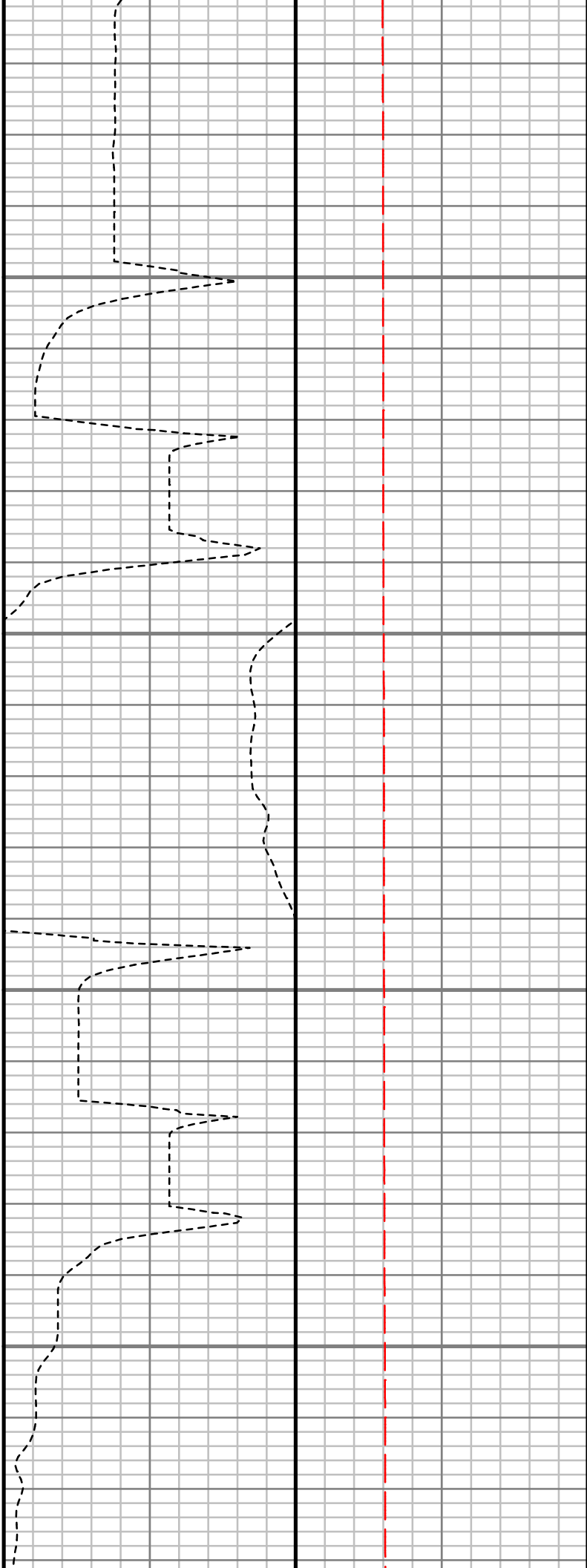
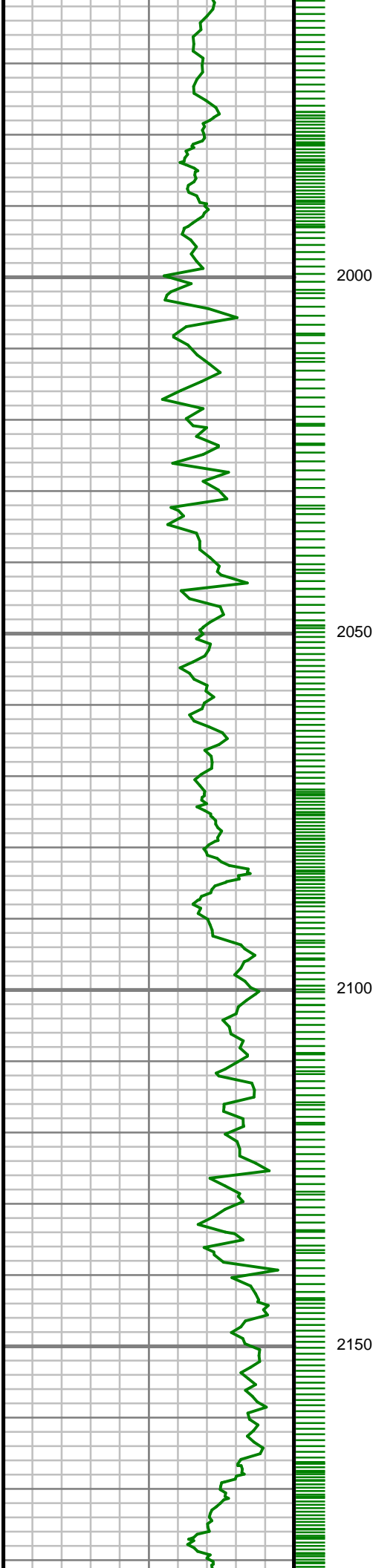


[illegible]

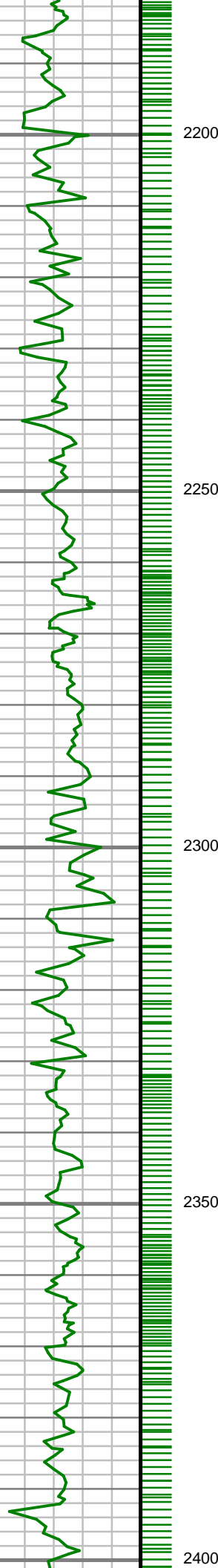
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

ANADARKO PETROLEUM CORPORATION WHISTON 40N-33HZ WATTENBERG FIELD WELD COUNTY, COLORADO API # 05123440320000			
Gamma Ray (GR) 0 Unit = aapi 150	MEASURED DEPTH 1:240 (ft)	Rate of Penetration (ROP) 800 Unit = ft/hr 0	Tool Temperature (TEMP) 0 Unit = °F 300
			S: 19 MD: 1947.00 ft Inc: 21.75 deg Az: 123.19 deg TVD: 1891.26 ft



S: 20 MD: 2041.00 ft
Inc: 23.99 deg Az:
123.11 deg TVD:
1977.87 ft

S: 21 MD: 2135.00 ft
Inc: 25.53 deg Az:
120.88 deg TVD:
2063.22 ft



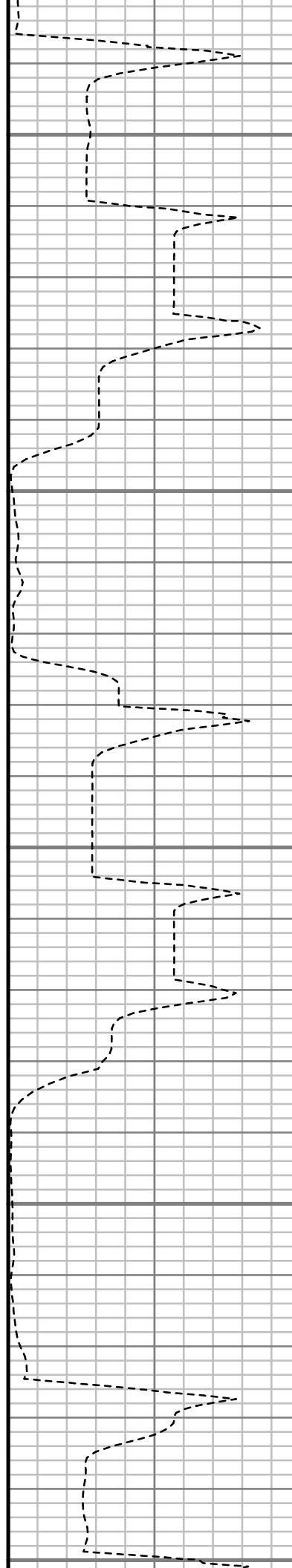
2200

2250

2300

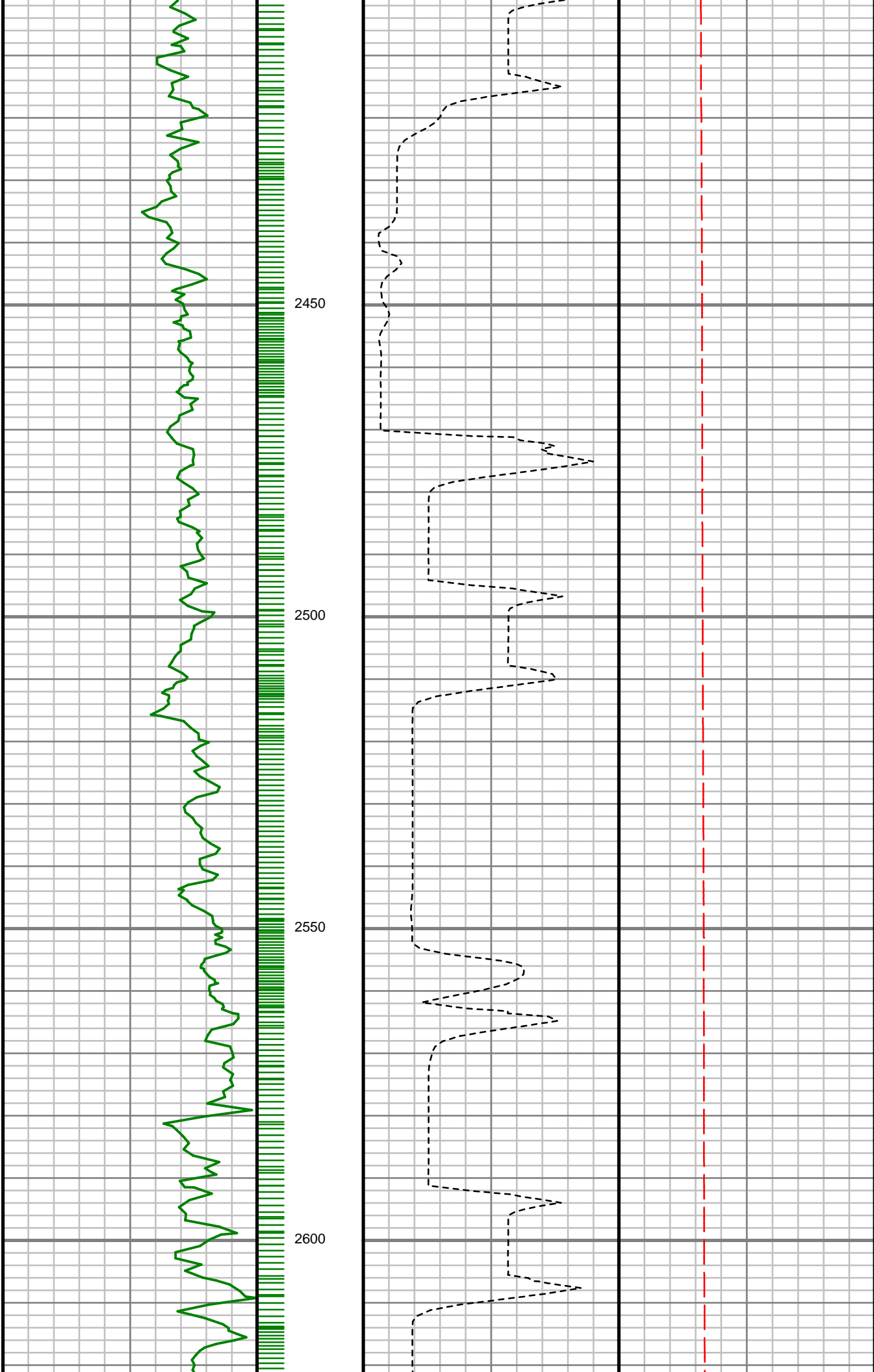
2350

2400



S: 22 MD: 2228.00 ft
Inc: 27.07 deg Az:
120.88 deg TVD:
2146.59 ft

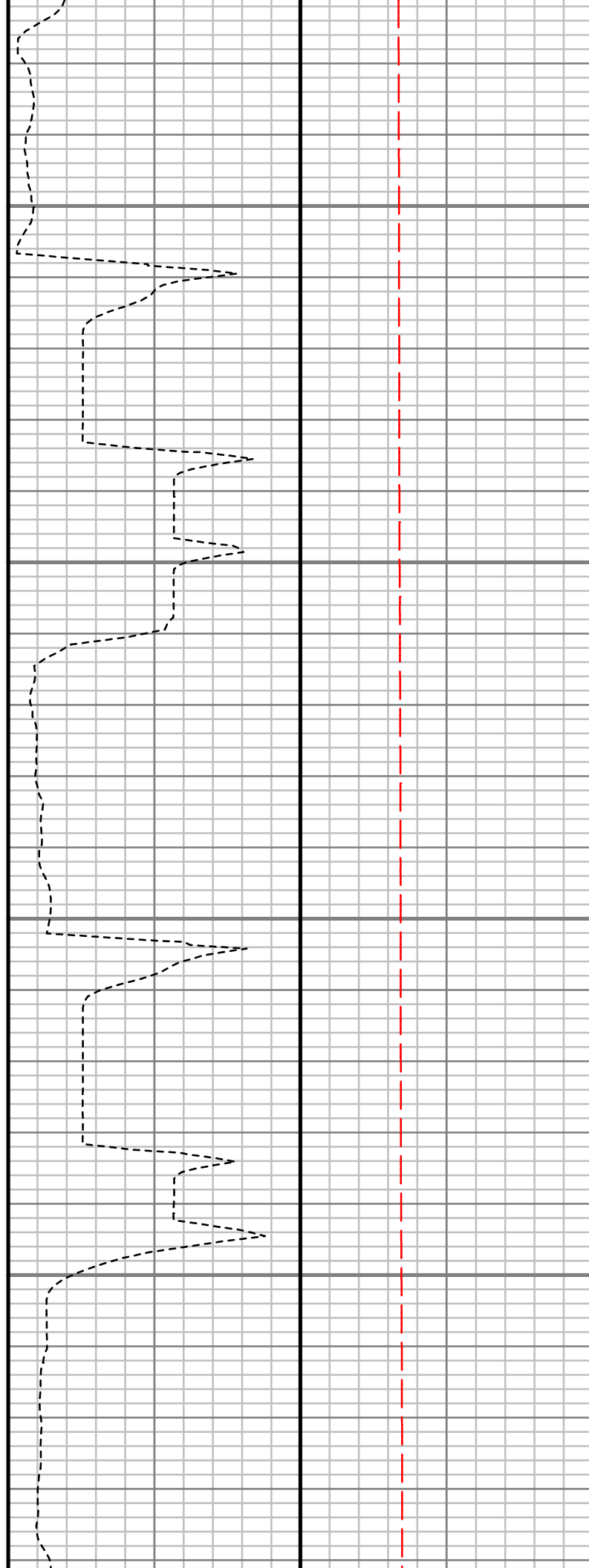
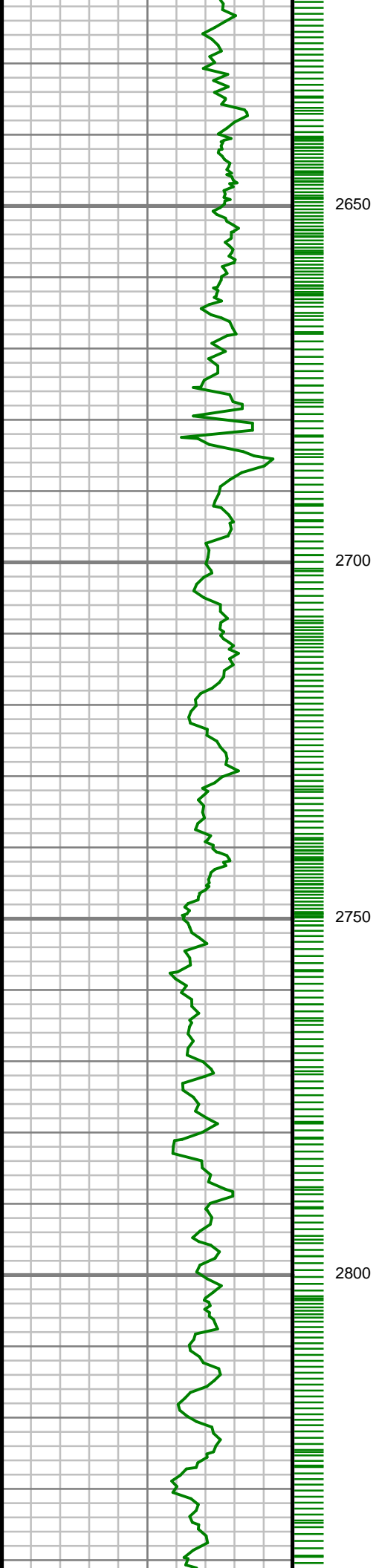
S: 23 MD: 2323.00 ft
Inc: 28.05 deg Az:
121.74 deg TVD:
2230.81 ft



S: 24 MD: 2417.00 ft
Inc: 28.49 deg Az:
121.40 deg TVD:
2313.60 ft

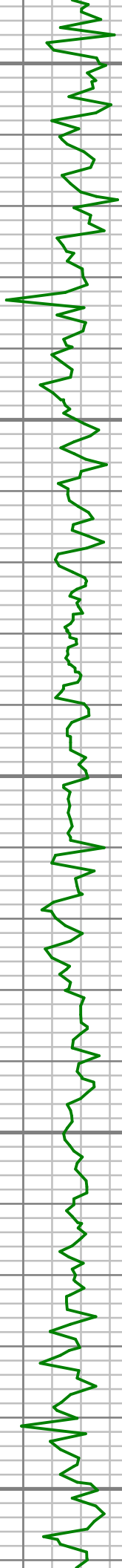
S: 25 MD: 2512.00 ft
Inc: 28.81 deg Az:
121.63 deg TVD:
2396.97 ft

S: 26 MD: 2606.00 ft
Inc: 29.02 deg Az:
121.61 deg TVD:
2479.25 ft



S: 27 MD: 2701.00 ft
Inc: 29.40 deg Az:
122.53 deg TVD:
2562.17 ft

S: 28 MD: 2795.00 ft
Inc: 29.71 deg Az:
123.98 deg TVD:
2643.95 ft



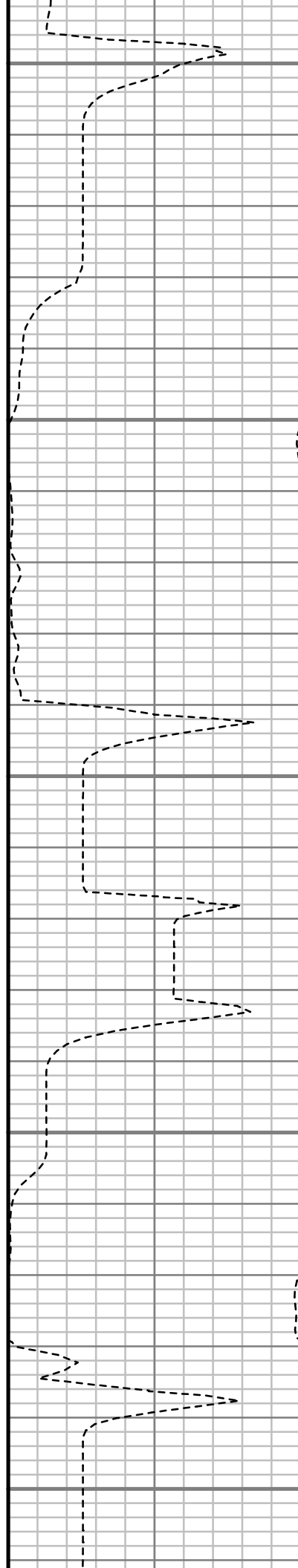
2850

2900

2950

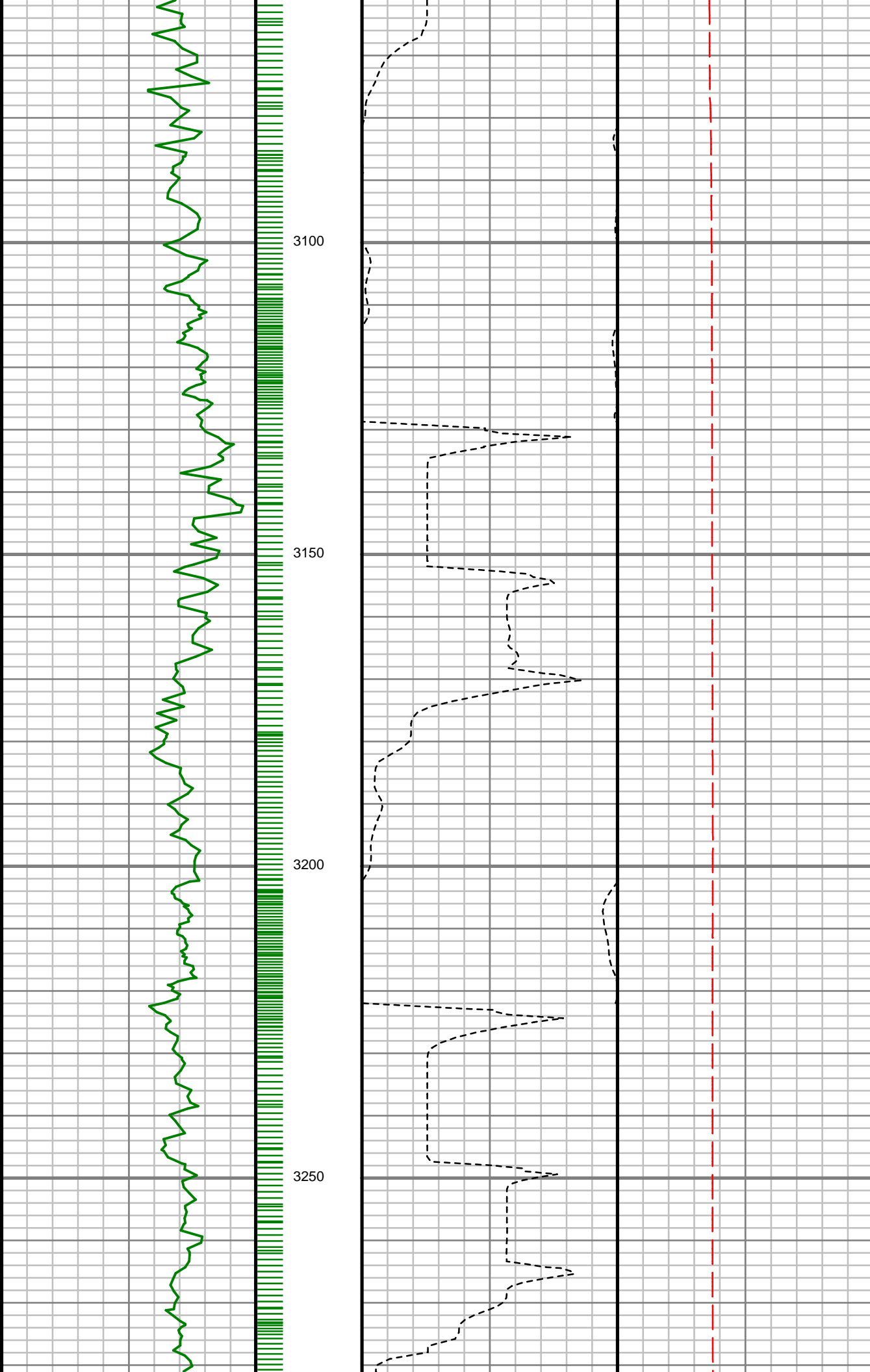
3000

3050



S: 29 MD: 2889.00 ft
Inc: 28.93 deg Az:
123.65 deg TVD:
2725.90 ft

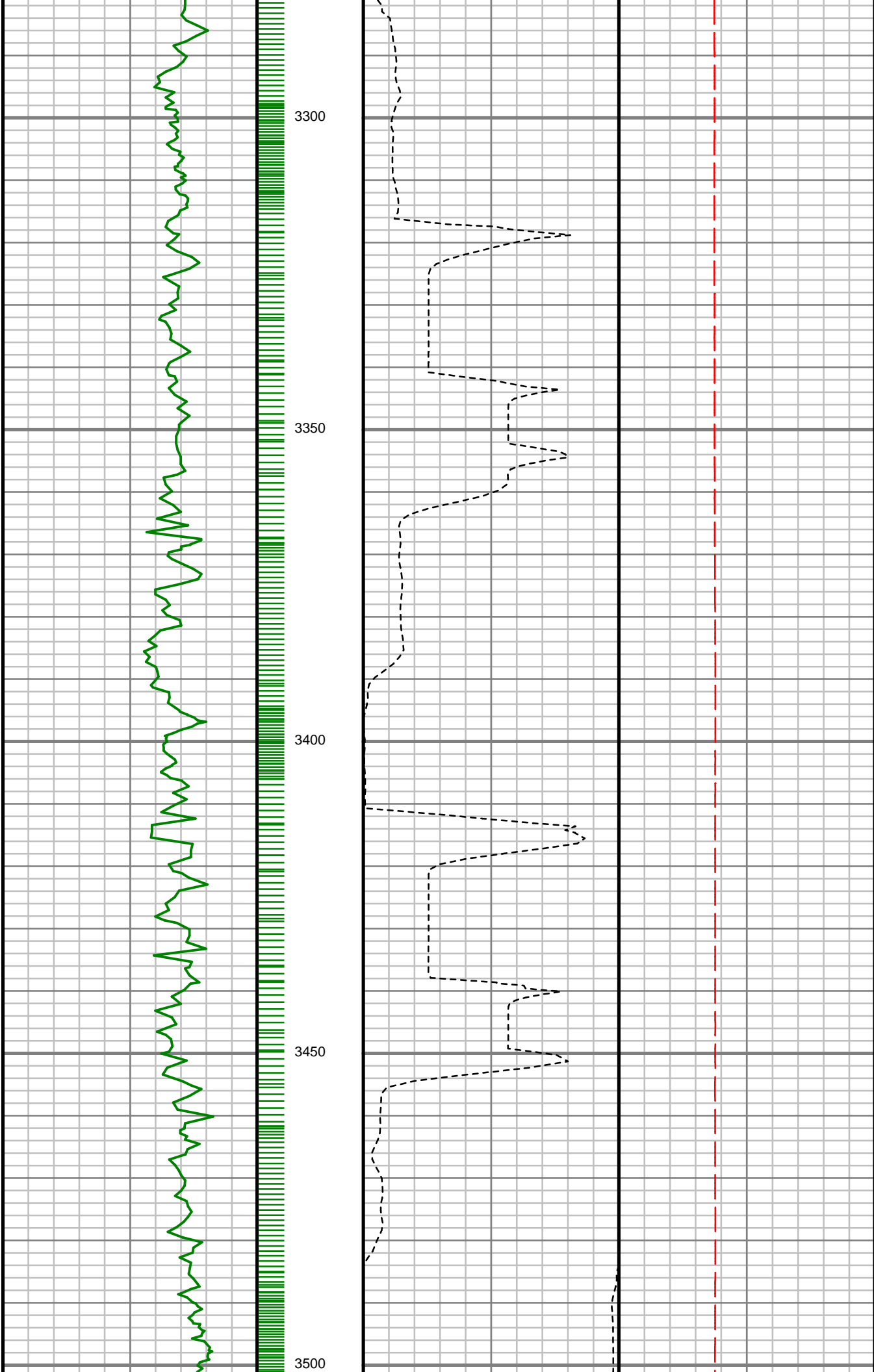
S: 30 MD: 2982.00 ft
Inc: 29.54 deg Az:
124.14 deg TVD:
2807.05 ft



