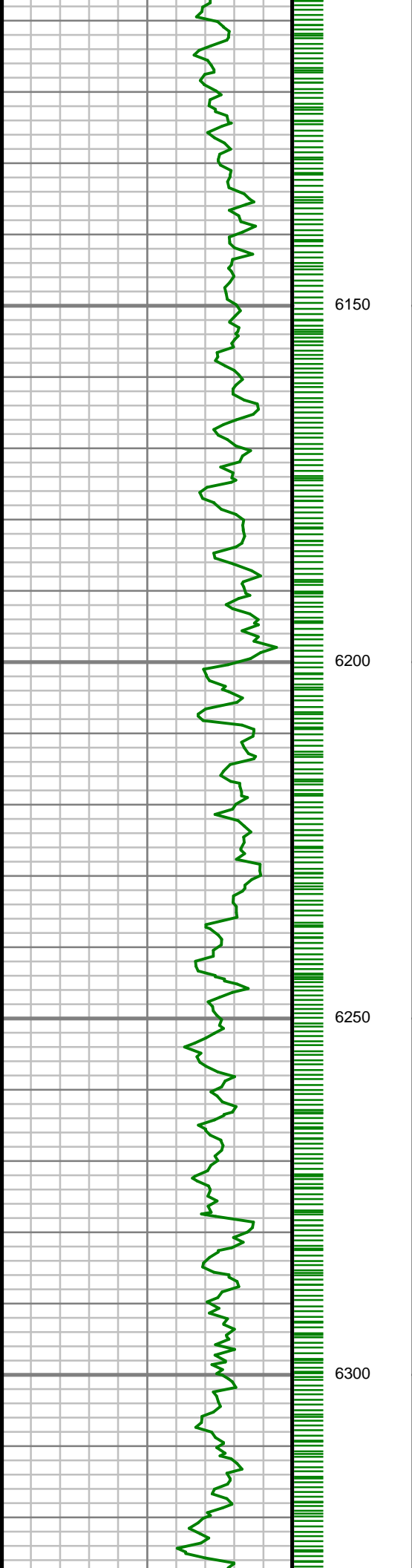
S: 107 MD: 5801.00 ft
Inc: 8.77 deg Az: 86.05
deg TVD: 5481.63 ft



S: 108 MD: 5890.00 ft
Inc: 6.81 deg Az: 84.44
deg TVD: 5569.80 ft

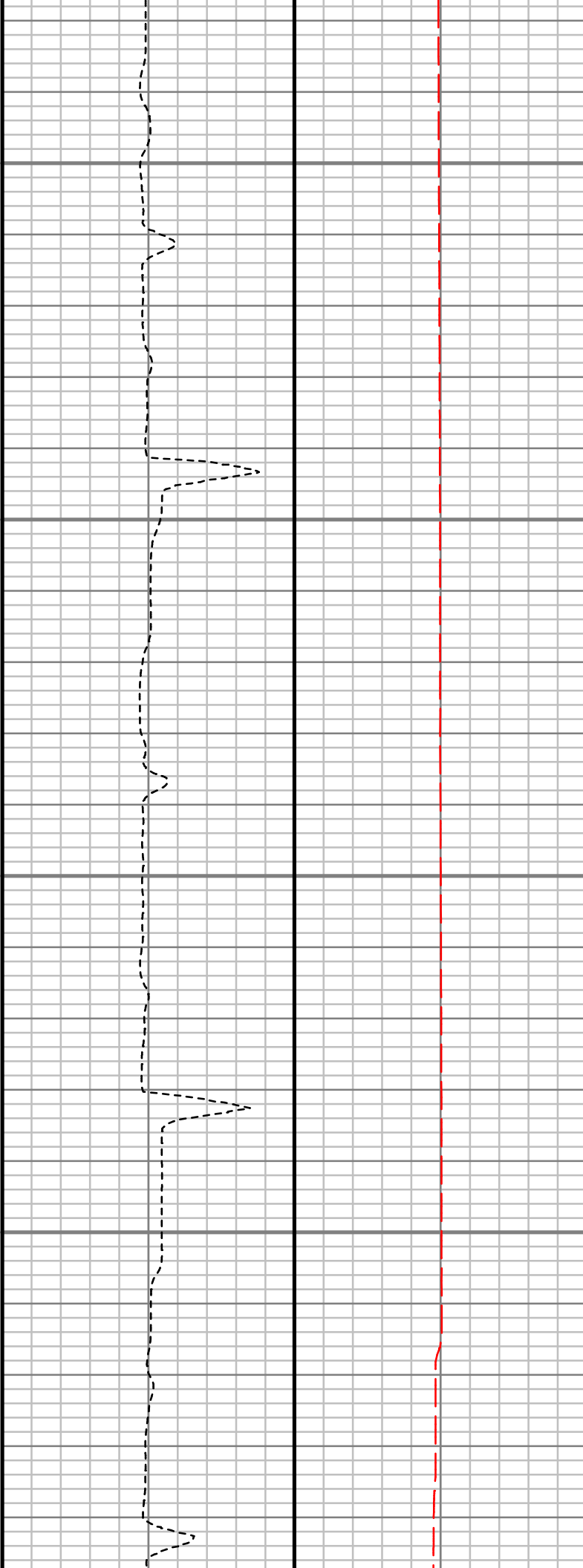
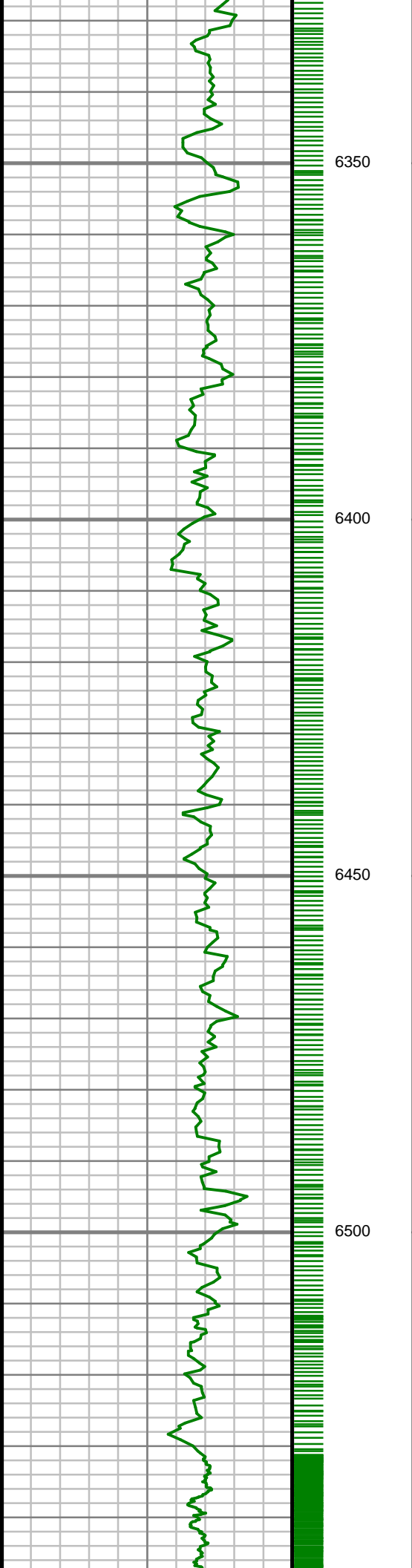
S: 109 MD: 5979.00 ft
Inc: 4.79 deg Az: 82.38
deg TVD: 5658.34 ft

S: 110 MD: 6068.00 ft
Inc: 3.76 deg Az: 70.08
deg TVD: 5747.10 ft



S: 111 MD: 6156.00 ft
Inc: 1.59 deg Az: 83.95
deg TVD: 5835.00 ft

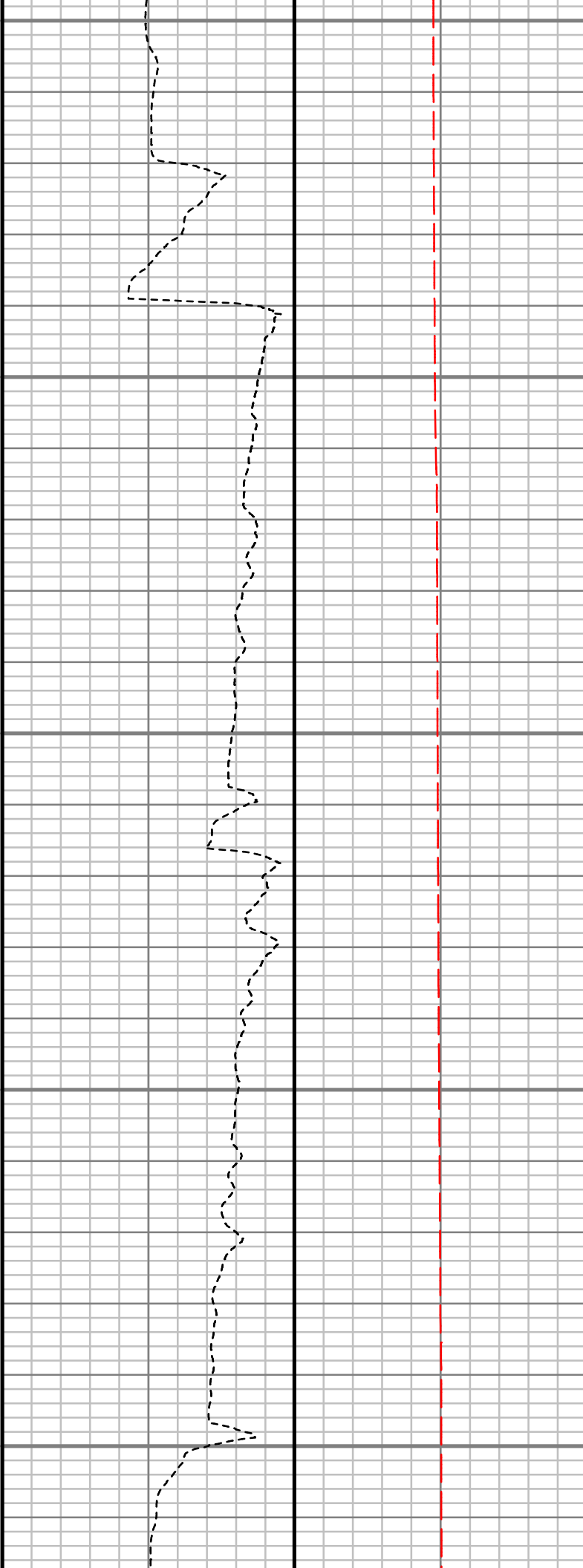
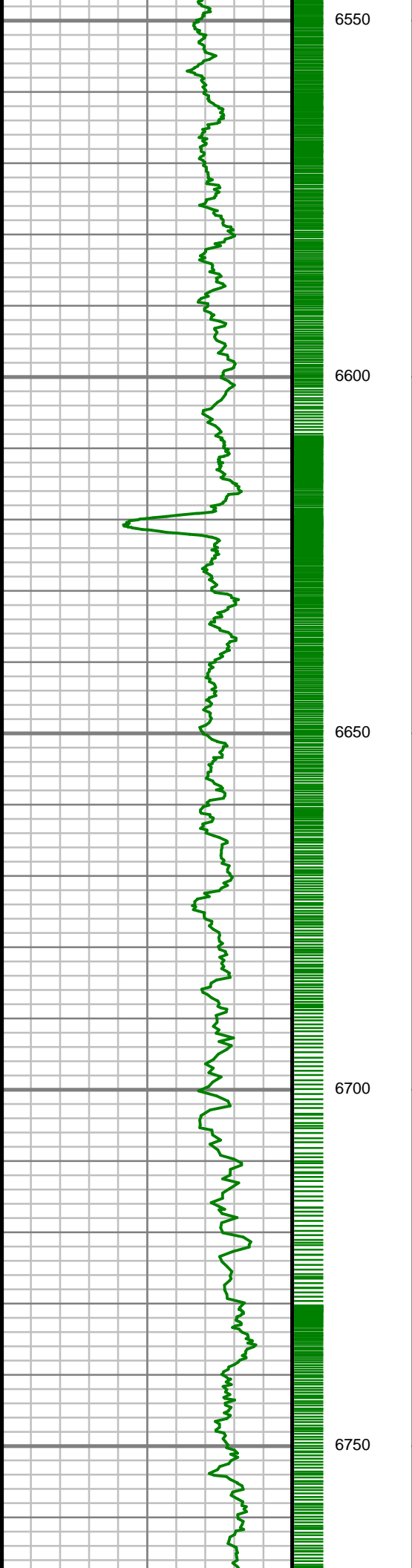
S: 112 MD: 6246.00 ft
Inc: 0.42 deg Az:
159.59 deg TVD:
5924.98 ft



S: 113 MD: 6334.00 ft
Inc: 0.41 deg Az:
114.19 deg TVD:
6012.98 ft

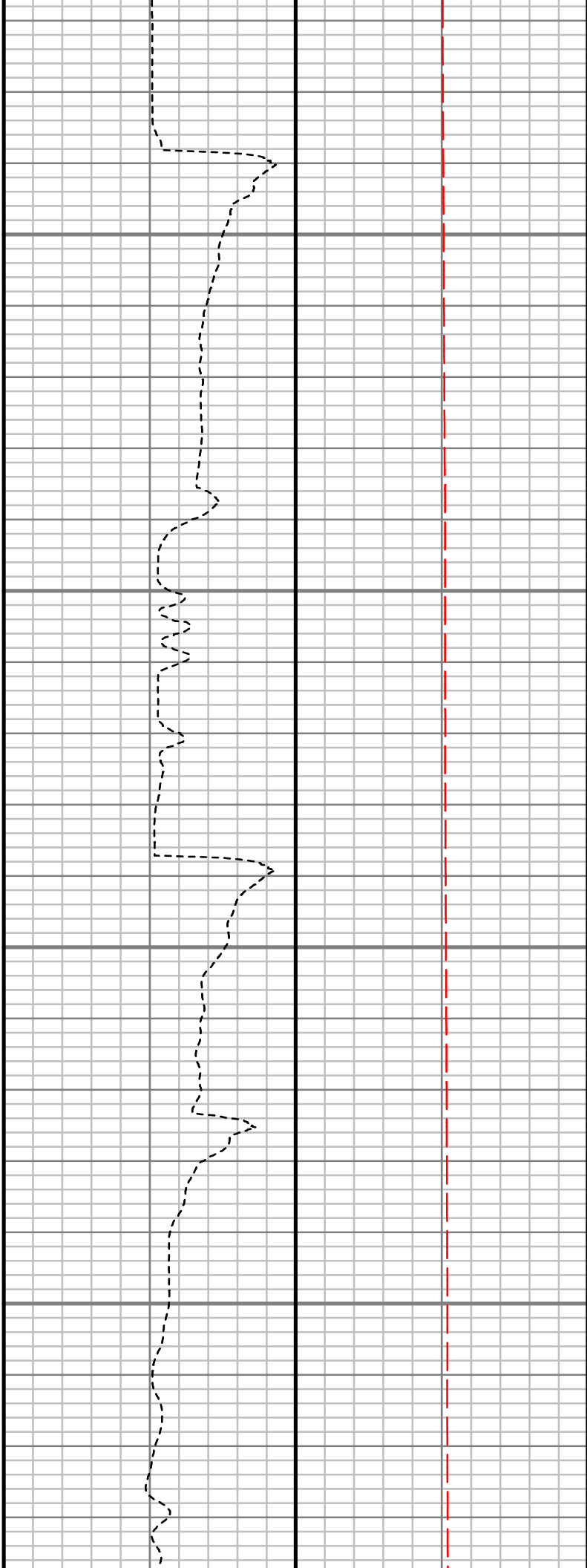
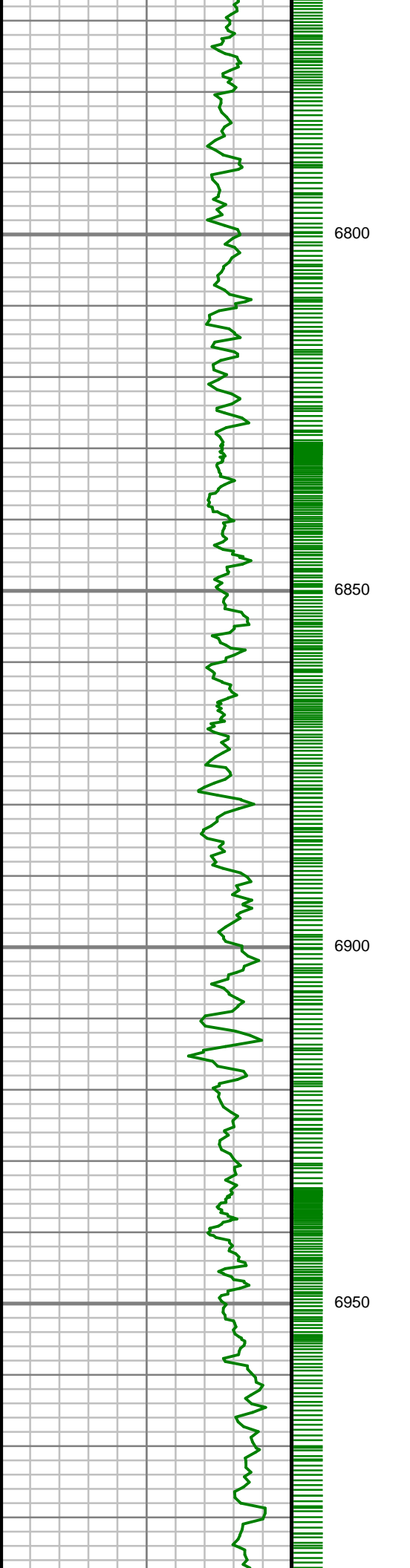
S: 114 MD: 6423.00 ft
Inc: 0.24 deg Az:
213.33 deg TVD:
6101.98 ft

S: 115 MD: 6512.00 ft
Inc: 0.62 deg Az:
245.91 deg TVD:
6190.98 ft



S: 116 MD: 6601.00 ft
Inc: 2.31 deg Az:
191.79 deg TVD:
6279.95 ft

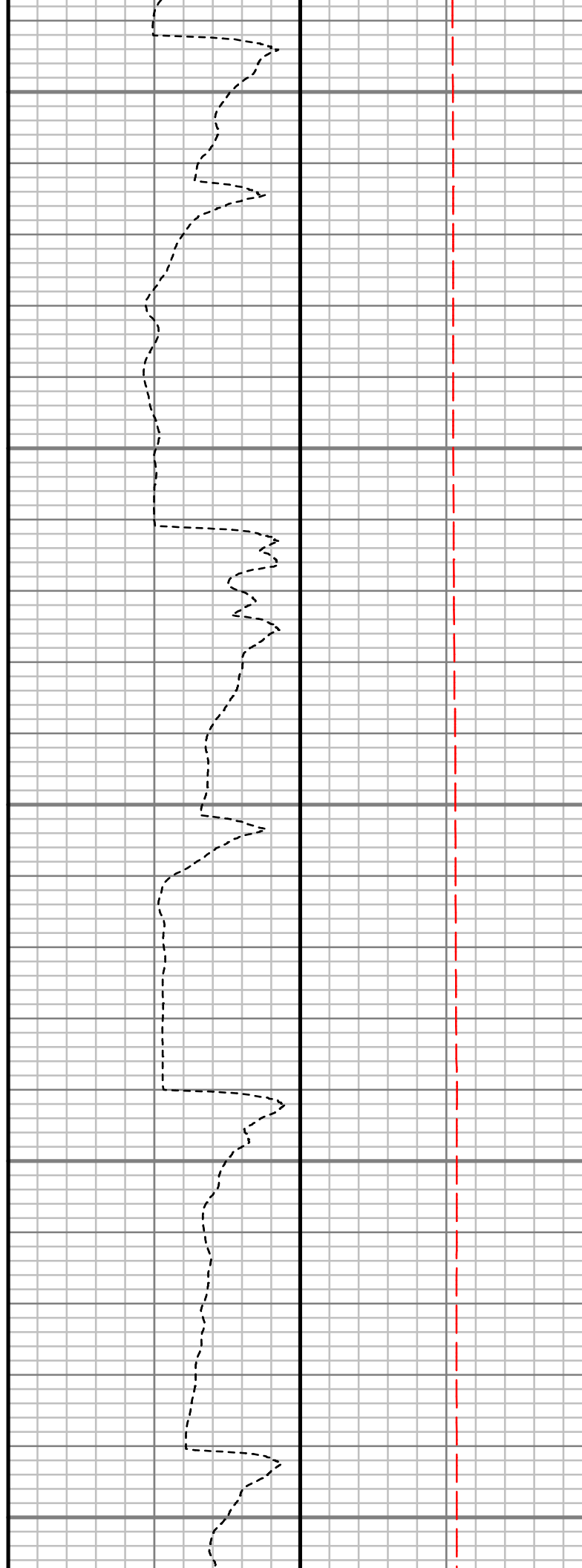
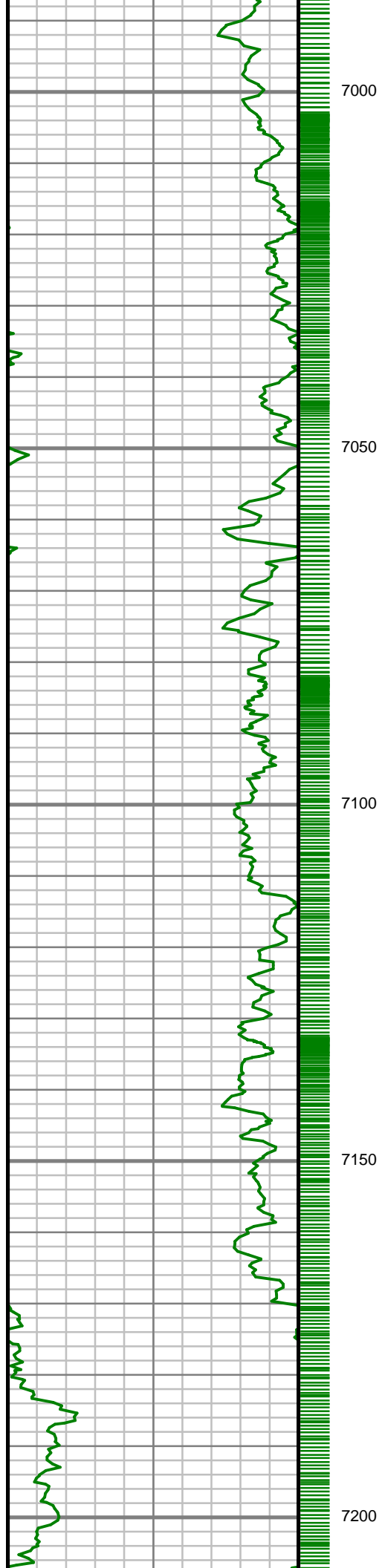
S: 117 MD: 6690.00 ft
Inc: 13.65 deg Az:
179.86 deg TVD:
6367.95 ft