S: 31 MD: 3077.00 ft
Inc: 28.28 deg Az:
124.18 deg TVD:
2890.21 ft

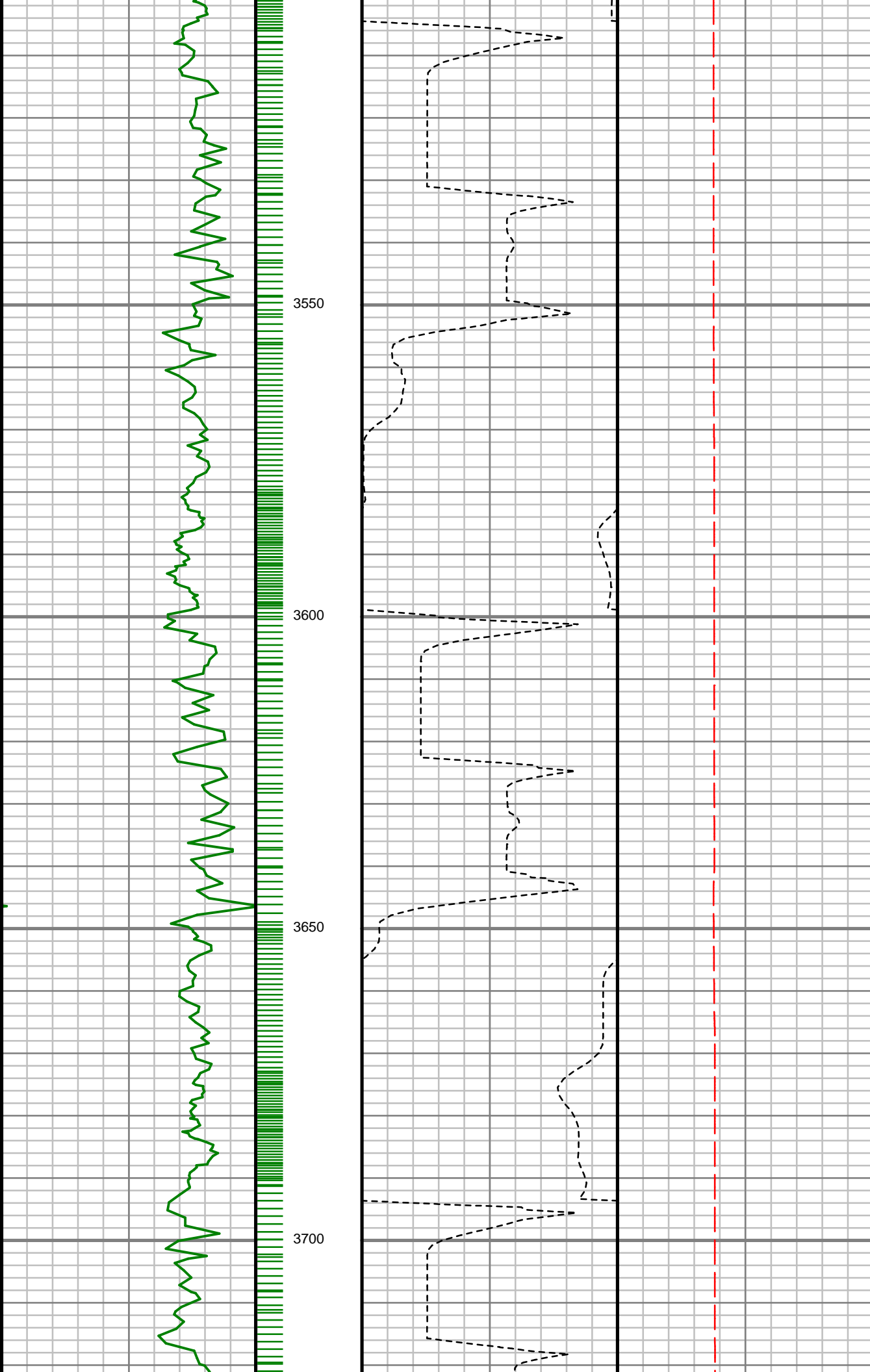
S: 32 MD: 3170.00 ft
Inc: 27.93 deg Az:
122.43 deg TVD:
2972.25 ft

S: 33 MD: 3265.00 ft
Inc: 29.15 deg Az:
123.86 deg TVD:
3055.70 ft



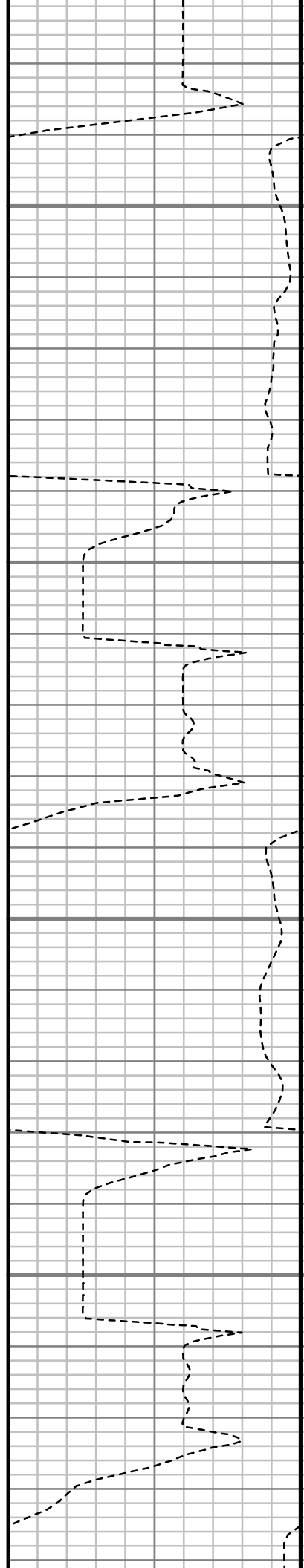
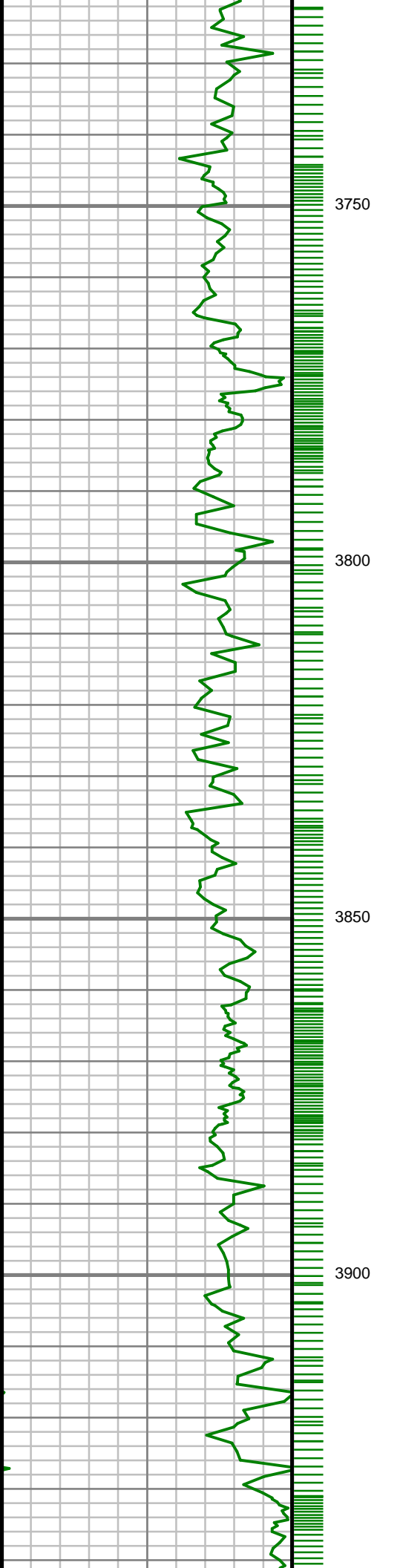
S: 34 MD: 3359.00 ft
Inc: 29.04 deg Az:
123.62 deg TVD:
3137.84 ft

S: 35 MD: 3454.00 ft
Inc: 27.64 deg Az:
123.22 deg TVD:
3221.45 ft



S: 36 MD: 3548.00 ft
Inc: 26.63 deg Az:
119.92 deg TVD:
3305.11 ft

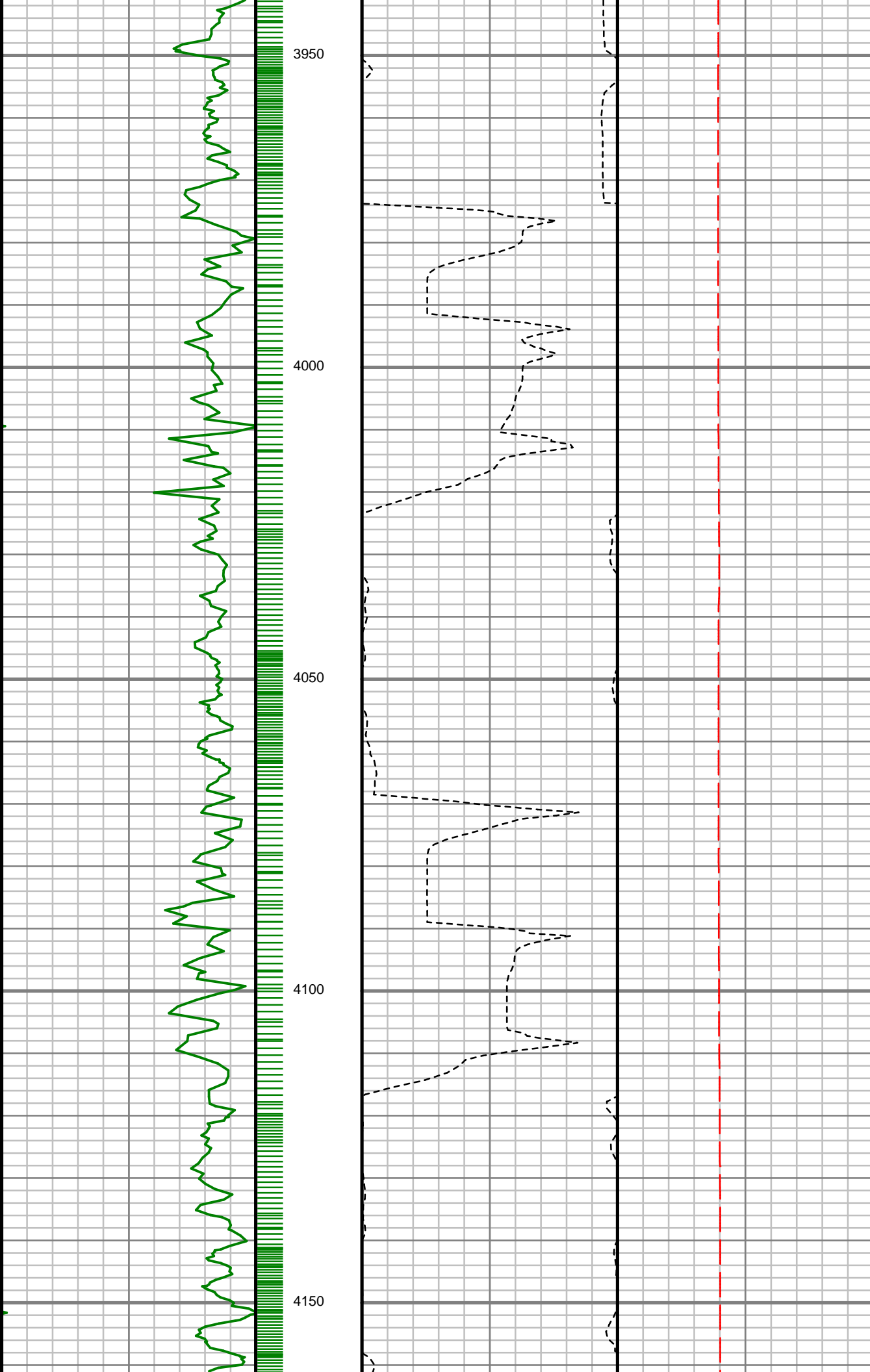
S: 37 MD: 3643.00 ft
Inc: 26.58 deg Az:
119.51 deg TVD:
3390.05 ft



S: 38 MD: 3736.00 ft
Inc: 25.93 deg Az:
121.40 deg TVD:
3473.45 ft

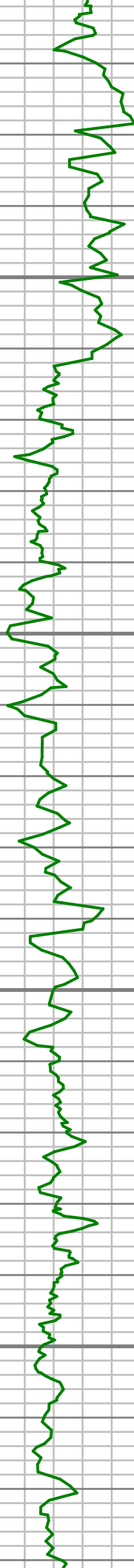
S: 39 MD: 3829.00 ft
Inc: 25.21 deg Az:
121.36 deg TVD:
3557.35 ft

S: 40 MD: 3923.00 ft
Inc: 23.96 deg Az:
119.41 deg TVD:
3642.83 ft



S: 41 MD: 4017.00 ft
Inc: 22.73 deg Az:
120.99 deg TVD:
3729.13 ft

S: 42 MD: 4111.00 ft
Inc: 21.21 deg Az:
123.02 deg TVD:
3816.30 ft

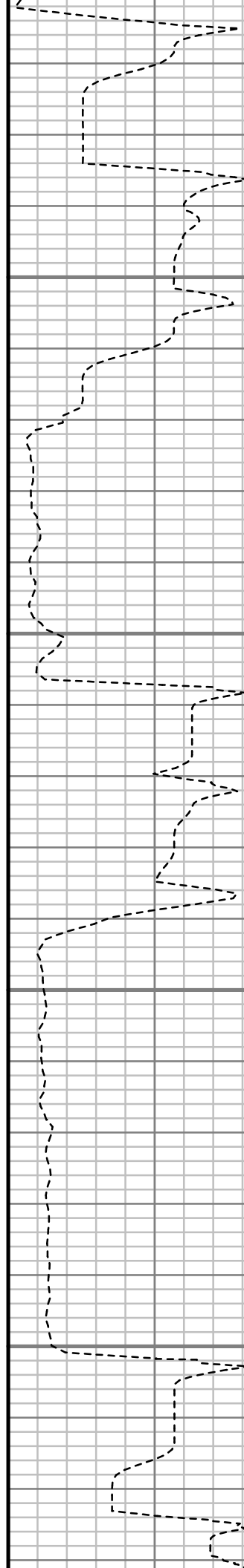


4200

4250

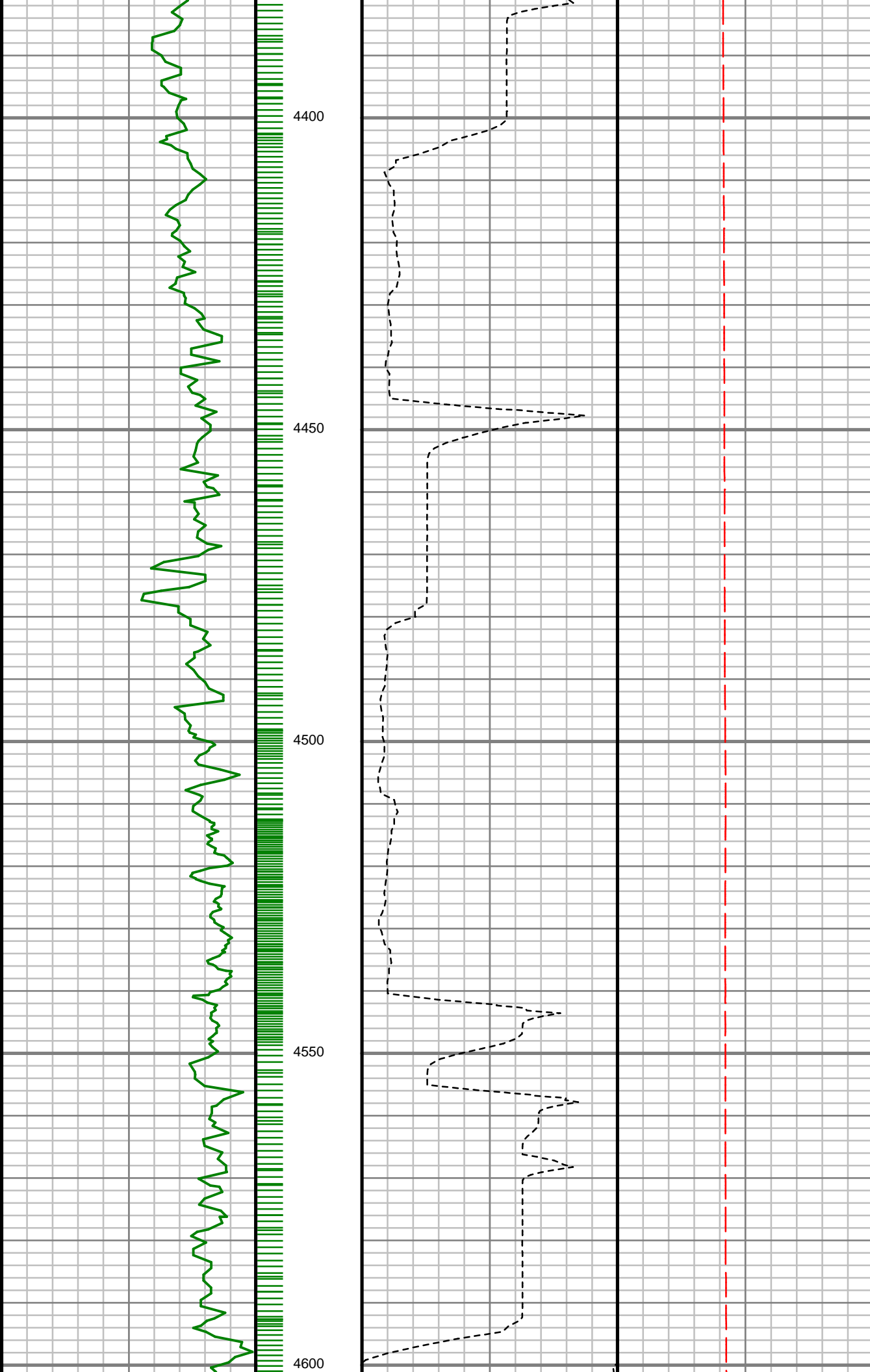
4300

4350



S: 43 MD: 4204.00 ft
Inc: 20.10 deg Az:
124.10 deg TVD:
3903.33 ft

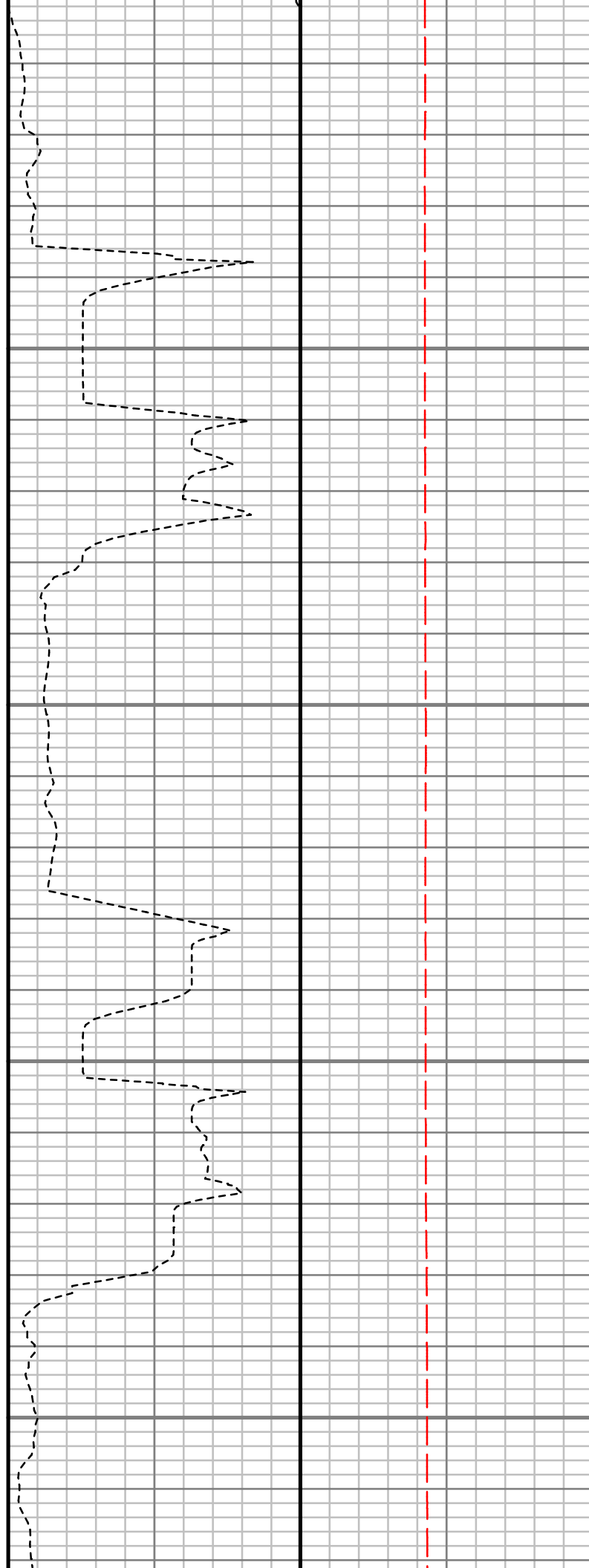
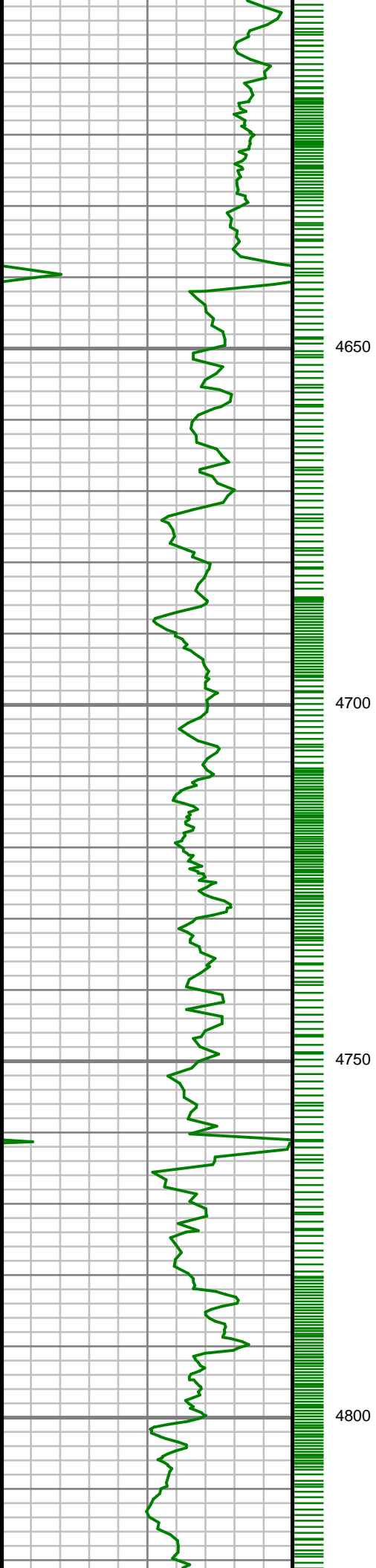
S: 44 MD: 4298.00 ft
Inc: 20.74 deg Az:
127.04 deg TVD:
3991.42 ft



S: 45 MD: 4393.00 ft
Inc: 19.13 deg Az:
126.94 deg TVD:
4080.72 ft

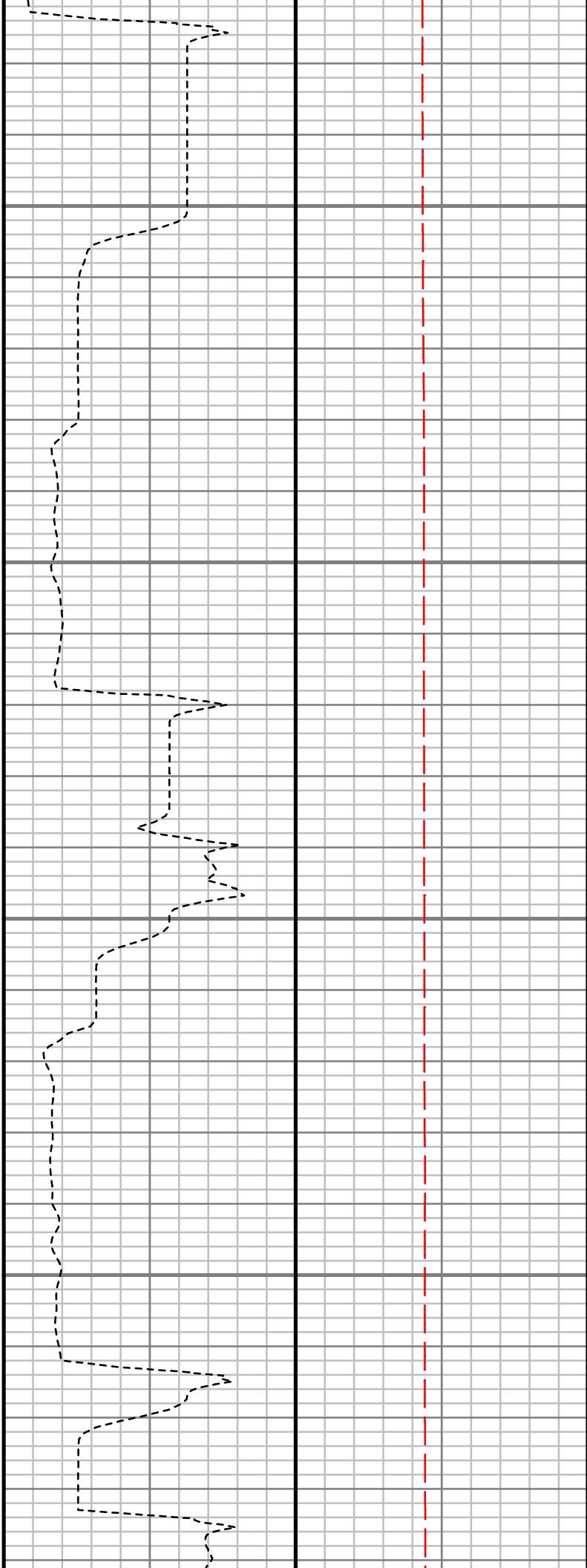
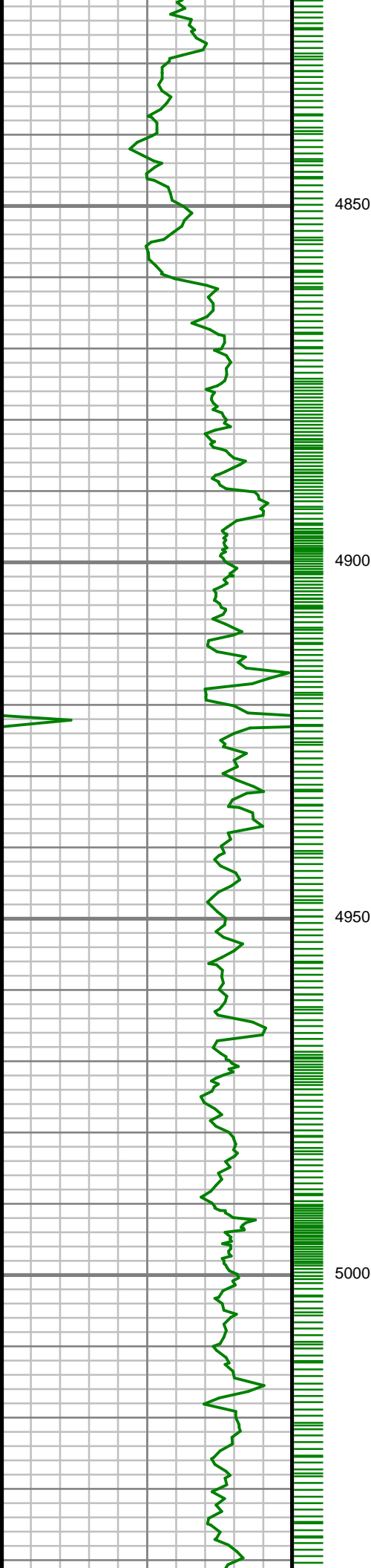
S: 46 MD: 4487.00 ft
Inc: 16.71 deg Az:
127.11 deg TVD:
4170.15 ft

S: 47 MD: 4582.00 ft
Inc: 15.28 deg Az:
124.71 deg TVD:
4261.48 ft



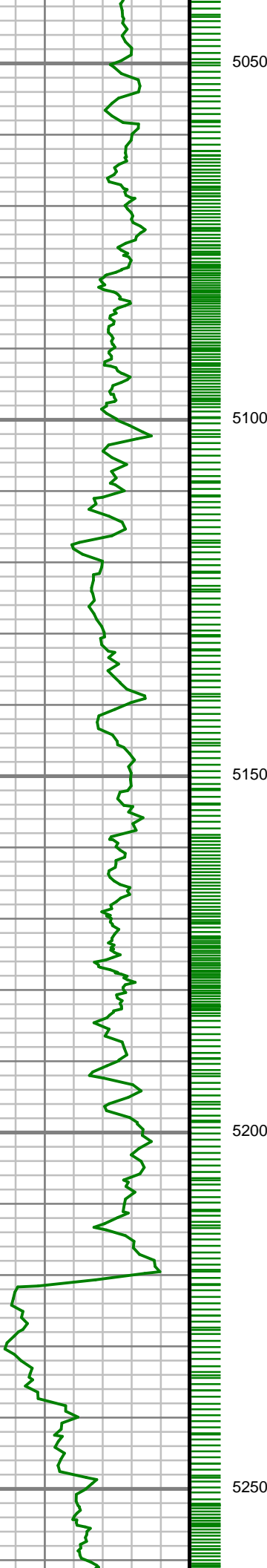
S: 48 MD: 4676.00 ft
Inc: 14.23 deg Az:
123.73 deg TVD:
4352.38 ft