S: 118 MD: 6779.00 ft
Inc: 21.71 deg Az:
177.92 deg TVD:
6452.67 ft

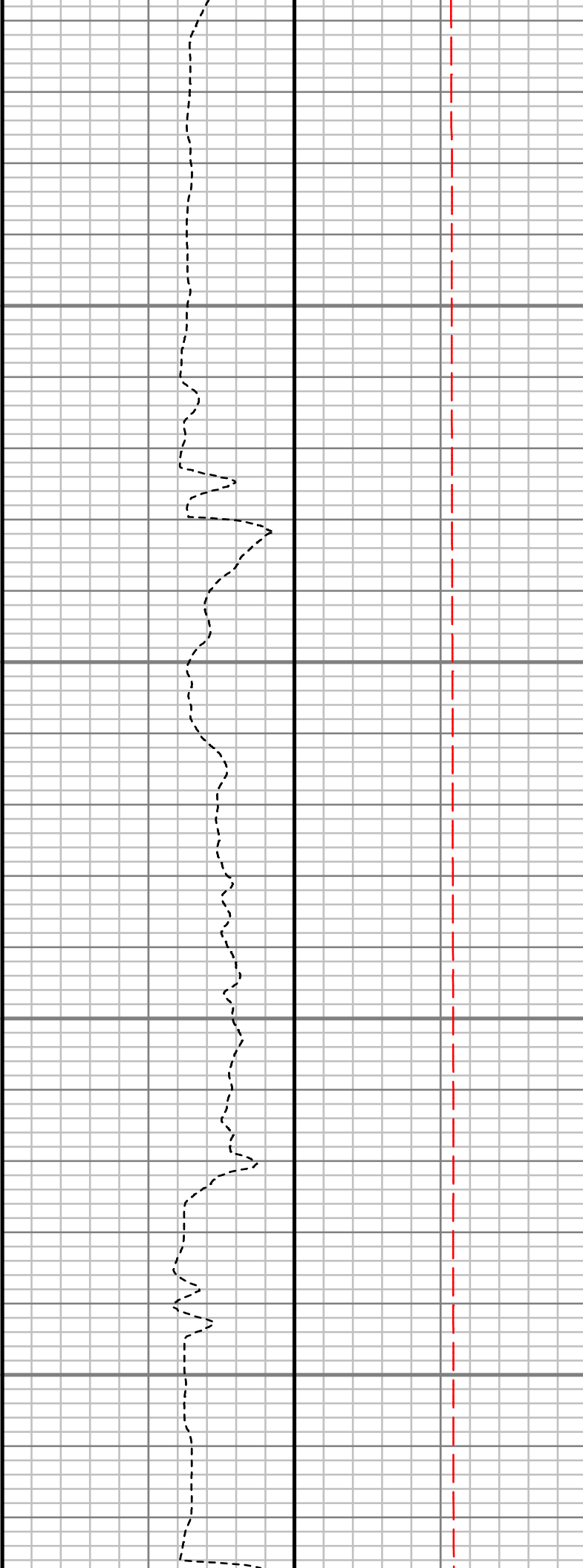
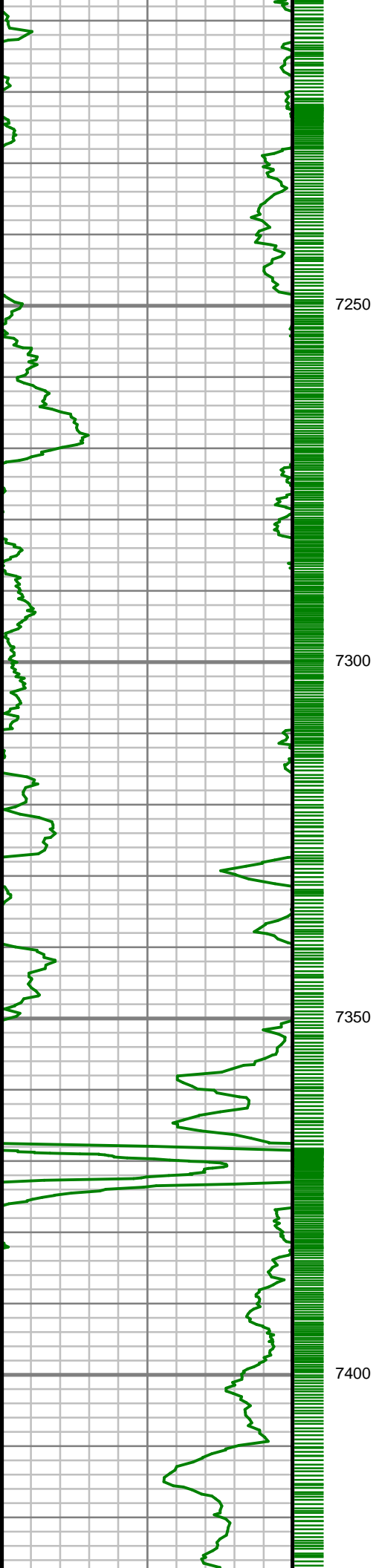
S: 119 MD: 6868.00 ft
Inc: 27.97 deg Az:
177.87 deg TVD:
6533.40 ft

S: 120 MD: 6957.00 ft
Inc: 32.65 deg Az:
176.70 deg TVD:
6610.21 ft



S: 121 MD: 7046.00 ft
Inc: 33.05 deg Az:
177.15 deg TVD:
6684.98 ft

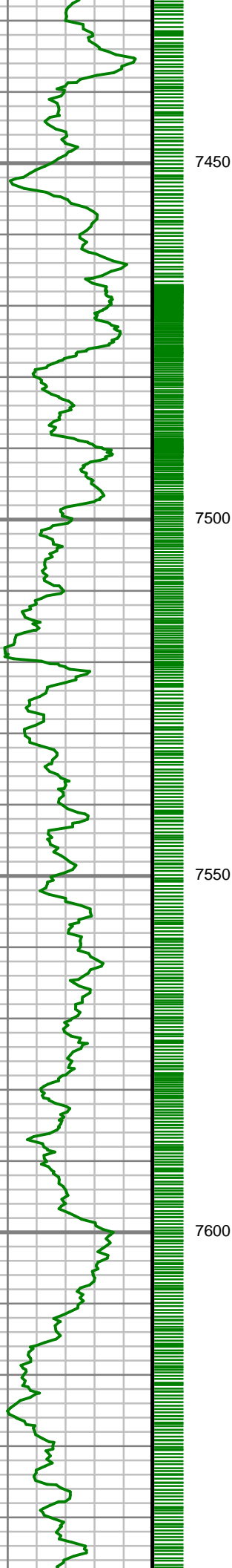
S: 122 MD: 7135.00 ft
Inc: 35.52 deg Az:
180.29 deg TVD:
6758.52 ft



S: 123 MD: 7223.00 ft
Inc: 46.93 deg Az:
185.78 deg TVD:
6824.62 ft

S: 124 MD: 7312.00 ft
Inc: 62.07 deg Az:
188.89 deg TVD:
6876.15 ft

S: 125 MD: 7401.00 ft
Inc: 71.79 deg Az:
184.81 deg TVD:
6911.00 ft

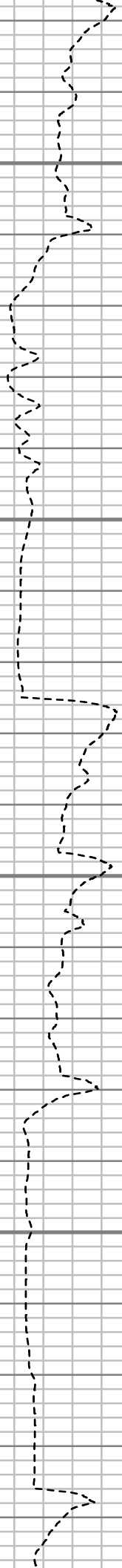


7450

7500

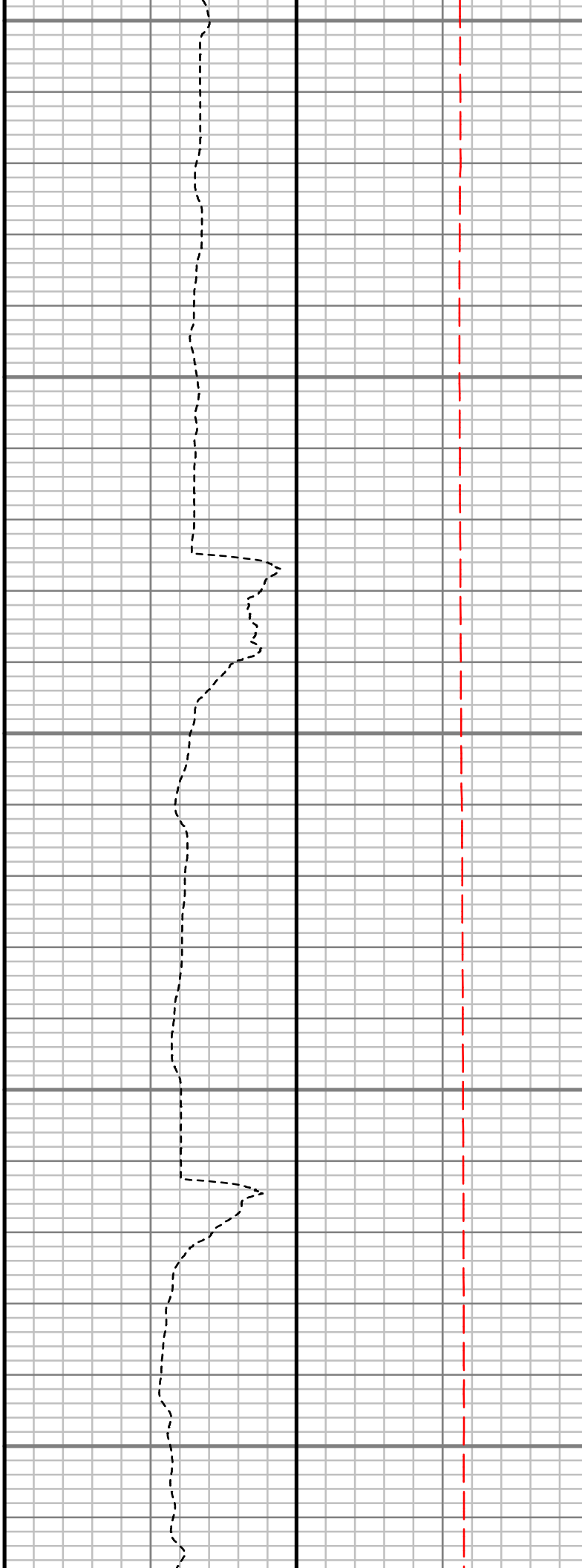
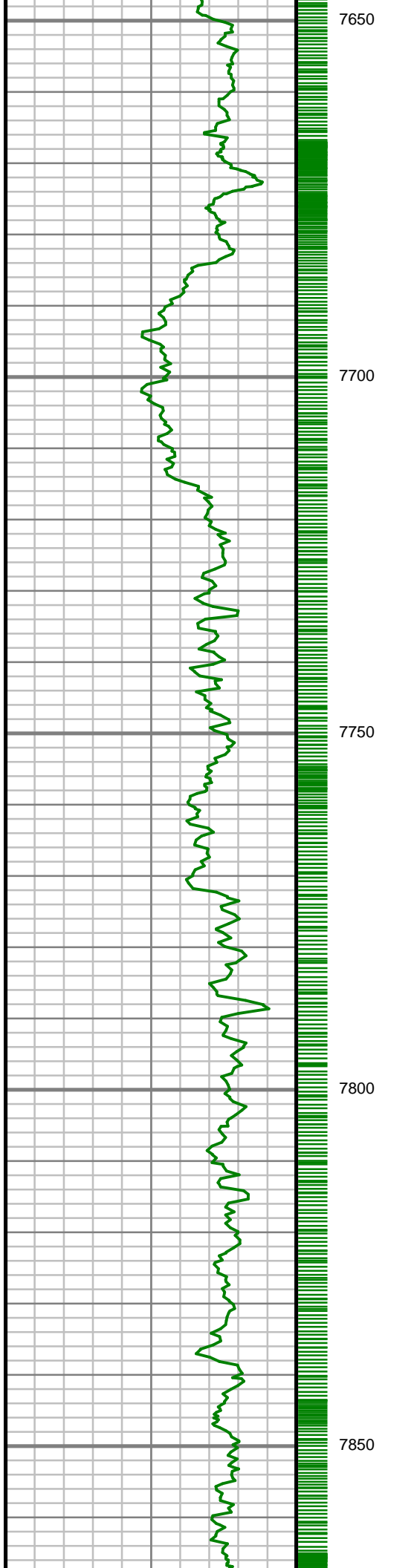
7550

7600



S: 126 MD: 7490.00 ft
Inc: 76.02 deg Az:
182.51 deg TVD:
6935.67 ft

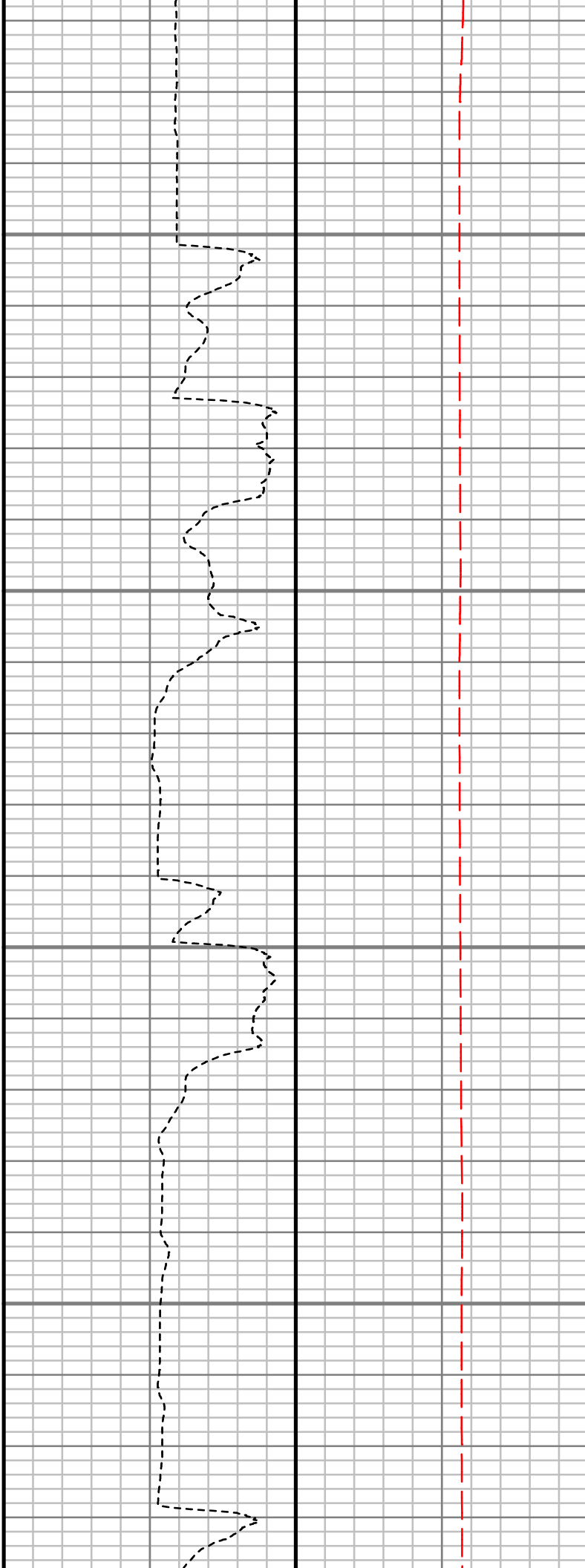
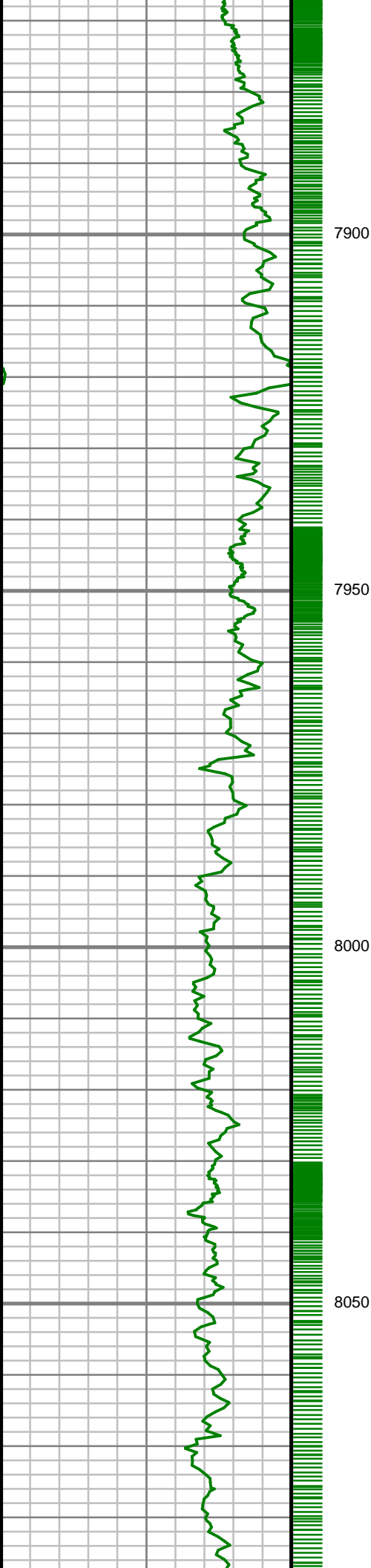
S: 127 MD: 7579.00 ft
Inc: 84.48 deg Az:
178.25 deg TVD:
6950.73 ft



S: 128 MD: 7668.00 ft
Inc: 85.35 deg Az:
178.73 deg TVD:
6958.61 ft

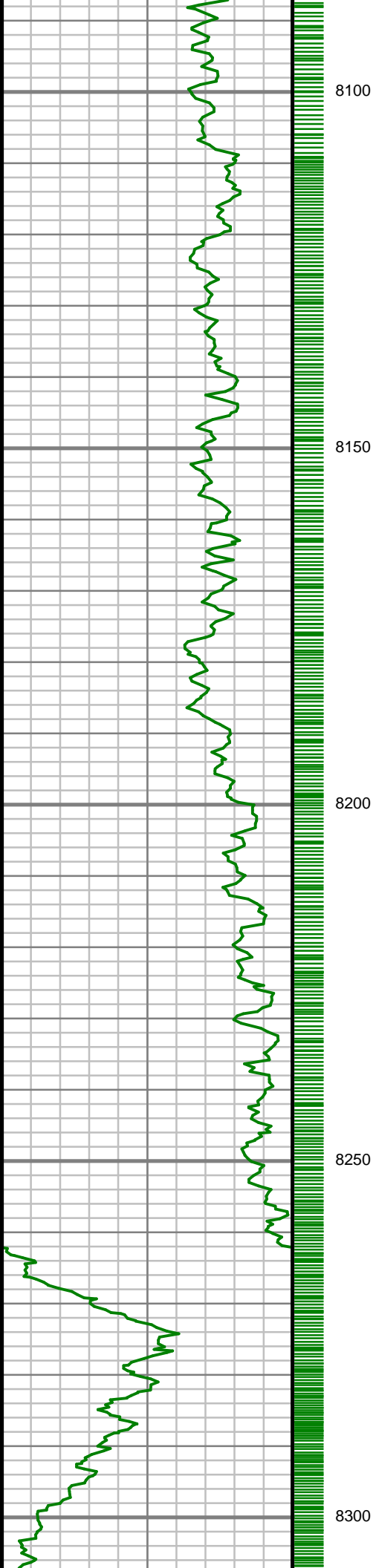
S: 129 MD: 7757.00 ft
Inc: 87.55 deg Az:
179.29 deg TVD:
6964.12 ft

S: 130 MD: 7845.00 ft
Inc: 87.86 deg Az:
179.49 deg TVD:
6967.65 ft



S: 131 MD: 7934.00 ft
Inc: 87.62 deg Az:
179.08 deg TVD:
6971.16 ft

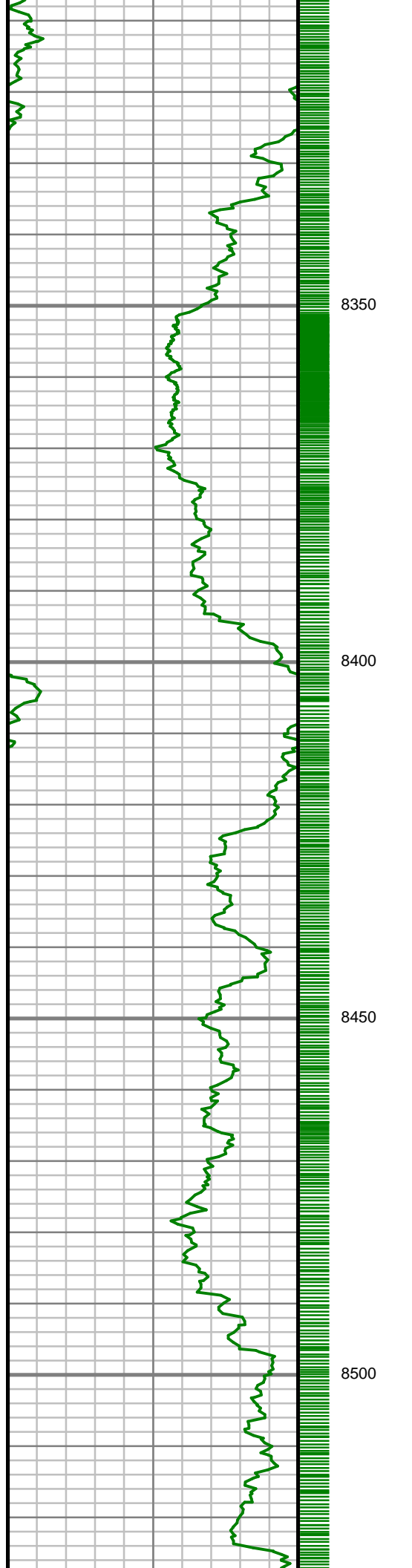
S: 132 MD: 8023.00 ft
Inc: 86.28 deg Az:
179.58 deg TVD:
6975.90 ft



S: 133 MD: 8111.00 ft
Inc: 85.57 deg Az:
179.52 deg TVD:
6982.16 ft

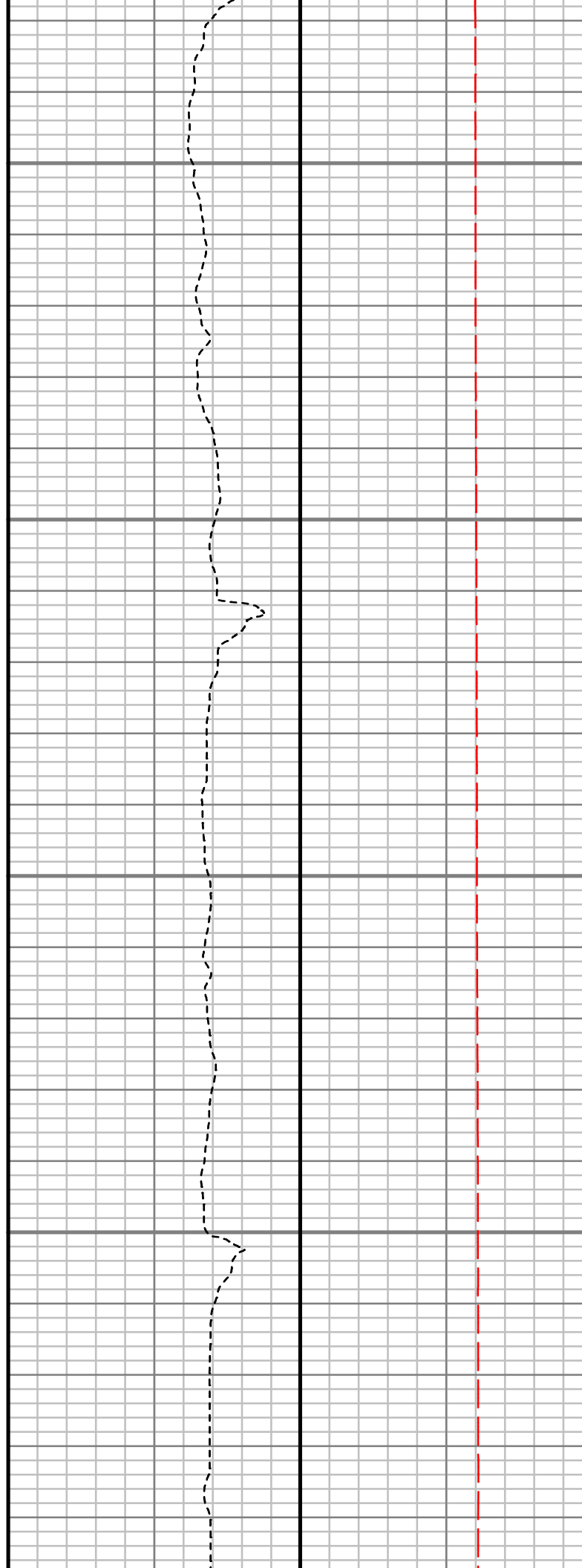
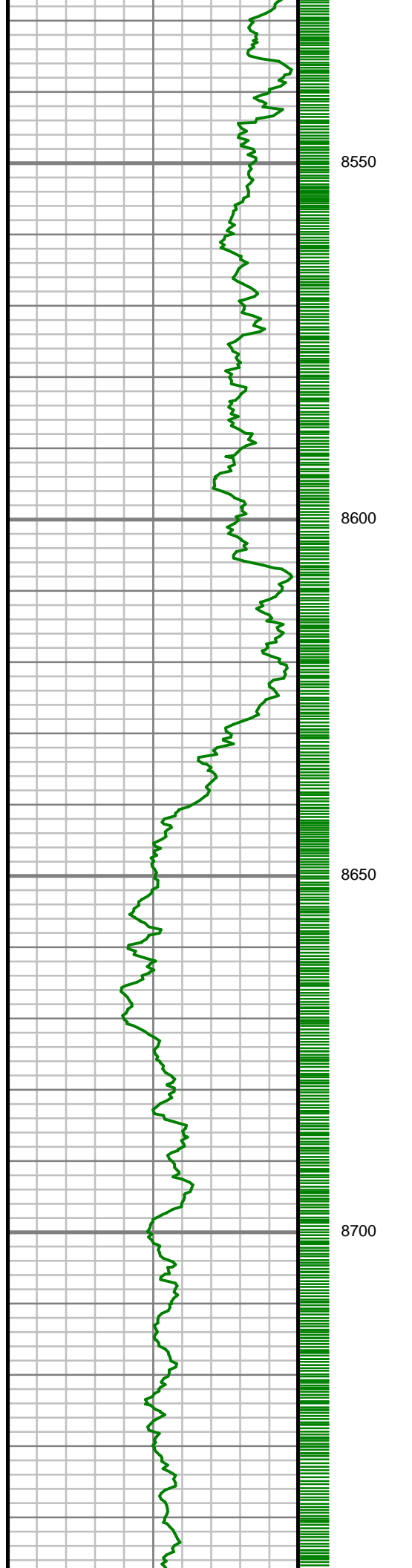
S: 134 MD: 8200.00 ft
Inc: 85.81 deg Az:
179.78 deg TVD:
6988.85 ft

S: 135 MD: 8289.00 ft
Inc: 86.24 deg Az:
179.57 deg TVD:
6995.01 ft



S: 136 MD: 8378.00 ft
Inc: 87.35 deg Az:
179.19 deg TVD:
6999.99 ft

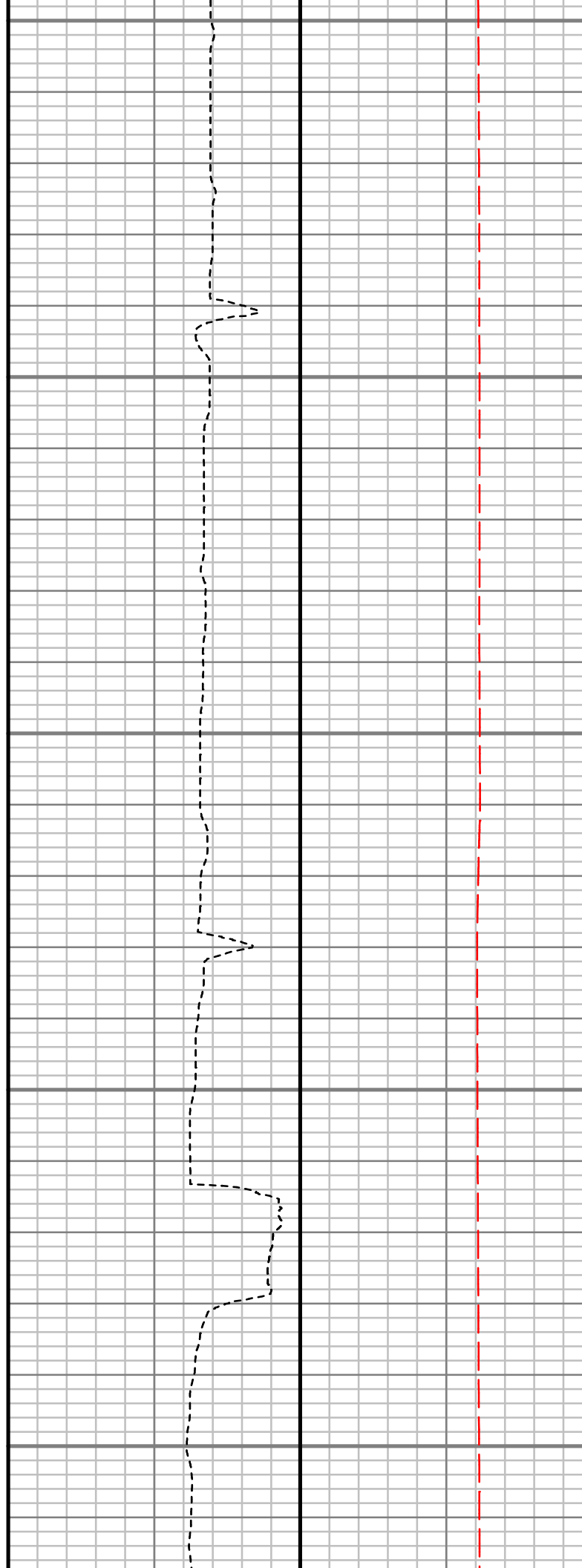
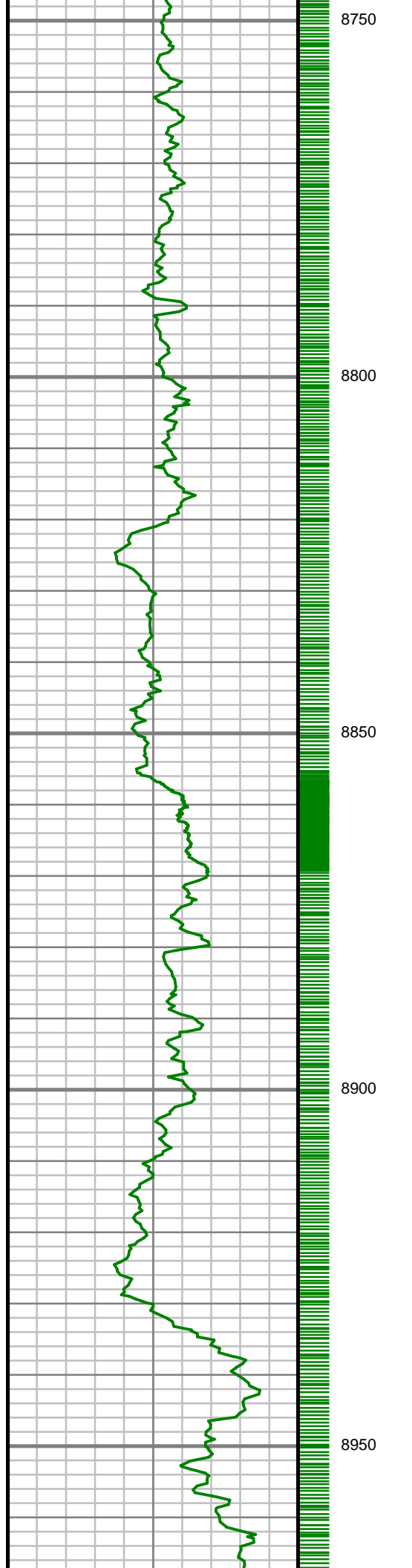
S: 137 MD: 8466.00 ft
Inc: 85.14 deg Az:
179.81 deg TVD:
7005.75 ft



S: 138 MD: 8555.00 ft
Inc: 85.71 deg Az:
179.79 deg TVD:
7012.85 ft

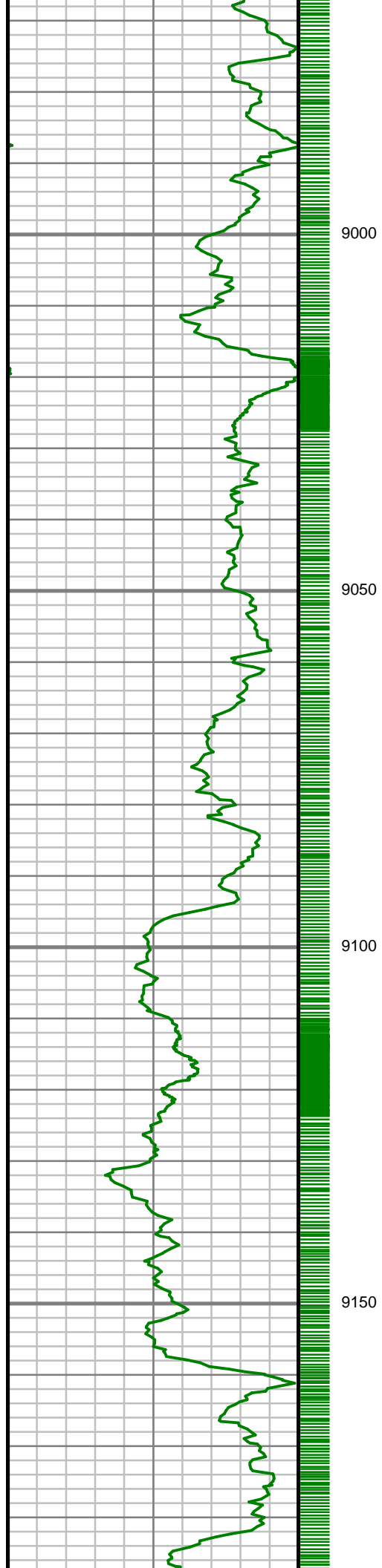
S: 139 MD: 8644.00 ft
Inc: 86.21 deg Az:
179.16 deg TVD:
7019.11 ft

S: 140 MD: 8733.00 ft
Inc: 86.72 deg Az:
179.59 deg TVD:
7024.60 ft



S: 141 MD: 8822.00 ft
Inc: 87.28 deg Az:
178.46 deg TVD:
7029.26 ft

S: 142 MD: 8911.00 ft
Inc: 87.79 deg Az:
178.56 deg TVD:
7033.08 ft



9000

9050

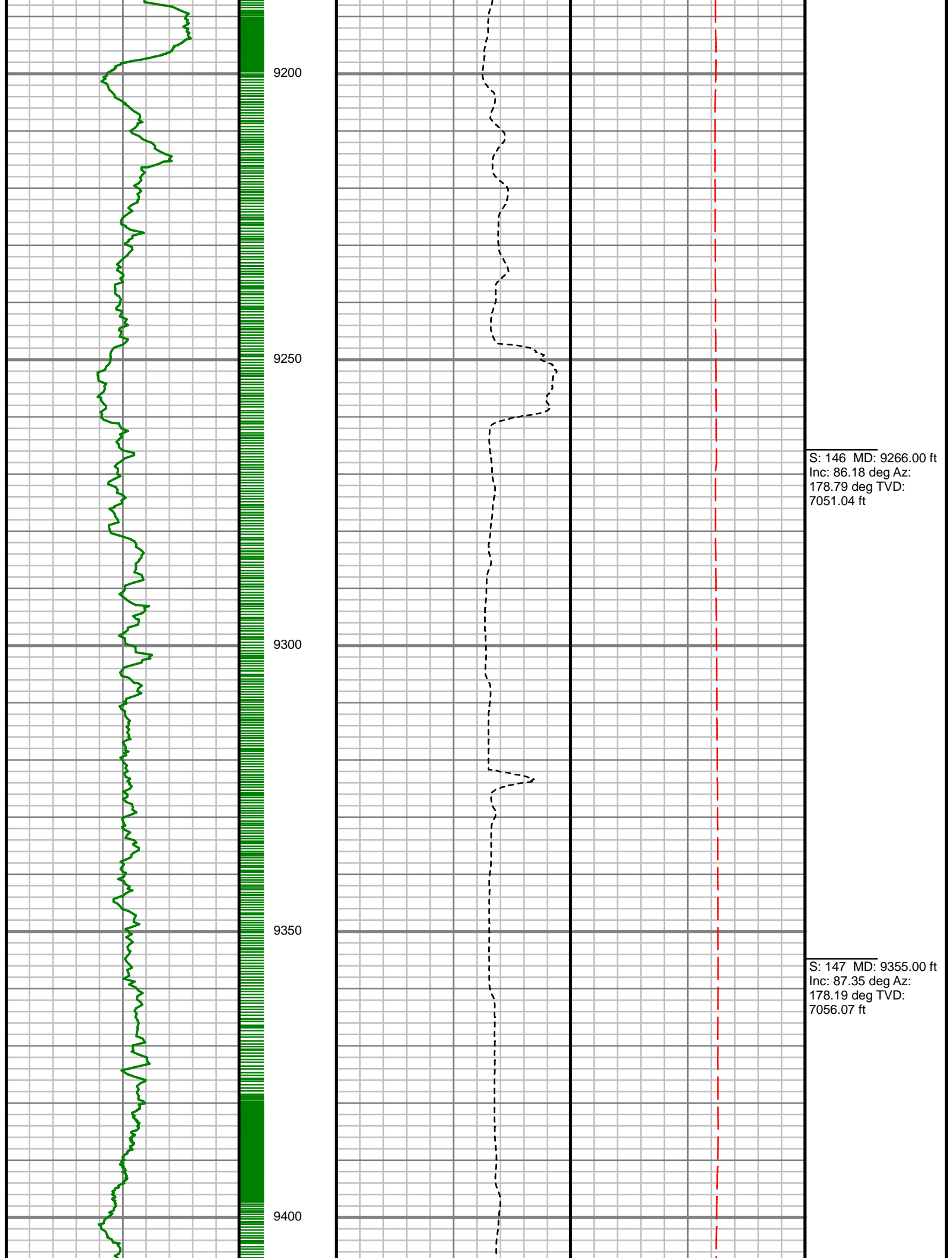
9100

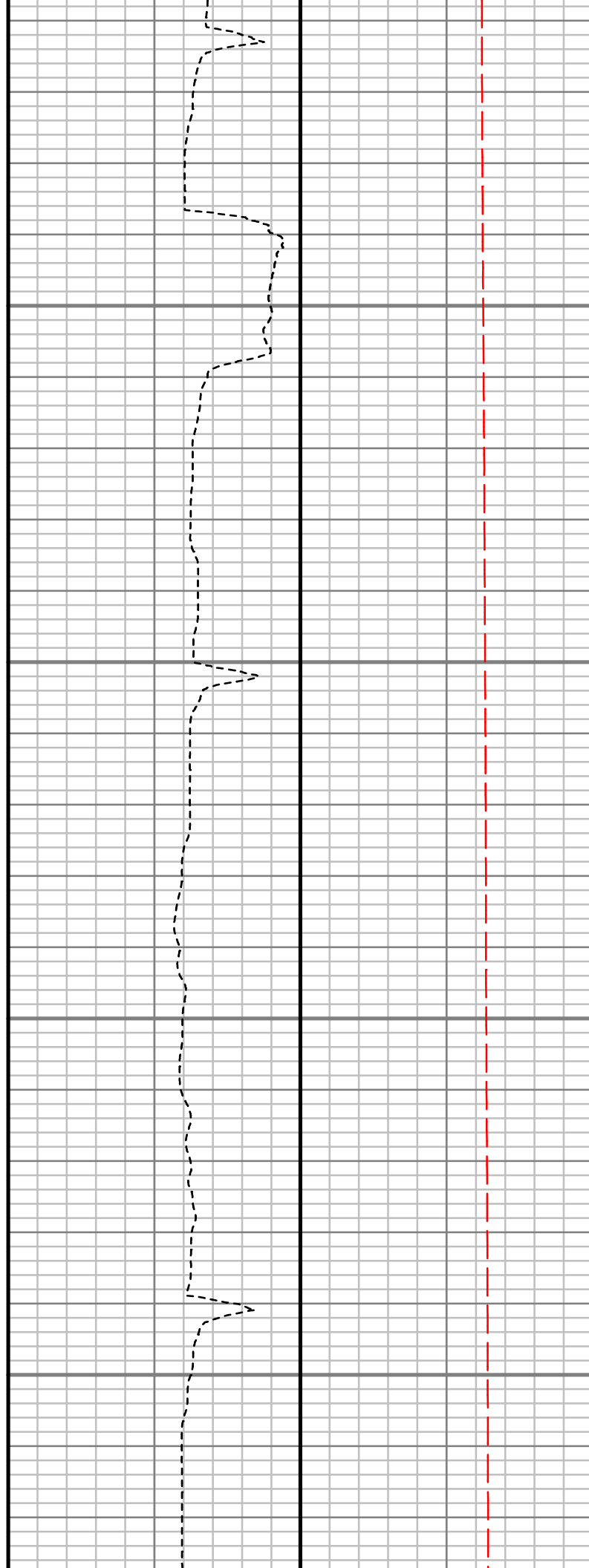
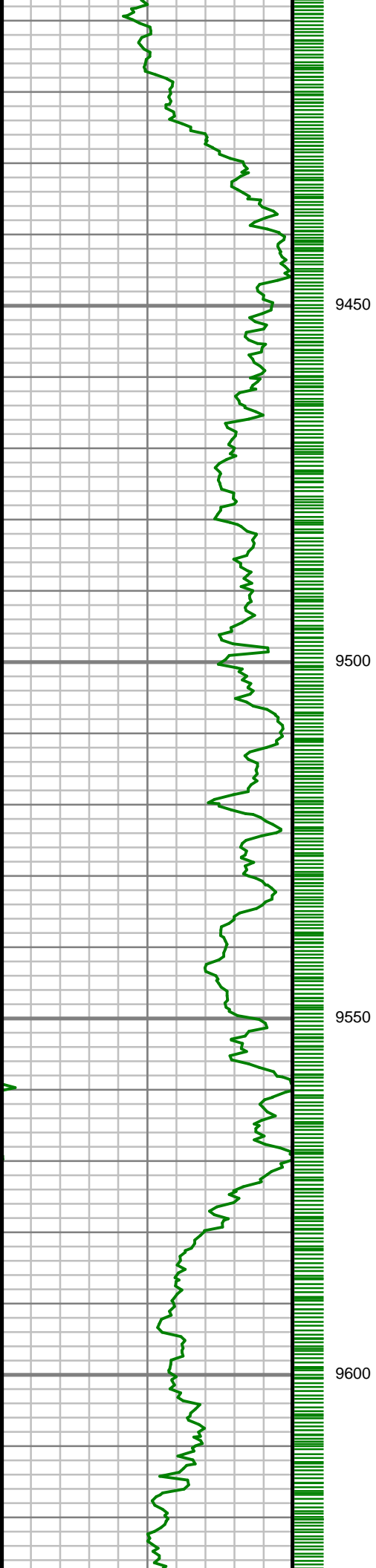
9150