S: 49 MD: 4769.00 ft
Inc: 13.88 deg Az:
122.10 deg TVD:
4442.59 ft



S: 50 MD: 4863.00 ft
Inc: 13.07 deg Az:
122.34 deg TVD:
4534.00 ft

S: 51 MD: 4958.00 ft
Inc: 11.52 deg Az:
124.33 deg TVD:
4626.82 ft



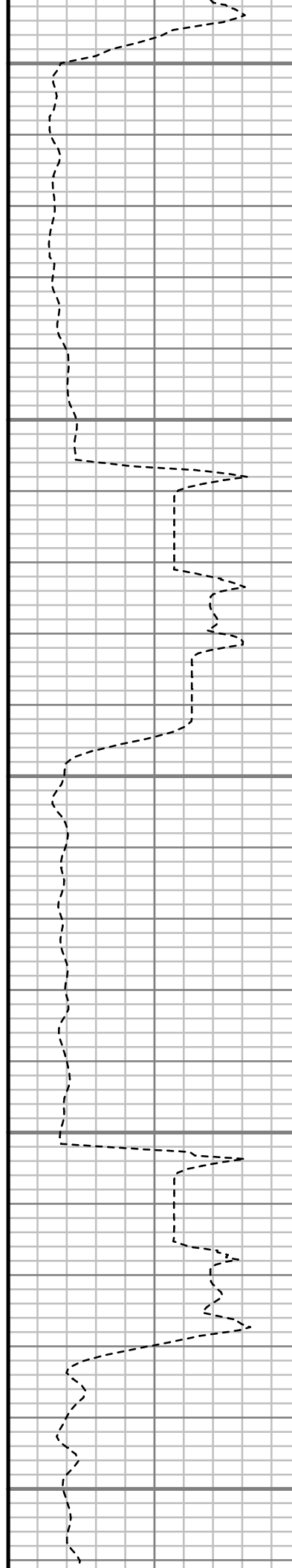
5050

5100

5150

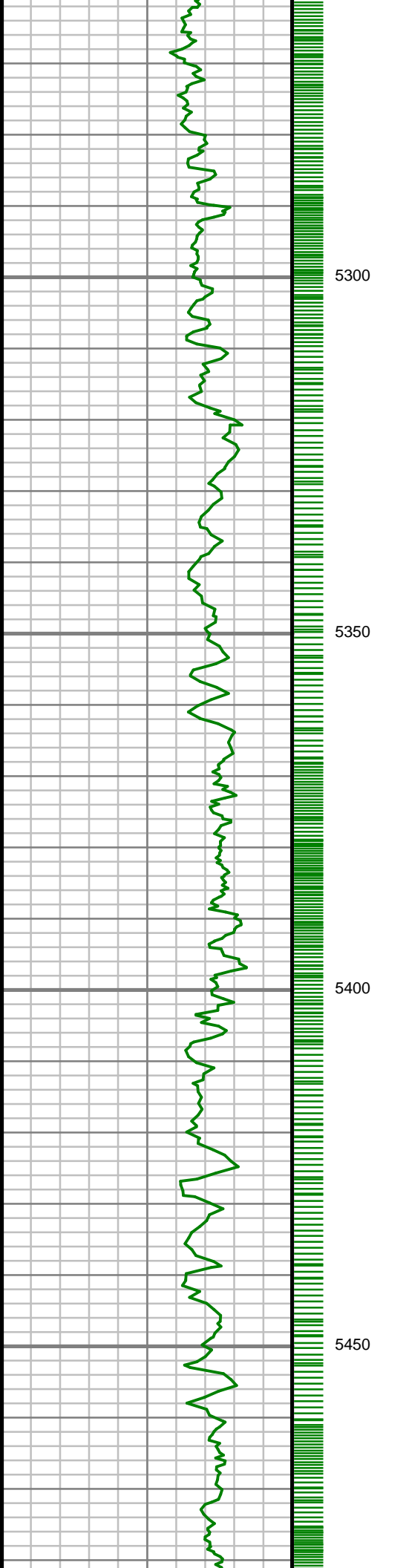
5200

5250



S: 52 MD: 5052.00 ft
Inc: 9.13 deg Az:
127.12 deg TVD:
4719.29 ft

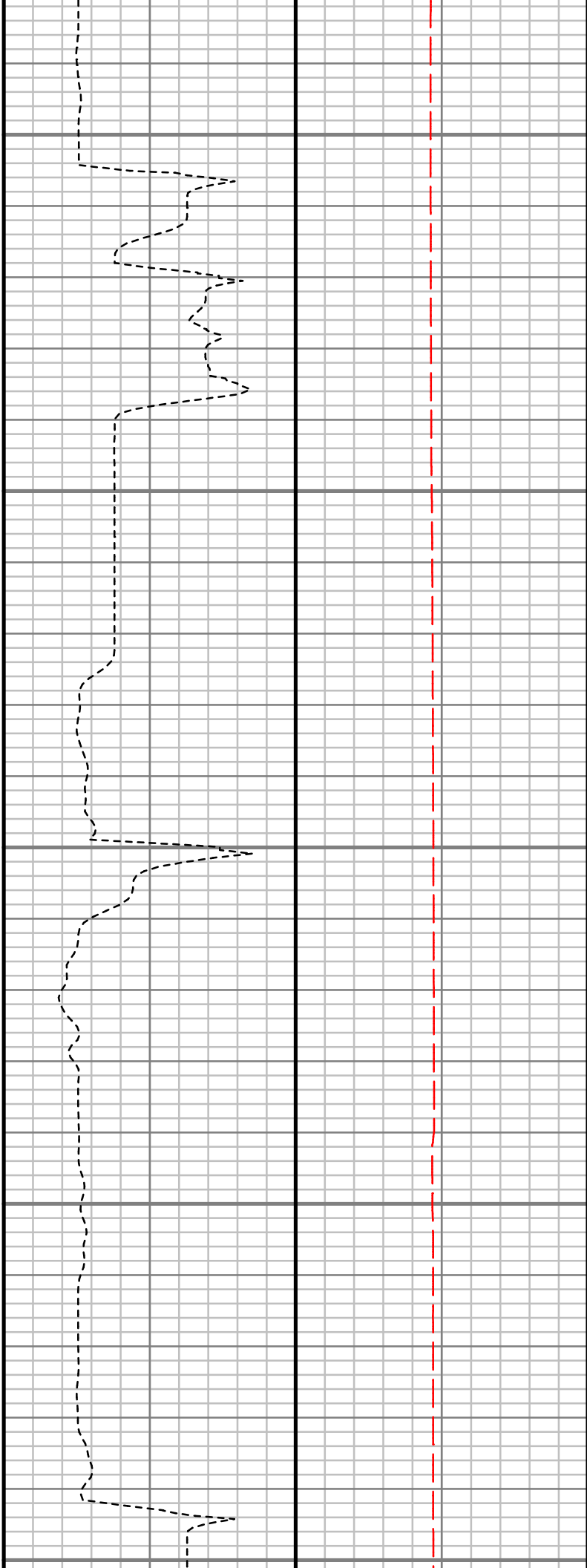
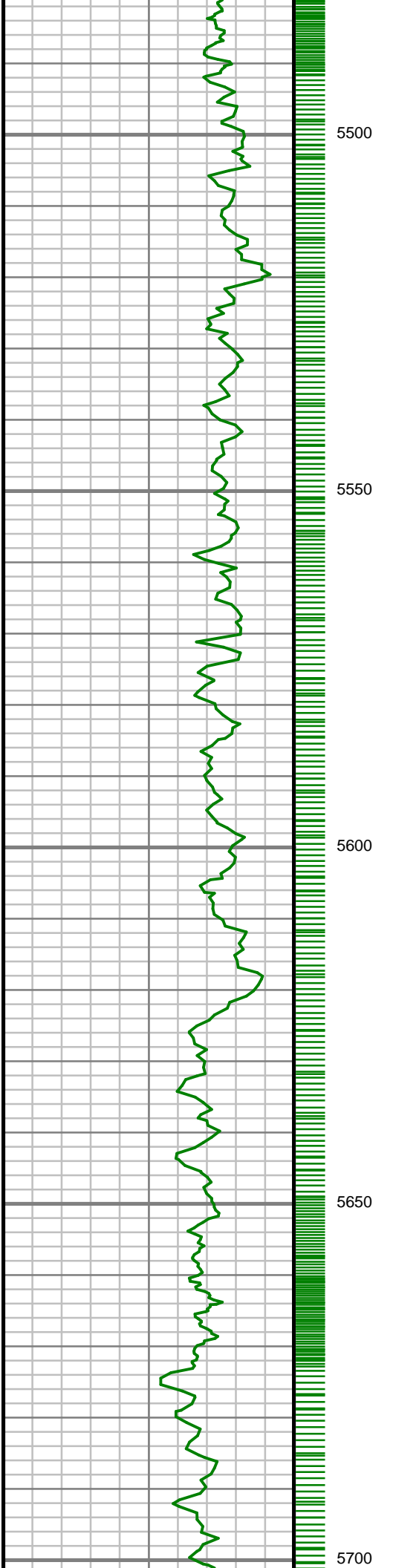
S: 53 MD: 5146.00 ft
Inc: 7.24 deg Az:
128.28 deg TVD:
4812.33 ft



S: 54 MD: 5267.00 ft
Inc: 5.50 deg Az:
130.99 deg TVD:
4932.58 ft

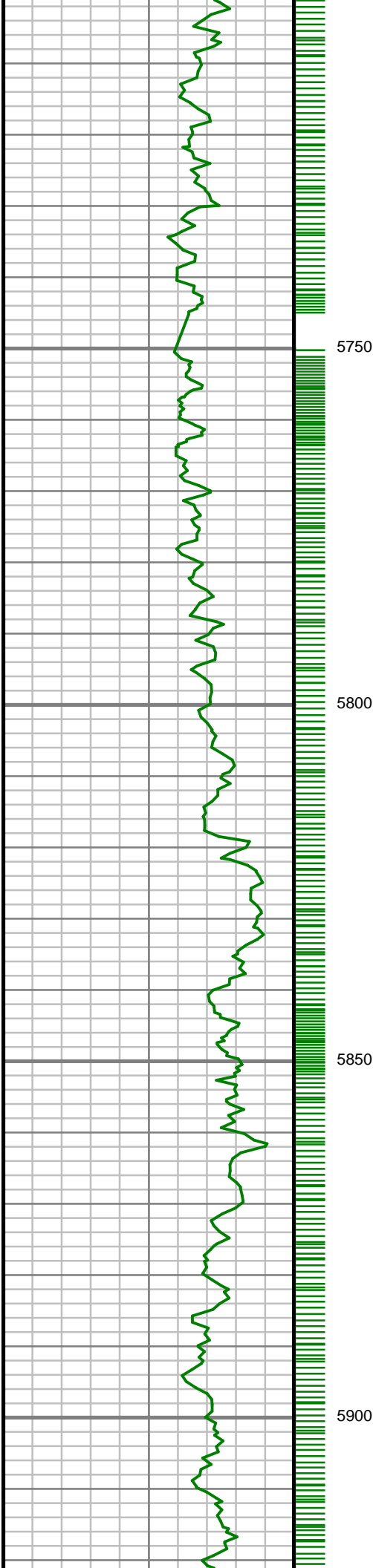
S: 55 MD: 5363.00 ft
Inc: 4.09 deg Az:
122.66 deg TVD:
5028.24 ft

S: 56 MD: 5458.00 ft
Inc: 2.53 deg Az:
109.56 deg TVD:
5123.08 ft



S: 57 MD: 5551.00 ft
Inc: 1.46 deg Az:
156.54 deg TVD:
5216.03 ft

S: 58 MD: 5646.00 ft
Inc: 1.19 deg Az:
161.83 deg TVD:
5311.01 ft



5750

5800

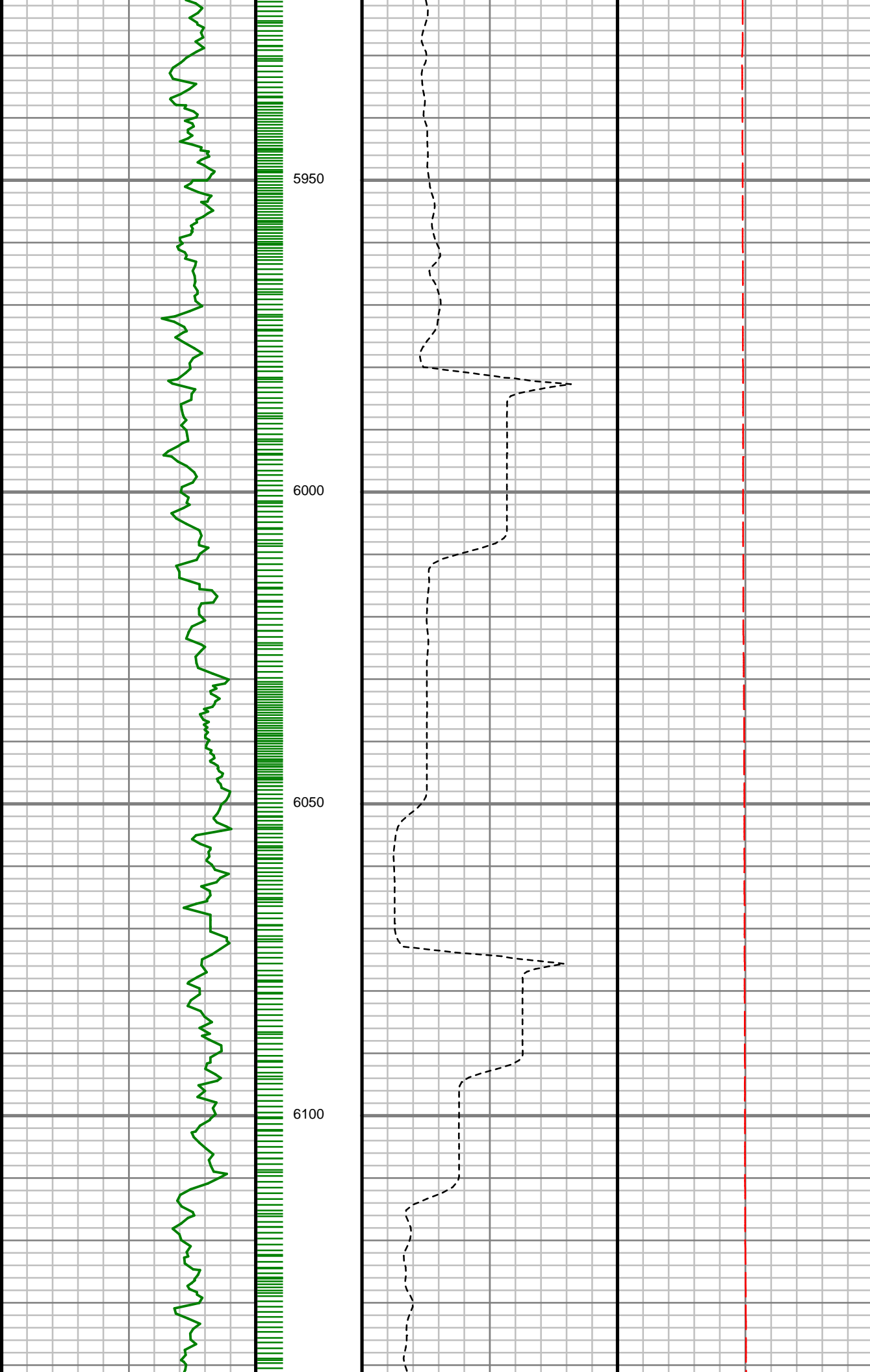
5850

5900



S: 59 MD: 5739.00 ft
Inc: 0.38 deg Az:
343.40 deg TVD:
5404.00 ft

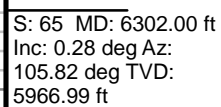
S: 60 MD: 5832.00 ft
Inc: 0.34 deg Az: 20.15
deg TVD: 5497.00 ft

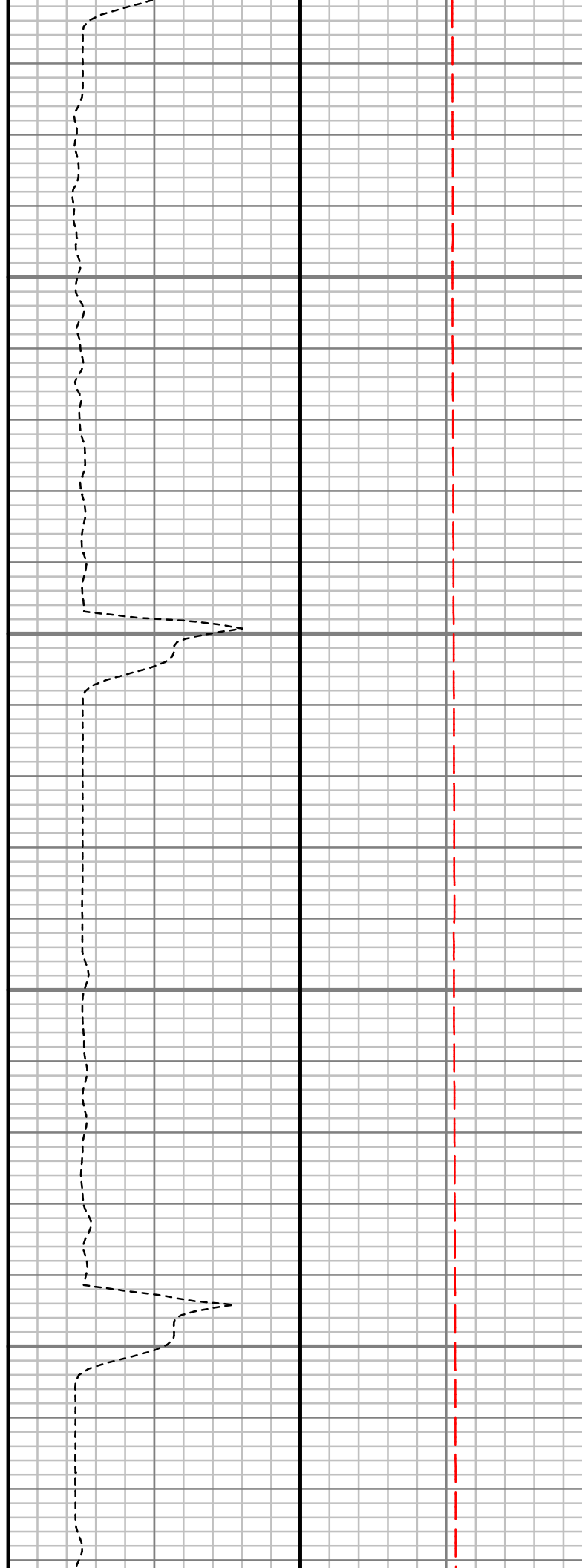
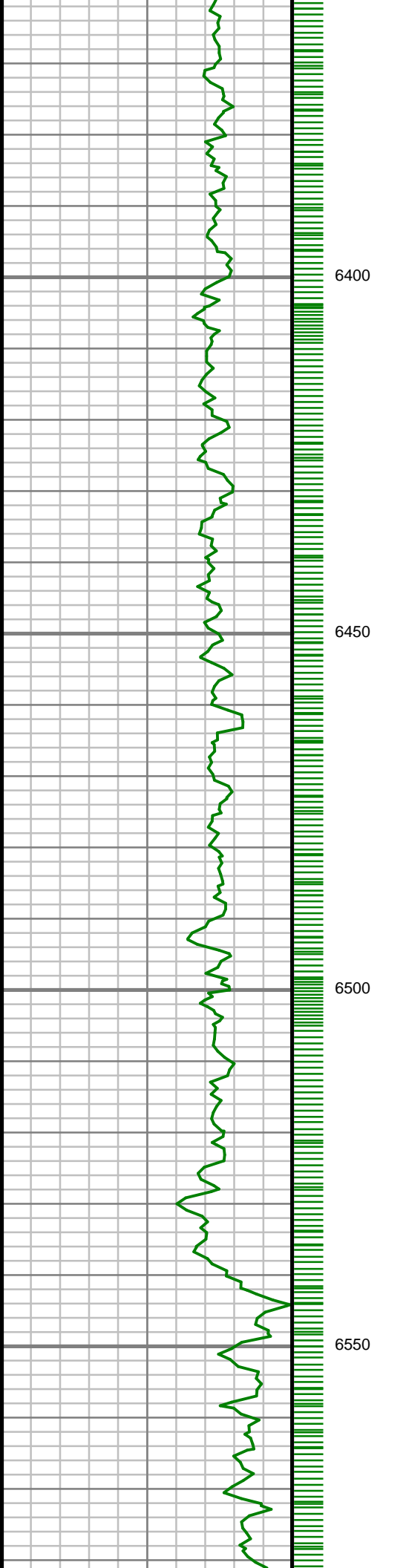


S: 61 MD: 5928.00 ft
Inc: 0.33 deg Az: 29.24
deg TVD: 5593.00 ft

S: 62 MD: 6021.00 ft
Inc: 0.26 deg Az: 10.32
deg TVD: 5686.00 ft

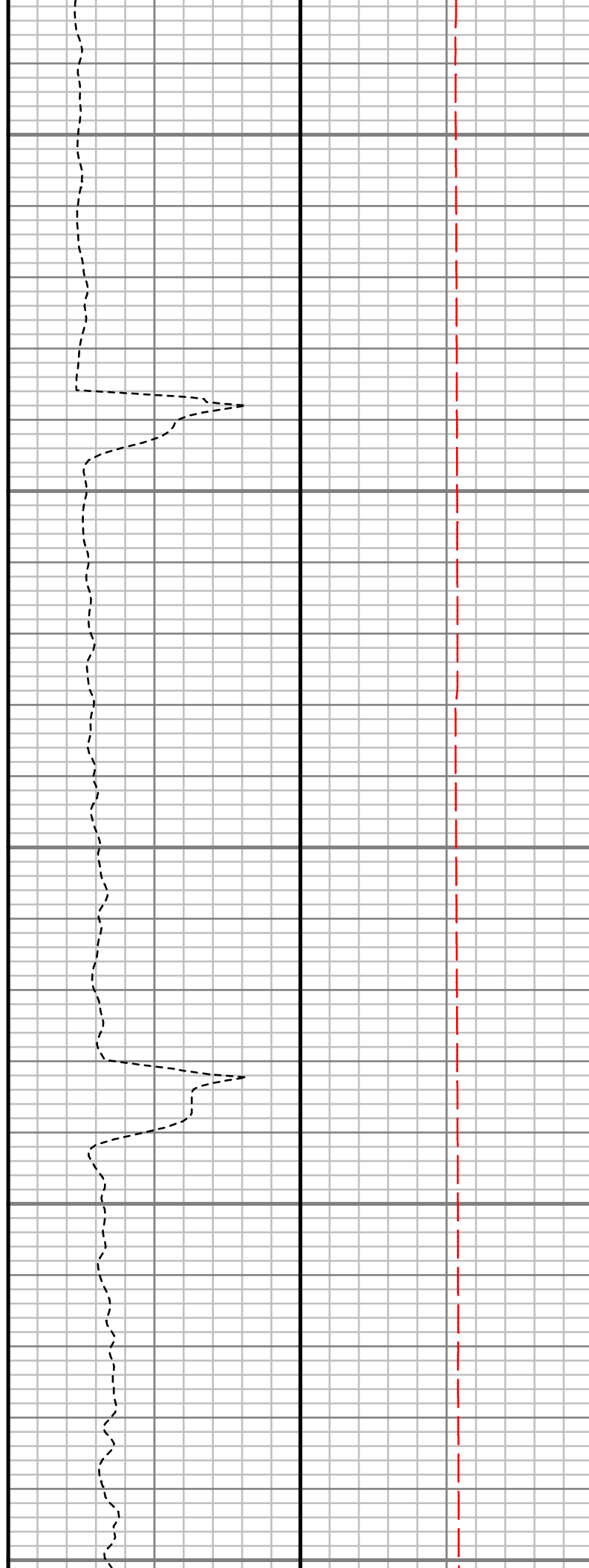
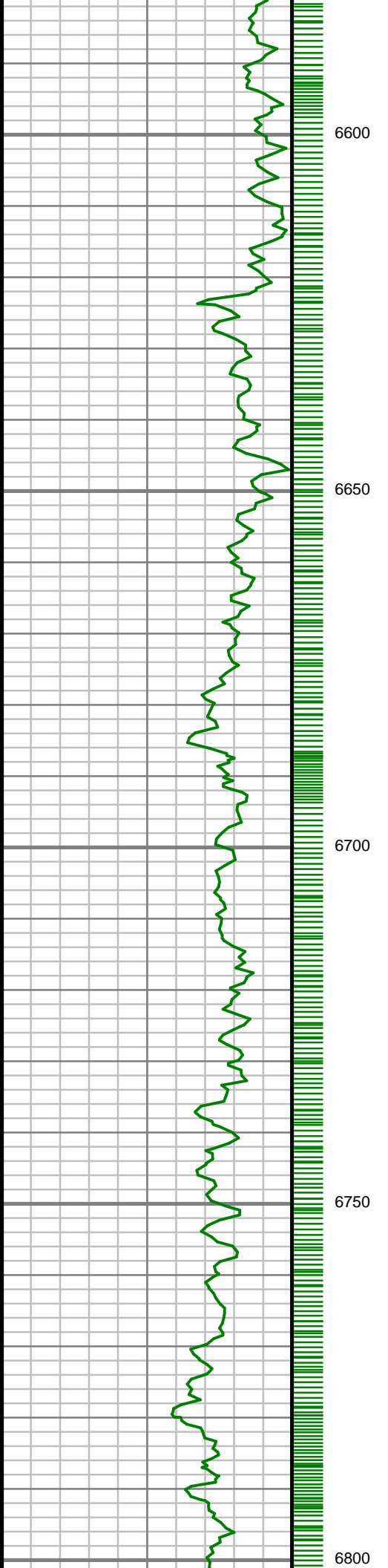
S: 63 MD: 6115.00 ft
Inc: 0.23 deg Az: 352.19
deg TVD: 5780.00 ft





S: 66 MD: 6397.00 ft
Inc: 0.28 deg Az:
108.81 deg TVD:
6061.99 ft

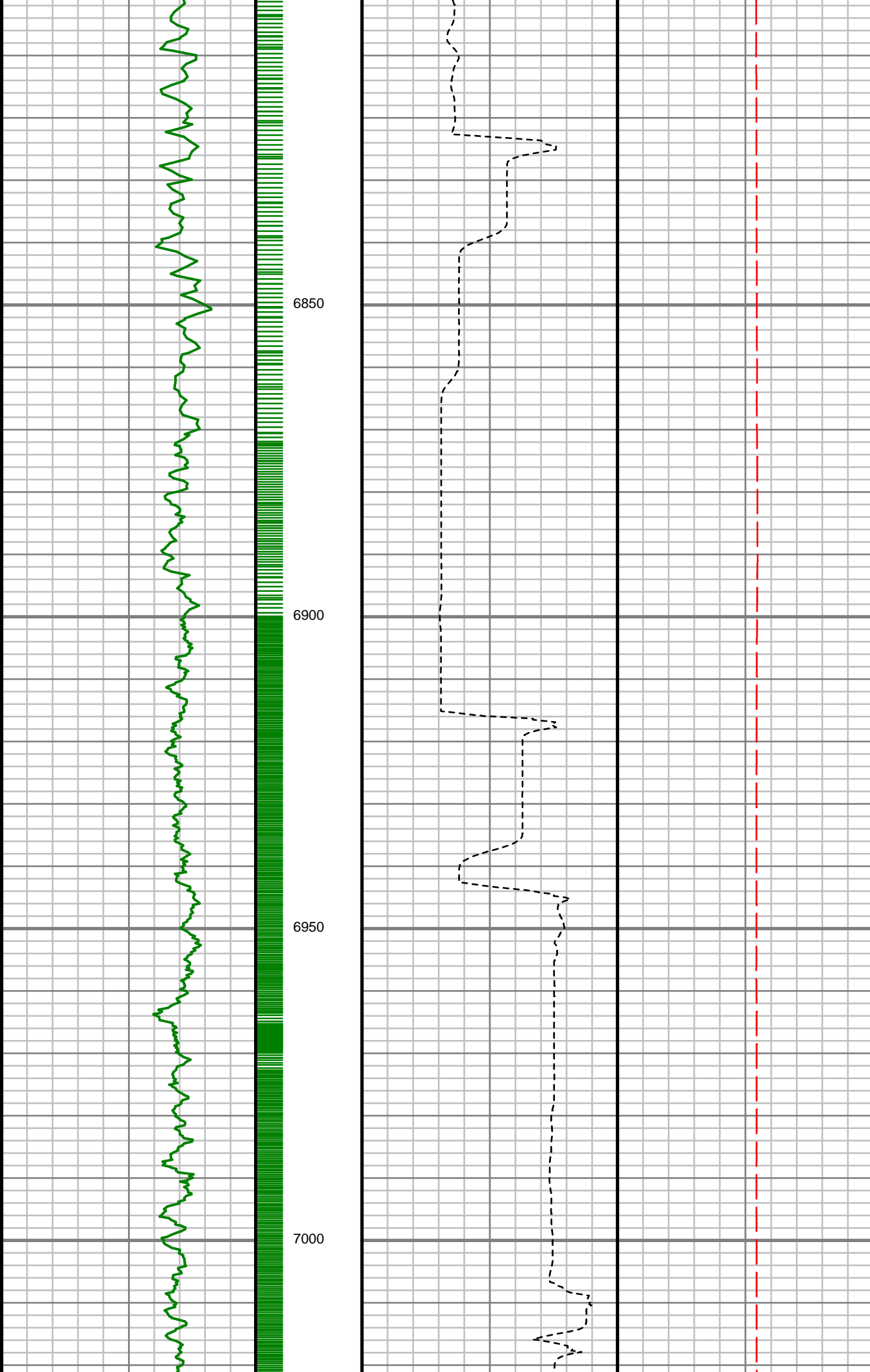
S: 67 MD: 6492.00 ft
Inc: 0.05 deg Az: 16.62
deg TVD: 6156.99 ft