S: 143 MD: 8999.00 ft
Inc: 87.05 deg Az:
178.33 deg TVD:
7037.04 ft

S: 144 MD: 9088.00 ft
Inc: 87.18 deg Az:
178.35 deg TVD:
7041.52 ft

S: 145 MD: 9177.00 ft
Inc: 87.18 deg Az:
178.43 deg TVD:
7045.89 ft

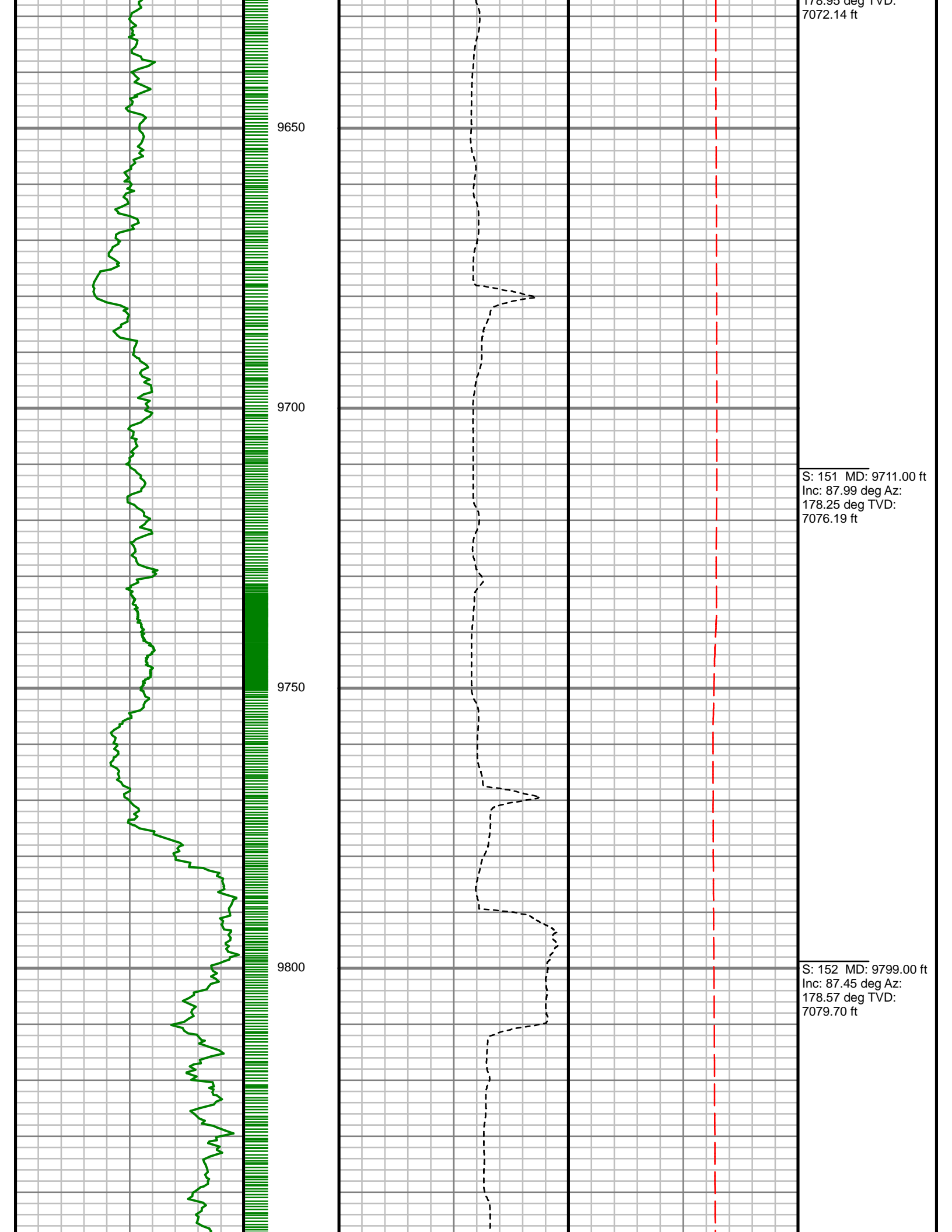


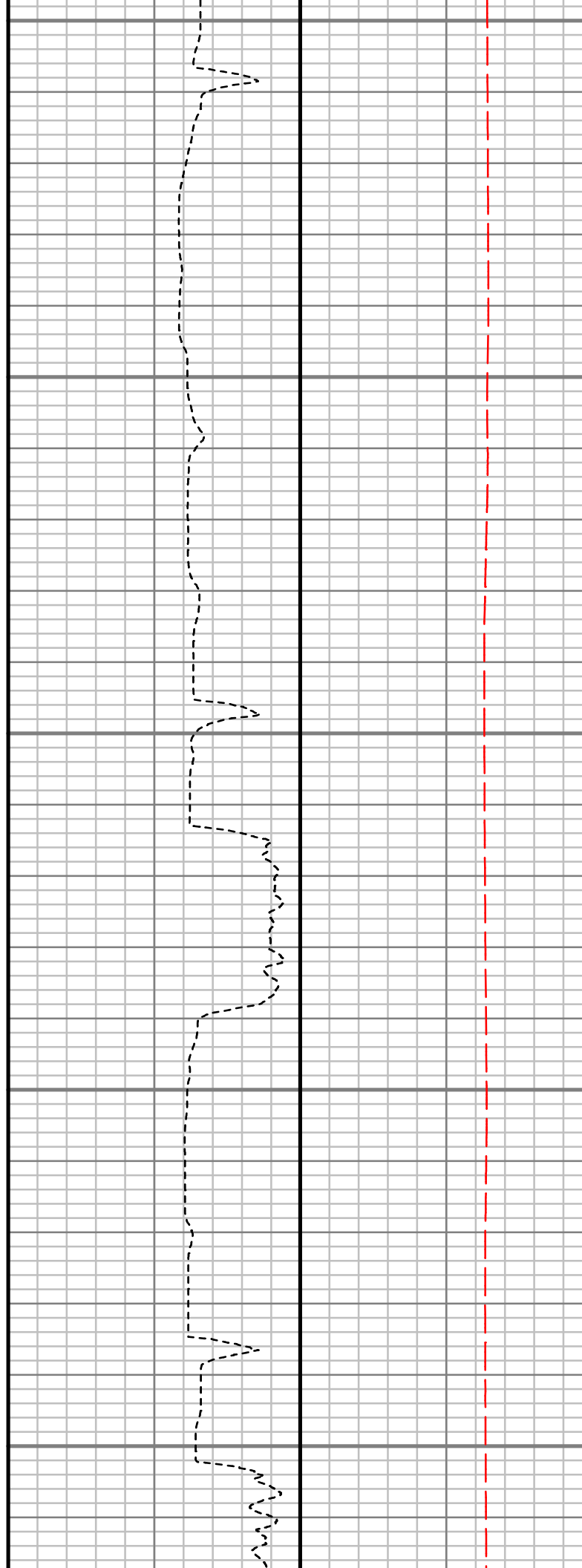
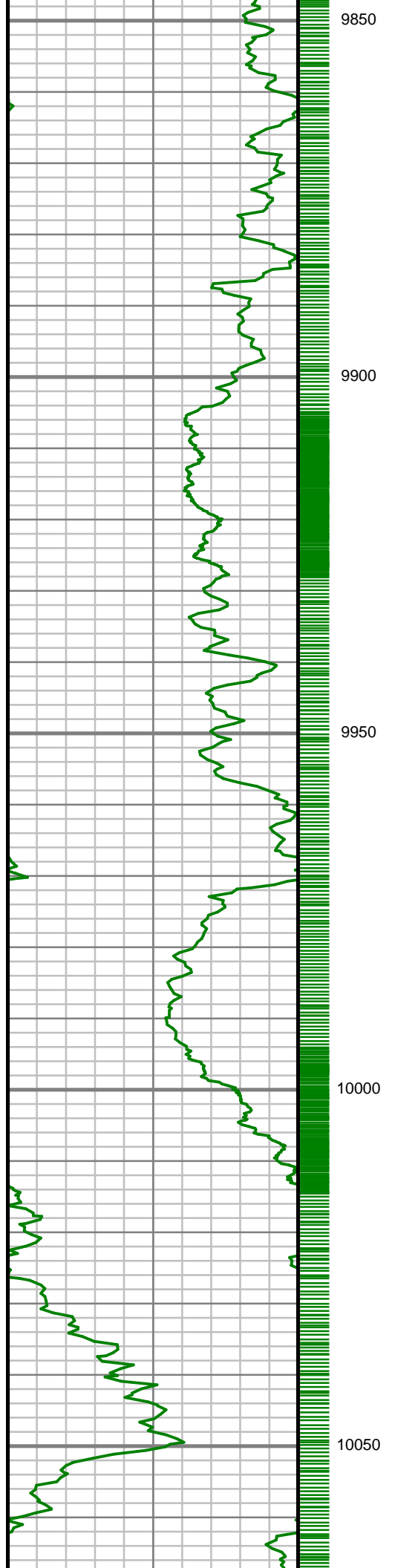


S: 148 MD: 9444.00 ft
Inc: 86.32 deg Az:
179.18 deg TVD:
7060.99 ft

S: 149 MD: 9532.00 ft
Inc: 86.19 deg Az:
179.79 deg TVD:
7066.74 ft

S: 150 MD: 9621.00 ft
Inc: 86.85 deg Az:
179.95 deg TVD:

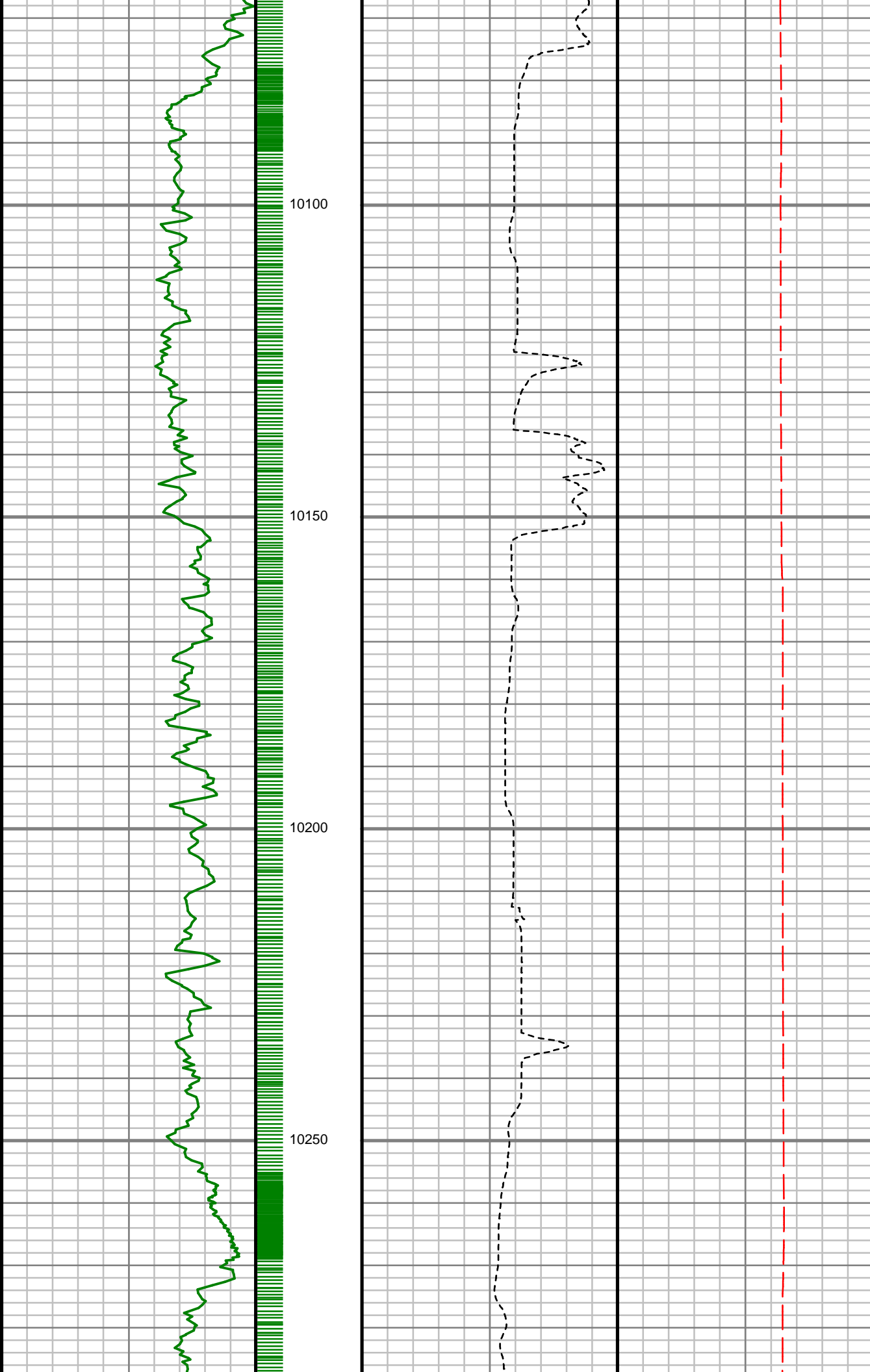




S: 153 MD: 9888.00 ft
Inc: 87.62 deg Az:
177.79 deg TVD:
7083.52 ft

S: 154 MD: 9977.00 ft
Inc: 87.49 deg Az:
179.10 deg TVD:
7087.32 ft

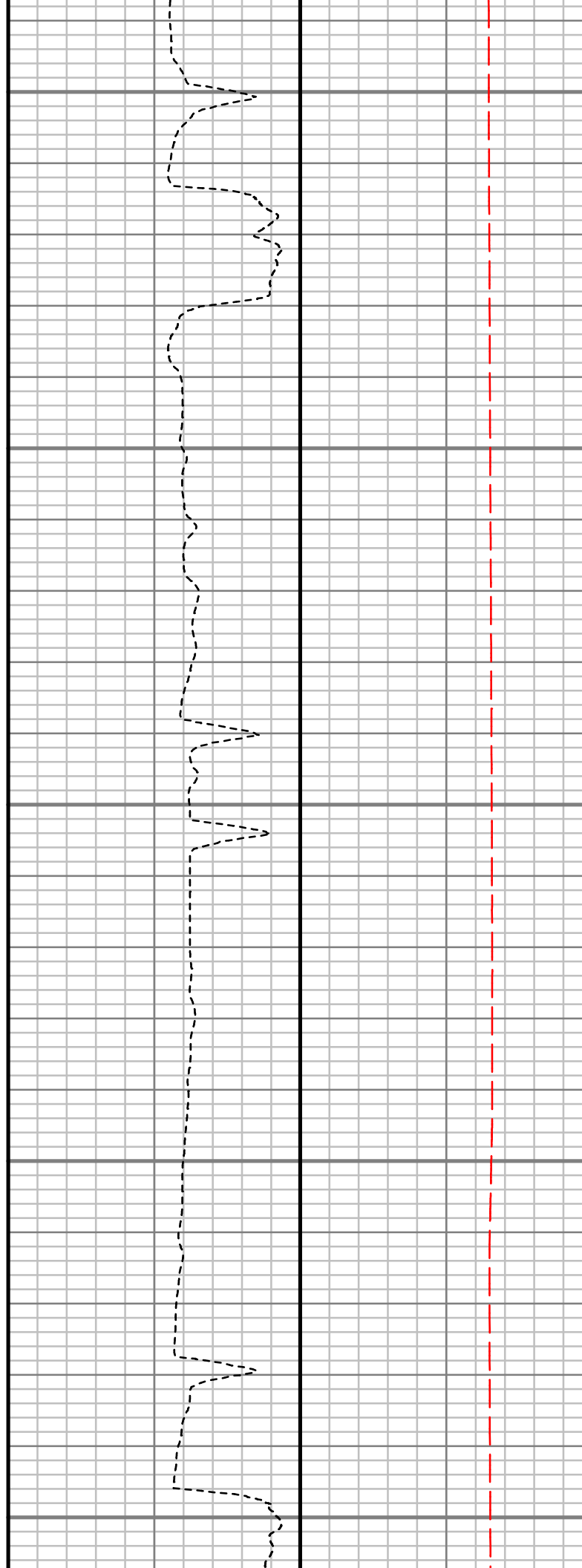
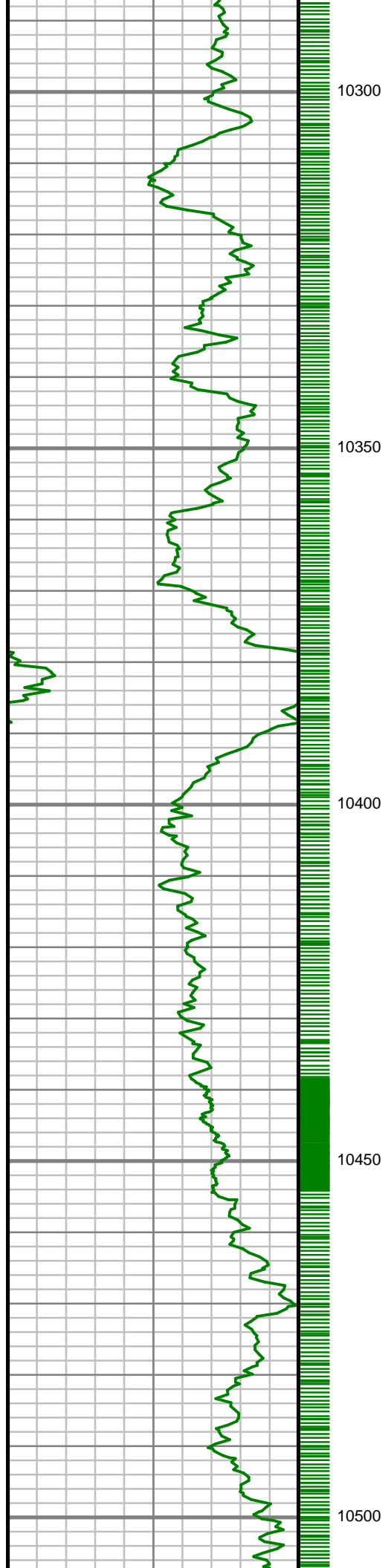
S: 155 MD: 10065.00 ft