S: 68 MD: 6586.00 ft
Inc: 0.77 deg Az:
308.67 deg TVD:
6250.99 ft

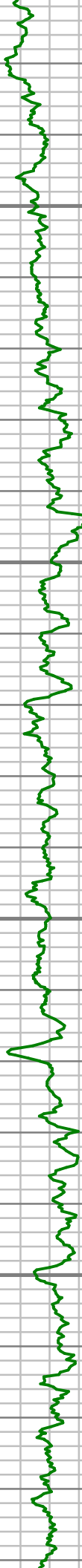
S: 69 MD: 6679.00 ft
Inc: 1.01 deg Az:
327.85 deg TVD:
6343.98 ft

S: 70 MD: 6772.00 ft
Inc: 0.96 deg Az:
335.58 deg TVD:
6436.97 ft



S: 71 MD: 6864.00 ft
Inc: 0.99 deg Az:
349.83 deg TVD:
6528.95 ft

S: 72 MD: 6957.00 ft
Inc: 2.89 deg Az:
353.42 deg TVD:
6621.89 ft



7050

7100

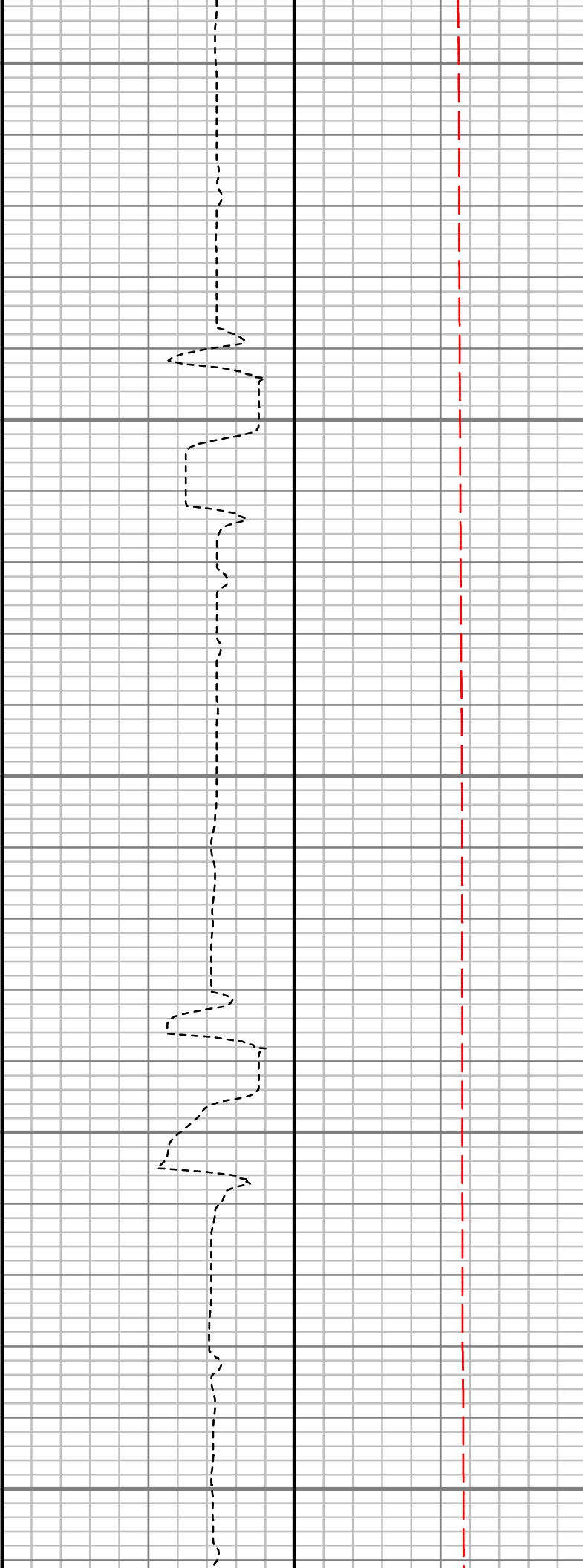
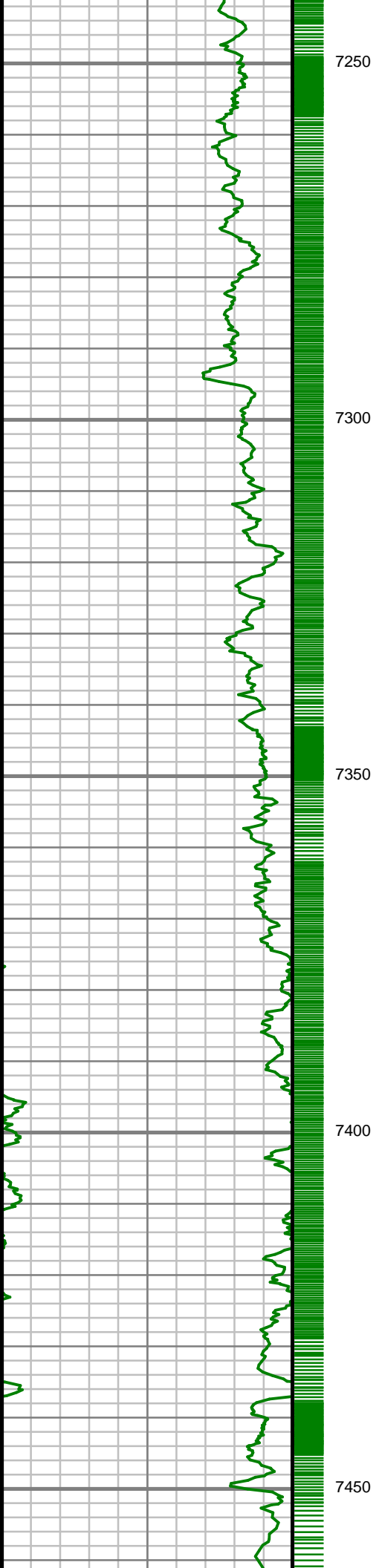
7150

7200



S: 73 MD: 7052.00 ft
Inc: 13.33 deg Az: 4.38
deg TVD: 6715.82 ft

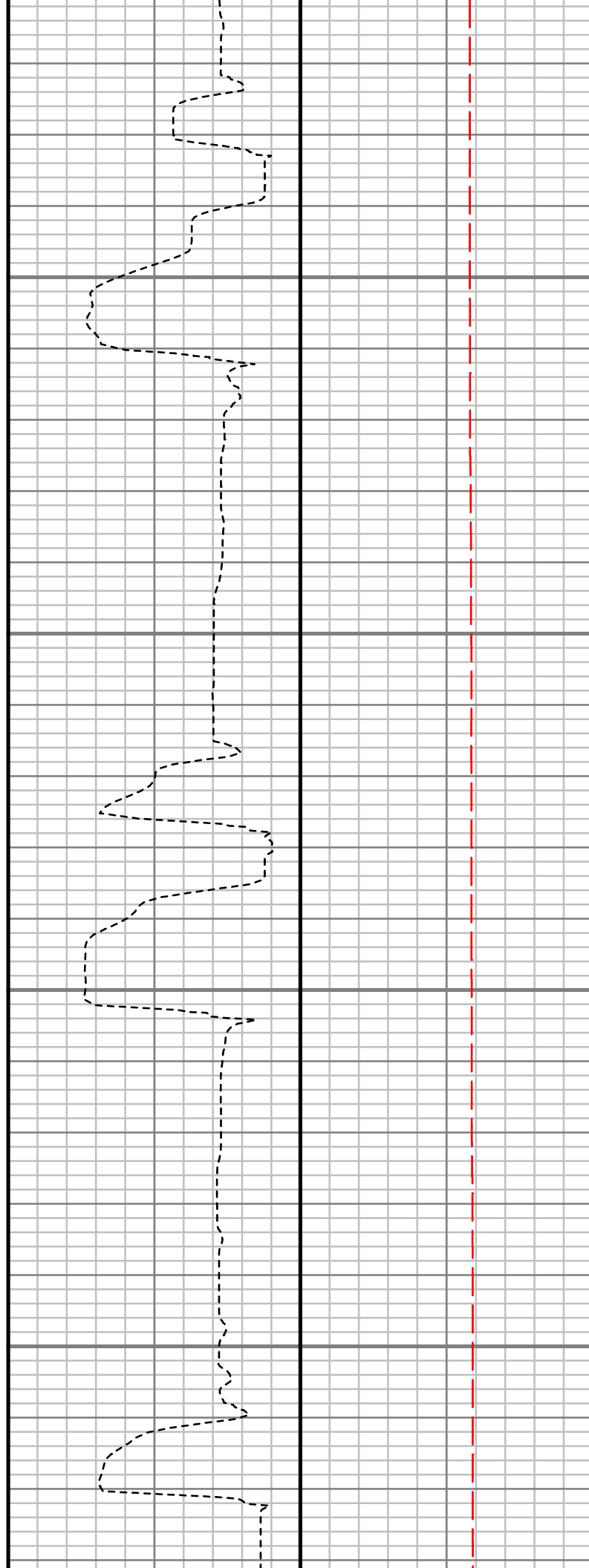
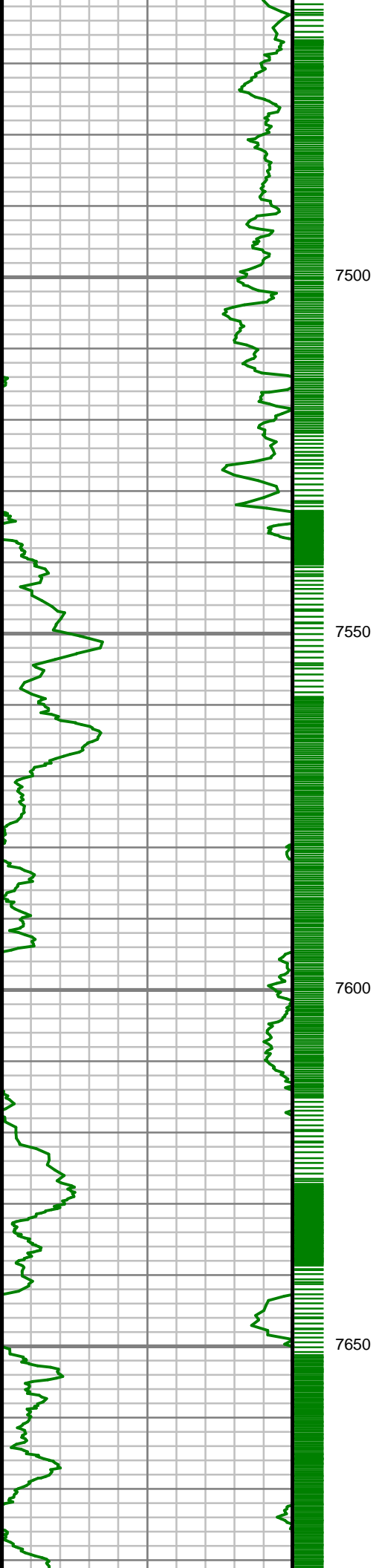
S: 74 MD: 7146.00 ft
Inc: 21.05 deg Az: 1.52
deg TVD: 6805.55 ft



S: 75 MD: 7241.00 ft
Inc: 29.05 deg Az: 0.35
deg TVD: 6891.55 ft

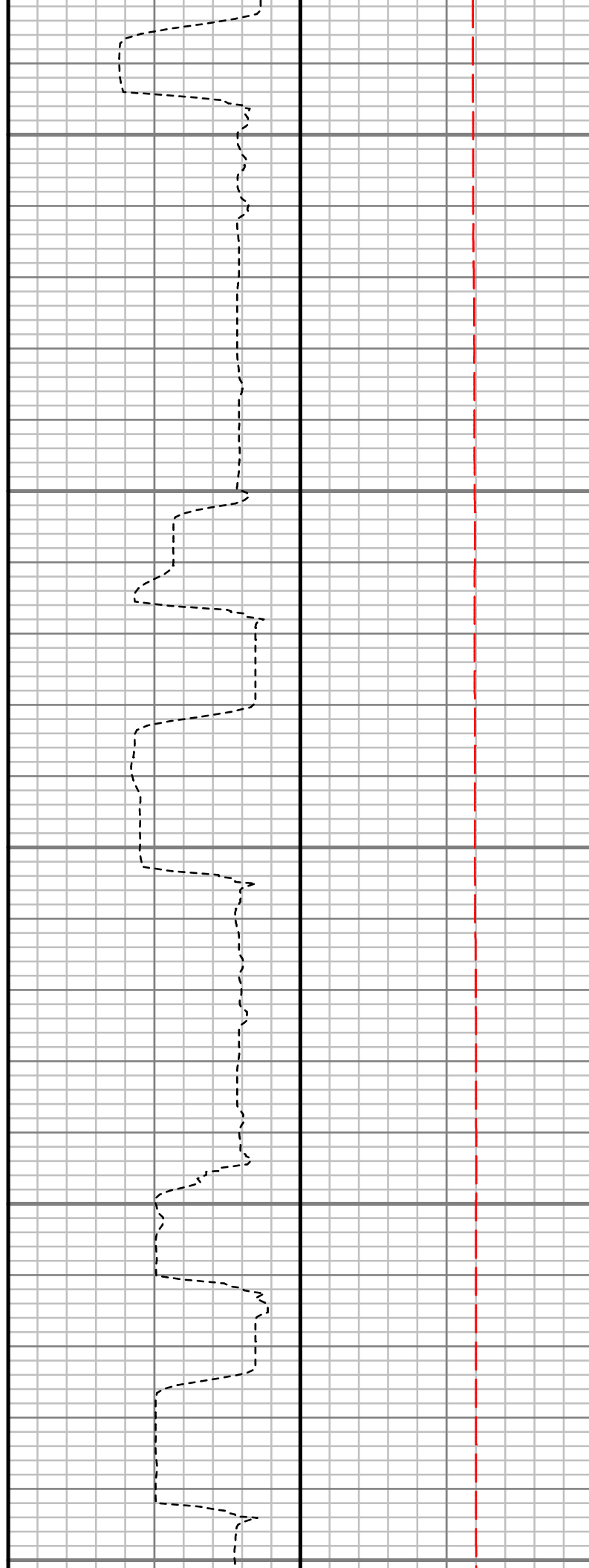
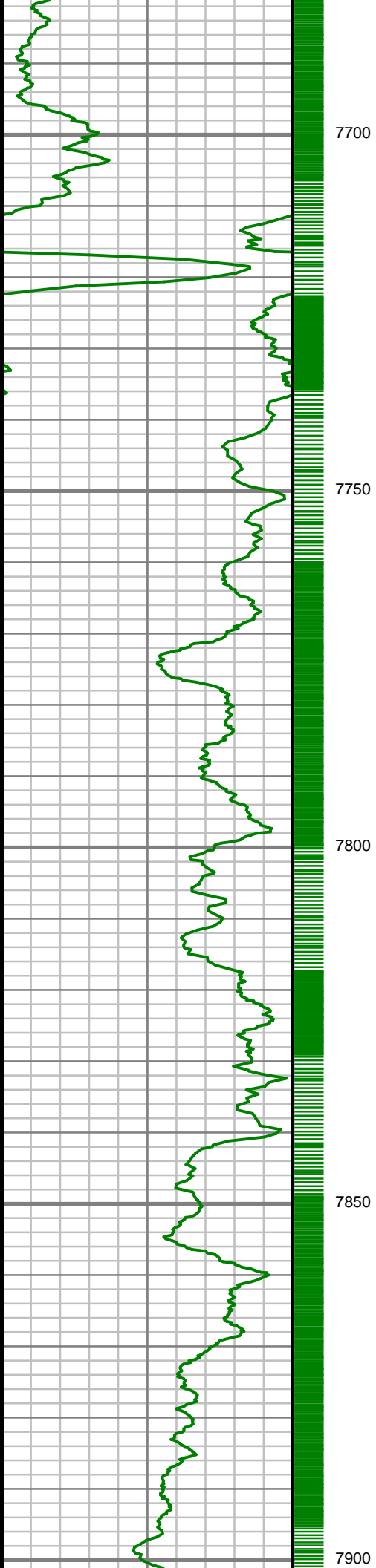
S: 76 MD: 7336.00 ft
Inc: 36.29 deg Az:
359.24 deg TVD:
6971.46 ft

S: 77 MD: 7430.00 ft
Inc: 44.57 deg Az: 0.27
deg TVD: 7042.96 ft



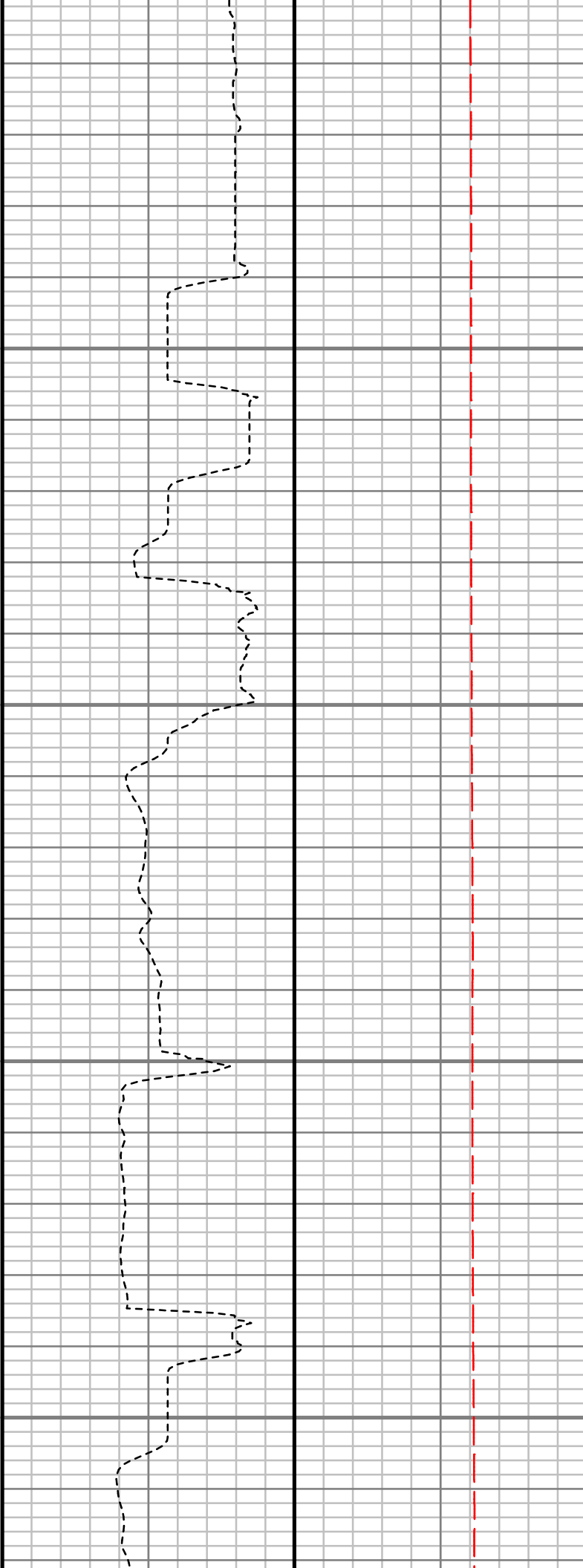
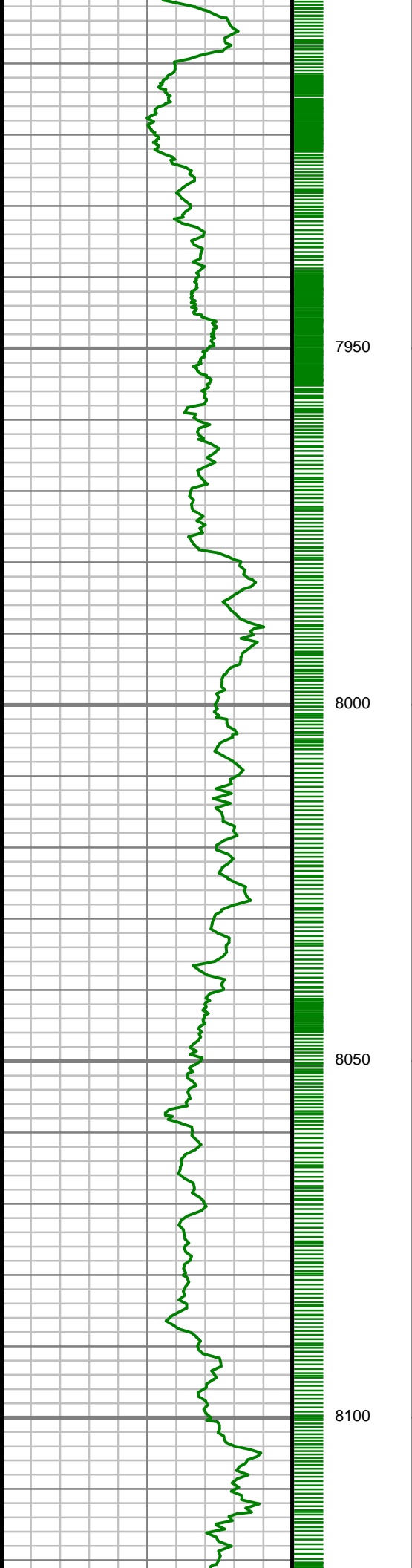
S: 78 MD: 7525.00 ft
Inc: 51.33 deg Az:
357.98 deg TVD:
7106.56 ft

S: 79 MD: 7620.00 ft
Inc: 58.41 deg Az:
359.84 deg TVD:
7161.19 ft



S: 80 MD: 7714.00 ft
Inc: 67.32 deg Az:
359.52 deg TVD:
7204.02 ft

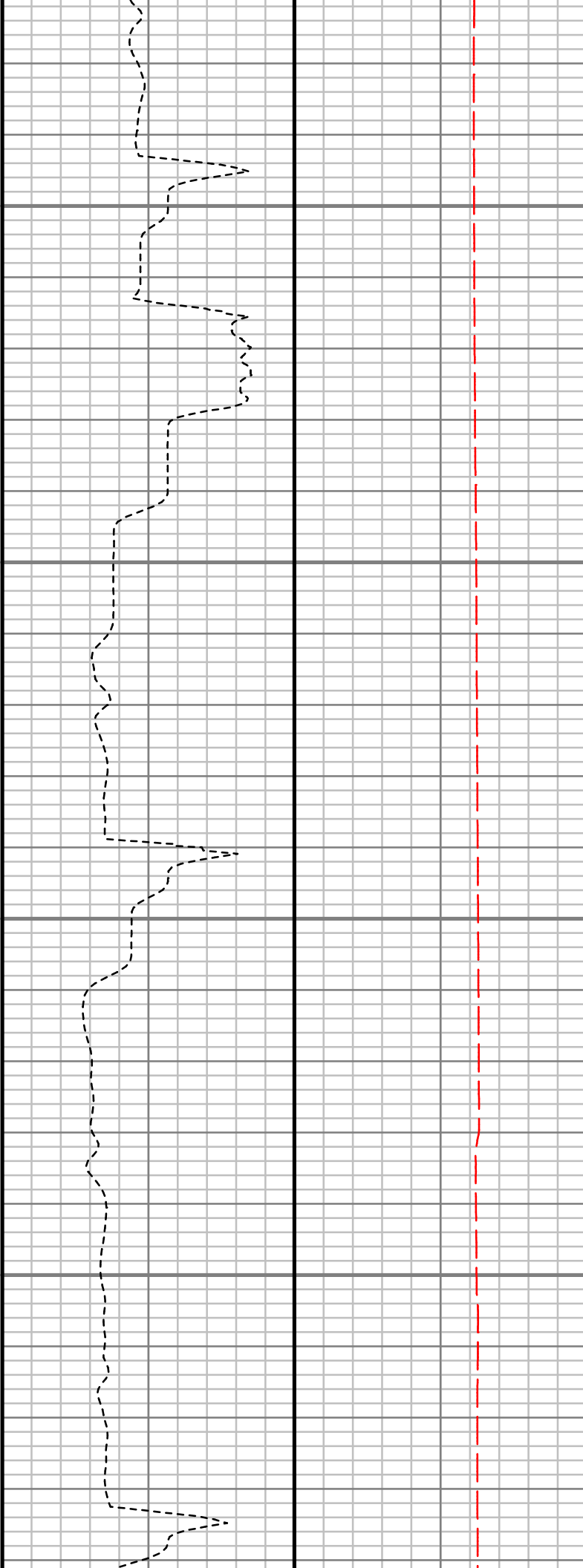
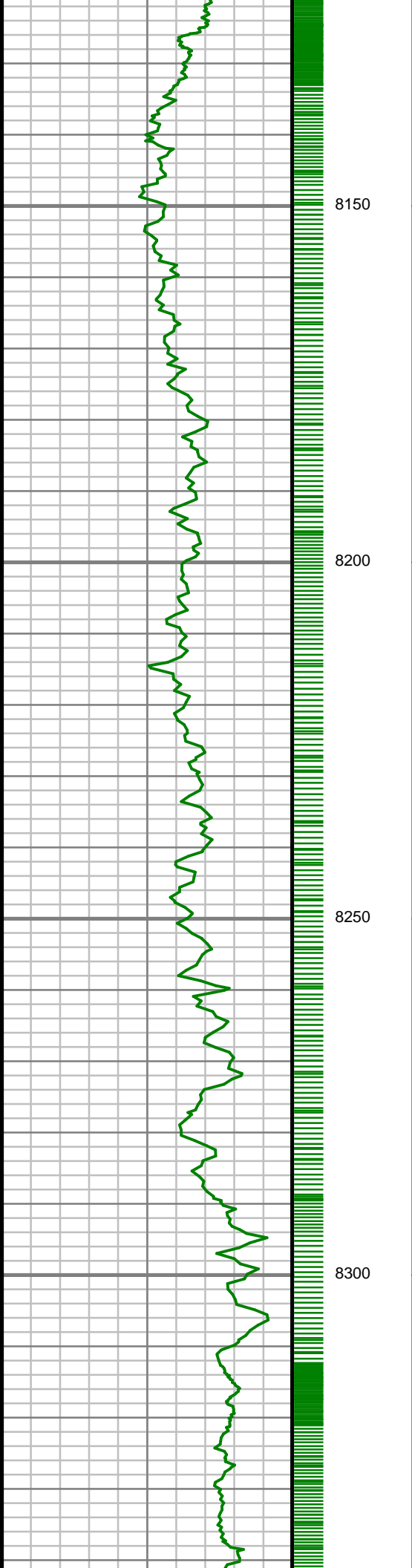
S: 81 MD: 7809.00 ft
Inc: 73.68 deg Az:
359.78 deg TVD:
7235.71 ft



S: 82 MD: 7904.00 ft
Inc: 80.28 deg Az:
359.49 deg TVD:
7257.10 ft

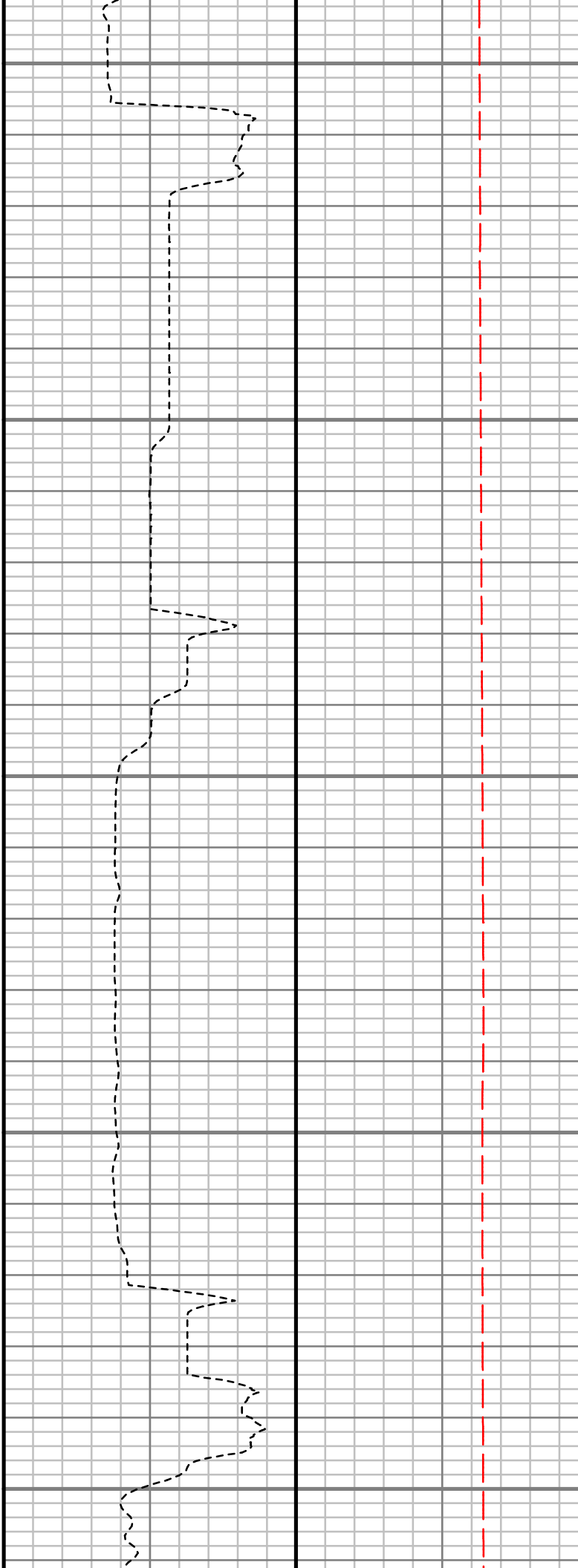
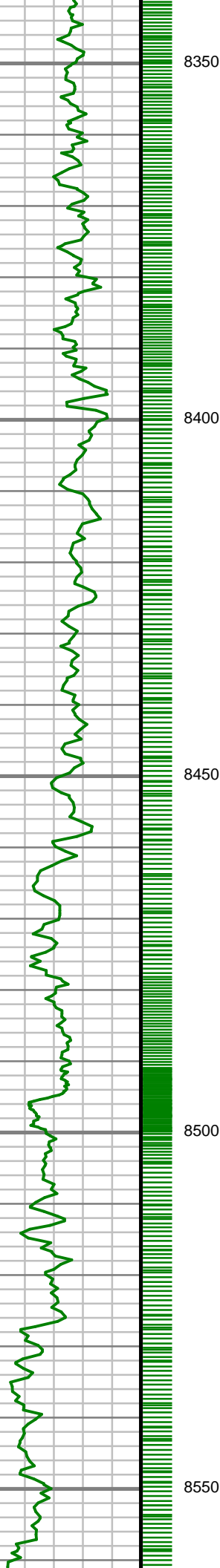
S: 83 MD: 7998.00 ft
Inc: 87.34 deg Az:
359.32 deg TVD:
7267.22 ft

S: 84 MD: 8093.00 ft
Inc: 87.92 deg Az:
359.20 deg TVD:
7271.15 ft



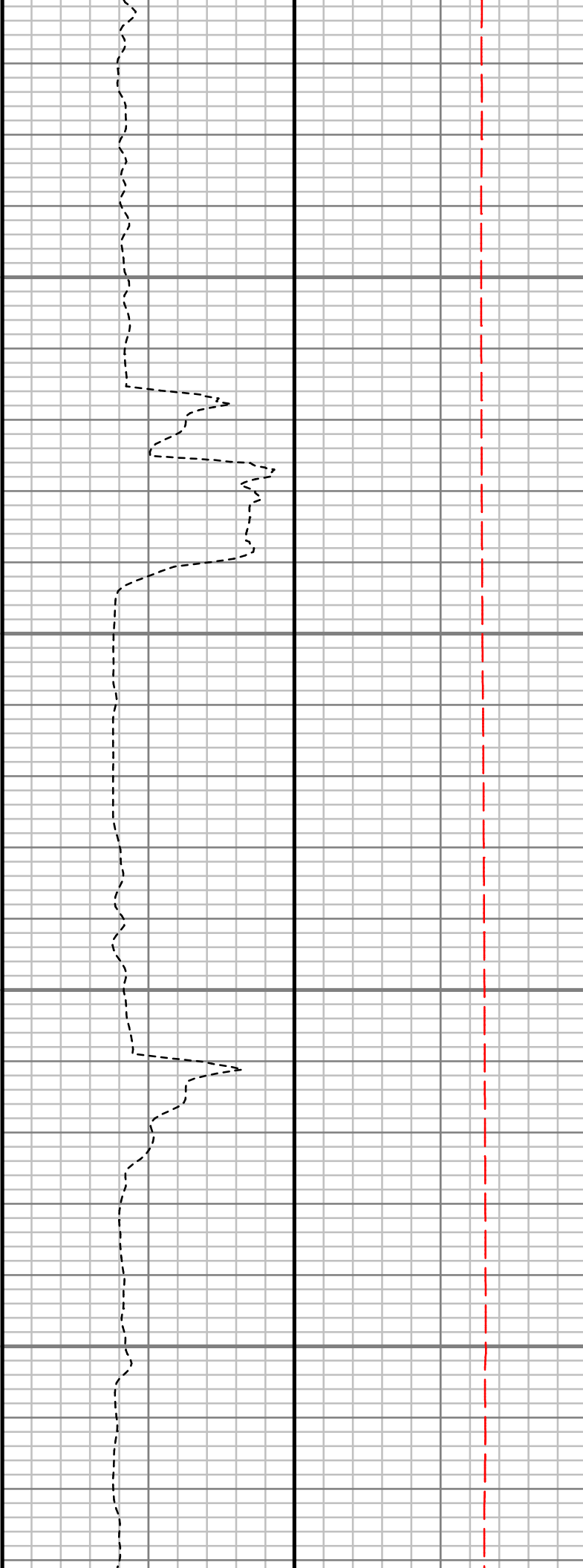
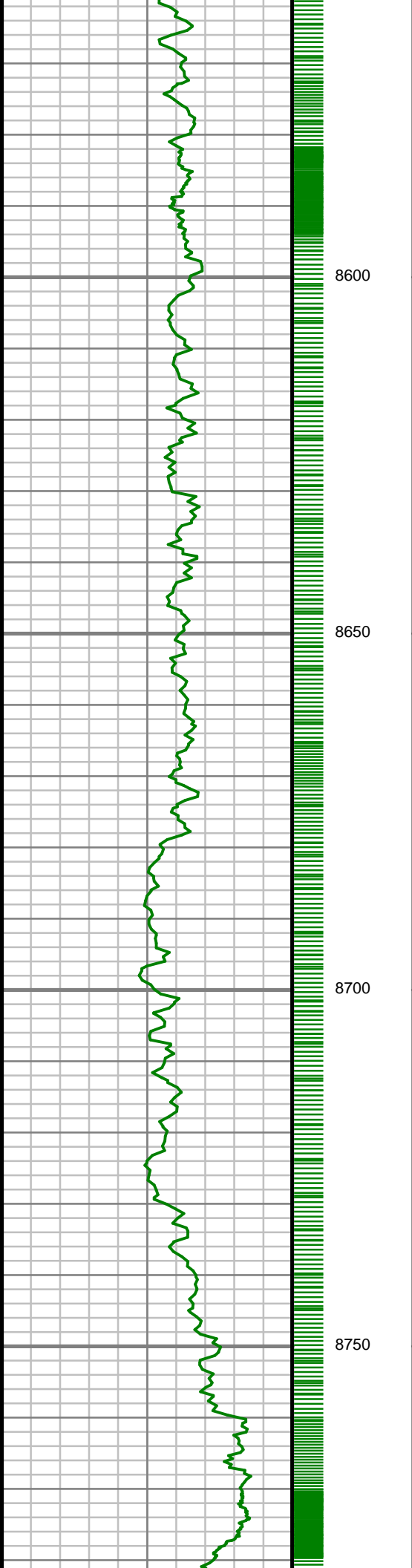
S: 85 MD: 8187.00 ft
Inc: 90.17 deg Az:
359.39 deg TVD:
7272.72 ft

S: 86 MD: 8280.00 ft
Inc: 89.83 deg Az:
359.43 deg TVD:
7272.72 ft



S: 87 MD: 8376.00 ft
Inc: 91.24 deg Az:
359.64 deg TVD:
7271.82 ft

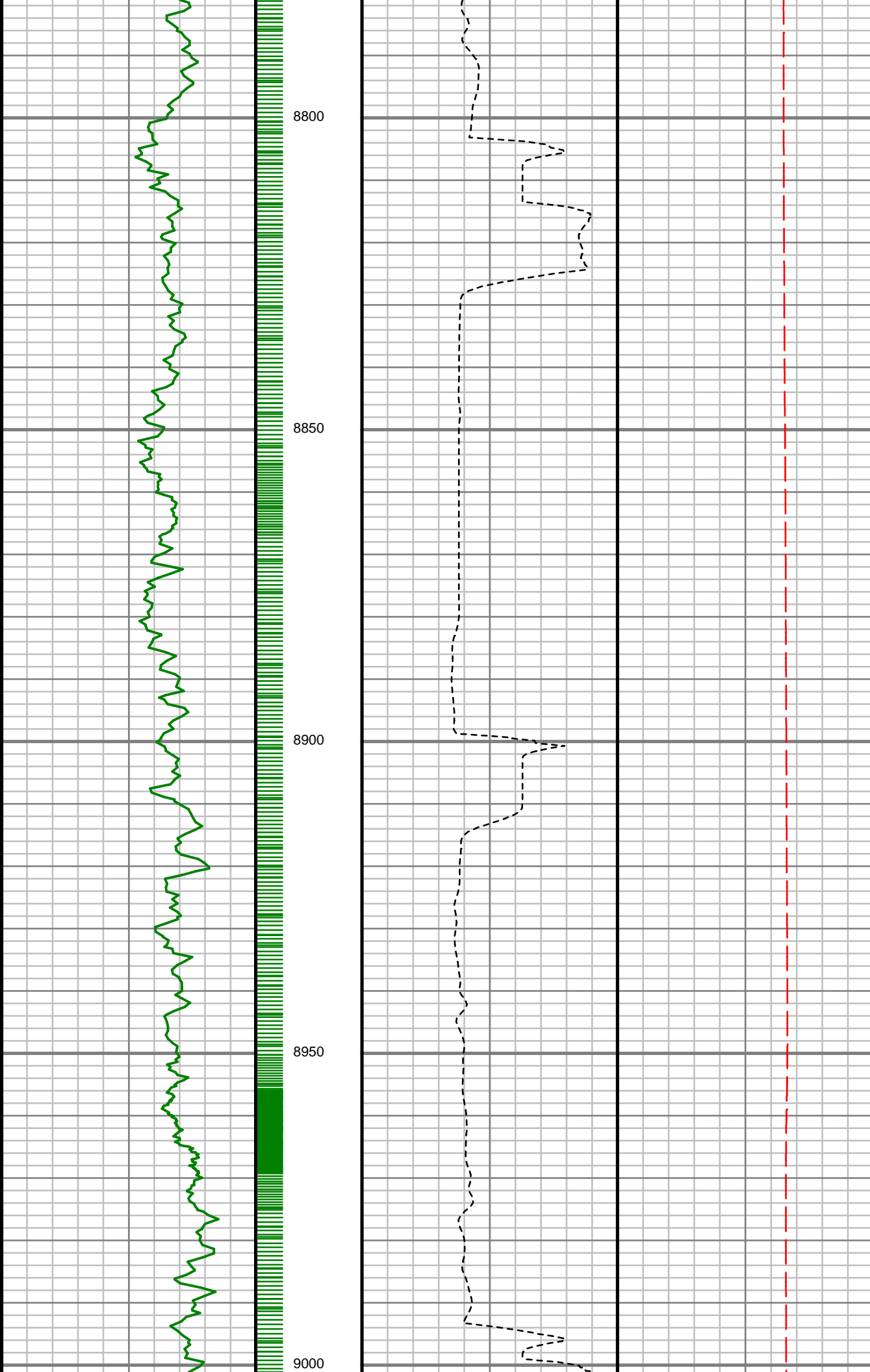
S: 88 MD: 8469.00 ft
Inc: 91.58 deg Az:
359.13 deg TVD:
7269.53 ft



S: 89 MD: 8564.00 ft
Inc: 90.97 deg Az: 359.29 deg TVD: 7267.42 ft

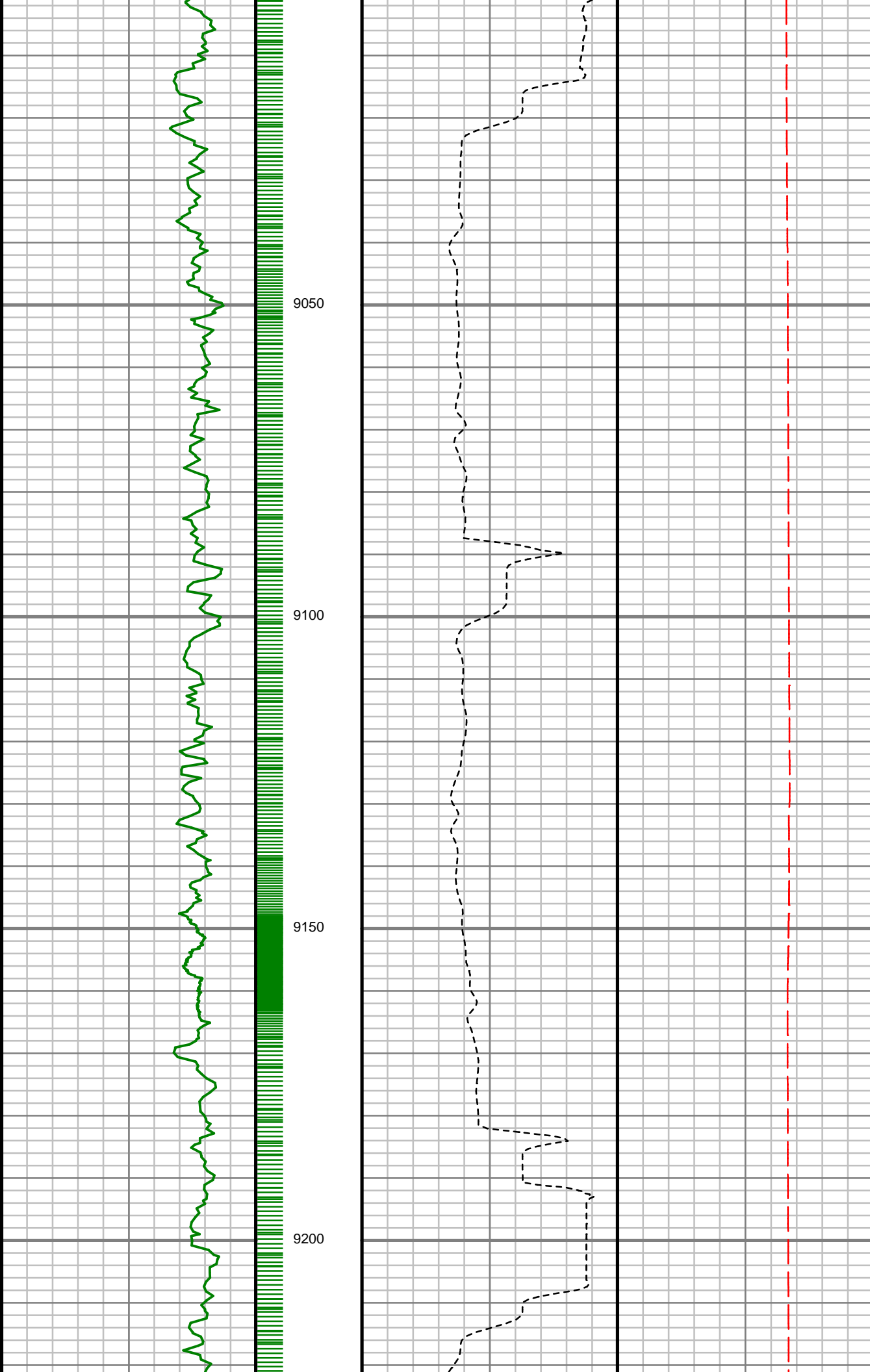
S: 90 MD: 8657.00 ft
Inc: 90.67 deg Az: 0.96 deg TVD: 7266.08 ft

S: 91 MD: 8752.00 ft
Inc: 91.38 deg Az: 0.78 deg TVD: 7264.38 ft



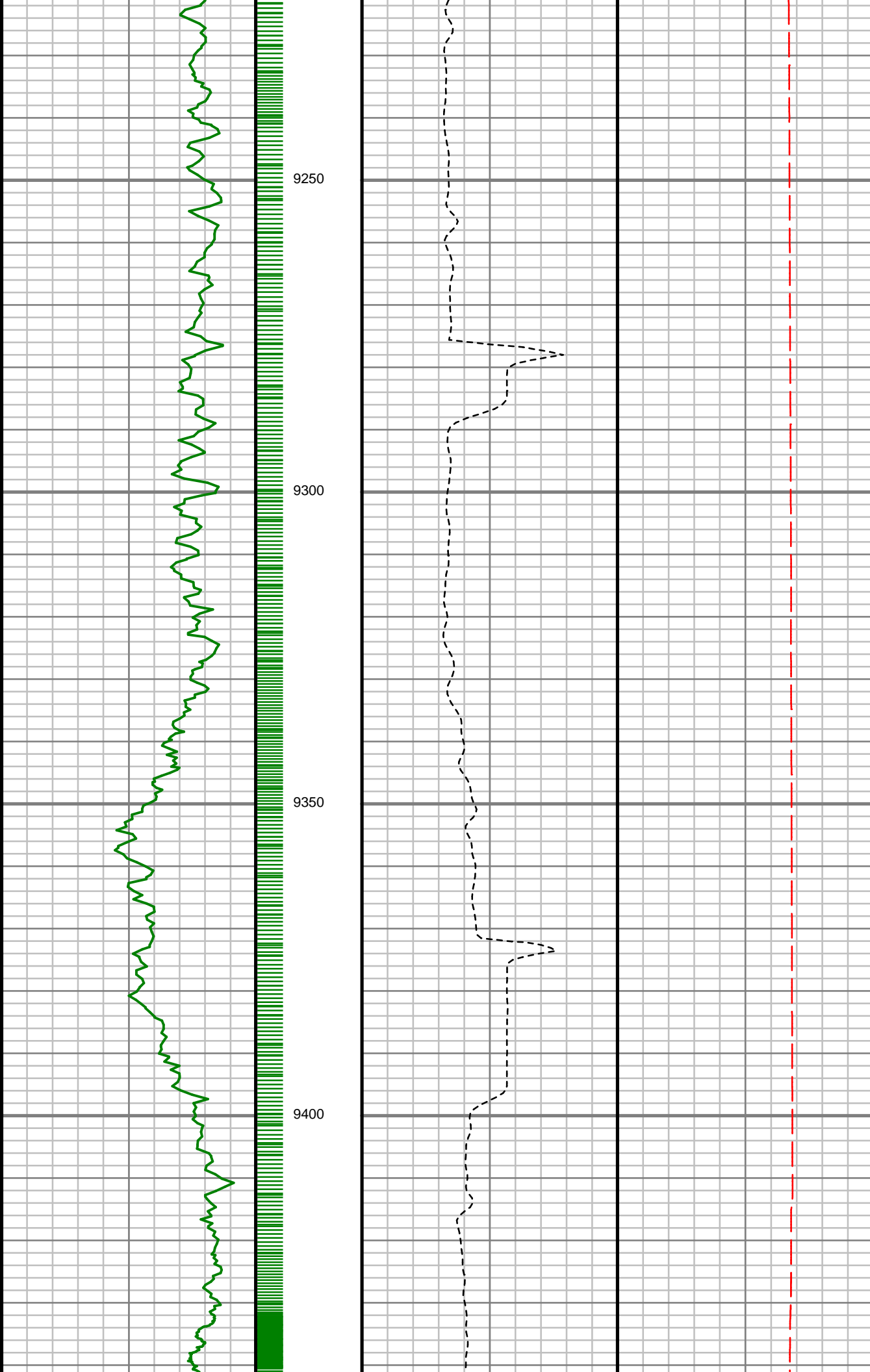
S: 92 MD: 8845.00 ft
Inc: 90.97 deg Az:
359.73 deg TVD:
7262.47 ft

S: 93 MD: 8940.00 ft
Inc: 91.68 deg Az:
359.39 deg TVD:
7260.27 ft



S: 94 MD: 9034.00 ft
Inc: 90.64 deg Az:
358.66 deg TVD:
7258.37 ft

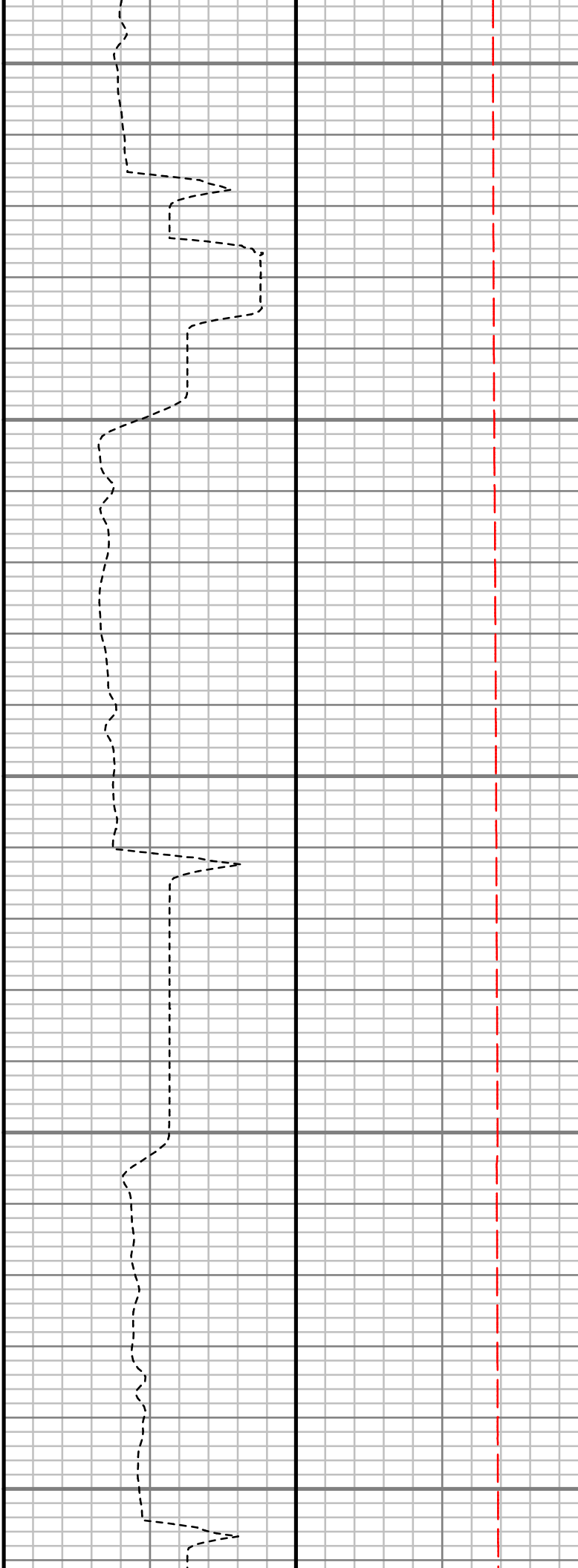
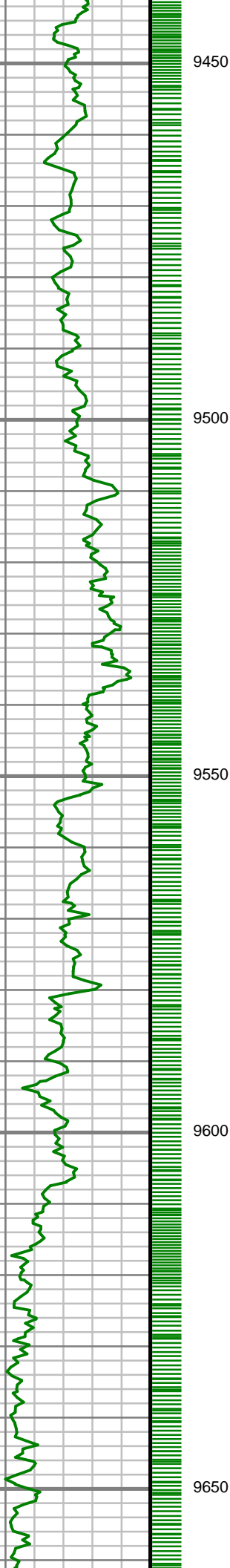
S: 95 MD: 9128.00 ft
Inc: 91.58 deg Az:
358.53 deg TVD:
7256.55 ft



S: 96 MD: 9222.00 ft
Inc: 90.13 deg Az:
359.89 deg TVD:
7255.14 ft

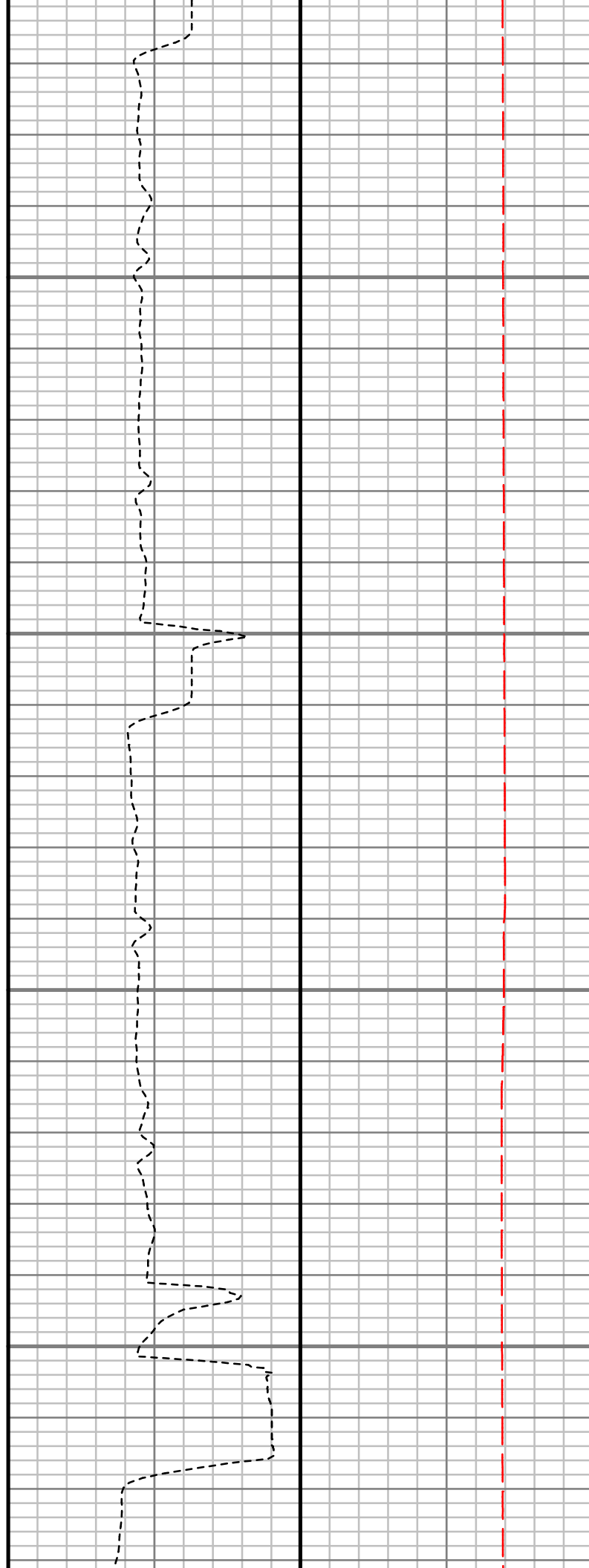
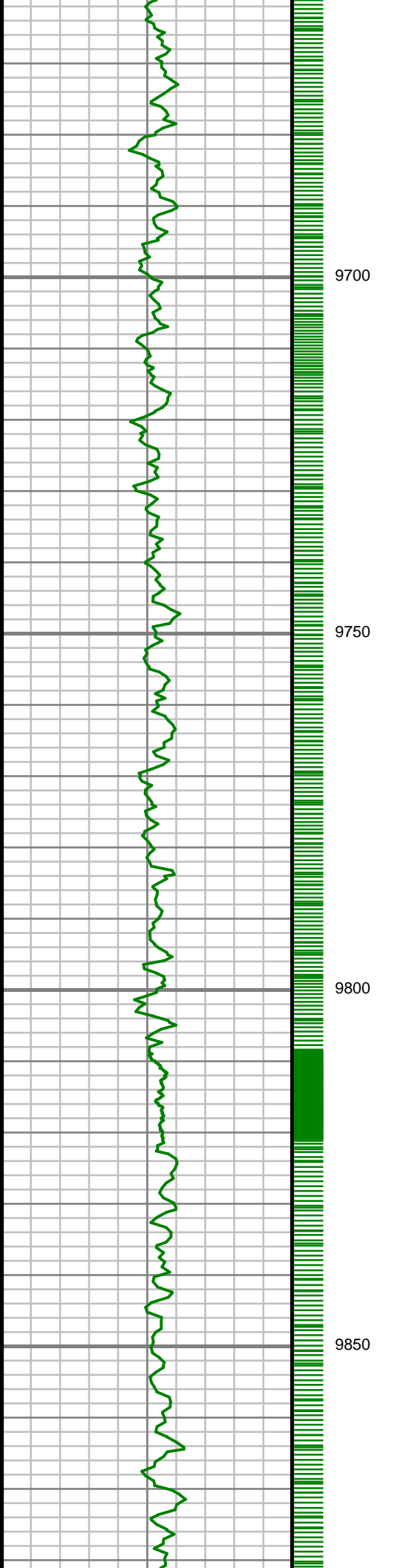
S: 97 MD: 9316.00 ft
Inc: 90.13 deg Az:
358.87 deg TVD:
7254.92 ft