Inc: 86.24 deg Az:
179.52 deg TVD:
7092.14 ft

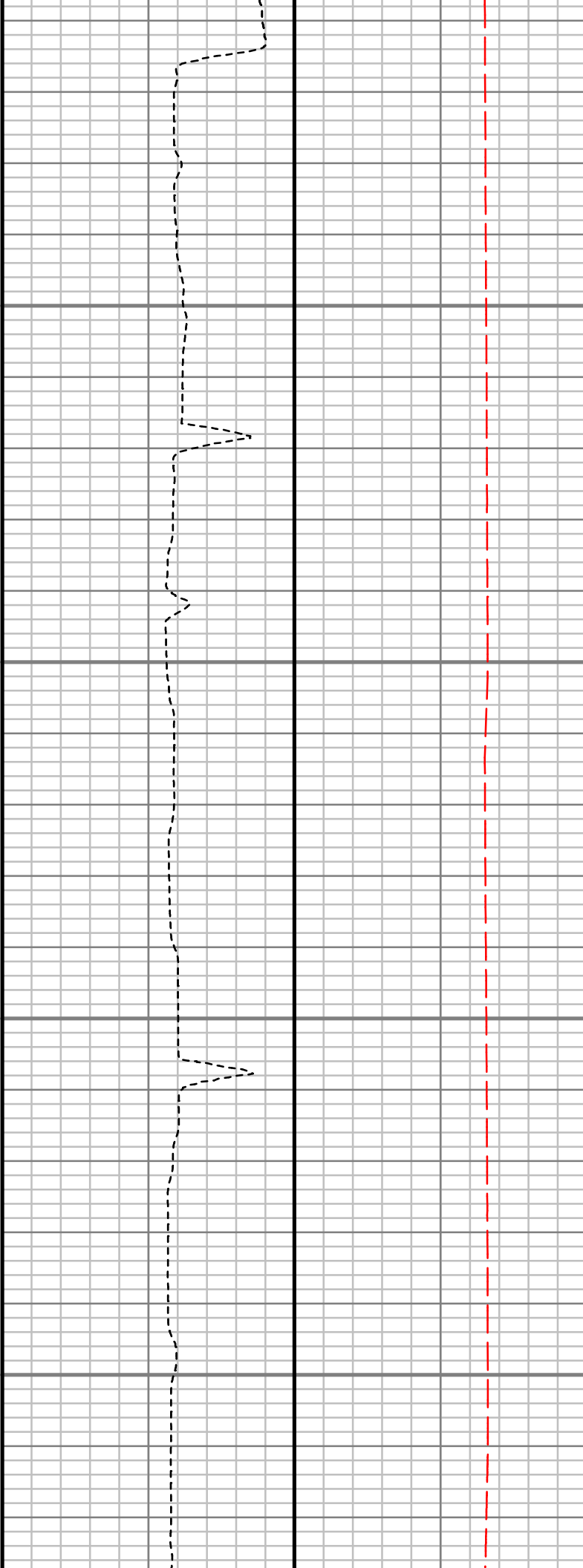
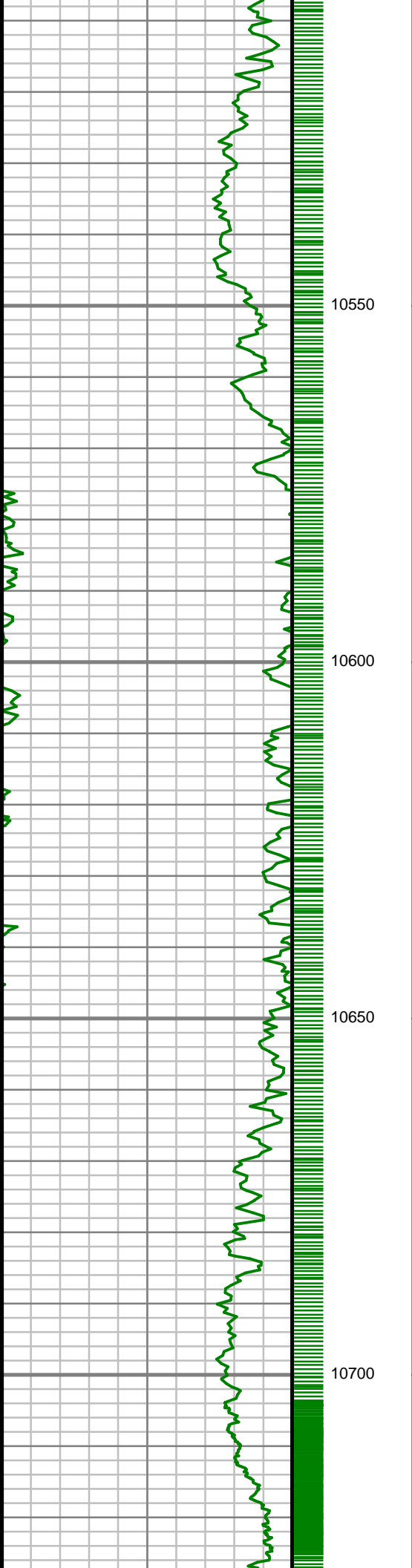
S: 156 MD: 10154.00 ft
Inc: 85.04 deg Az:
180.76 deg TVD:
7098.91 ft

S: 157 MD: 10243.00 ft
Inc: 86.08 deg Az:
180.35 deg TVD:
7105.80 ft



S: 158 MD: 10332.00 ft
Inc: 85.94 deg Az:
179.00 deg TVD:
7111.99 ft

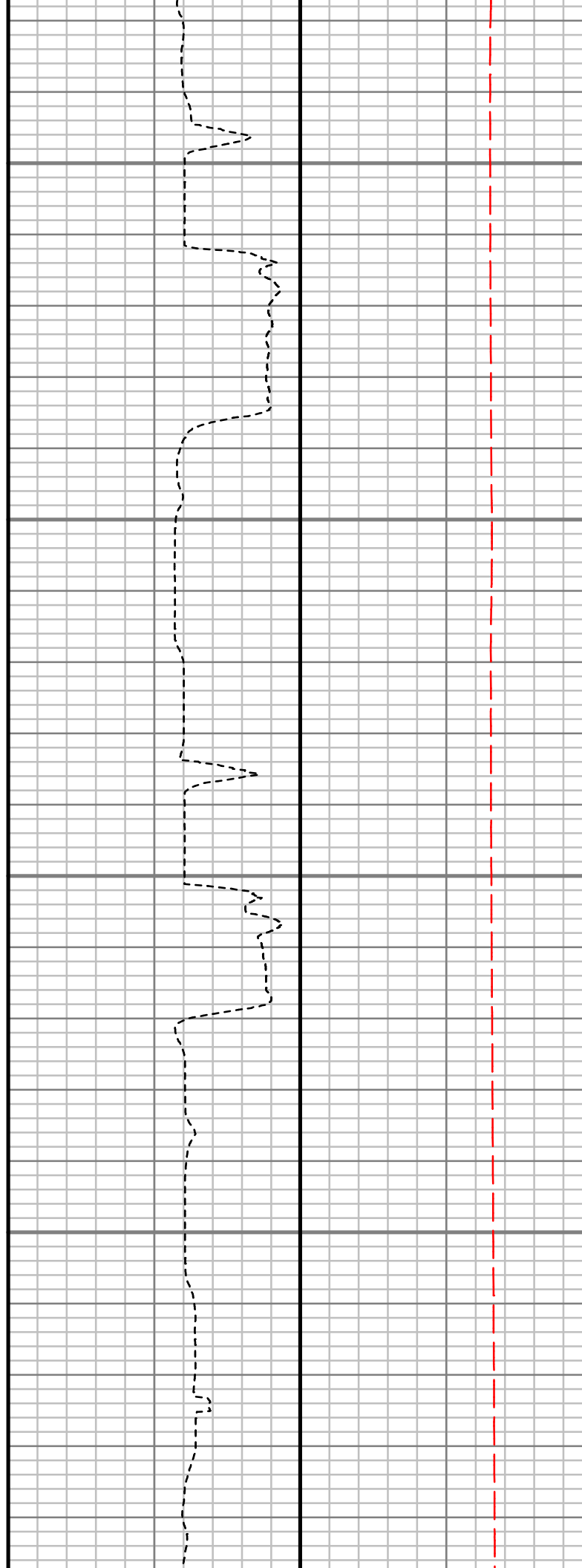
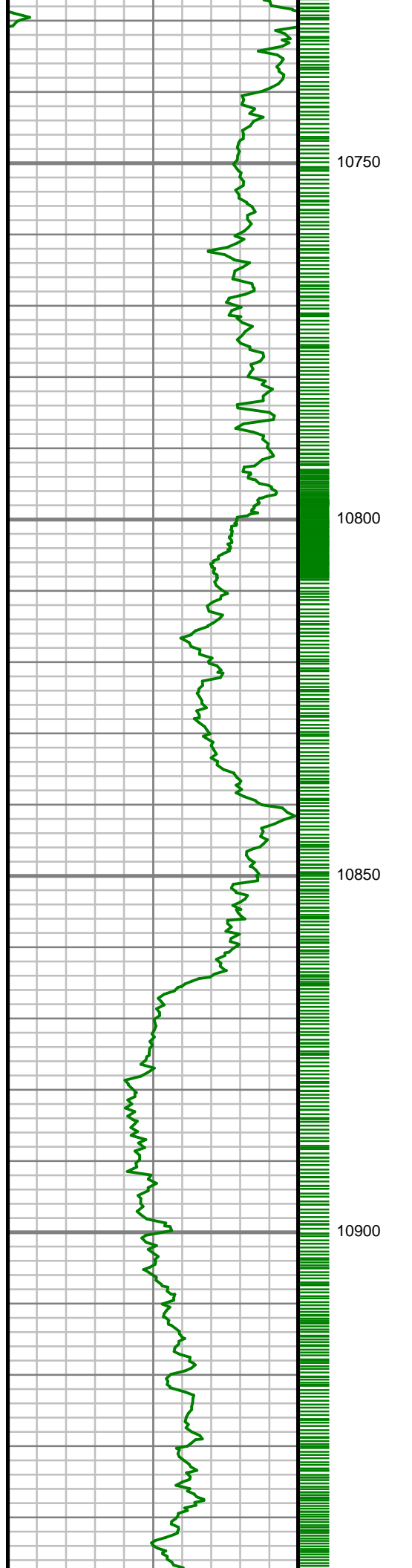
S: 159 MD: 10421.00 ft
Inc: 86.95 deg Az:
178.41 deg TVD:
7117.51 ft



S: 160 MD: 10510.00 ft
Inc: 86.07 deg Az:
178.35 deg TVD:
7122.92 ft

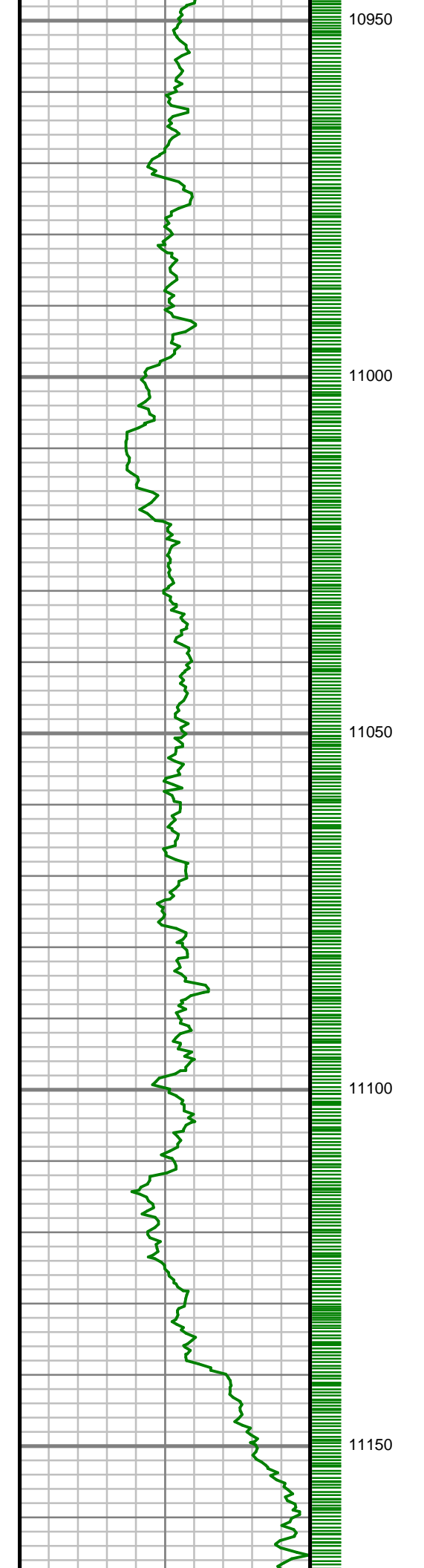
S: 161 MD: 10599.00 ft
Inc: 86.52 deg Az:
177.93 deg TVD:
7128.68 ft

S: 162 MD: 10687.00 ft
Inc: 87.45 deg Az:
177.73 deg TVD:
7133.30 ft



S: 163 MD: 10776.00 ft
Inc: 87.22 deg Az:
179.27 deg TVD:
7137.44 ft

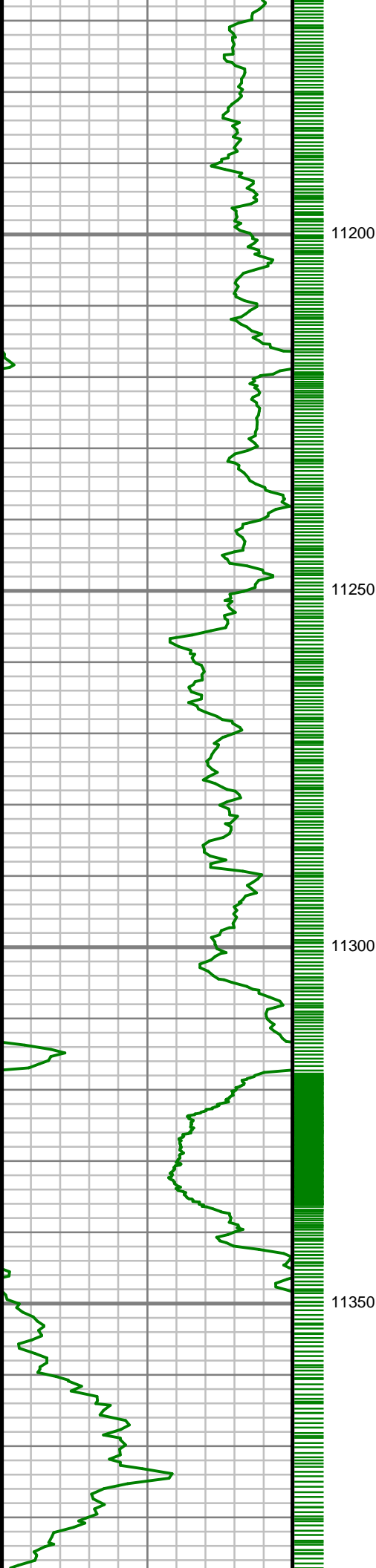
S: 164 MD: 10865.00 ft
Inc: 85.87 deg Az:
179.44 deg TVD:
7142.80 ft



S: 165 MD: 10954.00 ft
Inc: 85.97 deg Az:
179.21 deg TVD:
7149.14 ft

S: 166 MD: 11043.00 ft
Inc: 86.38 deg Az:
179.06 deg TVD:
7155.08 ft

S: 167 MD: 11132.00 ft
Inc: 86.82 deg Az:
178.76 deg TVD:
7160.35 ft



11200

11250

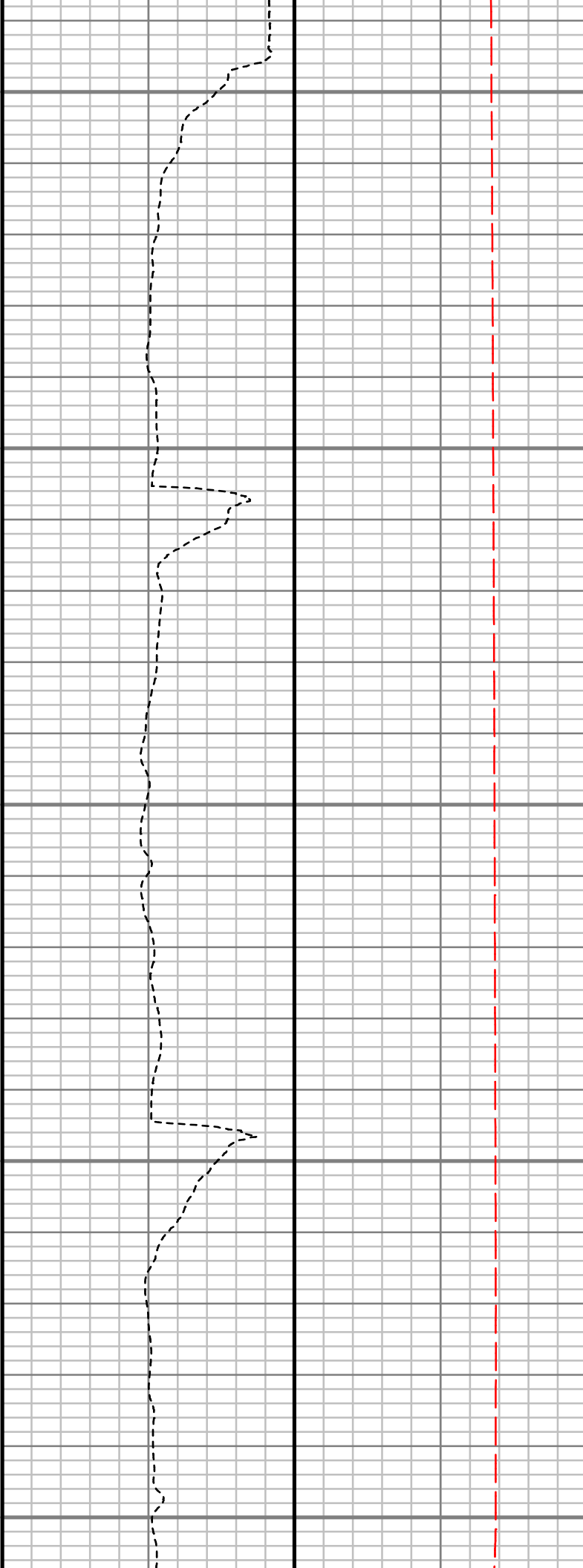
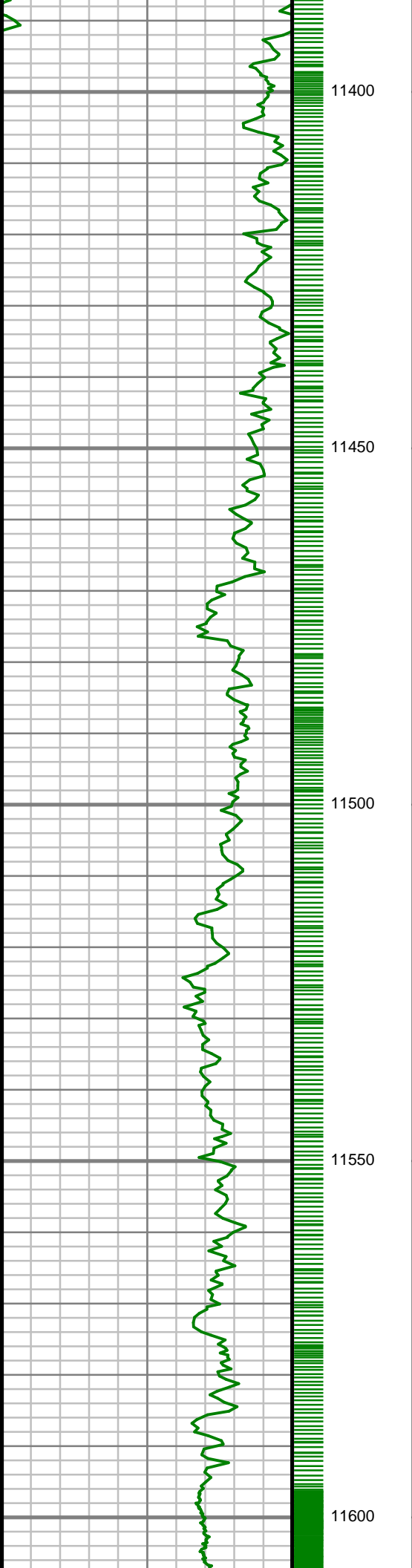
11300

11350



S: 168 MD: 11221.00 ft
Inc: 87.56 deg Az:
178.69 deg TVD:
7164.72 ft

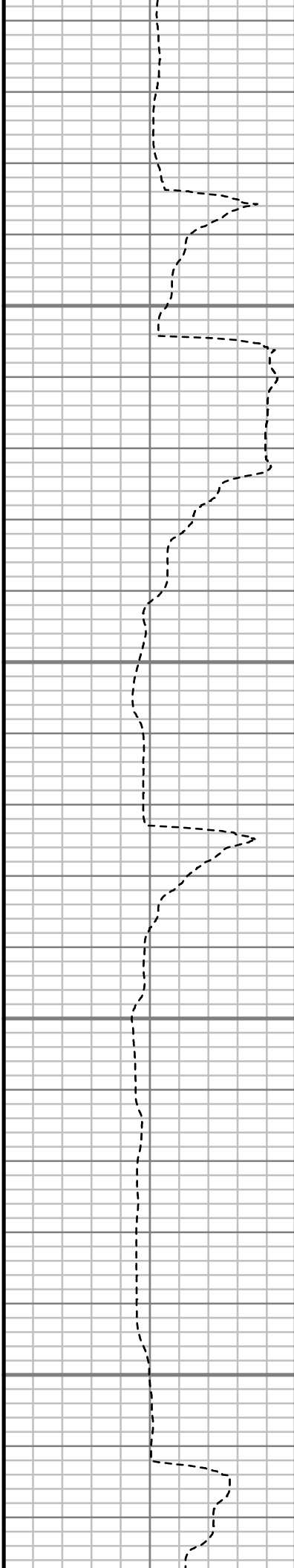
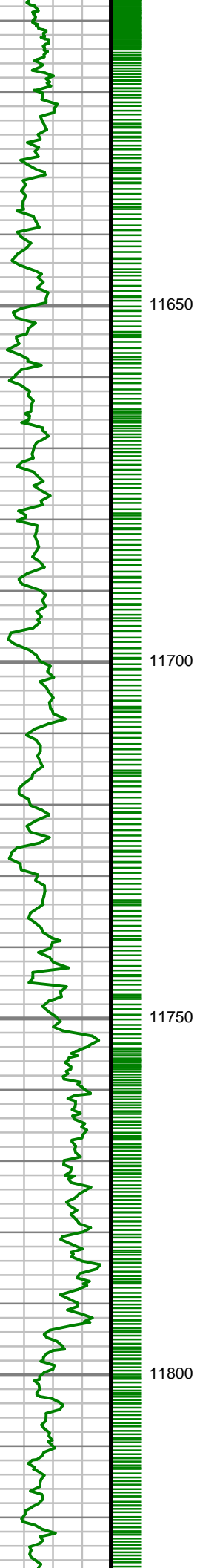
S: 169 MD: 11310.00 ft
Inc: 88.66 deg Az:
179.46 deg TVD:
7167.66 ft