S: 98 MD: 9410.00 ft
Inc: 91.08 deg Az:
359.16 deg TVD:
7253.93 ft



S: 99 MD: 9505.00 ft
Inc: 89.87 deg Az:
359.25 deg TVD:
7253.15 ft

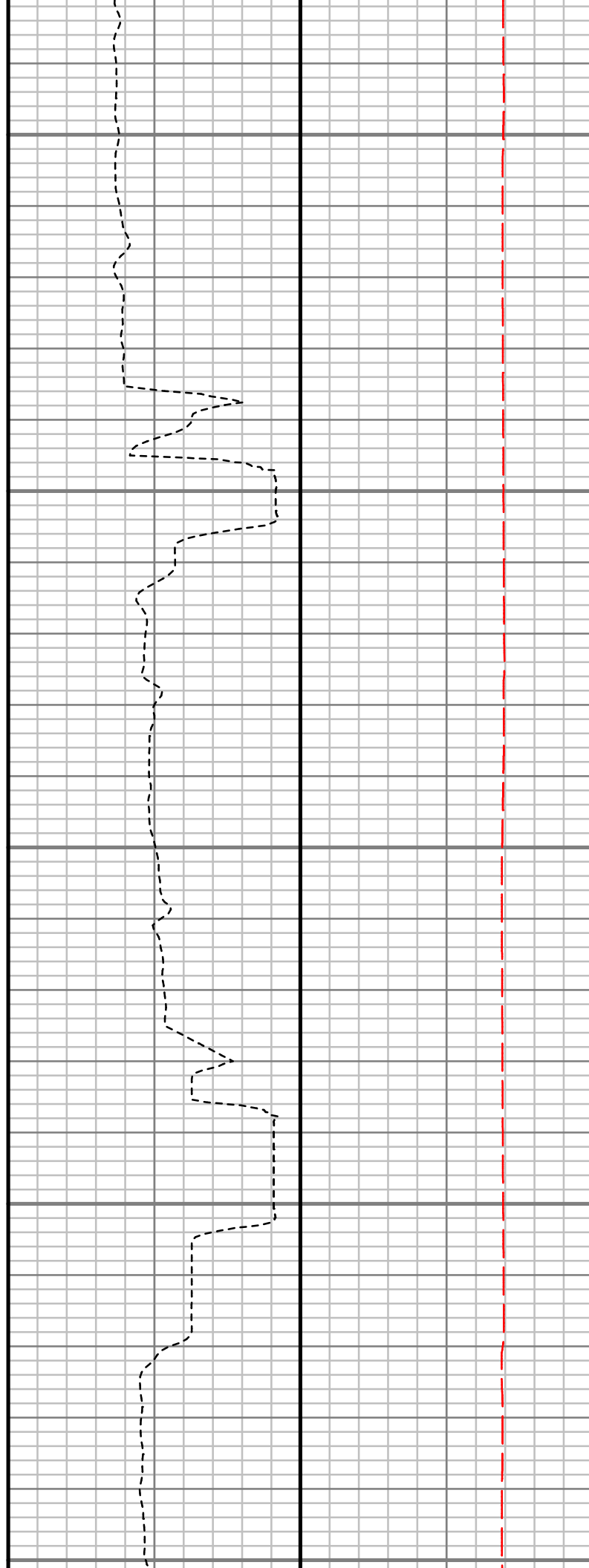
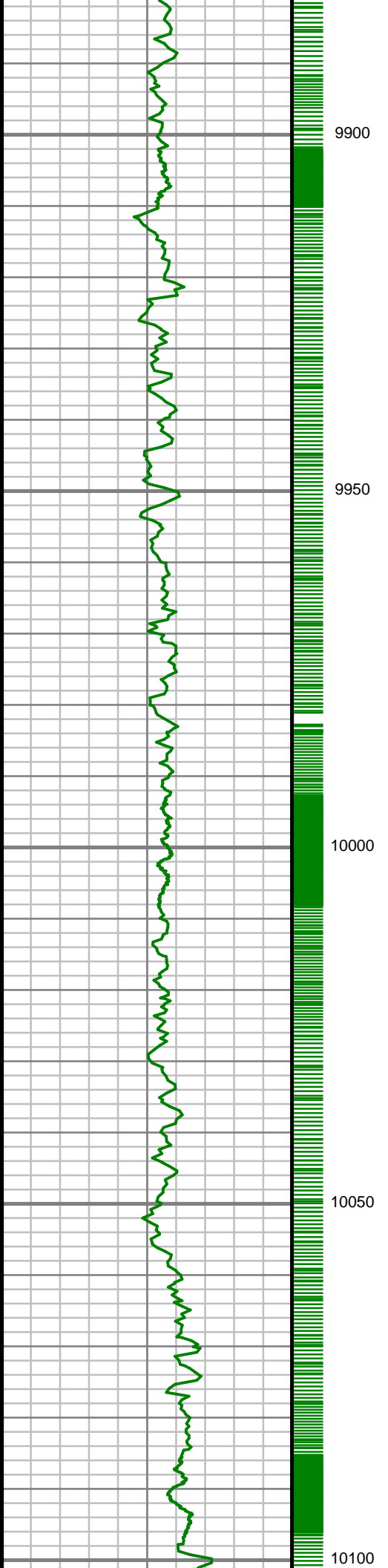
S: 100 MD: 9599.00 ft
Inc: 90.07 deg Az:
359.47 deg TVD:
7253.21 ft



S: 101 MD: 9692.00 ft
Inc: 90.50 deg Az:
358.79 deg TVD:
7252.74 ft

S: 102 MD: 9786.00 ft
Inc: 91.44 deg Az:
357.92 deg TVD:
7251.15 ft

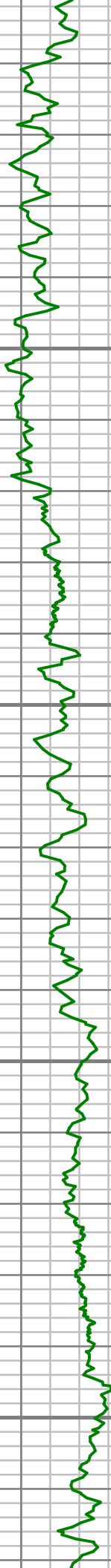
S: 103 MD: 9878.00 ft



Inc: 90.74 deg Az:
359.01 deg TVD:
7249.39 ft

S: 104 MD: 9973.00 ft
Inc: 90.20 deg Az:
357.57 deg TVD:
7248.61 ft

S: 105 MD: 10066.00 ft
Inc: 90.77 deg Az:
359.11 deg TVD:
7247.82 ft

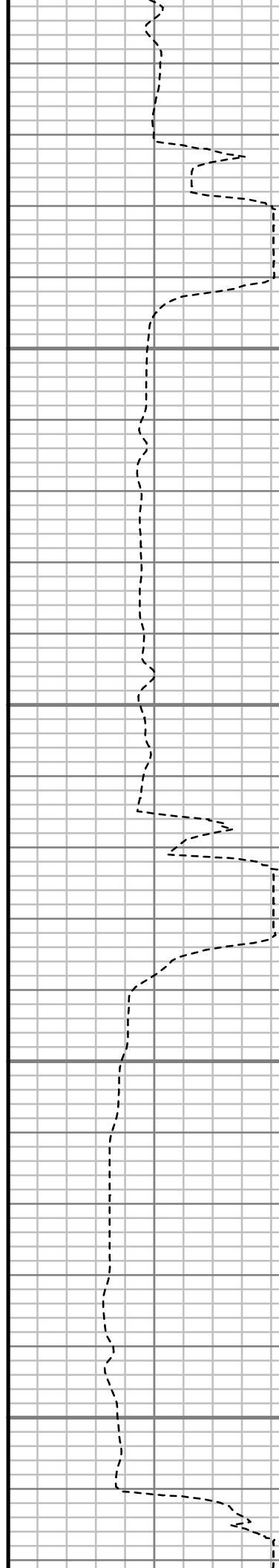


10150

10200

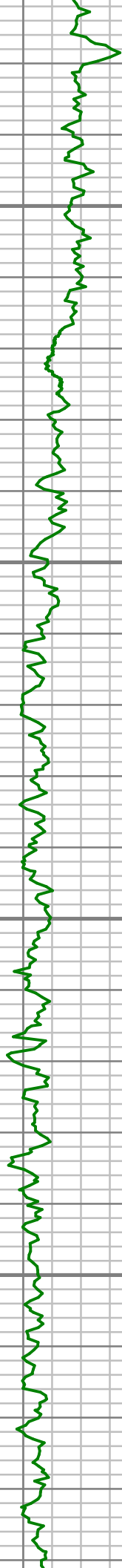
10250

10300



S: 106 MD: 10159.00 ft
Inc: 89.97 deg Az: 0.08
deg TVD: 7247.22 ft

S: 107 MD: 10253.00 ft
Inc: 90.27 deg Az:
359.88 deg TVD:
7247.03 ft

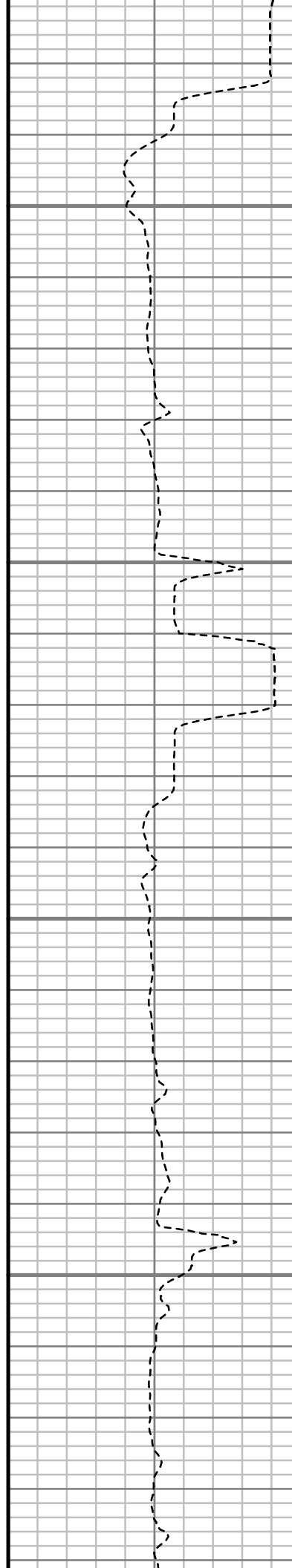


10350

10400

10450

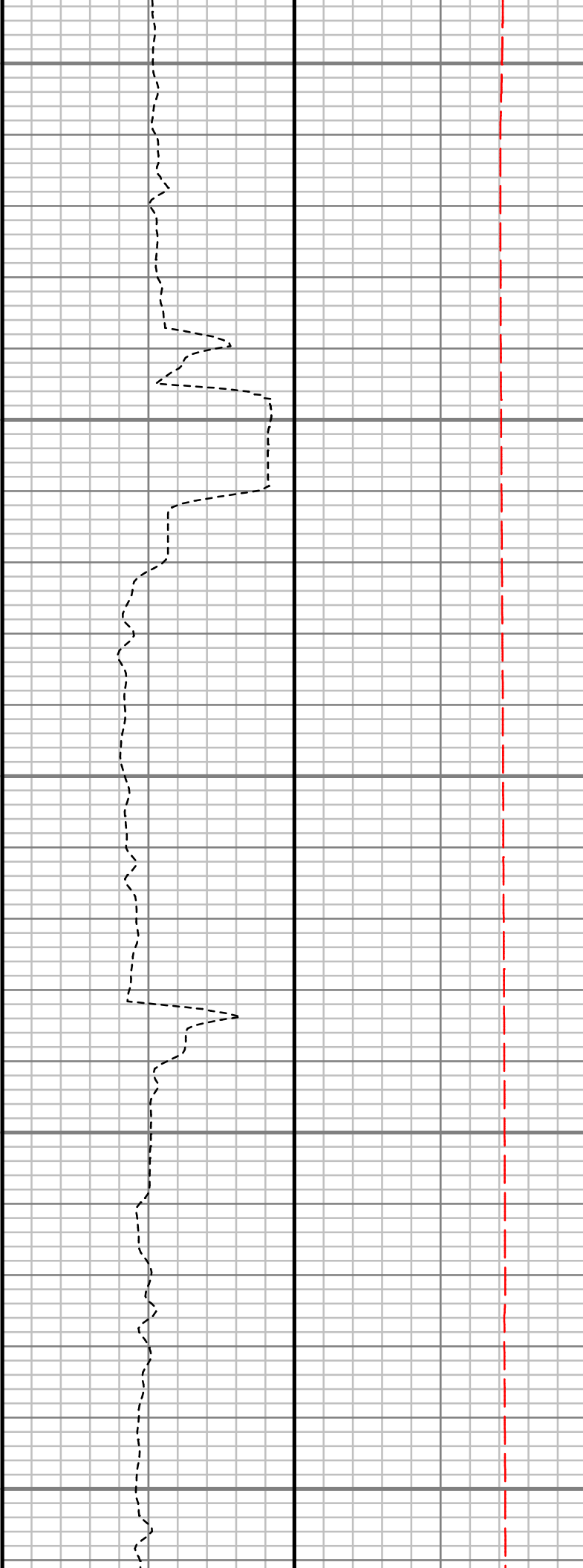
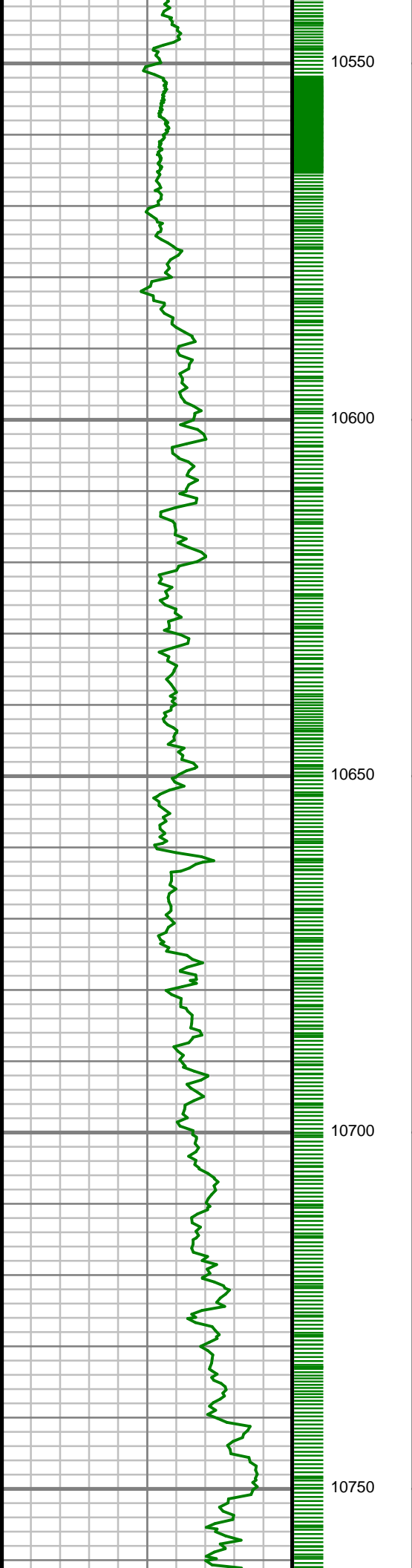
10500



S: 108 MD: 10348.00 ft
Inc: 91.78 deg Az: 2.19
deg TVD: 7245.33 ft

S: 109 MD: 10442.00 ft
Inc: 90.57 deg Az: 1.17
deg TVD: 7243.40 ft

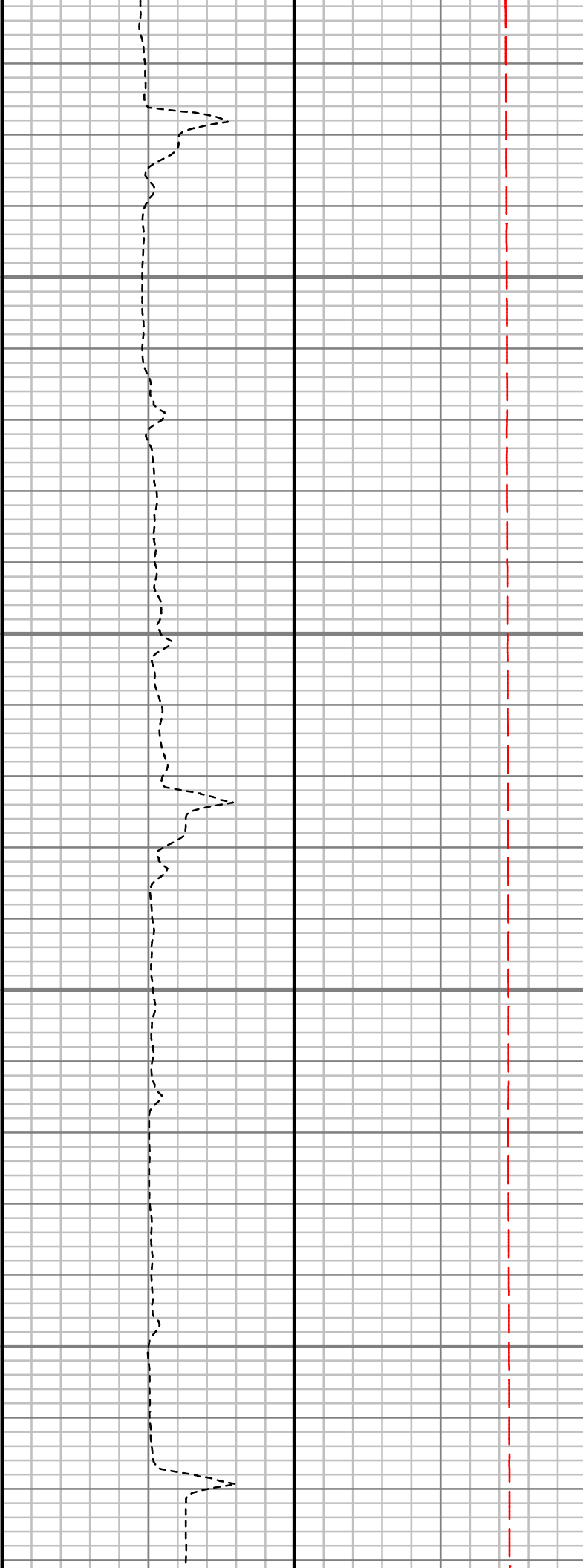
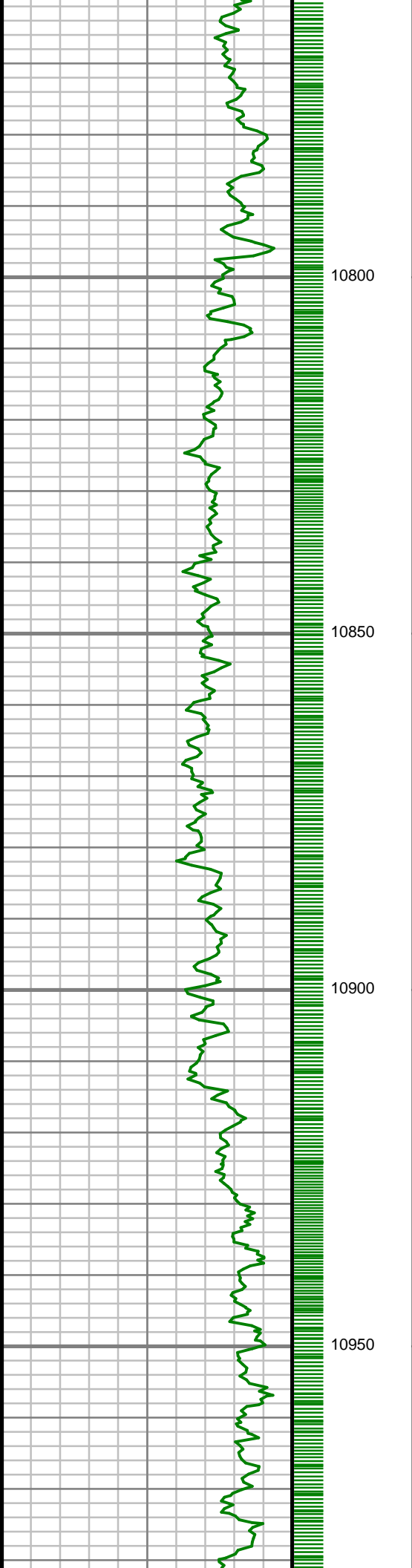
S: 110 MD: 10537.00 ft
Inc: 90.81 deg Az: 0.25
deg TVD: 7243.40 ft



Inc: 90.67 deg Az: 1.58
deg TVD: 7242.26 ft

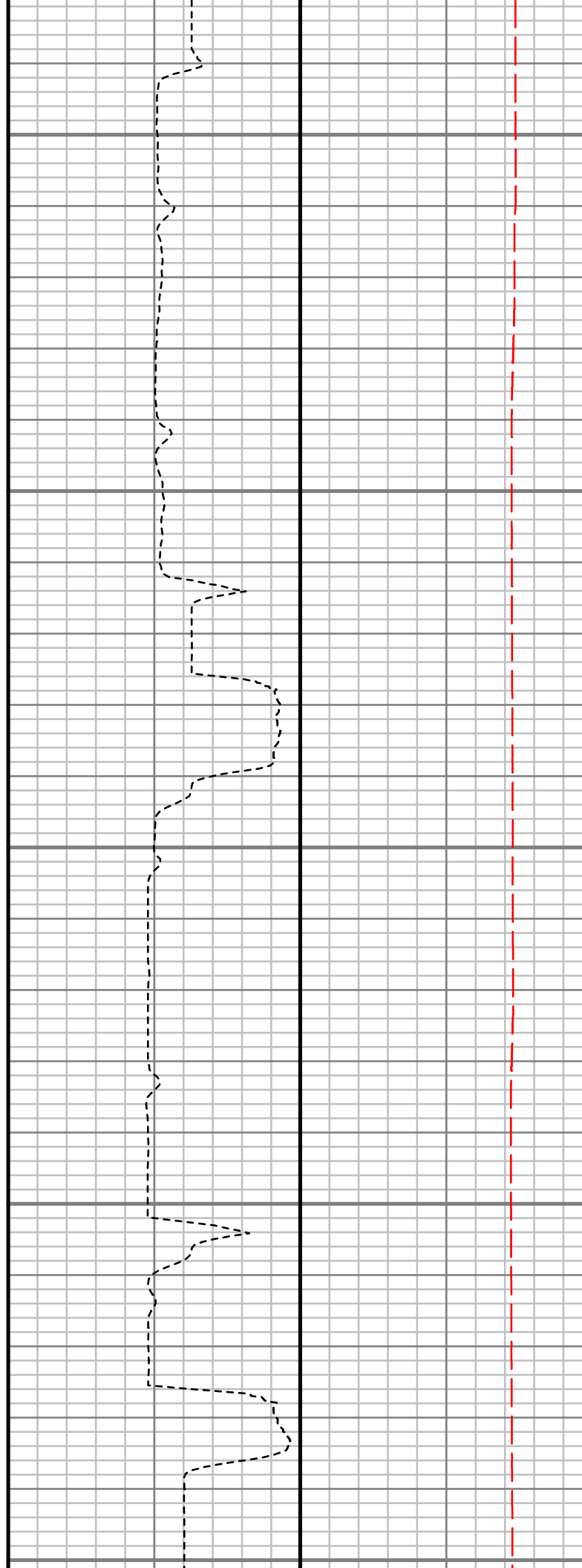
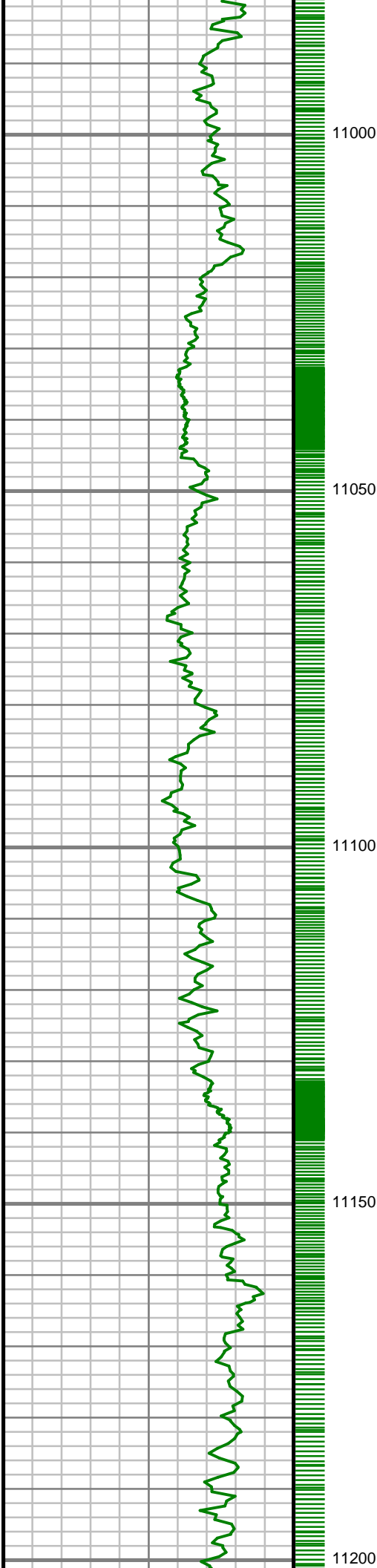
S: 111 MD: 10631.00 ft
Inc: 90.87 deg Az: 1.58
deg TVD: 7240.88 ft

S: 112 MD: 10724.00 ft
Inc: 90.67 deg Az: 1.63
deg TVD: 7239.63 ft



S: 113 MD: 10820.00 ft
Inc: 90.94 deg Az: 1.09
deg TVD: 7238.28 ft

S: 114 MD: 10914.00 ft
Inc: 91.24 deg Az: 0.73
deg TVD: 7236.49 ft

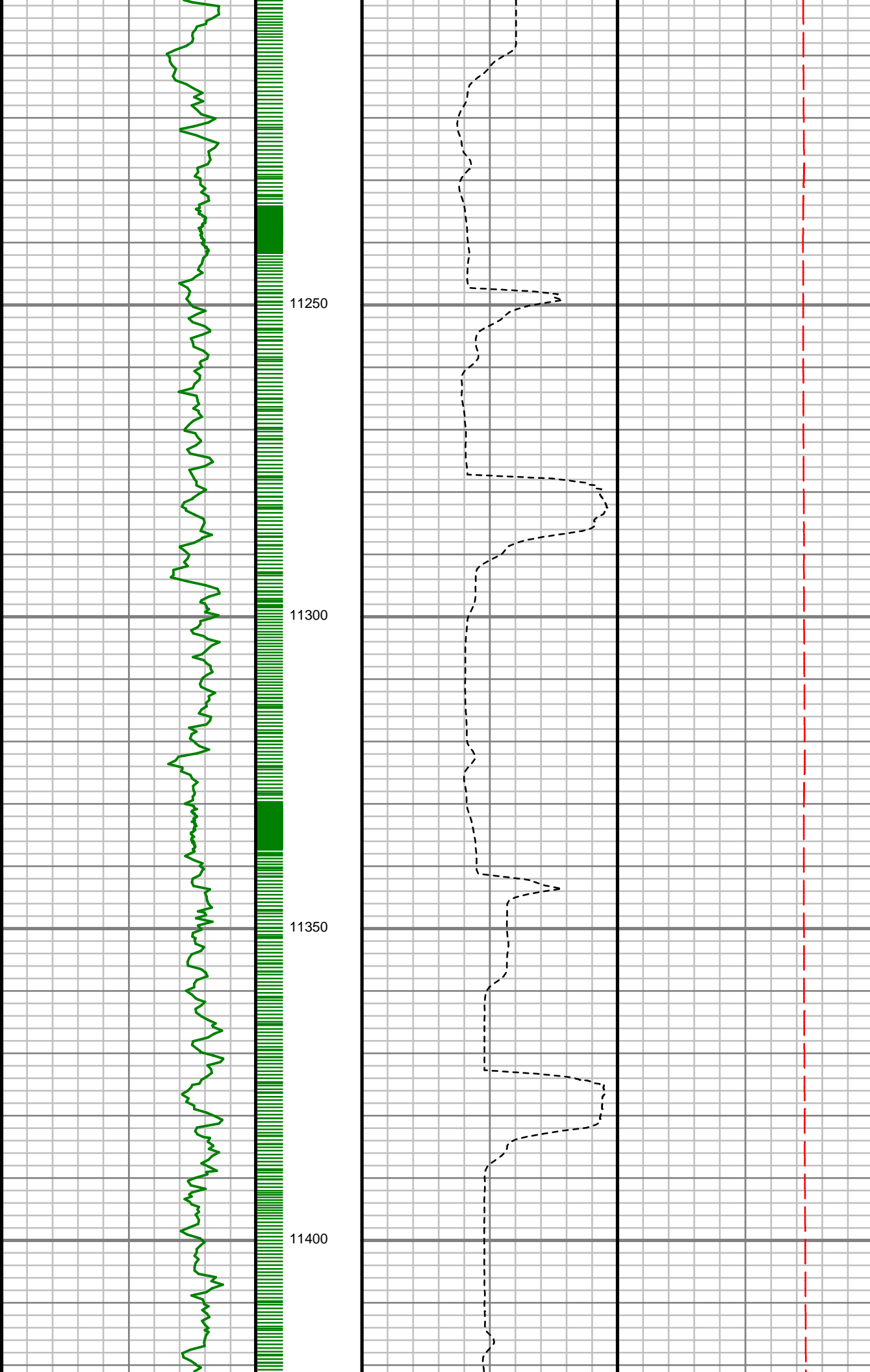


S: 115 MD: 11009.00 ft
Inc: 91.38 deg Az: 0.07
deg TVD: 7234.32 ft

S: 116 MD: 11103.00 ft
Inc: 91.71 deg Az: 1.08
deg TVD: 7231.78 ft

S: 117 MD: 11196.00 ft
Inc: 91.28 deg Az: 1.00

deg TVD: 7229.36 ft



11250

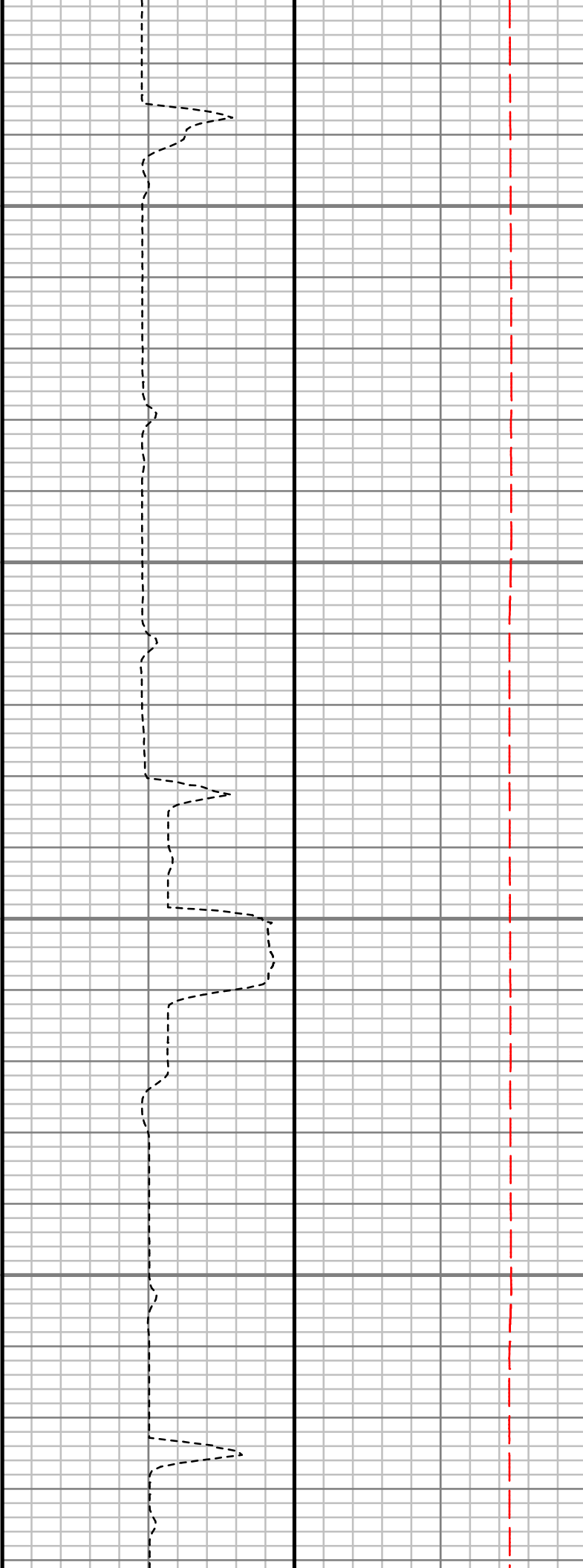
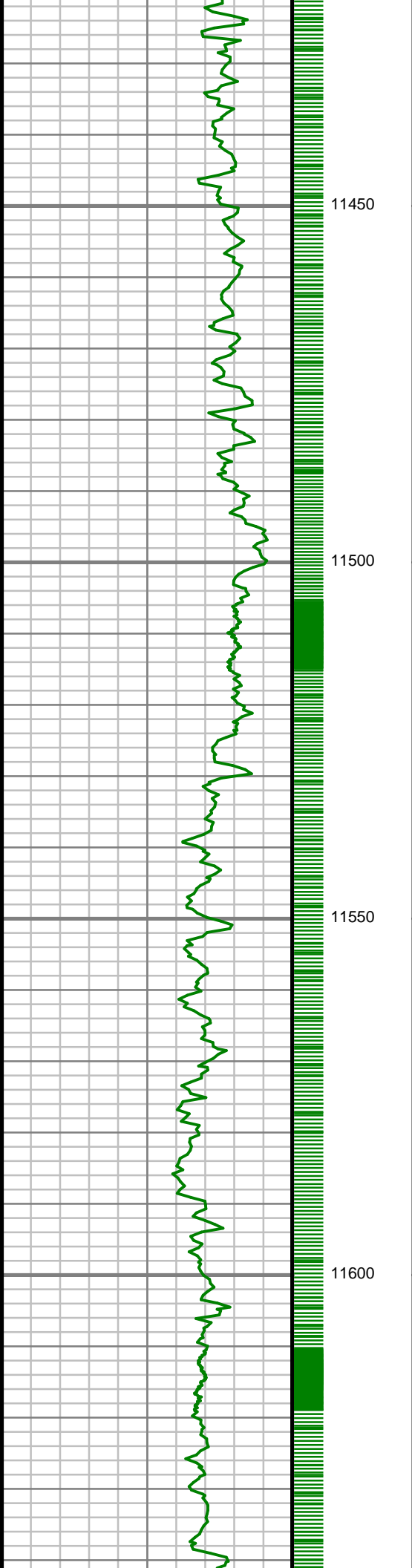
11300

11350

11400

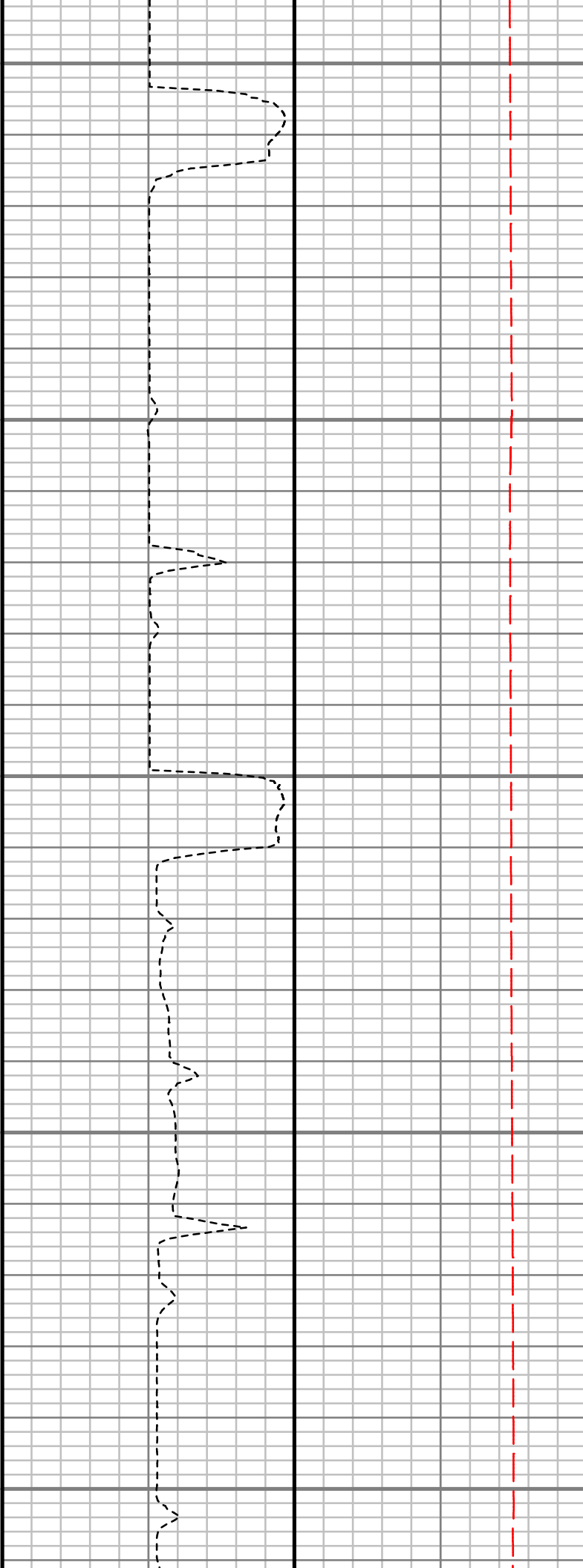
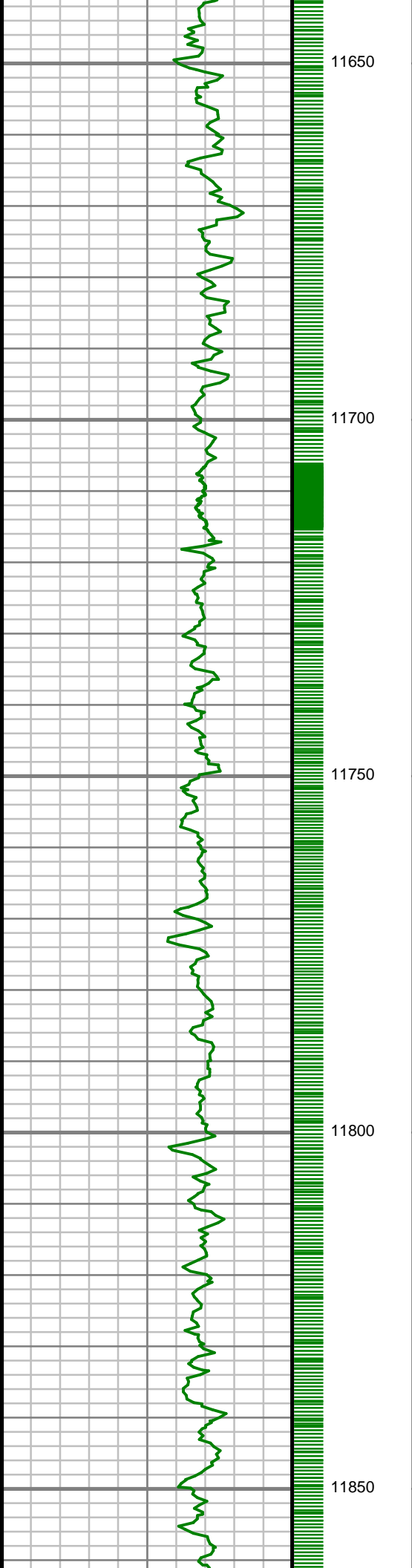
S: 118 MD: 11291.00 ft
Inc: 89.87 deg Az: 0.38
deg TVD: 7228.41 ft

S: 119 MD: 11386.00 ft
Inc: 90.87 deg Az: 0.36
deg TVD: 7227.80 ft



S: 120 MD: 11480.00 ft
Inc: 91.78 deg Az: 0.00
deg TVD: 7225.62 ft

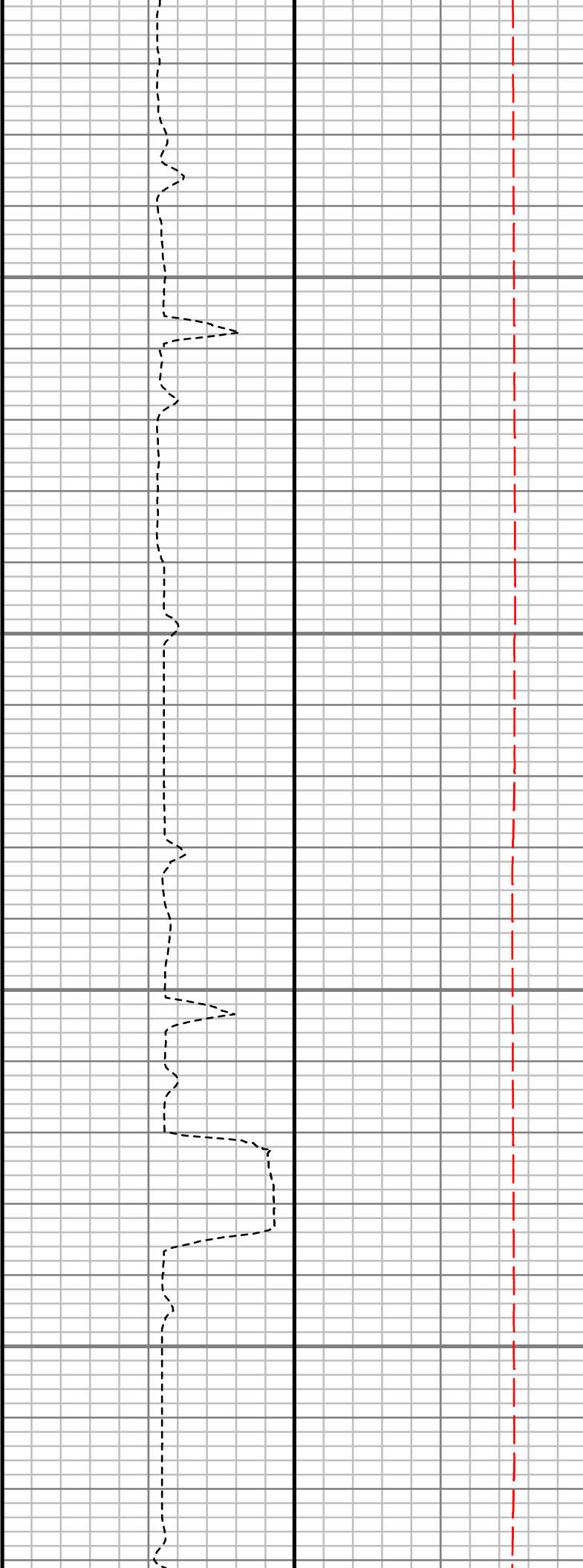
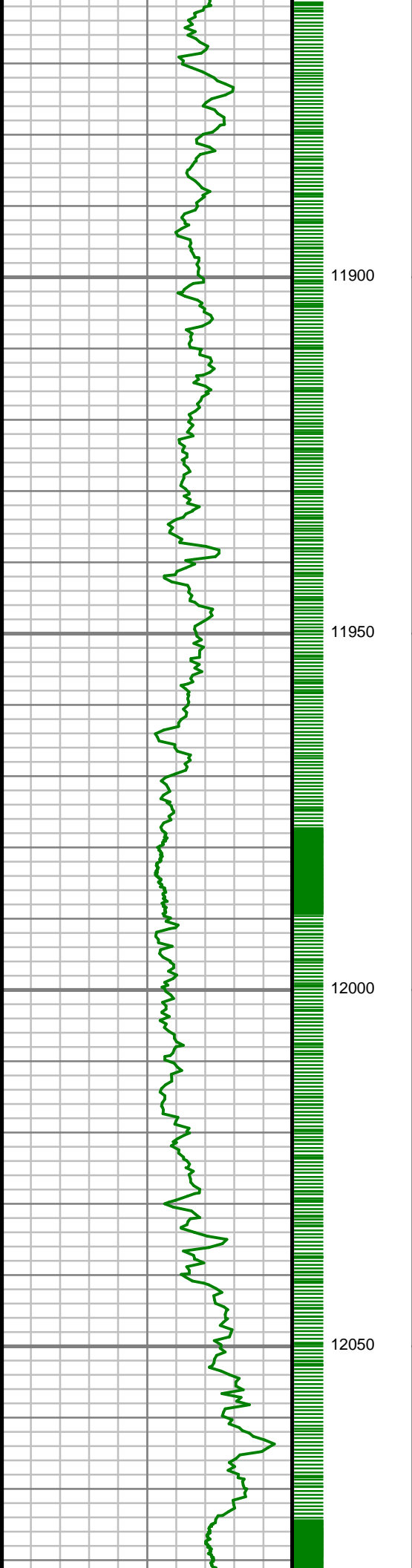
S: 121 MD: 11573.00 ft
Inc: 91.34 deg Az: 0.13
deg TVD: 7223.09 ft



S: 122 MD: 11667.00 ft
Inc: 91.38 deg Az: 0.36
deg TVD: 7220.86 ft

S: 123 MD: 11761.00 ft
Inc: 90.97 deg Az: 0.46
deg TVD: 7218.93 ft

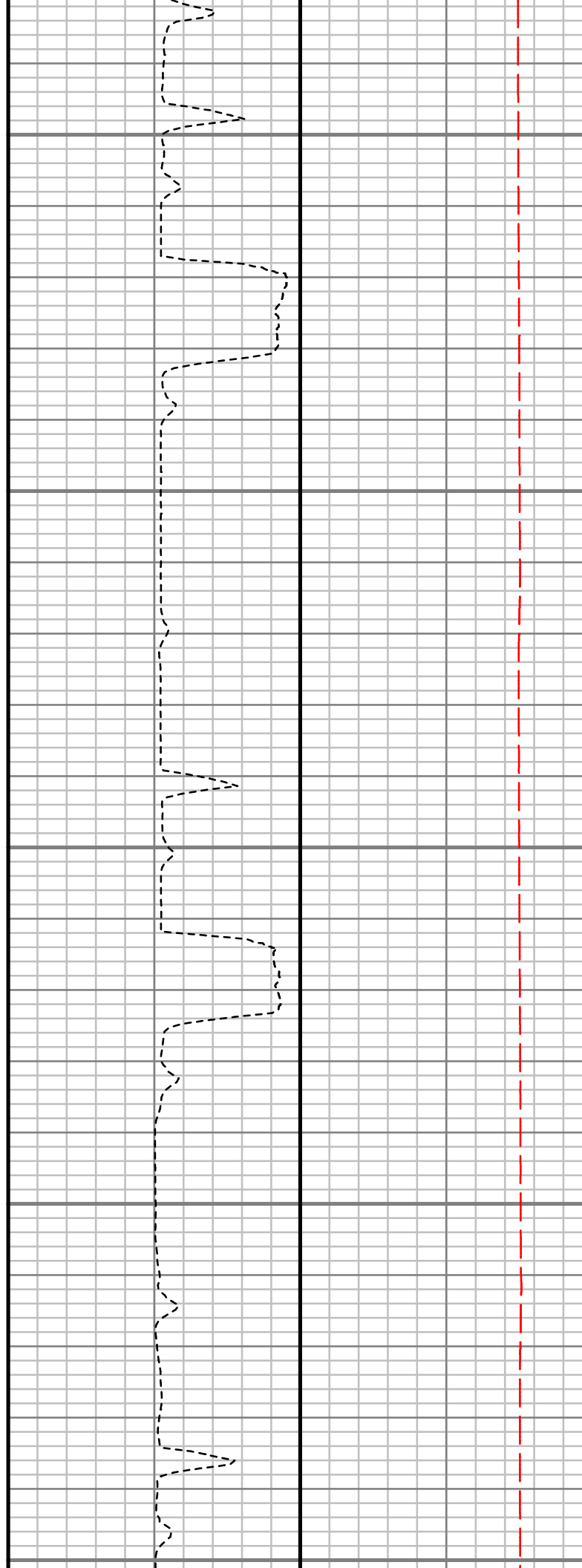
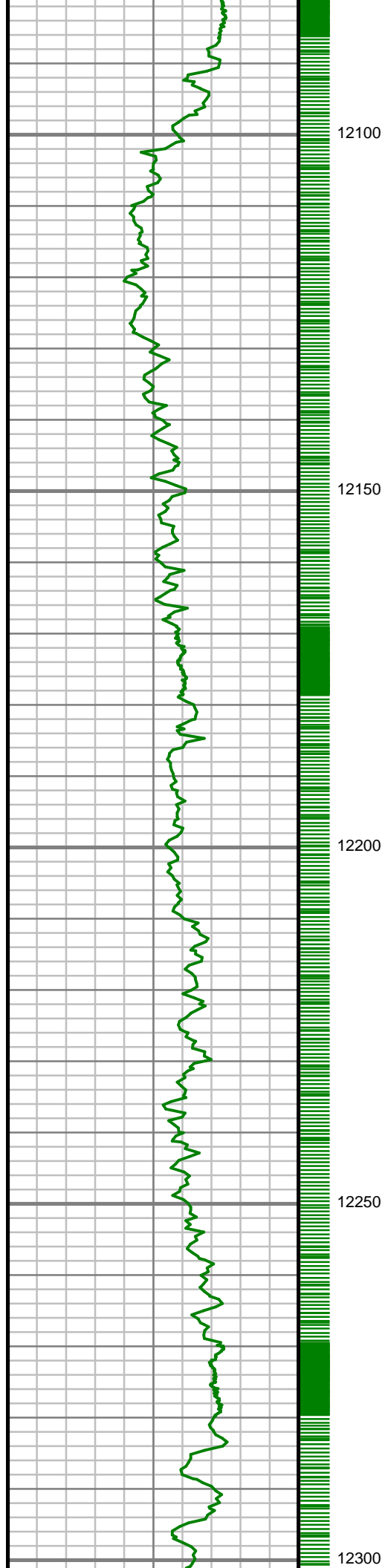
S: 124 MD: 11855.00 ft
Inc: 90.64 deg Az:
deg TVD:



359.73 deg TVD:
7217.61 ft

S: 125 MD: 11950.00 ft
Inc: 91.65 deg Az:
358.96 deg TVD:
7215.72 ft

S: 126 MD: 12045.00 ft
Inc: 91.38 deg Az:
359.21 deg TVD:
7213.21 ft



S: 127 MD: 12138.00 ft
Inc: 91.04 deg Az: 0.23
deg TVD: 7211.25 ft

S: 128 MD: 12233.00 ft
Inc: 90.87 deg Az: 1.05
deg TVD: 7209.66 ft

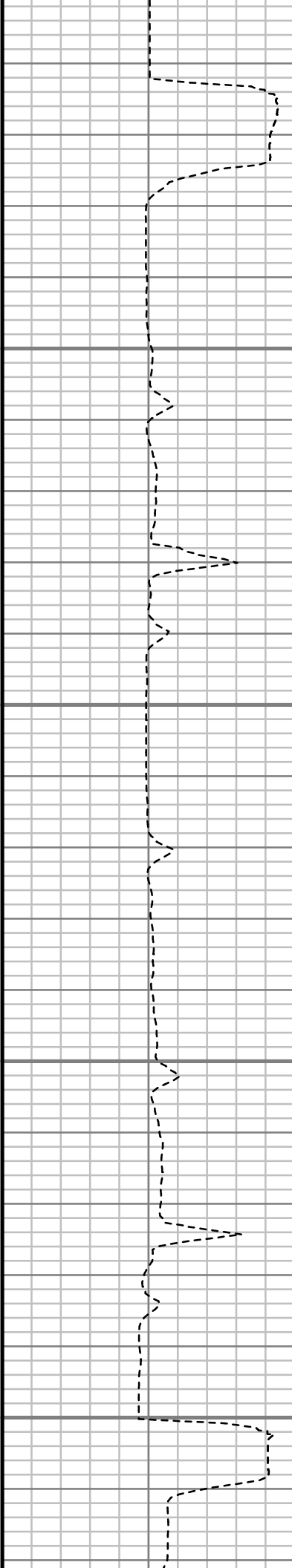


12350

12400

12450

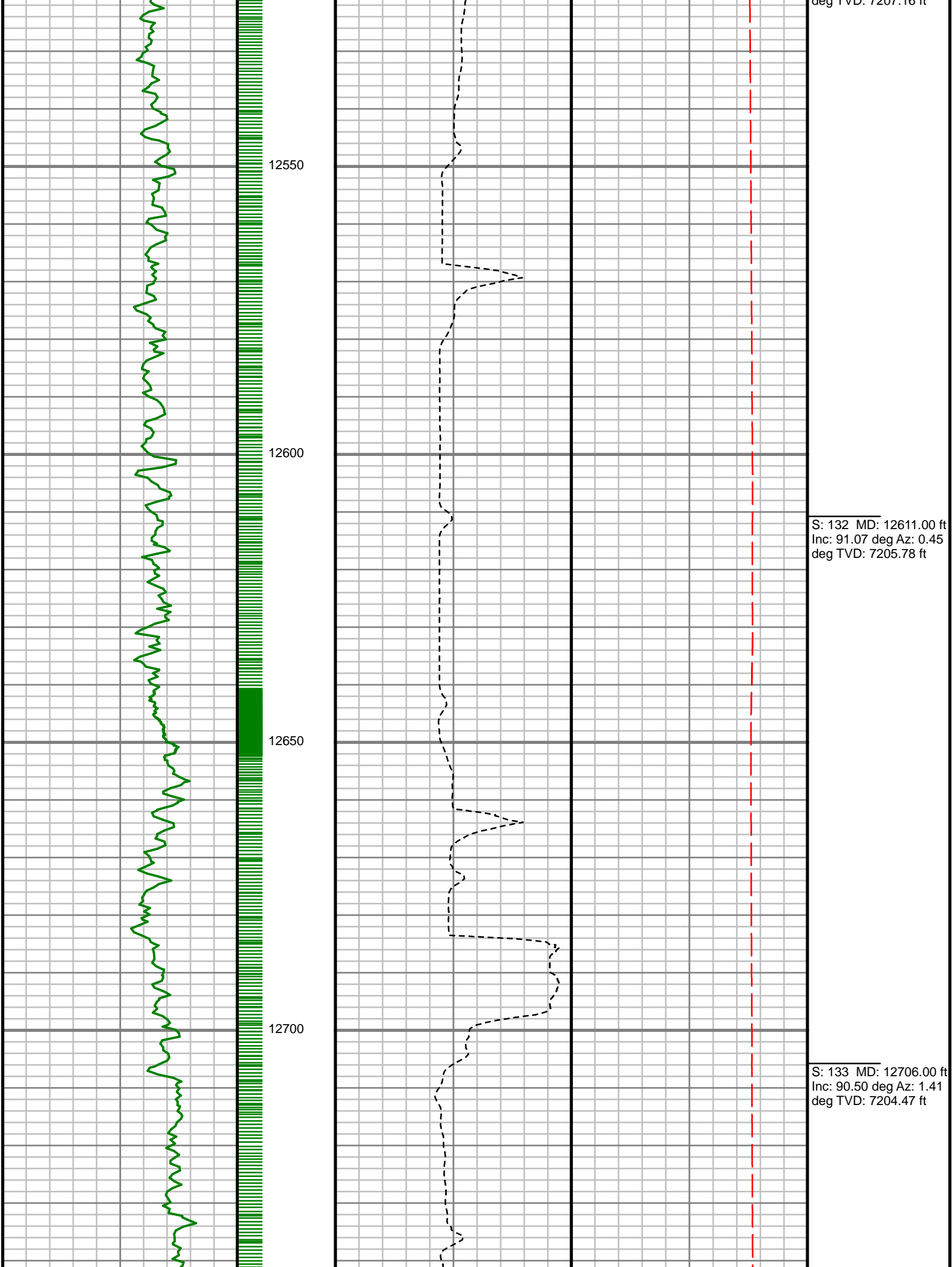
12500

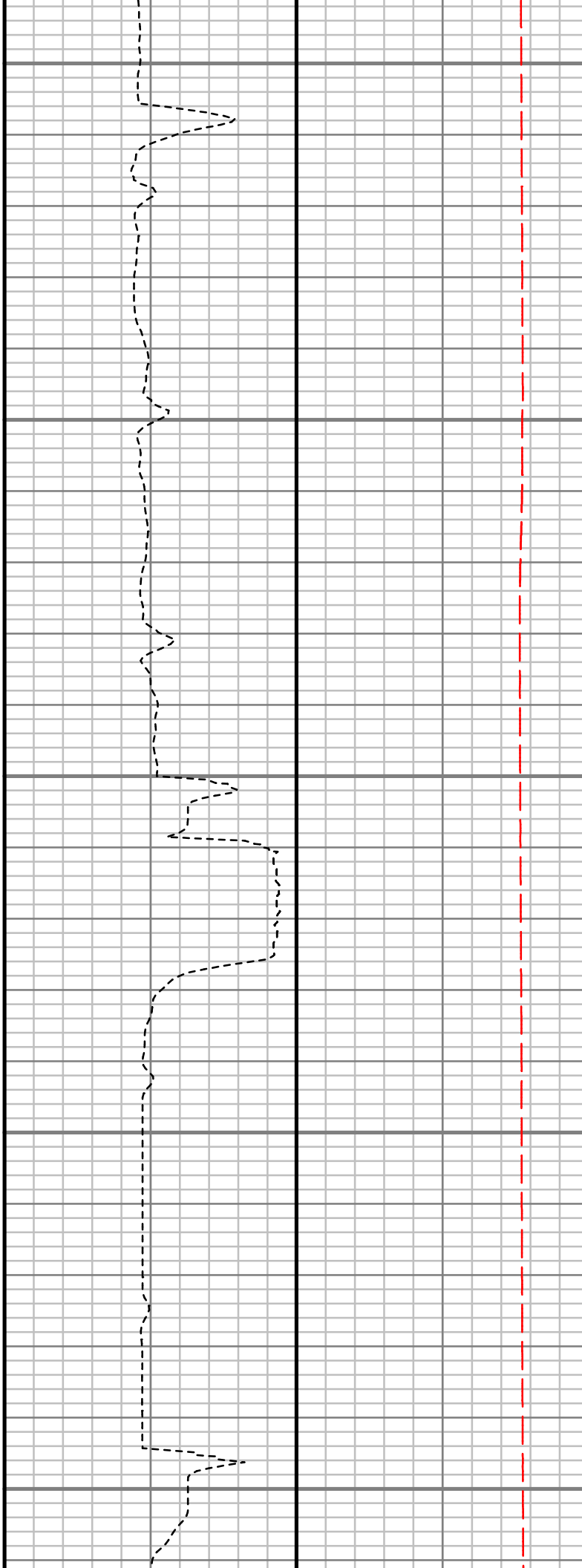
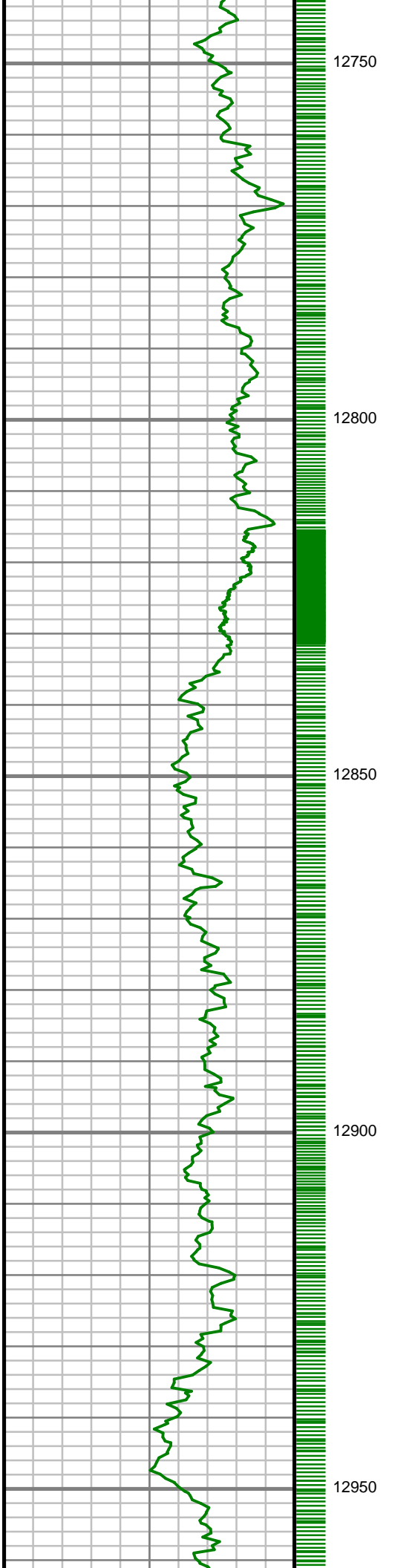