S: 170 MD: 11399.00 ft
Inc: 86.98 deg Az:
178.45 deg TVD:
7171.04 ft

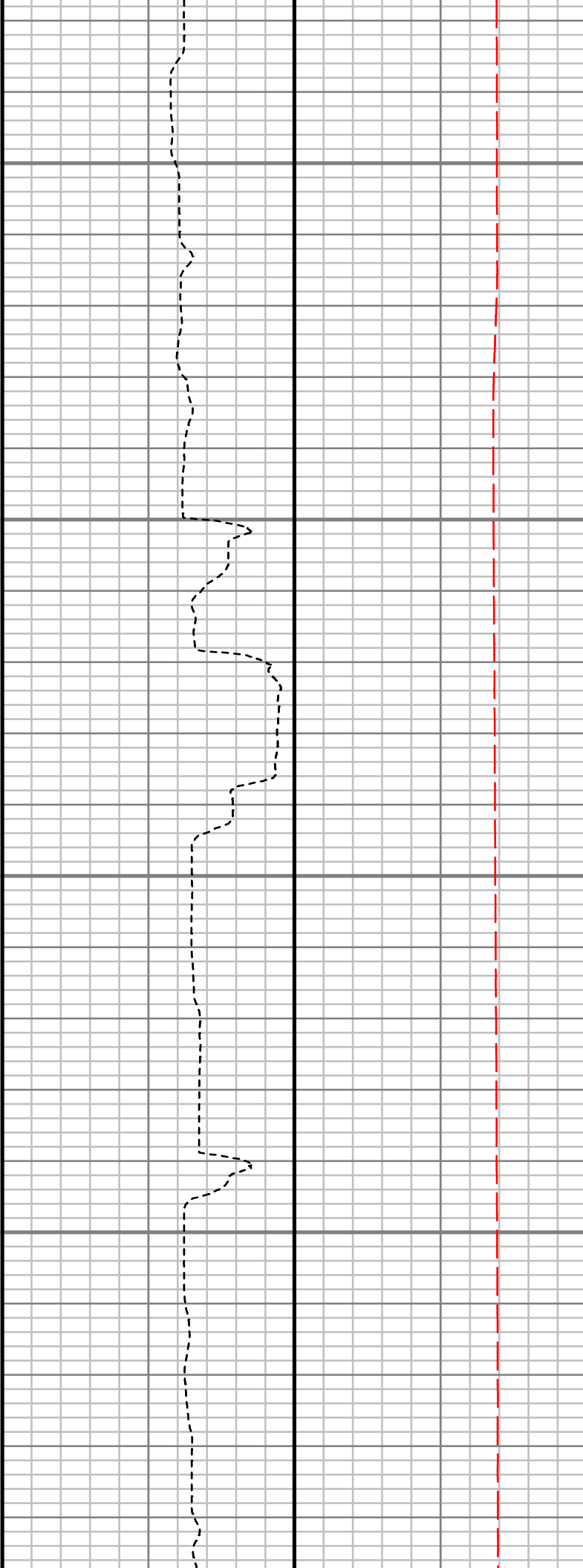
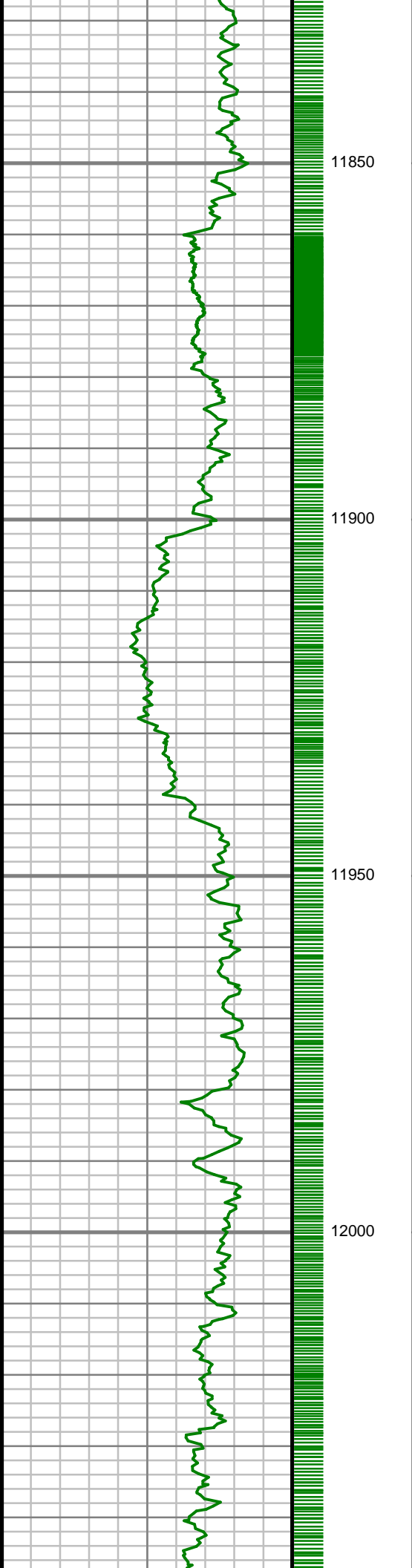
S: 171 MD: 11488.00 ft
Inc: 87.32 deg Az:
178.00 deg TVD:
7175.46 ft

S: 172 MD: 11577.00 ft
Inc: 88.15 deg Az:
177.61 deg TVD:
7178.97 ft



S: 173 MD: 11666.00 ft
Inc: 88.56 deg Az:
180.02 deg TVD:
7181.53 ft

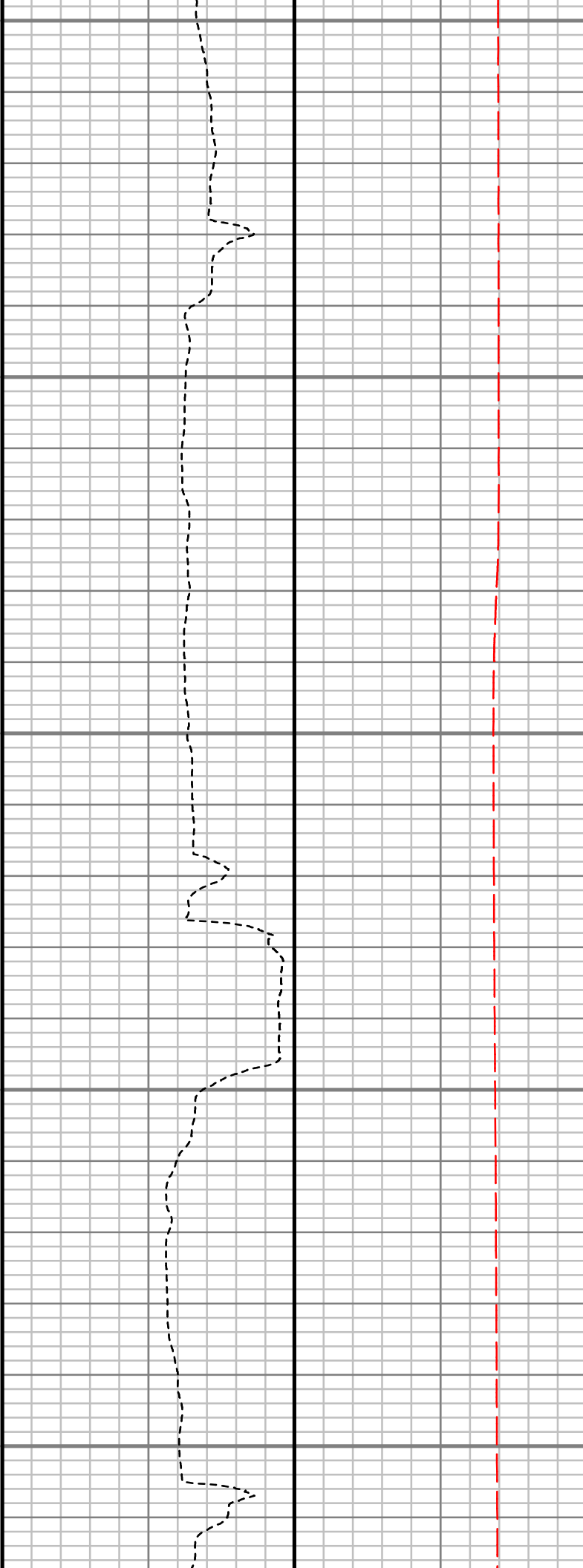
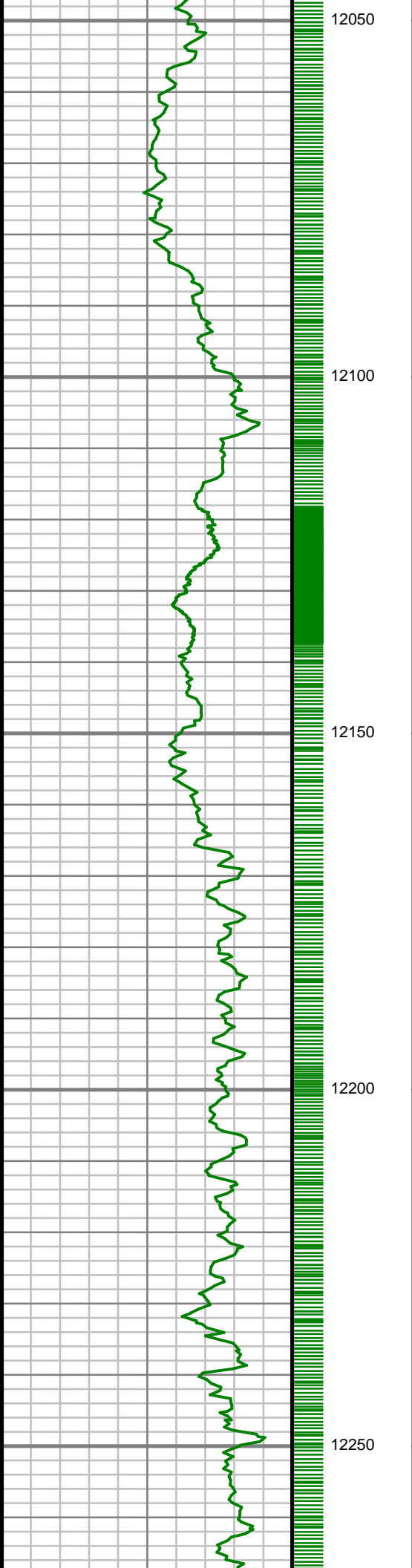
S: 174 MD: 11755.00 ft
Inc: 89.26 deg Az:
179.88 deg TVD:
7183.22 ft



S: 175 MD: 11844.00 ft
Inc: 90.10 deg Az:
179.41 deg TVD:
7183.71 ft

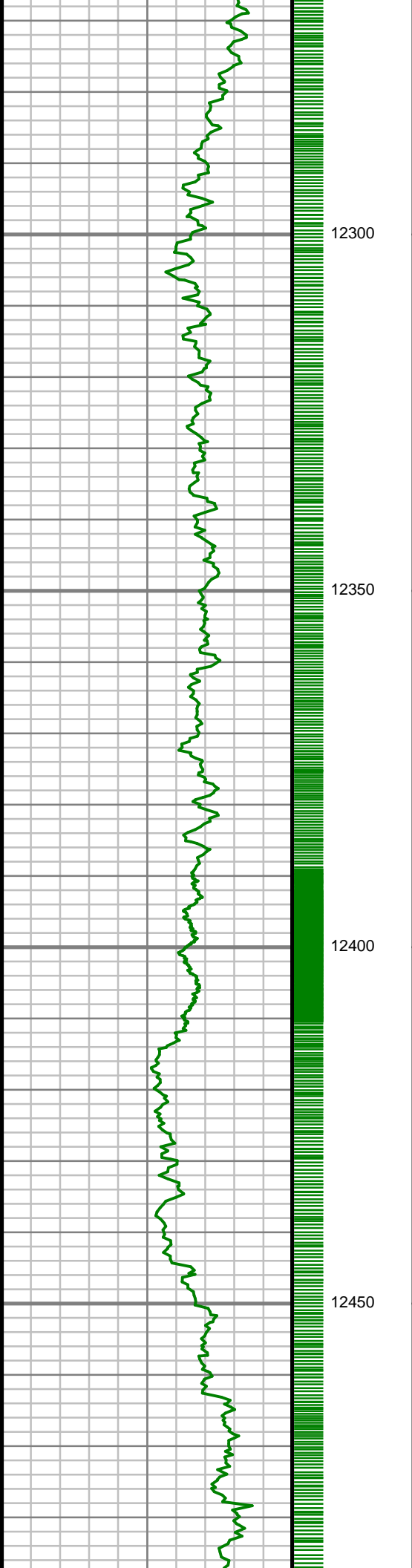
S: 176 MD: 11933.00 ft
Inc: 89.03 deg Az:
179.33 deg TVD:
7184.39 ft

S: 177 MD: 12021.00 ft
Inc: 89.40 deg Az:
179.07 deg TVD:
7185.59 ft



S: 178 MD: 12110.00 ft
Inc: 90.37 deg Az:
178.27 deg TVD:
7185.77 ft

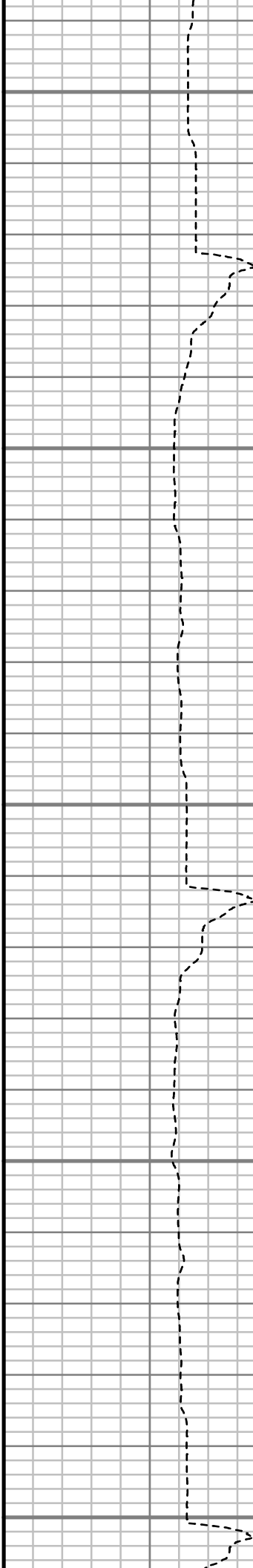
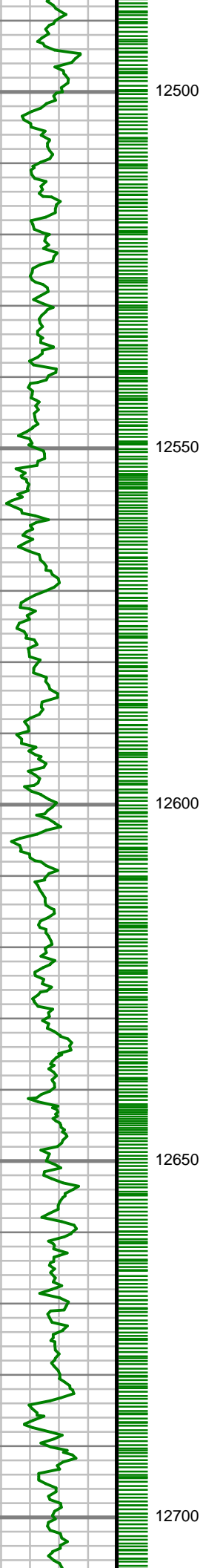
S: 179 MD: 12199.00 ft
Inc: 89.30 deg Az:
179.79 deg TVD:
7186.03 ft



S: 180 MD: 12288.00 ft
Inc: 89.73 deg Az:
179.83 deg TVD:
7186.79 ft

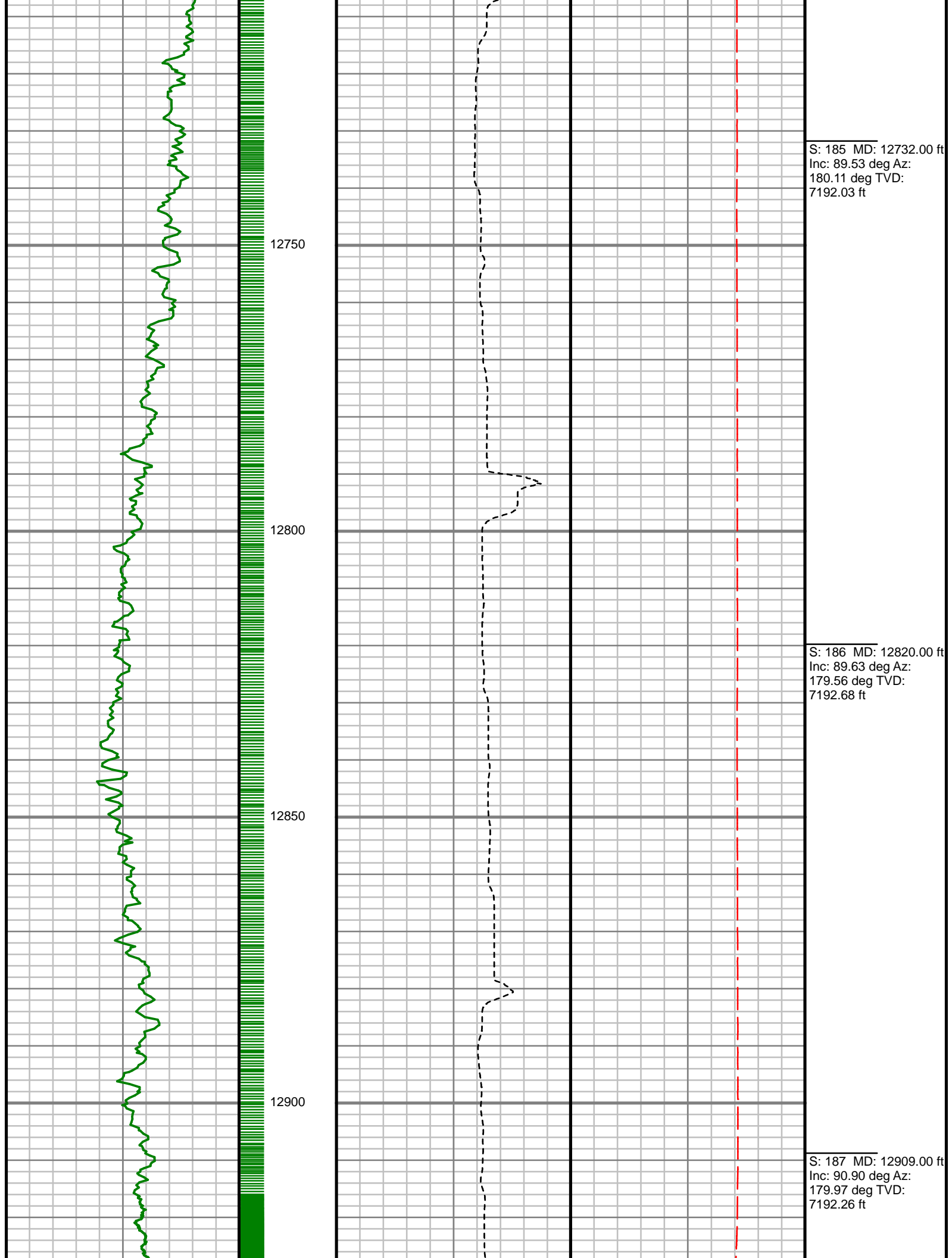
S: 181 MD: 12377.00 ft
Inc: 90.80 deg Az:
179.37 deg TVD:
7186.37 ft