S: 129 MD: 12327.00 ft
Inc: 90.07 deg Az: 1.49
deg TVD: 7208.89 ft

S: 130 MD: 12421.00 ft
Inc: 90.74 deg Az: 1.61
deg TVD: 7208.23 ft

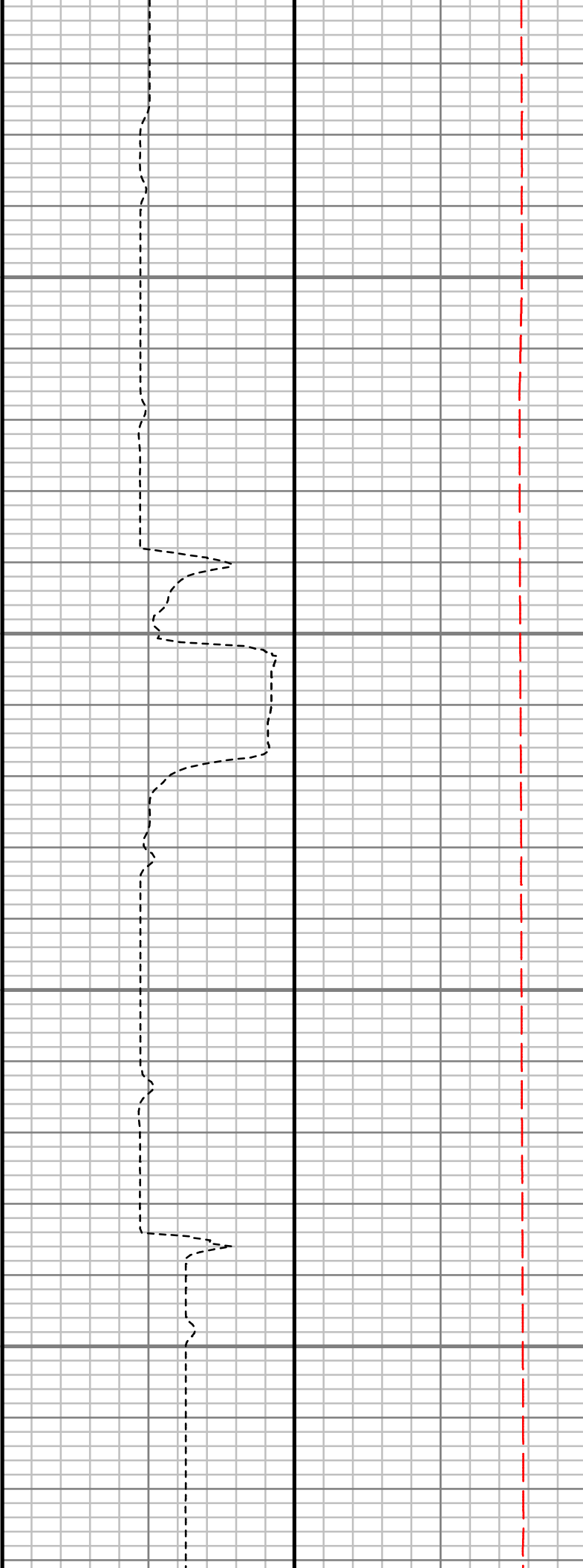
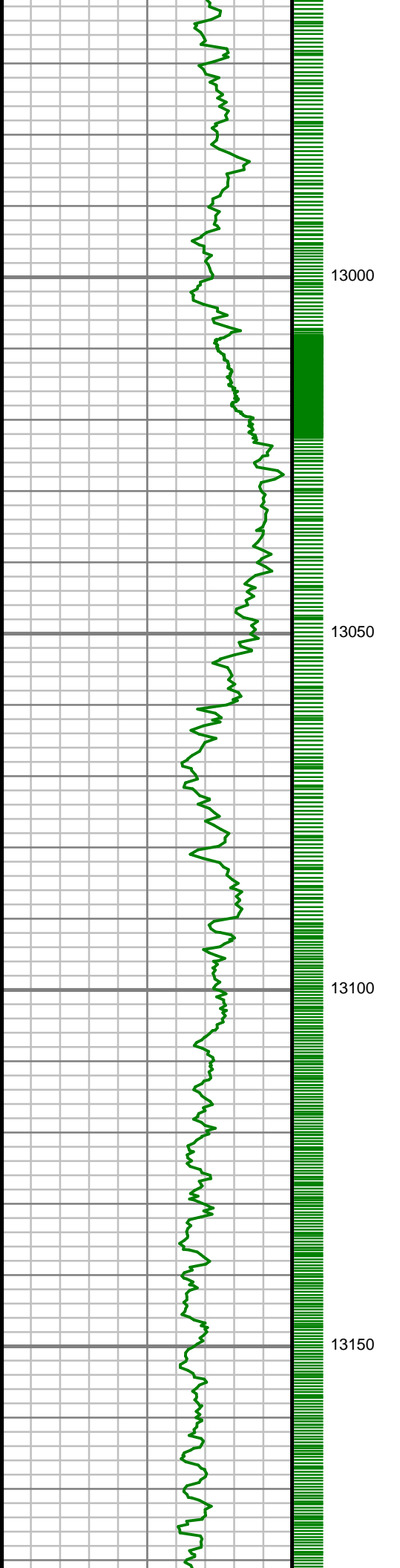
S: 131 MD: 12515.00 ft
Inc: 90.57 deg Az: 1.18
deg TVD: 7207.16 ft





S: 134 MD: 12800.00 ft
Inc: 91.41 deg Az: 0.73
deg TVD: 7202.90 ft

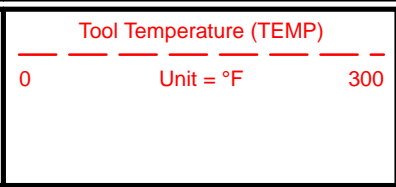
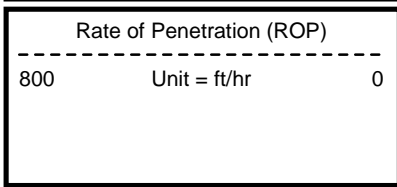
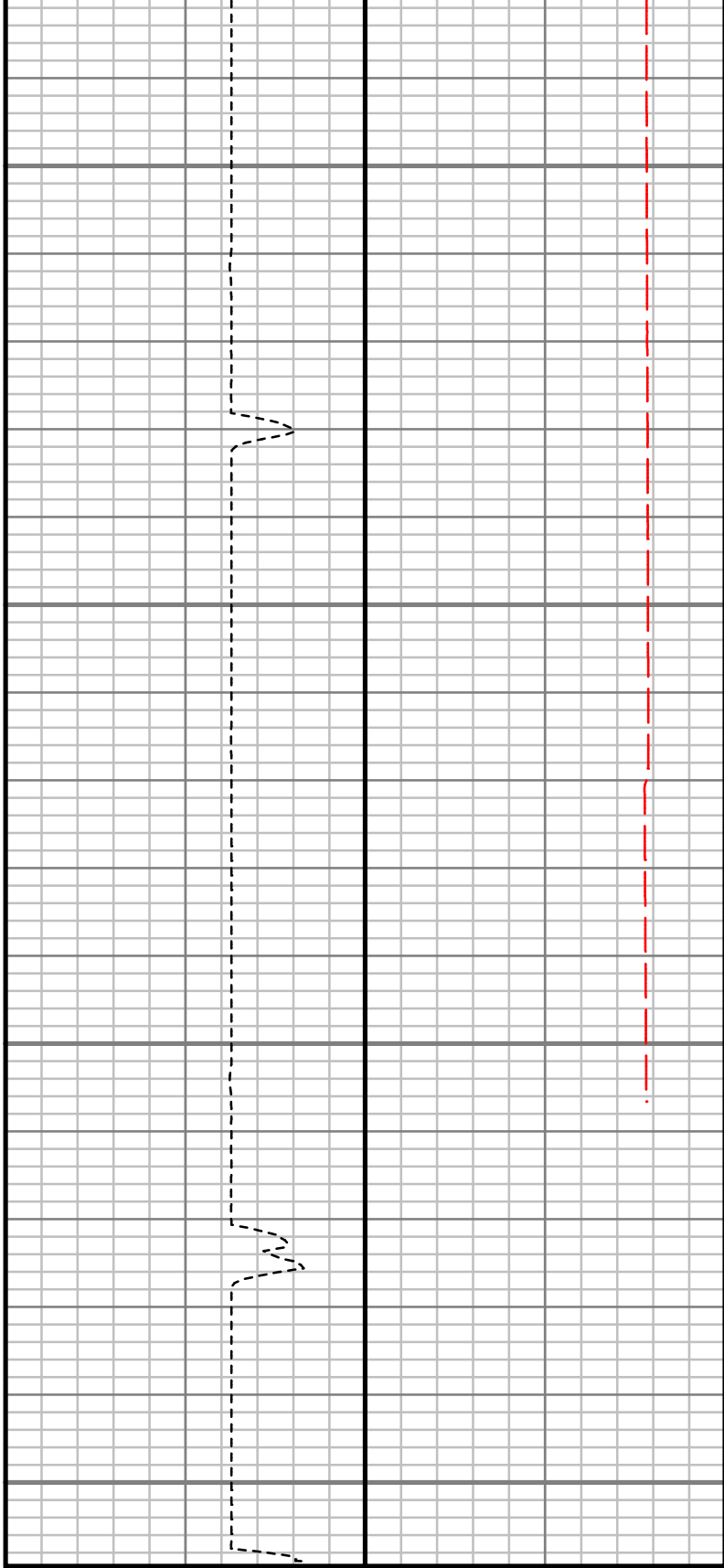
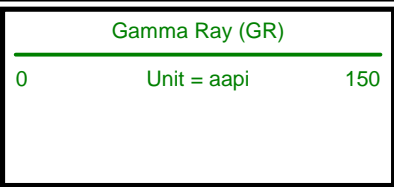
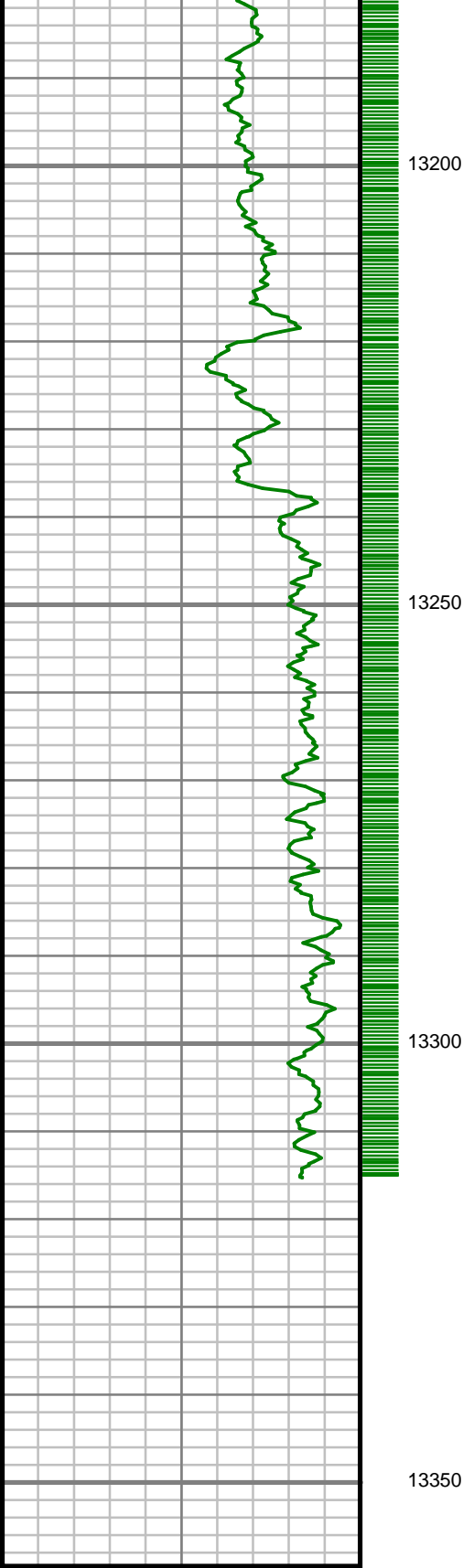
S: 135 MD: 12893.00 ft
Inc: 90.50 deg Az: 1.81
deg TVD: 7201.34 ft



S: 136 MD: 12988.00 ft
Inc: 91.28 deg Az: 0.96
deg TVD: 7199.87 ft

S: 137 MD: 13083.00 ft
Inc: 90.37 deg Az:
359.66 deg TVD:
7198.50 ft

S: 138 MD: 13177.00 ft
Inc: 90 91 deg Az:



359.95 deg Az:
7197.46 ft

S: 139 MD: 13269.00 ft
Inc: 91.71 deg Az:
359.74 deg TVD:
7195.35 ft

S: 140 MD: 13305.00 ft
Inc: 91.75 deg Az:
359.11 deg TVD:
7194.27 ft

Comments

SURVEY REPORT

WHISTON 40N-33HZ WHISTON 40N-33HZ

CUSTOMER ANADARKO PETROLEUM CORPORATION
PROJECT WHISTON
FIELD WATTENBERG

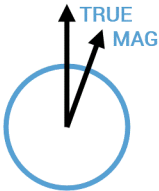
WELL INFORMATION
Lat/Long 40.167847° N, 104.891397° W
Northing 14,587,872.78 ft
Easting 1,670,756.44 ft
UWI 05123440320000

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 0.04°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.052 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-4675 ft	ANADARKO MAGVAR	23 Mar 2017	8.37°	add 8.37°
4675-9973 ft	ANADARKO MAGVAR	23 Mar 2017	8.38°	add 8.38°
9973-13305 ft	ANADARKO MAGVAR	23 Mar 2017	8.36°	add 8.36°

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
150.00	0.34	355.59	150.00	0.44	0.44	-0.03	0.23
232.00	0.41	48.62	232.00	0.88	0.88	0.17	0.42
320.00	1.20	91.12	319.99	1.07	1.07	1.32	1.07
407.00	2.33	112.39	406.95	0.38	0.38	3.87	1.48
542.00	5.01	110.69	541.66	-2.74	-2.75	11.92	1.99
625.00	6.03	115.42	624.27	-5.89	-5.90	19.25	1.34
713.00	7.64	120.67	711.64	-10.85	-10.87	28.46	1.96
802.00	9.25	121.76	799.68	-17.63	-17.65	39.63	1.82
889.00	10.35	123.69	885.41	-25.63	-25.67	52.08	1.32
975.00	11.45	122.92	969.85	-34.55	-34.59	65.67	1.29
1064.00	13.10	120.34	1056.82	-44.43	-44.49	81.79	1.95
1153.00	14.72	120.98	1143.20	-55.34	-55.41	100.19	1.83
1239.00	15.45	121.53	1226.24	-66.94	-67.02	119.33	0.86
1415.00	18.91	120.76	1394.36	-93.76	-93.87	163.83	1.97
1590.00	20.87	122.11	1558.92	-124.80	-124.95	214.60	1.15
1677.00	21.54	121.75	1640.02	-141.42	-141.59	241.31	0.78
1764.00	21.55	121.30	1720.95	-158.11	-158.30	268.55	0.19
1831.00	21.24	121.61	1783.33	-170.85	-171.05	289.40	0.49
1947.00	21.75	123.19	1891.26	-193.60	-193.83	325.28	0.67

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
2041.00	23.99	123.11	1977.87	-213.56	-213.80	355.86	2.38
2135.00	25.53	120.88	2063.22	-234.37	-234.64	389.25	1.92
2228.00	27.07	120.88	2146.59	-255.50	-255.79	424.62	1.65
2323.00	28.05	121.74	2230.81	-278.31	-278.63	462.17	1.11
2417.00	28.49	121.40	2313.60	-301.59	-301.94	500.10	0.50
2512.00	28.81	121.63	2396.97	-325.37	-325.75	538.93	0.36
2606.00	29.02	121.61	2479.25	-349.17	-349.58	577.63	0.21
2701.00	29.40	122.53	2562.17	-373.76	-374.19	616.91	0.62
2795.00	29.71	123.98	2643.95	-399.16	-399.61	655.68	0.83
2889.00	28.93	123.65	2725.90	-424.75	-425.23	693.93	0.84
2982.00	29.54	124.14	2807.05	-450.06	-450.57	731.63	0.71
3077.00	28.28	124.18	2890.21	-475.82	-476.35	769.64	1.33
3170.00	27.93	122.43	2972.25	-499.85	-500.41	806.25	0.96
3265.00	29.15	123.86	3055.70	-524.65	-525.23	844.24	1.47
3359.00	29.04	123.62	3137.84	-550.01	-550.63	882.25	0.17
3454.00	27.64	123.22	3221.45	-574.82	-575.47	919.89	1.49
3548.00	26.63	119.92	3305.11	-597.25	-597.92	956.39	1.93
3643.00	26.58	119.51	3390.05	-618.32	-619.01	993.35	0.20
3736.00	25.93	121.40	3473.45	-639.13	-639.85	1028.81	1.14
3829.00	25.21	121.36	3557.35	-660.01	-660.75	1063.08	0.77

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
3923.00	23.96	119.41	3642.83	-679.77	-680.54	1096.80	1.59
4017.00	22.73	120.99	3729.13	-698.47	-699.26	1129.00	1.46
4111.00	21.21	123.02	3816.30	-717.07	-717.88	1158.82	1.81
4204.00	20.10	124.10	3903.33	-735.17	-736.00	1186.16	1.26
4298.00	20.74	127.04	3991.42	-754.24	-755.09	1212.82	1.29
4393.00	19.13	126.94	4080.72	-773.71	-774.58	1238.70	1.70
4487.00	16.71	127.11	4170.15	-791.11	-791.99	1261.79	2.58
4582.00	15.28	124.71	4261.48	-806.47	-807.36	1282.97	1.66
4676.00	14.23	123.73	4352.38	-819.92	-820.83	1302.76	1.14
4769.00	13.88	122.10	4442.59	-832.18	-833.11	1321.72	0.57
4863.00	13.07	122.34	4534.00	-843.85	-844.79	1340.25	0.87
4958.00	11.52	124.33	4626.82	-854.94	-855.88	1357.16	1.69
5052.00	9.13	127.12	4719.29	-864.72	-865.68	1370.86	2.60
5146.00	7.24	128.28	4812.33	-872.88	-873.85	1381.45	2.02
5267.00	5.50	130.99	4932.58	-881.40	-882.37	1391.81	1.46
5363.00	4.09	122.66	5028.24	-886.26	-887.23	1398.16	1.63
5458.00	2.53	109.56	5123.08	-888.78	-889.76	1402.99	1.81
5551.00	1.46	156.54	5216.03	-890.55	-891.53	1405.39	2.01
5646.00	1.19	161.83	5311.01	-892.60	-893.58	1406.18	0.31
5739.00	0.38	343.40	5404.00	-893.21	-894.20	1406.39	1.69

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5832.00	0.34	20.15	5497.00	-892.66	-893.64	1406.40	0.25
5928.00	0.33	29.24	5593.00	-892.15	-893.13	1406.63	0.06
6021.00	0.26	10.32	5686.00	-891.71	-892.70	1406.80	0.13
6115.00	0.23	352.19	5780.00	-891.32	-892.31	1406.81	0.09
6210.00	0.20	11.41	5875.00	-890.98	-891.96	1406.82	0.08
6302.00	0.28	105.82	5966.99	-890.88	-891.86	1407.07	0.39
6397.00	0.28	108.81	6061.99	-891.02	-892.00	1407.52	0.02
6492.00	0.05	16.62	6156.99	-891.05	-892.04	1407.74	0.30
6586.00	0.77	308.67	6250.99	-890.62	-891.60	1407.26	0.80
6679.00	1.01	327.85	6343.98	-889.54	-890.52	1406.33	0.41
6772.00	0.96	335.58	6436.97	-888.13	-889.11	1405.58	0.15
6864.00	0.99	349.83	6528.95	-886.65	-887.63	1405.12	0.26
6957.00	2.89	353.42	6621.89	-883.53	-884.51	1404.71	2.05
7052.00	13.33	4.38	6715.82	-870.19	-871.17	1405.27	11.06
7146.00	21.05	1.52	6805.55	-842.46	-843.45	1406.55	8.26
7241.00	29.05	0.35	6891.55	-802.28	-803.26	1407.14	8.43
7336.00	36.29	359.24	6971.46	-751.03	-752.02	1406.90	7.65
7430.00	44.57	0.27	7042.96	-690.13	-691.11	1406.69	8.83
7525.00	51.33	357.98	7106.56	-619.65	-620.63	1405.54	7.34
7620.00	58.41	359.84	7161.19	-542.02	-543.00	1404.12	7.63

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7714.00	67.32	359.52	7204.02	-458.45	-459.43	1403.65	9.48
7809.00	73.68	359.78	7235.71	-368.95	-369.93	1403.11	6.71
7904.00	80.28	359.49	7257.10	-276.45	-277.43	1402.52	6.95
7998.00	87.34	359.32	7267.22	-183.06	-184.04	1401.56	7.51
8093.00	87.92	359.20	7271.15	-88.15	-89.13	1400.33	0.62
8187.00	90.17	359.39	7272.72	5.82	4.85	1399.18	2.40
8280.00	89.83	359.43	7272.72	98.82	97.84	1398.22	0.36
8376.00	91.24	359.64	7271.82	194.81	193.83	1397.45	1.48
8469.00	91.58	359.13	7269.53	287.77	286.80	1396.45	0.66
8564.00	90.97	359.29	7267.42	382.74	381.77	1395.15	0.66
8657.00	90.67	0.96	7266.08	475.73	474.75	1395.35	1.82
8752.00	91.38	0.78	7264.38	570.70	569.73	1396.79	0.77
8845.00	90.97	359.73	7262.47	663.68	662.70	1397.21	1.22
8940.00	91.68	359.39	7260.27	758.65	757.67	1396.47	0.82
9034.00	90.64	358.66	7258.37	852.61	851.64	1394.87	1.35
9128.00	91.58	358.53	7256.55	946.56	945.59	1392.57	1.01
9222.00	90.13	359.89	7255.14	1040.54	1039.57	1391.28	2.11
9316.00	90.13	358.87	7254.92	1134.53	1133.56	1390.26	1.09
9410.00	91.08	359.16	7253.93	1228.51	1227.54	1388.65	1.05
9505.00	89.87	359.25	7253.15	1323.50	1322.53	1387.33	1.28

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9599.00	90.07	359.47	7253.21	1417.49	1416.52	1386.28	0.32
9692.00	90.50	358.79	7252.74	1510.48	1509.51	1384.87	0.87
9786.00	91.44	357.92	7251.15	1604.42	1603.45	1382.17	1.36
9878.00	90.74	359.01	7249.39	1696.37	1695.40	1379.71	1.41
9973.00	90.20	357.57	7248.61	1791.32	1790.35	1376.87	1.62
10066.00	90.77	359.11	7247.82	1884.27	1883.31	1374.18	1.76
10159.00	89.97	0.08	7247.22	1977.26	1976.30	1373.52	1.36
10253.00	90.27	359.88	7247.03	2071.26	2070.30	1373.49	0.39
10348.00	91.78	2.19	7245.33	2166.22	2165.26	1375.20	2.90
10442.00	90.57	1.17	7243.40	2260.16	2259.20	1377.95	1.68
10537.00	90.81	0.25	7242.26	2355.15	2354.18	1379.13	1.00
10631.00	90.87	1.58	7240.88	2449.12	2448.16	1380.64	1.41
10724.00	90.67	1.63	7239.63	2542.08	2541.12	1383.24	0.22
10820.00	90.94	1.09	7238.28	2638.05	2637.08	1385.52	0.63
10914.00	91.24	0.73	7236.49	2732.02	2731.05	1387.00	0.50
11009.00	91.38	0.07	7234.32	2826.99	2826.02	1387.67	0.70
11103.00	91.71	1.08	7231.78	2920.95	2919.98	1388.61	1.13
11196.00	91.28	1.00	7229.36	3013.90	3012.93	1390.30	0.48
11291.00	89.87	0.38	7228.41	3108.89	3107.92	1391.44	1.62
11386.00	90.87	0.36	7227.80	3203.89	3202.91	1392.07	1.06

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11480.00	91.78	0.00	7225.62	3297.86	3296.89	1392.37	1.04
11573.00	91.34	0.13	7223.09	3390.82	3389.85	1392.47	0.49
11667.00	91.38	0.36	7220.86	3484.80	3483.83	1392.87	0.25
11761.00	90.97	0.46	7218.93	3578.78	3577.80	1393.54	0.44
11855.00	90.64	359.73	7217.61	3672.77	3671.79	1393.69	0.86
11950.00	91.65	358.96	7215.72	3767.74	3766.77	1392.61	1.33
12045.00	91.38	359.21	7213.21	3862.69	3861.72	1391.09	0.38
12138.00	91.04	0.23	7211.25	3955.67	3954.70	1390.63	1.15
12233.00	90.87	1.05	7209.66	4050.65	4049.68	1391.69	0.88
12327.00	90.07	1.49	7208.89	4144.62	4143.65	1393.78	0.98
12421.00	90.74	1.61	7208.23	4238.59	4237.61	1396.32	0.73
12515.00	90.57	1.18	7207.16	4332.55	4331.58	1398.61	0.50
12611.00	91.07	0.45	7205.78	4428.53	4427.56	1399.98	0.92
12706.00	90.50	1.41	7204.47	4523.51	4522.53	1401.52	1.17
12800.00	91.41	0.73	7202.90	4617.48	4616.50	1403.27	1.21
12893.00	90.50	1.81	7201.34	4710.45	4709.47	1405.32	1.52
12988.00	91.28	0.96	7199.87	4805.41	4804.43	1407.61	1.21
13083.00	90.37	359.66	7198.50	4900.39	4899.41	1408.12	1.67
13177.00	90.91	359.95	7197.46	4994.39	4993.40	1407.79	0.65
13269.00	91.71	359.74	7195.35	5086.36	5085.38	1407.54	0.91

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13305.00	91.75	359.11	7194.27	5122.34	5121.36	1407.18	1.74

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft

5" = 100' MD