S: 182 MD: 12466.00 ft
Inc: 89.13 deg Az:
179.97 deg TVD:
7186.42 ft



S: 183 MD: 12554.00 ft
Inc: 88.79 deg Az:
180.02 deg TVD:
7188.02 ft

S: 184 MD: 12643.00 ft
Inc: 88.25 deg Az:
179.60 deg TVD:
7190.31 ft



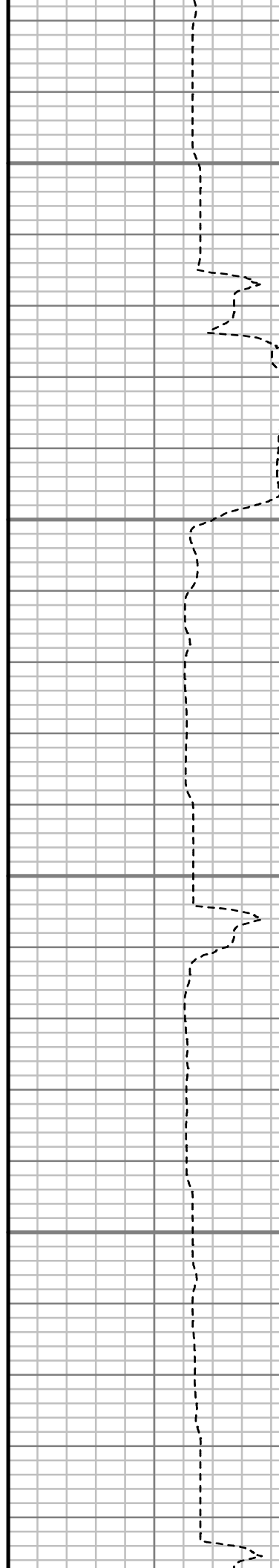


12950

13000

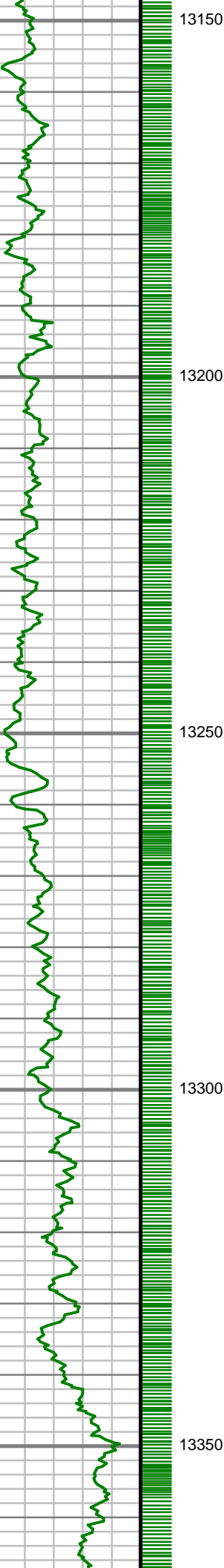
13050

13100



S: 188 MD: 12998.00 ft
Inc: 88.96 deg Az:
180.57 deg TVD:
7192.36 ft

S: 189 MD: 13087.00 ft
Inc: 89.60 deg Az:
180.31 deg TVD:
7193.48 ft



13150

13200

13250

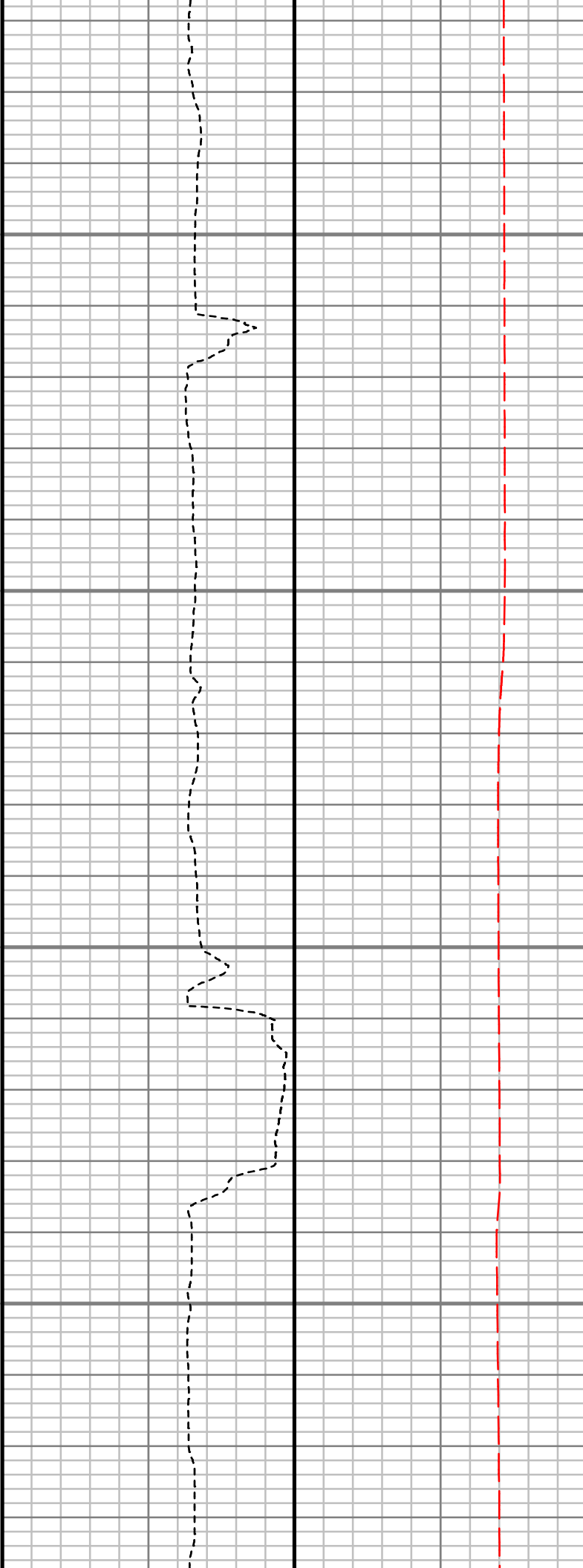
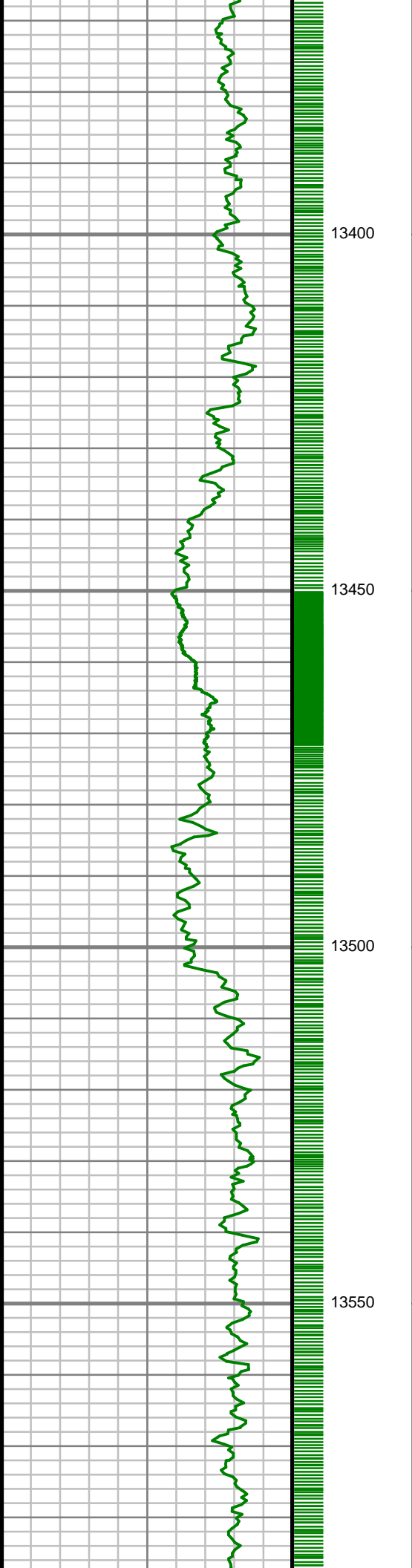
13300

13350

S: 190 MD: 13176.00 ft
Inc: 88.76 deg Az:
180.08 deg TVD:
7194.76 ft

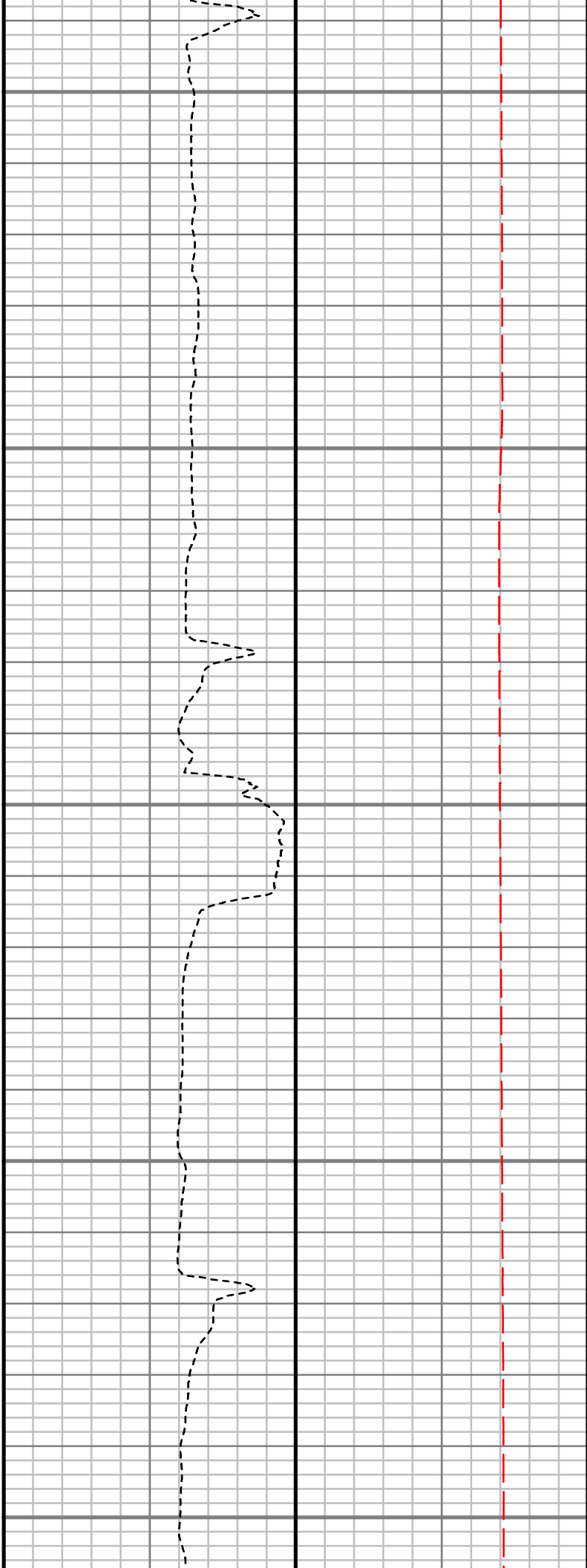
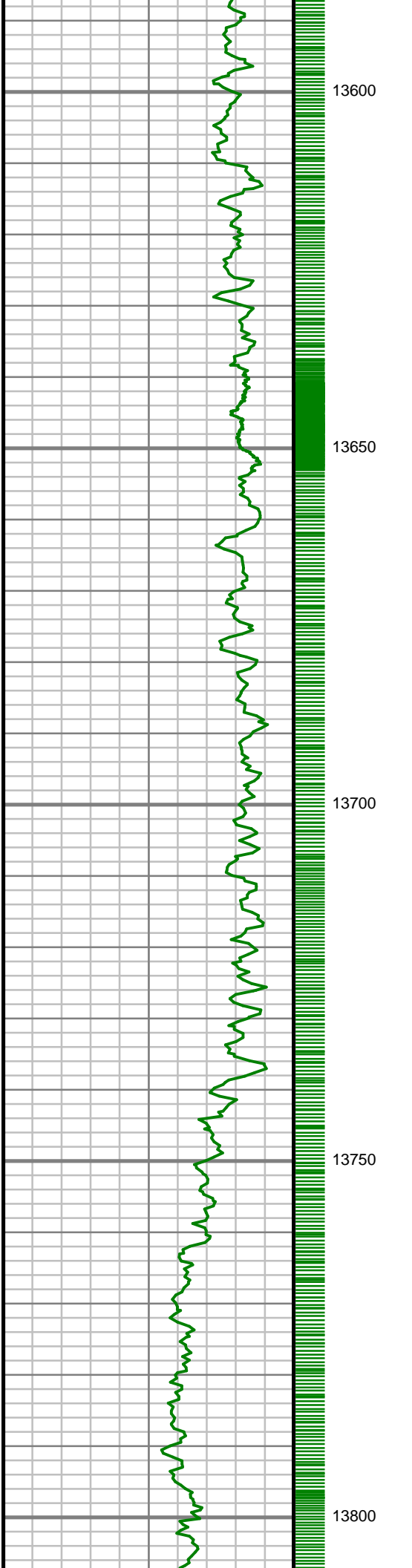
S: 191 MD: 13265.00 ft
Inc: 89.36 deg Az:
180.08 deg TVD:
7196.21 ft

S: 192 MD: 13354.00 ft
Inc: 89.93 deg Az:
179.40 deg TVD:
7196.76 ft



S: 193 MD: 13443.00 ft
Inc: 91.01 deg Az:
179.24 deg TVD:
7196.03 ft

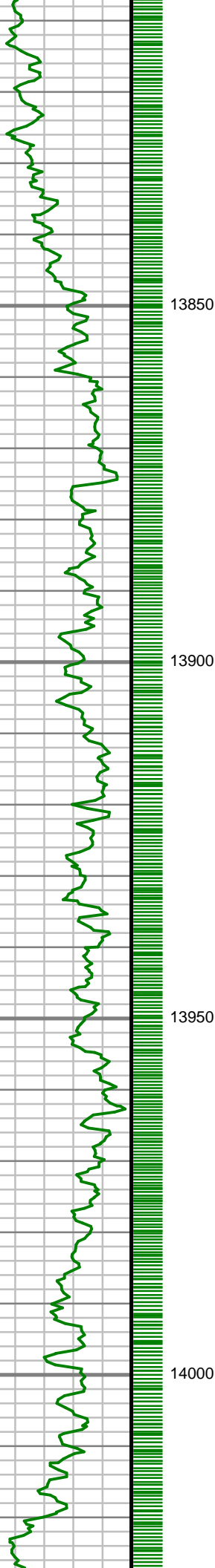
S: 194 MD: 13532.00 ft
Inc: 89.23 deg Az:
180.53 deg TVD:
7195.85 ft



S: 195 MD: 13620.00 ft
Inc: 89.53 deg Az:
180.38 deg TVD:
7196.80 ft

S: 196 MD: 13709.00 ft
Inc: 88.16 deg Az:
180.14 deg TVD:
7198.60 ft

S: 197 MD: 13797.00 ft
Inc: 88.86 deg Az:
180.08 deg TVD:
7200.89 ft

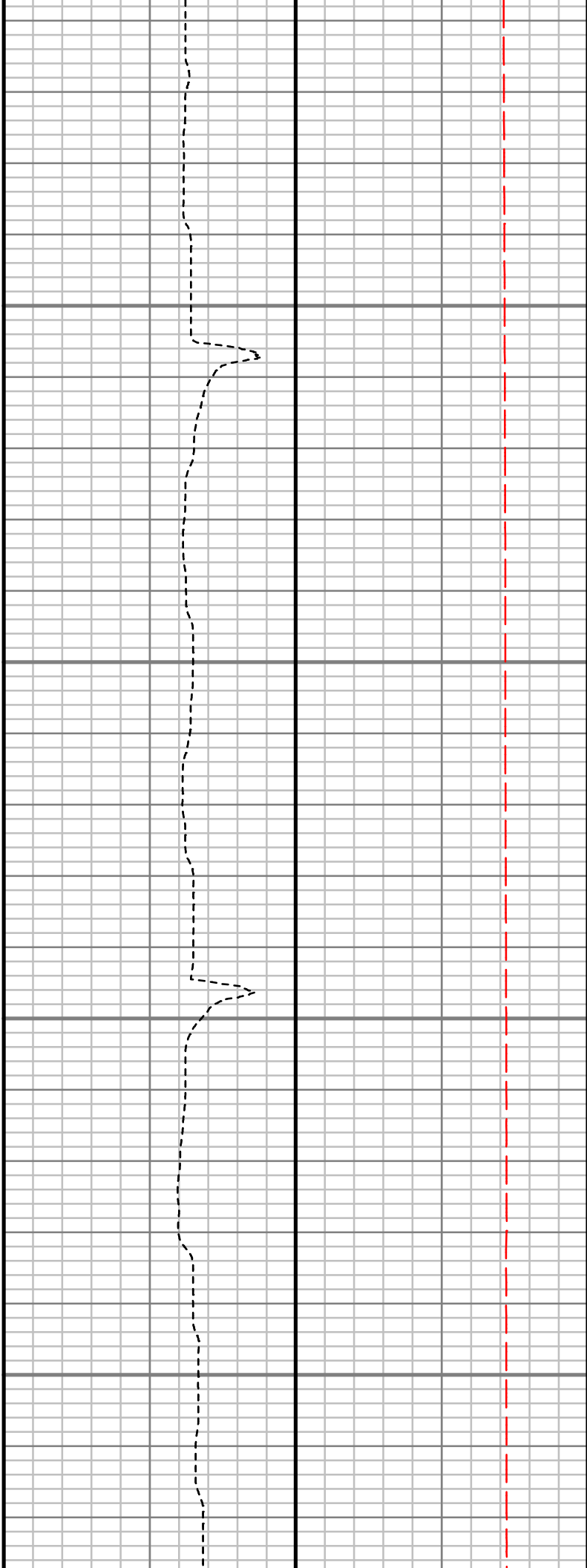


13850

13900

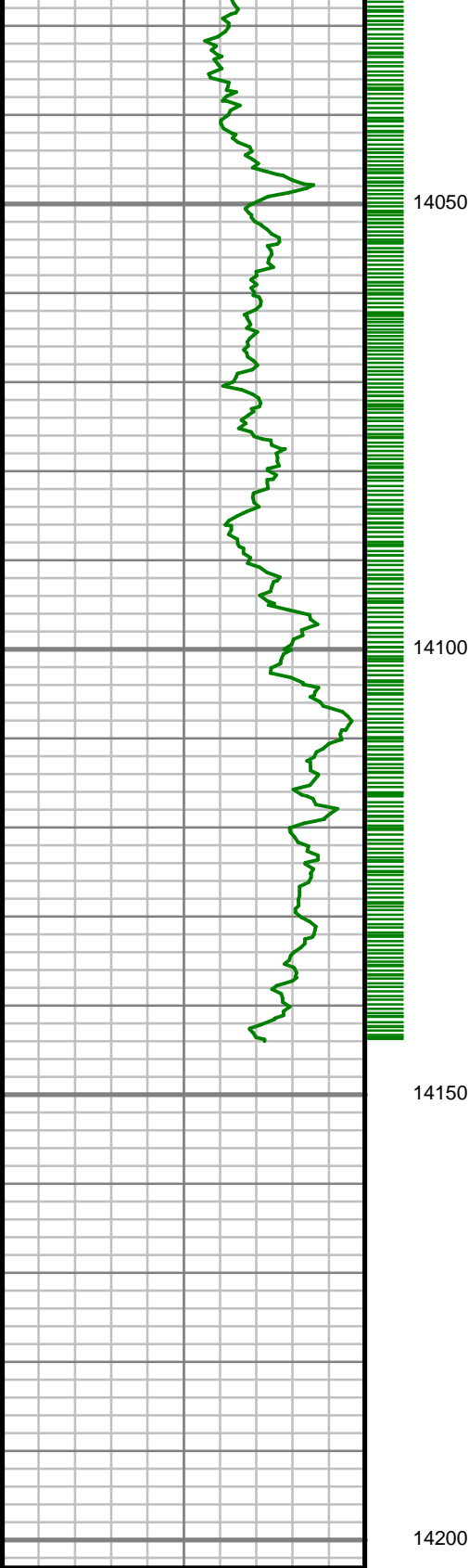
13950

14000



S: 198 MD: 13886.00 ft
Inc: 90.34 deg Az:
179.86 deg TVD:
7201.52 ft

S: 199 MD: 13975.00 ft
Inc: 91.31 deg Az:
179.68 deg TVD:
7200.24 ft



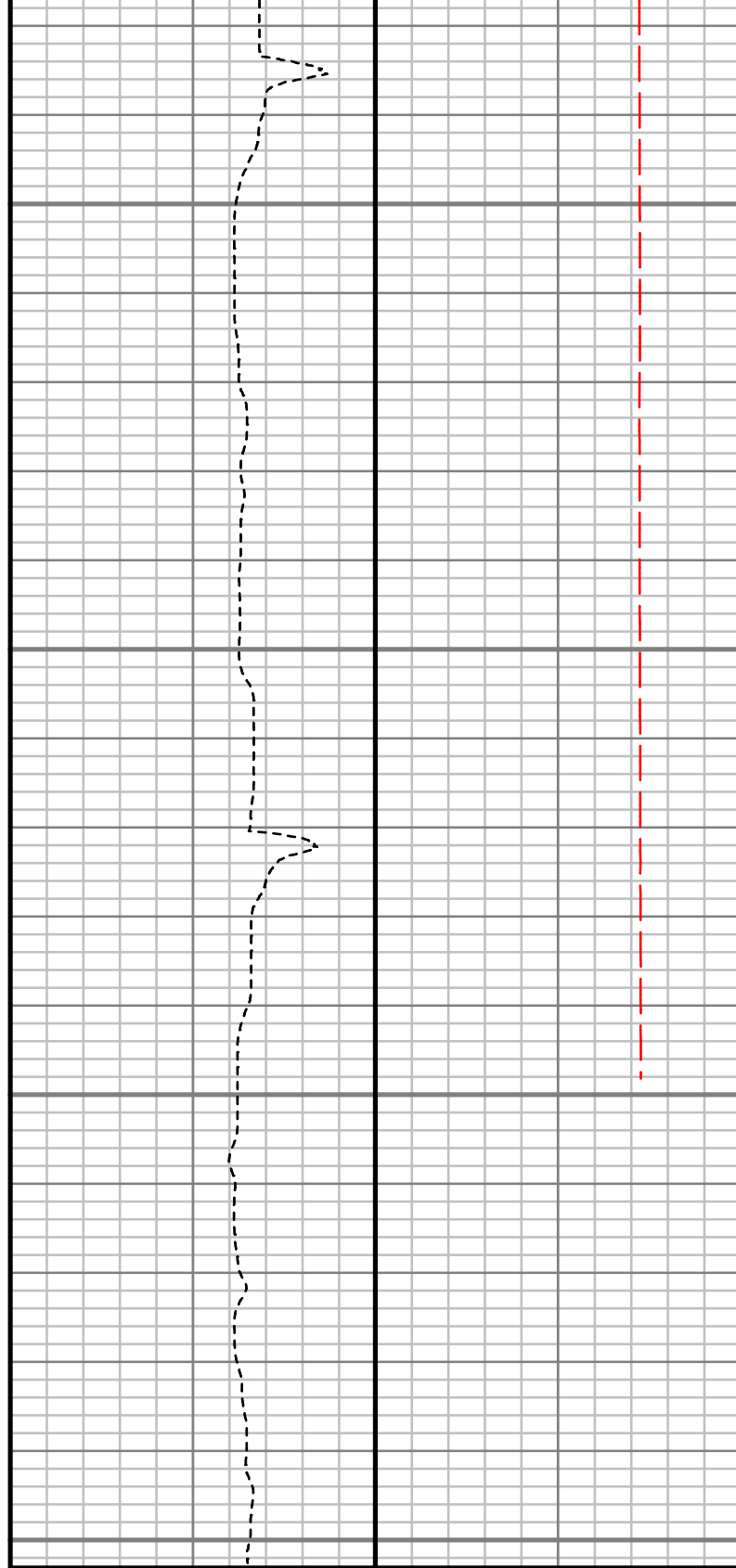
Gamma Ray (GR)

0

Unit = aapi

150

MEASURED DEPTH
1,240 (ft)



Rate of Penetration (ROP)

1000

Unit = ft/hr

0

Tool Temperature (TEMP)

0

Unit = °F

300

S: 200 MD: 14064.00 ft
Inc: 92.31 deg Az:
179.10 deg TVD:
7197.43 ft

S: 201 MD: 14146.00 ft
Inc: 93.25 deg Az:
178.69 deg TVD:
7193.45 ft

Comments

CUSTOMER
PROJECT
FIELD

ANADARKO E&P ONSHORE LLC
HERGENREDER 7N-4HZ
WATTENBERG

WELL INFORMATION

Lat/Long
Northing
Easting
UWI

40.188439° N, 105.013694° W
14,595,353.14 ft
1,636,592.21 ft
05123458590000

MAP INFORMATION

North Reference
Grid Correction
System

Datum
Map Zone

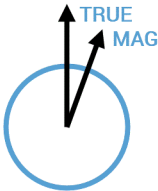
True North

Universal Transverse Mercator (US Survey Feet)
North American Datum 1983 (GRS 1980)
Zone 13N (108 W to 102 W)

VERTICAL SECTION REFERENCE

+N/-S
+E/-W
Proposal Direction
Calculation Method

0 ft
0 ft
179.42°
Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.050 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-4886 ft		26 Jan 2018	8.36°	add 8.36°
4886-14146 ft		26 Jan 2018	8.37°	add 8.37°

WELL NOTES

OPERATORS

MBAILY/JMEYERS

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
125.00	0.53	247.33	125.00	0.22	-0.22	-0.53	0.42
157.00	0.35	229.05	157.00	0.34	-0.34	-0.74	0.71
188.00	0.53	220.44	188.00	0.51	-0.52	-0.91	0.62
220.00	0.53	205.32	219.99	0.75	-0.76	-1.07	0.44
251.00	0.48	154.52	250.99	1.00	-1.01	-1.07	1.41
283.00	0.62	148.90	282.99	1.27	-1.28	-0.93	0.47
314.00	1.05	107.85	313.99	1.50	-1.51	-0.57	2.29
346.00	2.07	93.35	345.98	1.63	-1.63	0.29	3.39
377.00	2.15	85.26	376.96	1.63	-1.62	1.43	0.99
409.00	3.08	91.30	408.92	1.62	-1.59	2.88	3.03
441.00	4.13	88.87	440.86	1.63	-1.58	4.89	3.32
472.00	4.70	89.83	471.77	1.63	-1.56	7.28	1.85
504.00	5.54	87.02	503.64	1.58	-1.47	10.13	2.74
535.00	6.02	82.98	534.48	1.33	-1.20	13.24	2.03
567.00	6.72	80.60	566.28	0.86	-0.69	16.75	2.34
599.00	7.56	81.13	598.04	0.26	-0.06	20.68	2.63
631.00	8.04	81.48	629.74	-0.35	0.60	24.97	1.51
663.00	8.75	80.34	661.40	-1.04	1.34	29.59	2.28
694.00	9.18	79.99	692.02	-1.82	2.17	34.35	1.40

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
726.00	9.54	80.60	723.59	-2.64	3.04	39.48	1.17
758.00	10.20	80.43	755.12	-3.49	3.95	44.89	2.06
790.00	10.72	78.76	786.59	-4.49	5.00	50.60	1.88
822.00	11.12	78.41	818.01	-5.63	6.20	56.54	1.27
853.00	11.47	79.11	848.41	-6.75	7.38	62.50	1.21
885.00	12.66	77.44	879.70	-8.05	8.74	69.05	3.88
917.00	13.40	78.23	910.87	-9.49	10.26	76.10	2.38
948.00	14.11	78.85	940.98	-10.88	11.73	83.32	2.34
980.00	14.50	77.70	971.99	-12.41	13.33	91.06	1.51
1012.00	14.81	78.40	1002.95	-14.01	15.01	98.98	1.12
1044.00	14.94	77.79	1033.88	-15.62	16.71	107.02	0.64
1075.00	15.64	77.26	1063.78	-17.31	18.47	115.00	2.30
1107.00	16.74	78.23	1094.51	-19.11	20.36	123.72	3.54
1139.00	17.53	77.88	1125.09	-20.97	22.32	132.95	2.49
1170.00	17.62	77.09	1154.64	-22.90	24.34	142.08	0.82
1202.00	17.97	77.18	1185.11	-24.99	26.52	151.62	1.10
1266.00	18.63	78.67	1245.88	-28.99	30.72	171.27	1.26
1298.00	19.69	78.41	1276.10	-30.97	32.81	181.56	3.32
1329.00	21.14	79.81	1305.16	-32.90	34.85	192.18	4.94
1361.00	21.31	79.81	1334.99	-34.83	36.90	203.58	0.53

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
1393.00	21.09	80.25	1364.82	-36.72	38.90	214.98	0.85
1425.00	21.27	78.85	1394.66	-38.70	41.00	226.35	1.68
1456.00	21.62	78.58	1423.51	-40.81	43.21	237.46	1.17
1488.00	21.84	78.67	1453.24	-43.03	45.55	249.08	0.70
1519.00	21.45	81.75	1482.05	-44.86	47.50	260.34	3.87
1551.00	21.49	82.27	1511.83	-46.37	49.13	271.94	0.61
1583.00	21.62	83.06	1541.59	-47.75	50.63	283.60	0.99
1615.00	21.09	82.71	1571.40	-49.08	52.07	295.16	1.70
1646.00	21.27	82.71	1600.30	-50.39	53.49	306.27	0.58
1678.00	21.75	83.15	1630.07	-51.71	54.93	317.92	1.58
1710.00	22.28	82.63	1659.74	-53.08	56.42	329.82	1.76
1742.00	20.96	81.04	1689.49	-54.63	58.09	341.49	4.51
1773.00	20.87	79.55	1718.45	-56.38	59.95	352.40	1.74
1805.00	20.74	79.99	1748.36	-58.29	61.97	363.58	0.64
1837.00	20.26	79.37	1778.33	-60.18	63.98	374.61	1.65
1869.00	20.30	78.85	1808.35	-62.17	66.08	385.50	0.58
1932.00	20.04	81.13	1867.49	-65.73	69.85	406.89	1.31
1964.00	20.04	81.92	1897.55	-67.24	71.47	417.73	0.85
1995.00	20.26	80.78	1926.65	-68.74	73.08	428.29	1.45
2027.00	19.91	80.25	1956.71	-70.44	74.89	439.13	1.23

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
2059.00	19.82	80.69	1986.80	-72.13	76.69	449.85	0.55
2091.00	19.56	80.25	2016.93	-73.81	78.47	460.48	0.94
2122.00	19.60	80.78	2046.14	-75.41	80.18	470.73	0.59
2154.00	19.78	80.60	2076.27	-77.05	81.93	481.37	0.59
2185.00	20.04	80.78	2105.42	-78.65	83.64	491.79	0.86
2217.00	20.30	81.75	2135.45	-80.22	85.31	502.69	1.32
2249.00	20.92	80.69	2165.41	-81.83	87.03	513.83	2.26
2281.00	21.31	79.99	2195.26	-83.65	88.97	525.19	1.45
2306.00	21.71	80.87	2218.52	-85.08	90.49	534.23	2.06
2400.00	21.87	79.70	2305.80	-90.62	96.38	568.62	0.49
2489.00	20.27	77.91	2388.85	-96.50	102.57	600.00	1.93
2578.00	22.33	80.49	2471.77	-102.20	108.60	631.76	2.54
2667.00	21.85	82.38	2554.23	-106.85	113.59	664.85	0.96
2756.00	20.44	80.42	2637.24	-111.31	118.37	696.59	1.77
2845.00	21.40	82.21	2720.37	-115.78	123.16	728.00	1.29
2934.00	21.50	82.22	2803.21	-119.87	127.57	760.24	0.12
3023.00	19.26	82.27	2886.63	-123.74	131.75	790.95	2.51
3111.00	18.32	81.08	2969.94	-127.55	135.85	819.00	1.15
3200.00	19.93	81.52	3054.03	-131.67	140.26	847.83	1.81
3289.00	21.24	82.72	3137.34	-135.63	144.54	878.83	1.54

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
3378.00	22.53	79.59	3219.93	-140.43	149.66	911.59	1.95
3467.00	26.59	80.34	3300.86	-146.48	156.09	948.00	4.58
3556.00	25.54	80.88	3380.81	-152.47	162.47	986.59	1.21
3644.00	23.44	80.85	3460.89	-157.90	168.26	1022.60	2.38
3733.00	24.64	80.18	3542.16	-163.52	174.24	1058.37	1.38
3822.00	25.51	80.69	3622.78	-169.41	180.51	1095.56	1.00
3911.00	24.20	78.77	3703.53	-175.69	187.16	1132.37	1.72
4001.00	21.97	77.74	3786.32	-182.50	194.33	1166.92	2.53
4089.00	21.35	79.08	3868.11	-188.71	200.86	1198.73	0.89
4178.00	21.52	82.63	3950.95	-193.55	206.02	1230.83	1.47
4266.00	20.49	82.91	4033.11	-197.21	209.99	1262.12	1.17
4355.00	19.82	81.83	4116.65	-200.96	214.06	1292.52	0.86
4444.00	20.18	79.88	4200.29	-205.50	218.90	1322.57	0.85
4533.00	20.28	76.69	4283.80	-211.44	225.15	1352.69	1.24
4621.00	21.08	75.22	4366.13	-218.69	232.70	1382.84	1.09
4710.00	23.06	78.57	4448.60	-225.89	240.23	1415.40	2.63
4799.00	22.57	81.57	4530.65	-231.51	246.19	1449.38	1.42
4888.00	22.66	81.02	4612.80	-236.34	251.37	1483.21	0.26
4976.00	21.29	82.30	4694.41	-240.79	256.15	1515.79	1.64
5065.00	21.20	79.54	4777.36	-245.56	261.24	1547.63	1.13

MD	Inc	Azim	TVD	VS	+N-S	+E-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
5154.00	21.00	79.84	4860.40	-250.97	266.97	1579.15	0.25
5243.00	20.10	81.26	4943.73	-255.80	272.11	1609.96	1.15
5357.00	17.28	80.97	5051.71	-261.06	277.74	1646.06	2.48
5446.00	17.41	80.12	5136.66	-265.16	282.10	1672.23	0.32
5535.00	16.83	87.01	5221.72	-267.85	285.06	1698.22	2.36
5624.00	13.03	87.92	5307.70	-268.66	286.09	1721.12	4.28
5712.00	10.36	86.50	5393.87	-269.32	286.94	1738.94	3.05
5801.00	8.77	86.05	5481.63	-270.13	287.89	1753.69	1.79
5890.00	6.81	84.44	5569.80	-270.98	288.87	1765.71	2.21
5979.00	4.79	82.38	5658.34	-271.90	289.88	1774.65	2.29
6068.00	3.76	70.08	5747.10	-273.32	291.36	1781.07	1.54
6156.00	1.59	83.95	5835.00	-274.39	292.47	1784.99	2.55
6246.00	0.42	159.59	5924.98	-274.20	292.30	1786.35	1.71
6334.00	0.41	114.19	6012.98	-273.76	291.86	1786.75	0.36
6423.00	0.24	213.33	6101.98	-273.47	291.58	1786.94	0.57
6512.00	0.62	245.91	6190.98	-273.13	291.22	1786.40	0.49
6601.00	2.31	191.79	6279.95	-271.18	289.27	1785.59	2.25
6690.00	13.65	179.86	6367.95	-258.89	276.98	1785.25	12.82
6779.00	21.71	177.92	6452.67	-231.89	249.98	1785.88	9.08
6868.00	27.97	177.87	6533.40	-194.54	212.64	1787.25	7.04

MD	Inc	Azim	TVD	VS	+N-S	+E-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
6957.00	32.65	176.70	6610.21	-149.67	167.79	1789.41	5.30
7046.00	33.05	177.15	6684.98	-101.43	119.58	1791.99	0.53
7135.00	35.52	180.29	6758.52	-51.32	69.47	1793.07	3.41
7223.00	46.93	185.78	6824.62	6.40	11.72	1789.69	13.60
7312.00	62.07	188.89	6876.15	77.92	-59.90	1780.28	17.24
7401.00	71.79	184.81	6911.00	159.00	-141.09	1770.63	11.70
7490.00	76.02	182.51	6935.67	244.26	-226.40	1765.19	5.37
7579.00	84.48	178.25	6950.73	331.86	-314.01	1764.64	10.61
7668.00	85.35	178.73	6958.61	420.50	-402.63	1766.98	1.11
7757.00	87.55	179.29	6964.12	509.32	-491.44	1768.51	2.55
7845.00	87.86	179.49	6967.65	597.25	-579.37	1769.44	0.41
7934.00	87.62	179.08	6971.16	686.18	-668.29	1770.55	0.54
8023.00	86.28	179.58	6975.90	775.05	-757.15	1771.59	1.60
8111.00	85.57	179.52	6982.16	862.83	-844.93	1772.28	0.81
8200.00	85.81	179.78	6988.85	951.57	-933.68	1772.83	0.40
8289.00	86.24	179.57	6995.01	1040.36	-1022.46	1773.33	0.54
8378.00	87.35	179.19	6999.99	1129.22	-1111.31	1774.29	1.31
8466.00	85.14	179.81	7005.75	1217.02	-1199.12	1775.05	2.60
8555.00	85.71	179.79	7012.85	1305.74	-1287.83	1775.36	0.64
8644.00	86.21	179.16	7019.11	1394.52	-1376.61	1776.17	0.90

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
8733.00	86.72	179.59	7024.60	1483.35	-1465.43	1777.14	0.74
8822.00	87.28	178.46	7029.26	1572.22	-1554.29	1778.65	1.42
8911.00	87.79	178.56	7033.08	1661.13	-1643.18	1780.96	0.59
8999.00	87.05	178.33	7037.04	1749.02	-1731.06	1783.35	0.88
9088.00	87.18	178.35	7041.52	1837.90	-1819.91	1785.92	0.15
9177.00	87.18	178.43	7045.89	1926.77	-1908.77	1788.41	0.09
9266.00	86.18	178.79	7051.04	2015.61	-1997.59	1790.57	1.19
9355.00	87.35	178.19	7056.07	2104.46	-2086.42	1792.91	1.47
9444.00	86.32	179.18	7060.99	2193.31	-2175.25	1794.96	1.60
9532.00	86.19	179.79	7066.74	2281.12	-2263.06	1795.75	0.71
9621.00	86.85	178.95	7072.14	2369.96	-2351.89	1796.72	1.20
9711.00	87.99	178.25	7076.19	2459.86	-2441.77	1798.92	1.49
9799.00	87.45	178.57	7079.70	2547.77	-2529.67	1801.36	0.71
9888.00	87.62	177.79	7083.52	2636.67	-2618.54	1804.18	0.90
9977.00	87.49	179.10	7087.32	2725.57	-2707.42	1806.59	1.47
10065.00	86.24	179.52	7092.14	2813.44	-2795.28	1807.65	1.50
10154.00	85.04	180.76	7098.91	2902.17	-2884.02	1807.43	1.93
10243.00	86.08	180.35	7105.80	2990.88	-2972.75	1806.57	1.26
10332.00	85.94	179.00	7111.99	3079.67	-3061.53	1807.07	1.53
10421.00	86.95	178.41	7117.51	3168.49	-3150.33	1809.08	1.31

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
10510.00	86.07	178.35	7122.92	3257.31	-3239.13	1811.59	0.99
10599.00	86.52	177.93	7128.68	3346.10	-3327.90	1814.48	0.69
10687.00	87.45	177.73	7133.30	3433.94	-3415.71	1817.81	1.08
10776.00	87.22	179.27	7137.44	3522.83	-3504.58	1820.13	1.74
10865.00	85.87	179.44	7142.80	3611.67	-3593.42	1821.13	1.53
10954.00	85.97	179.21	7149.14	3700.44	-3682.18	1822.18	0.27
11043.00	86.38	179.06	7155.08	3789.24	-3770.97	1823.51	0.50
11132.00	86.82	178.76	7160.35	3878.08	-3859.80	1825.20	0.60
11221.00	87.56	178.69	7164.72	3966.97	-3948.67	1827.18	0.83
11310.00	88.66	179.46	7167.66	4055.91	-4037.61	1828.61	1.51
11399.00	86.98	178.45	7171.04	4144.84	-4126.53	1830.23	2.21
11488.00	87.32	178.00	7175.46	4233.71	-4215.37	1832.99	0.63
11577.00	88.15	177.61	7178.97	4322.61	-4304.24	1836.39	1.03
11666.00	88.56	180.02	7181.53	4411.56	-4393.18	1838.23	2.76
11755.00	89.26	179.88	7183.22	4500.54	-4482.16	1838.31	0.81
11844.00	90.10	179.41	7183.71	4589.53	-4571.15	1838.86	1.07
11933.00	89.03	179.33	7184.39	4678.53	-4660.15	1839.83	1.21
12021.00	89.40	179.07	7185.59	4766.52	-4748.13	1841.06	0.51
12110.00	90.37	178.27	7185.77	4855.51	-4837.10	1843.12	1.42
12199.00	89.30	179.79	7186.03	4944.51	-4926.09	1844.64	2.09

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
12288.00	89.73	179.83	7186.79	5033.50	-5015.08	1844.93	0.49
12377.00	90.80	179.37	7186.37	5122.50	-5104.08	1845.55	1.31
12466.00	89.13	179.97	7186.42	5211.49	-5193.07	1846.07	2.00
12554.00	88.79	180.02	7188.02	5299.47	-5281.06	1846.08	0.39
12643.00	88.25	179.60	7190.31	5388.44	-5370.03	1846.37	0.77
12732.00	89.53	180.11	7192.03	5477.42	-5459.01	1846.60	1.55
12820.00	89.63	179.56	7192.68	5565.42	-5547.00	1846.85	0.64
12909.00	90.90	179.97	7192.26	5654.41	-5636.00	1847.22	1.50
12998.00	88.96	180.57	7192.36	5743.40	-5724.99	1846.80	2.29
13087.00	89.60	180.31	7193.48	5832.37	-5813.98	1846.12	0.77
13176.00	88.76	180.08	7194.76	5921.36	-5902.97	1845.82	0.97
13265.00	89.36	180.08	7196.21	6010.34	-5991.96	1845.70	0.68
13354.00	89.93	179.40	7196.76	6099.33	-6080.96	1846.10	1.00
13443.00	91.01	179.24	7196.03	6188.33	-6169.95	1847.16	1.22
13532.00	89.23	180.53	7195.85	6277.32	-6258.94	1847.33	2.47
13620.00	89.53	180.38	7196.80	6365.30	-6346.93	1846.63	0.38
13709.00	88.16	180.14	7198.60	6454.27	-6435.91	1846.23	1.57
13797.00	88.86	180.08	7200.89	6542.23	-6523.88	1846.06	0.80
13886.00	90.34	179.86	7201.52	6631.23	-6612.88	1846.11	1.68
13975.00	91.31	179.68	7200.24	6720.21	-6701.87	1846.47	1.11

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
14064.00	92.31	179.10	7197.43	6809.17	-6790.82	1847.42	1.31
14146.00	93.25	178.69	7193.45	6891.07	-6872.70	1849.00	1.25

5" = 100' MD